Comatrol

RESPONSIVENESS IN MOTION

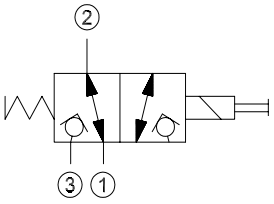
Member of the Danfoss Group

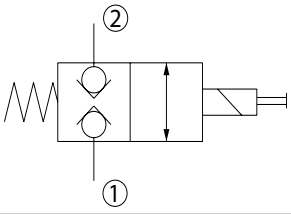
Solenoid Valves

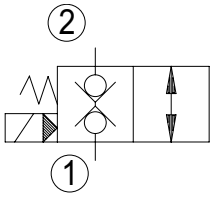
www.comatrol.com

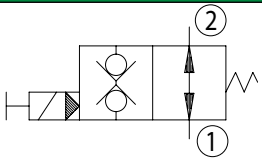
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

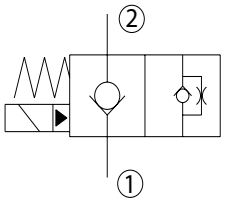
Solenoid Valves Catalog
Quick Reference

3-Way, 2-Position Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	EVH 06/D5	NCS06/3	Solenoid Valve, Poppet Type, 3-Way, 2-Position	20 l/min [5 US gal/min]	230 bar [3300 psi]	SV - 20

2-Way Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-CDB	SDC08-2	Solenoid Valve, Poppet Type, Double-Blocking, Normally Closed	16 l/min [4 US gal/min]	230 bar [3300 psi]	SV - 22
	EVK 06/C5	NCS06/2		40 l/min [10.6 US gal/min]	210 bar [3000 psi]	SV - 24

2-Way Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	HSVP10-CDB	SDC10-2	Solenoid Valve, Poppet Type, Normally Closed, Pilot Operated, Double Blocking	50 l/min [13.2 US gal/min]	350 bar [5075 psi]	SV - 26

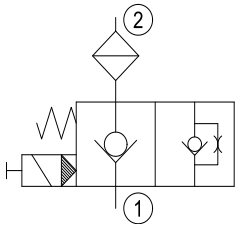
2-Way Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	HSVP10-ODB	SDC10-2	Solenoid Valve, Poppet Type, Normally Open, Pilot Operated, Double Blocking	50 l/min [13.2 US gal/min]	350 bar [5075 psi]	SV - 28

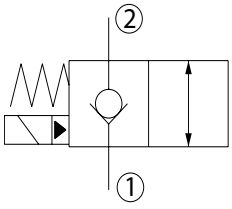
2-Way Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NC	SDC08-2	Solenoid Valve, Poppet Type, Normally Closed, Pilot Operated	35 l/min [9 US gal/min]	230 bar** [3300 psi]	SV - 30
	SVP10-NC	SDC10-2		80 l/min [21 US gal/min]	230 bar** [3300 psi]	SV - 32
	HSVP10-NC	SDC10-2		65 l/min [17 US gal/min]	350 bar [5075 psi]	SV - 34
	SVP12-NC	CP12-2		114 l/min [30 US gal/min]	230 bar [3300 psi]	SV - 36
	HSVP12-NC	CP12-2		114 l/min [30 US gal/min]	350 bar [5075 psi]	SV - 38
	SVP16-NC	SDC16-2		152 l/min [40 US gal/min]	230 bar [3300 psi]	SV - 40
	HSVP16-NC	SDC16-2		152 l/min [40 US gal/min]	350 bar [5075 psi]	SV - 42
	SVP20-NC	SDC20-2		227 l/min [60 US gal/min]	230 bar [3300 psi]	SV - 44
	HSVP20-NC	SDC20-2		227 l/min [60 US gal/min]	350 bar [5075 psi]	SV - 46

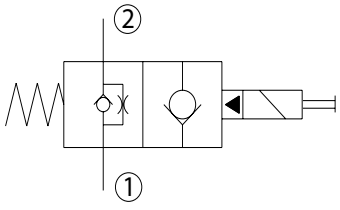
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.
** See 315 bar pressure rating note on page SV-10.

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
Quick Reference

3-Way, 2-Position Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NCF	NCS06/3	Solenoid Valve, Poppet Type, Normally Open, Pilot Operated, Flow Control	15 l/min [4 US gal/min]	230 bar [3300 psi]	SV - 48

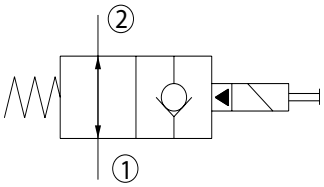
2-Way Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NCR	SDC08-2	Solenoid Valve, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	35 l/min [9 US gal/min]	230 bar** [3300 psi]	SV - 50
	SVP10-NCR	SDC10-2		80 l/min [21 US gal/min]	230 bar** [3300 psi]	SV - 52
	HSVP10-NCR	SDC10-2		65 l/min [17 US gal/min]	350 bar [5075 psi]	SV - 54
	SVP12-NCR	CP12-2		114 l/min [30 US gal/min]	230 bar [3300 psi]	SV - 56
	HSVP12-NCR	CP12-2		114 l/min [30 US gal/min]	350 bar [5075 psi]	SV - 58
	SVP16-NCR	SDC16-2		152 l/min [40 US gal/min]	230 bar [3300 psi]	SV - 60
	HSVP16-NCR	SDC16-2		152 l/min [40 US gal/min]	350 bar [5075 psi]	SV - 62
	SVP20-NCR	SDC20-2		227 l/min [60 US gal/min]	230 bar [3300 psi]	SV - 64
	HSVP20-NCR	SDC20-2		227 l/min [60 US gal/min]	350 bar [5075 psi]	SV - 66

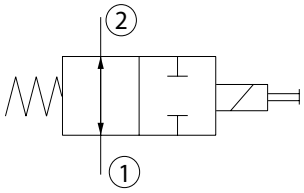
2-Way Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NO	SDC08-2	Solenoid Valve, Poppet Type, Normally Open, Pilot Operated	35 l/min [9 US gal/min]	230 bar** [3300 psi]	SV - 68
	SVP10-NO	SDC10-2		80 l/min [21 US gal/min]	230 bar** [3300 psi]	SV - 70
	HSVP10-NO	SDC10-2		65 l/min [17 US gal/min]	350 bar [5075 psi]	SV - 72
	SVP12-NO	CP12-2		114 l/min [30 US gal/min]	230 bar [3300 psi	SV - 74
	HSVP12-NO	CP12-2		114 l/min [30 US gal/min]	350 bar [5075 psi]	SV - 76
	SVP16-NO	SDC16-2		152 l/min [40 US gal/min]	230 bar [3300 psi	SV - 78
	HSVP16-NO	SDC16-2		152 l/min [40 US gal/min]	350 bar [5075 psi]	SV - 80
	SVP20-NO	SDC20-2		265 l/min [70 US gal/min]	230 bar [3300 psi	SV - 82
	HSVP20-NO	SDC20-2		265 l/min [70 US gal/min]	350 bar [5075 psi]	SV - 84

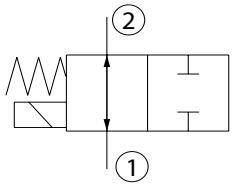
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.
** See 315 bar pressure rating note on page SV-10.

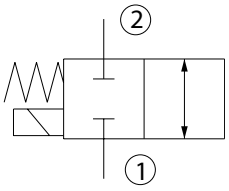
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
Quick Reference

2-Way Poppet	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NOR	SDC08-2	Solenoid Valve, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	35 l/min [9 US gal/min]	230 bar** [3300 psi]	SV - 86
	SVP10-NOR	SDC10-2		80 l/min [21 US gal/min]	230 bar** [3300 psi]	SV - 88
	HSVP10-NOR	SDC10-2		65 l/min [17 US gal/min]	350 bar [5075 psi]	SV - 90
	SVP12-NOR	CP12-2		114 l/min [30 US gal/min]	230 bar [3300 psi]	SV - 92
	HSVP12-NOR	CP12-2		114 l/min [30 US gal/min]	350 bar [5075 psi]	SV - 94
	SVP16-NOR	SDC16-2		152 l/min [40 US gal/min]	230 bar [3300 psi]	SV - 96
	HSVP16-NOR	SDC16-2		152 l/min [40 US gal/min]	350 bar [5075 psi]	SV - 98
	SVP20-NOR	SDC20-2		265 l/min [70 US gal/min]	230 bar [3300 psi]	SV - 100
	HSVP20-NOR	SDC20-2		265 l/min [70 US gal/min]	350 bar [5075 psi]	SV - 102

2-Way Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-22-01	SDC08-2	Solenoid Valve, Spool Type, 2-Way, 2-Position, Normally Open, Push Type	16 l/min [4 US gal/min]	230 bar** [3300 psi]	SV - 104
	HSV10-22-01	SDC10-2		50 l/min [13 US gal/min]	350 bar [5075 psi]	SV - 106

2-Way Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-22-01	SDC10-2	Solenoid Valve, Spool Type, 2-Way, 2-Position, Normally Open, Pull Type	27 l/min [7 US gal/min]	230 bar** [3300 psi]	SV - 108
	SV15-22-01	NCS 12/2		60 l/min [16 US gal/min]	210 bar** [3000 psi]	SV - 110

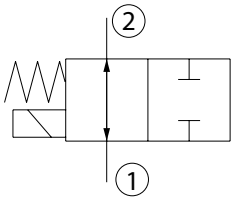
2-Way Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-22-02	SDC08-2	Solenoid Valve, Spool Type, 2-Way, 2-Position, Normally Closed, Pull Type	14 l/min [4 US gal/min]	230 bar** [3300 psi]	SV - 112
	SV10-22-02	SDC10-2		35 l/min [9 US gal/min]	230 bar** [3300 psi]	SV - 114
	HSV10-22-02	SDC10-2		50 l/min [13 US gal/min]	350 bar [5075 psi]	SV - 116
	SV15-22-02	NCS 12/2		60 l/min [16 US gal/min]	210 bar** [3045 psi]	SV - 118

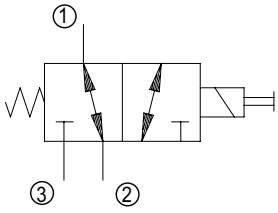
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.
** See 315 bar pressure rating note on page SV-10.

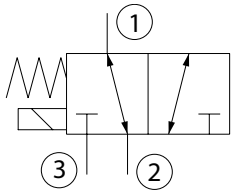
11141717 • Rev CB • March 2018

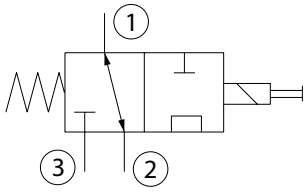
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

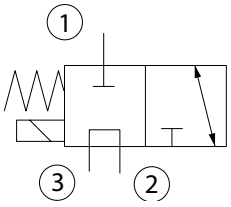
Solenoid Valves Catalog
Quick Reference

2-Way Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-22-03	SDC08-2	Solenoid Valve, Spool Type, 2-Way, 2-Position, Normally Open, Pull Type	12 l/min [3 US gal/min]	230 bar** [3300 psi]	SV - 120

3-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-23-01	SDC08-3	Solenoid Valve, Spool Type, 3-Way, 2-Position	17 l/min [4.5 US gal/min]	230 bar** [3300 psi]	SV - 122
	SV10-23-01	SDC10-3		28 l/min [7 US gal/min]	230 bar** [3300 psi]	SV - 124
	HSV10-23-01	SDC10-3		30 l/min [8 US gal/min]	350 bar [5075 psi]	SV - 126
	CP521-21	CP12-3		60 l/min [16 US gal/min]	240 bar [3500 psi]	SV - 128

3-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-23-02	SDC08-3	Solenoid Valve, Spool Type, 3-Way, 2-Position	10 l/min [3 US gal/min]	230 bar** [3300 psi]	SV - 130
	SV09-23-02	SDC10-3		21 l/min [6 US gal/min]	100 bar [1450 psi]	SV - 132
	SV10-23-02	SDC10-3		15 l/min [4 US gal/min]	230 bar [3300 psi]	SV - 134
	HSV10-23-02	SDC10-3		28 l/min [7.4 US gal/min]	350 bar** [5075 psi]	SV - 136

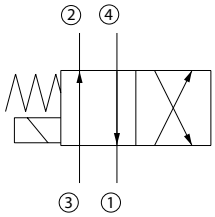
3-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-23-03	SDC08-3	Solenoid Valve, Spool Type, 3-Way, 2-Position	18 l/min [5 US gal/min]	230 bar** [3300 psi]	SV - 138

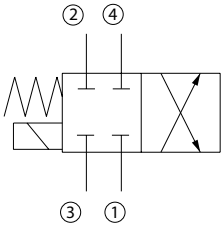
3-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-23-04	SDC08-3	Solenoid Valve, Spool Type, 3-Way, 2-Position	10 l/min [3 US gal/min]	230 bar** [3300 psi]	SV - 140
	SV10-23-04	SDC10-3		20 l/min [5 US gal/min]	230 bar** [3300 psi]	SV - 142
	SV15-23-04	NCS12/3		50 l/min [13 US gal/min]	210 bar** [3000 psi]	SV - 144

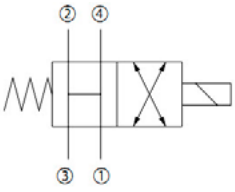
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.
** See 315 bar pressure rating note on page SV-10.

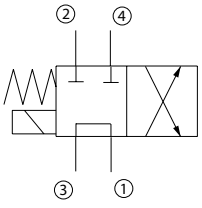
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

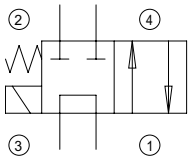
Solenoid Valves Catalog
Quick Reference

4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-01	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	8 l/min [2 US gal/min]	230 bar** [3300 psi]	SV - 146
	SV09-24-01	SDC10-4		20 l/min [5 US gal/min]	100 bar [1450 psi]	SV - 148
	SV10-24-01	SDC10-4		15 l/min [4 US gal/min	230 bar** [3300 psi]	SV - 150
	HSV10-24-01	SDC10-4		25 l/min [6.6 US gal/min]	350 bar** [5075 psi]	SV - 152
	SV15-24-01	NCS12/4		55 l/min [15 US gal/min]	210 bar** [3000 psi]	SV - 154

4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-02	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	10 l/min [3 US gal/min]	230 bar** [3300 psi]	SV - 156
	SV10-24-02	SDC10-4		24 l/min [6.3 US gal/min]	230 bar** [3300 psi]	SV - 158
	SV15-24-02	NCS12/4		60 l/min [16 US gal/min]	210 bar** [3045 psi]	SV - 160

4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV15-24-03	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	50 l/min [13 US gal/min]	210 bar** [3000 psi]	SV - 162

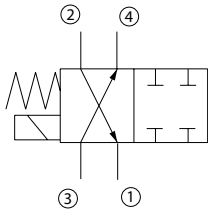
4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-04	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	8 l/min [2 US gal/min]	230 bar** [3300 psi]	SV - 164
	SV15-24-04	NCS12/4		50 l/min [13 US gal/min]	210 bar** [3000 psi]	SV - 166

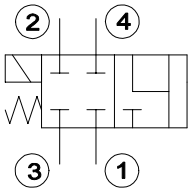
4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-12	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	18 l/min [5 US gal/min]	230 bar** [3300 psi]	SV - 168

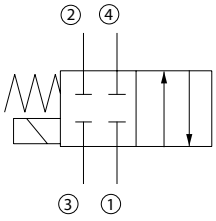
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.
** See 315 bar pressure rating note on page SV-10.

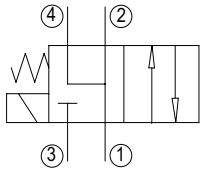
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

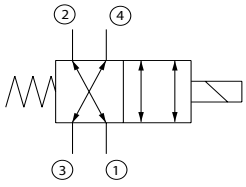
Solenoid Valves Catalog
Quick Reference

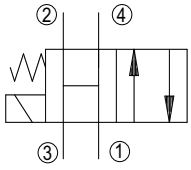
4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-05	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	25 l/min [7 US gal/min]	230 bar** [3300 psi]	SV - 170

4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-06	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	20 l/min [5 US gal/min]	230 bar** [3300 psi]	SV - 172

4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-07	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	24 l/min [6 US gal/min]	230 bar** [3300 psi]	SV - 174

4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-08	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	24 l/min [6 US gal/min]	230 bar** [3300 psi]	SV - 176

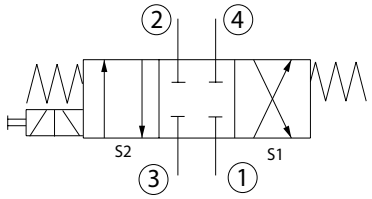
4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP531-21	SDC12-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	32 l/min [8 US gal/min]	240 bar [3500 psi]	SV - 178

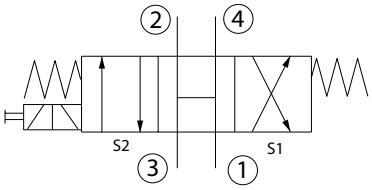
4-Way, 2-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-13	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 2-Position	21 l/min [6 US gal/min]	230 bar** [3300 psi]	SV - 180

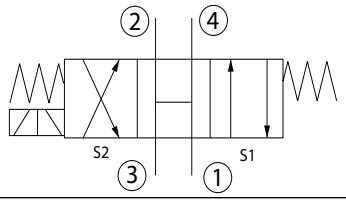
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.
** See 315 bar pressure rating note on page SV-10.

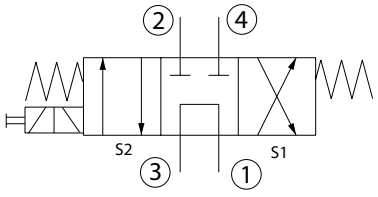
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

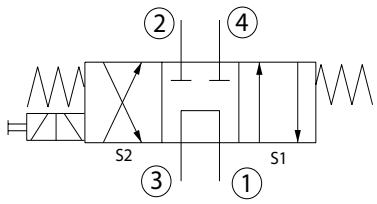
Solenoid Valves Catalog
Quick Reference

4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-34-02	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 3-Position, Closed Center	10 l/min [2.6 US gal/min]	230 bar** [3300 psi]	SV - 182
	SV10-34-02	SDC10-4		20 l/min [6 US gal/min]	230 bar** [3300 psi]	SV - 184
	HSV10-34-02	SDC10-4		25 l/min [6.6 US gal/min]	350 bar** [5075 psi]	SV - 186
	SV15-34-02	NCS12/4		55 l/min [15 US gal/min]	210 bar** [3000 psi]	SV - 188

4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-34-03	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 3-Position, All Open Center	8 l/min [2 US gal/min]	230 bar** [3300 psi]	SV - 190
	SV15-34-03	NCS12/4		50 l/min [13 US gal/min]	210 bar** [3000 psi]	SV - 192

4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-34-03	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 3-Position, All Open Center	16 l/min [4 US gal/min]	230 bar** [3300 psi]	SV - 194

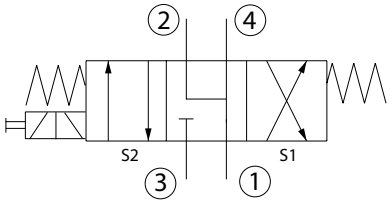
4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-34-04	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 3-Position	6 l/min [2 US gal/min]	230 bar** [3300 psi]	SV - 196
	SV15-34-04	NCS12/4		50 l/min [13 US gal/min]	210 bar** [3000 psi]	SV - 198

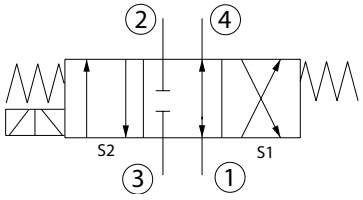
4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-34-04	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 3-Position	15 l/min [4 US gal/min]	230 bar** [3300 psi]	SV - 200

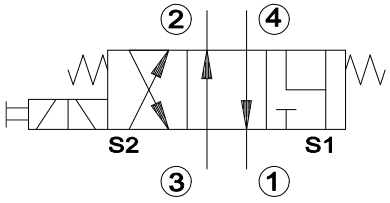
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.
** See 315 bar pressure rating note on page SV-10.

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
Application Notes

4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-34-05	SDC08-4	Solenoid Valve, Spool Type, 4-Way, 3-Position	10 l/min [2 US gal/min]	230 bar** [3300 psi]	SV - 202
	SV10-34-05	SDC10-4		20 l/min [6 US gal/min]	230 bar** [3300 psi]	SV - 204
	HSV10-34-05	SDC10-4		25 l/min [6.6 US gal/min]	350 bar** [5075 psi]	SV - 206
	SV15-34-05	NCS12/4		55 l/min [15 US gal/min]	210 bar** [3000 psi]	SV - 208

4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-34-11	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 3-Position	24 l/min [6 US gal/min]	230 bar** [3300 psi]	SV - 210

4-Way, 3-Position Spool	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-34-14	SDC10-4	Solenoid Valve, Spool Type, 4-Way, 3-Position	18 l/min [5 US gal/min]	230 bar** [3300 psi]	SV - 212

SOLENOID VALVES

Solenoid valves are electrically-operated, on-off poppet or spool-type valves for load holding, blocking, or directional control applications.

Solenoid valves

PLUS+1™ COMPLIANT

Comatrol solenoid valves are PLUS+1™ compliant. PLUS+1 compliance means our valves are directly compatible with the PLUS+1 machine control architecture. Adding solenoid valves to your application using PLUS+1 GUIDE software is as easy as *drag-and-drop*. Software development that used to take months can now be done in just a few hours. For more information on PLUS+1 GUIDE, visit ***www.comatrol.com*** or http://powersolutions.danfoss.com/Products/MobileElectronics/PLUS1Compliance. The table below details available GUIDE function blocks for controlling Comatrol solenoid valves.

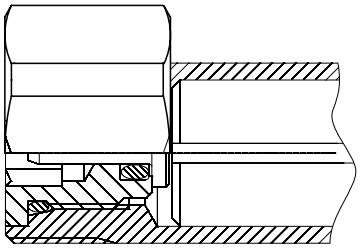
GUIDE function blocks

On-off	10106088
On-off-on	10106102

SV AND HSV COIL OPTIONS

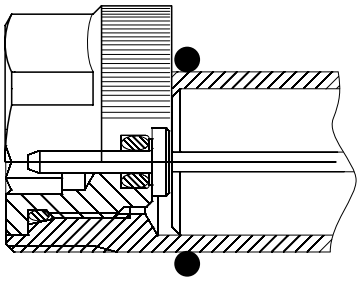
All SV and SVP valves may be ordered with a robust coil option. The robust coil option uses a steel nut and does not use O-rings on the top and bottom of the coil. The standard coil option uses a plastic nut with one O-ring on the top of the coil and one O-ring on the bottom of the coil. HSV and HSVP valves come standard with the 'H' robust coil, using the steel nut.

Robust Coil Nut



No O-rings needed
Torque is same as standard nut

Standard Coil Nut



Standard Coil Nut Kit includes O-rings

PRESSURE RATING

Comatrol solenoid valves are tested and qualified to 1 million duty cycles at 230 bar (3330 psi) for standard valves and 350 bar (5075 psi) for HSV high pressure valves according to NFPA T2.6.1 standards. A portion of our standard solenoid valve line has been qualified at 315 bar, but at a reduced operational life. Cycles are intended as the number of times the product is exposed to rated pressure at the defined port(s). The operational life at the (315 bar) varies by valve model and is identified in the Applications statement on each valve page. Contact your Comatrol product application engineer to verify that the expected service life meets your operational requirements.

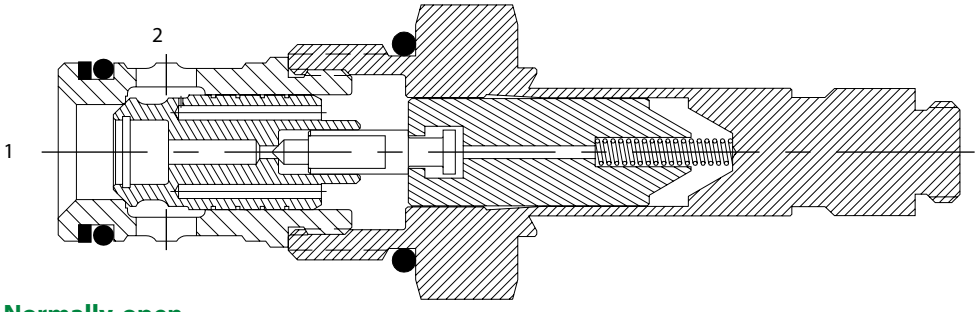
POPPET-TYPE SOLENOID VALVES

Poppet-type solenoid valves are two-way, normally open or normally-closed valves.

Normally-closed

Normally-closed poppet valves block flow from 2 to 1 when de-energized. When the solenoid coil is energized, magnetic force lifts the small pilot dart from it's seat, creating a pressure differential across the main poppet that provides the force to lift the main poppet off it's seat. Models with free-reverse-flow also act as a low-pressure, free-flow check valve from 1 to 2 when energized; standard models provide an orifice-connection to 2 when pressure is applied at 1.

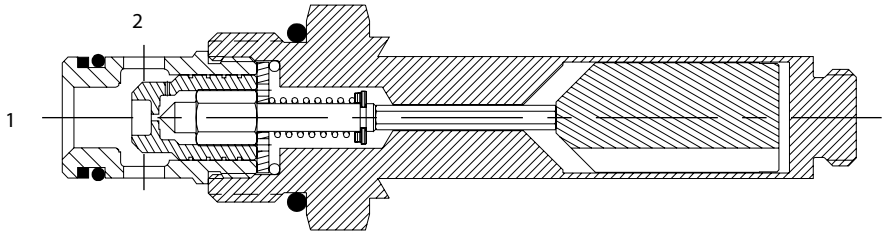
Normally closed poppet-type solenoid valve



Normally-open

Normally-open poppet valves provide free flow from 2 to 1 when de-energized. When the solenoid coil is energized, magnetic force seats the small pilot dart, creating a pressure differential that provides the force to seat the main poppet and block flow. Models with free-reverse flow also act as a low-pressure, free-flow check valve from 1 to 2 when de-energized; standard models provide an orifice-connection to 2 when pressure is applied at 1.

Normally open poppet-type solenoid valve



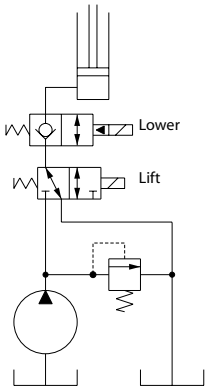
POPPET-TYPE SOLENOID VALVES (continued)

Applications

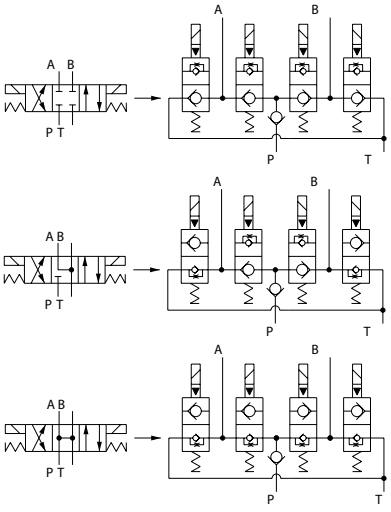
Common applications for normally-open and normally-closed poppet valves include:

- Load holding and lowering with single-acting cylinders.
- Unloading of a fixed-displacement pump.
- Use in combination to duplicate four-way, three-position valve functions. These circuits create low-cost, compact alternatives to subplate- or stack-type directional control valves. As an added advantage these poppet valve circuits do not need load holding checks as the poppets provide the same low-leakage function.

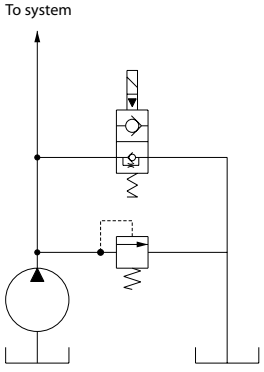
Load holding and lowering



4-way 3-position directional valve circuits



Pump unloading



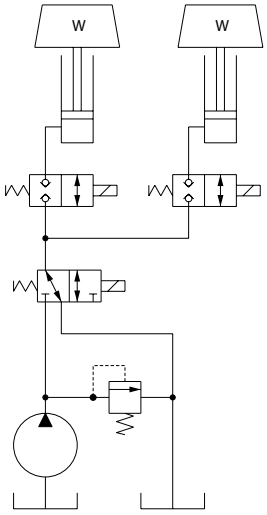
BI-DIRECTIONAL POPPET-TYPE SOLENOID VALVES

Bi-directional poppet-type solenoid valves are two-way, normally open or normally-closed valves. The poppets are pressure-balanced so that the spring holds the poppet in it's de-energized position. When the solenoid coil is energized, magnetic force overcomes the spring and causes the poppet to shift.

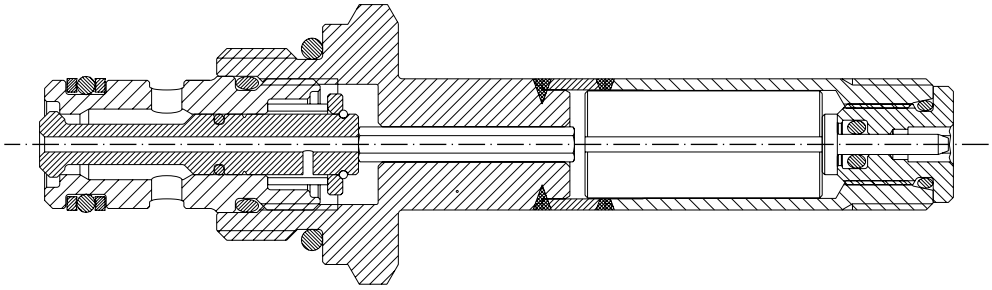
Normally-closed

Normally-closed bi-directional poppet valves block flow in both directions when de-energized and allow free-flow when energized. These valves are typically used as directional controls for single-acting cylinders or uni-directional motors where low-leakage load holding is required, or where multiple functions must be separated.

Independent cylinder operation and load-holding



Normally closed bi-directional poppet-type solenoid valve



SPOOL-TYPE SOLENOID VALVES

Spool-type valves are available in 2-way 2-position, 3-way 2-position, 4-way 2-position, and 4-way 3 position configurations. For all these valves the spools are pressure-balanced and are held in position by a spring when de-energized. When the solenoid coil is energized, magnetic force overcomes the spring and shifts the spool. As the spool moves, flow forces, also known as Bernoulli forces, act on the spool and can prevent proper operation. These forces are a function of pressure and flow, and the catalog ratings show the operating limits for each valve. These limits are based on the valve's ability to shift at 85% of nominal voltage at 140°F ambient temperature. For this reason flow and pressure ratings for solenoid spool valves should not be exceeded.

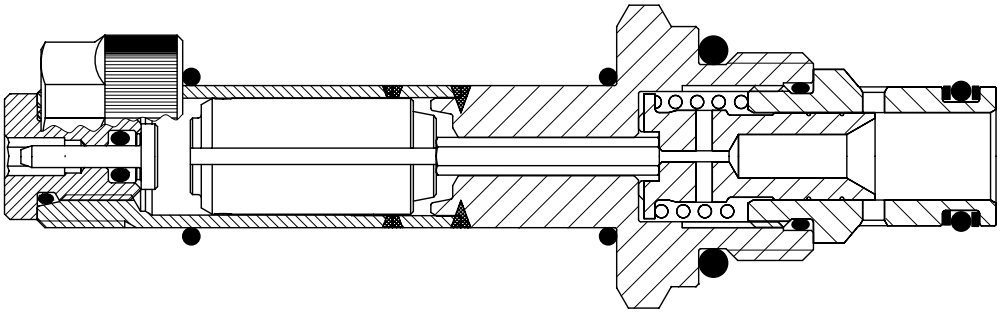
Consult your Comatrol representative for extreme applications.

SPOOL-TYPE SOLENOID VALVES (continued)

Two-way, two-position

Two-way, two-position spool-type valves are either normally open or normally closed.

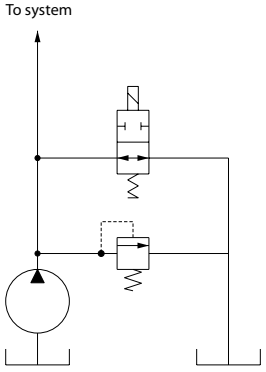
Two-way, two-position spool-type solenoid valve



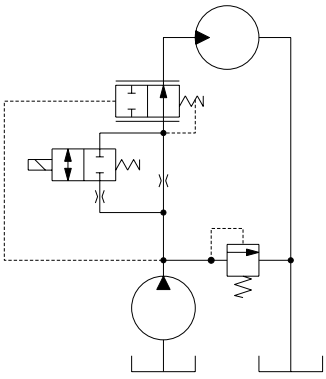
Common applications for two-way, two-position spool type solenoid valves are:

- Unloading of a fixed-displacement pump.
- Cylinder regeneration. When the two-way two-position spool valve is energized the cylinder circuit is in regeneration mode for faster cylinder extension.
- Two-speed motor (or cylinder) operation. By using multiple valves and circuit logic, similar circuits can be used for three-speed, four-speed, etc.

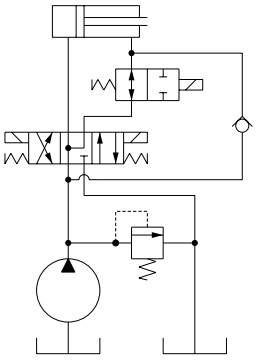
Pump unloading



Two-speed motor circuit



Cylinder regeneration circuit
Energize 2-way spool valve for faster extension

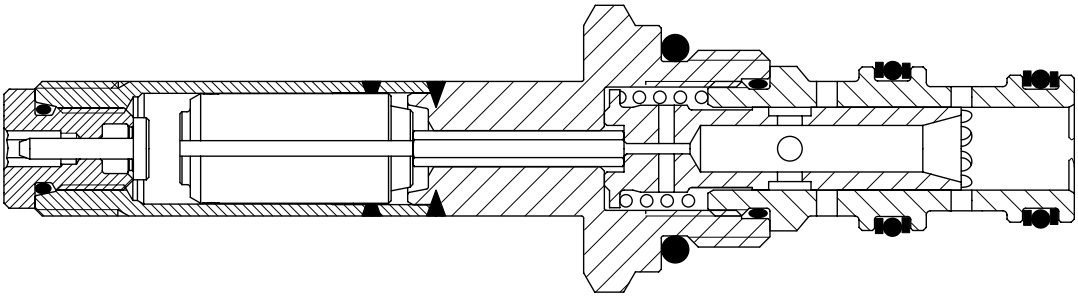


SPOOL-TYPE SOLENOID VALVES (continued)

Three-way, two-position

Three-way, two-position spool-type valves are available with a variety of porting and flow paths.

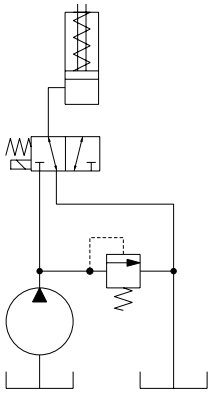
Three-way, two-position spool-type solenoid valves



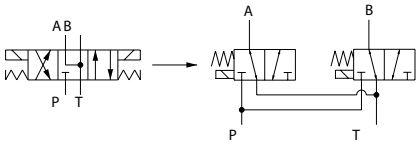
Common applications for three-way, two-position spool type solenoid valves:

- Control of a single-acting cylinder, clutch, or brake.
- Circuit selector
- Pilot control for a large directional spool.
- Use in combination to duplicate four-way, three-position valve functions, creating low-cost, compact alternatives to subplate- or stack-type directional control valves.

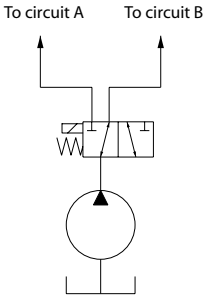
Single acting cylinder, clutch, or brake



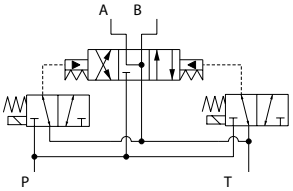
4-way 3-position directional valve circuits



Selector circuit



Pilot for directional valve

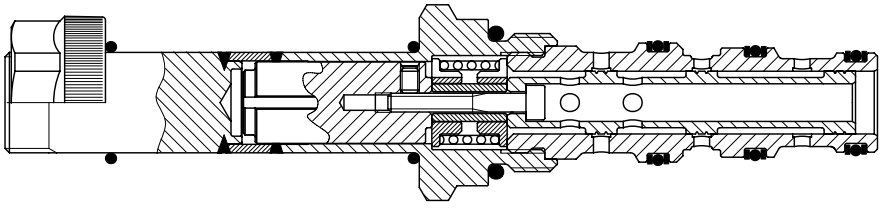


SPOOL-TYPE SOLENOID VALVES (continued)

Four-way, two-position

Four-way, two-position spool-type valves are available with normally-open, normally-closed, reversing, and single-acting spool options.

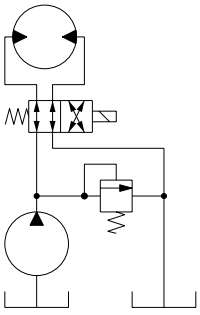
Four-way, two-position spool-type solenoid valves



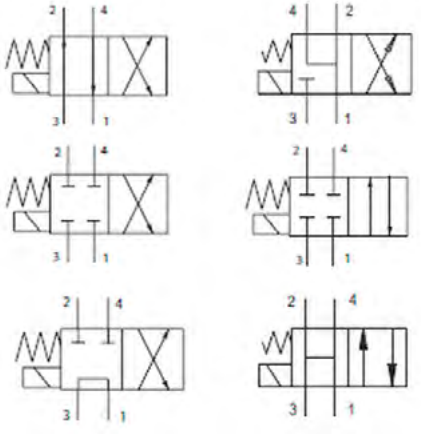
Common applications for four-way, two-position spool type solenoid valves are:

- Directional control for motors or cylinders.
- Use in combination to duplicate four-way, three-position valve functions, creating low-cost, compact alternatives to subplate- or stack-type directional control valves.

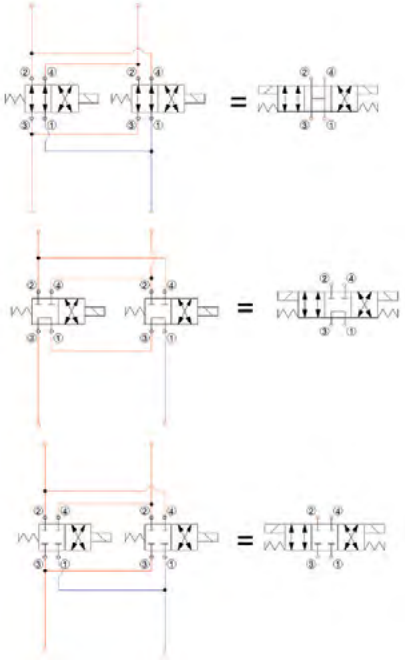
Motor directional control



4-way 2-position spool options



4-way 3-position directional valve circuits

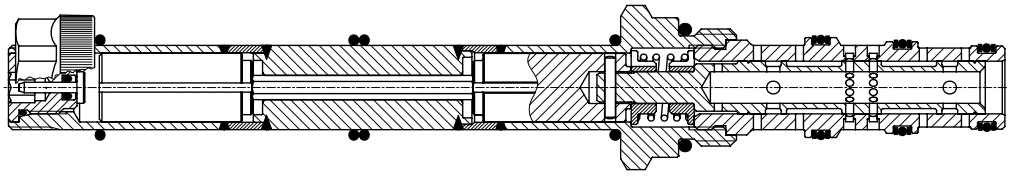


SPOOL-TYPE SOLENOID VALVES (continued)

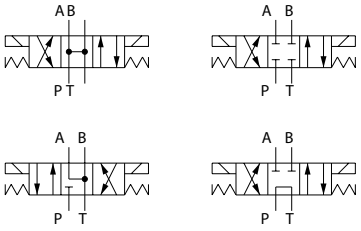
Four-way, three-position

Four-way, three-position spool-type valves are available with normally-open, normally-closed, motor, and tandem spools. These valves are typically used for directional control for motor or cylinder functions. Typical series (or open-center) and parallel (or closed-center) circuits are shown below.

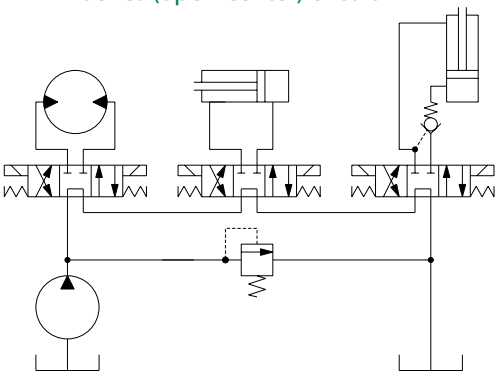
Four-way, three-position spool-type solenoid valve



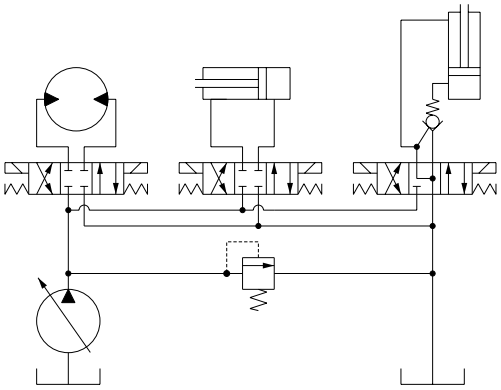
4-way 3-position spool options



Series (open-center) circuit



Parallel (closed-center) circuit



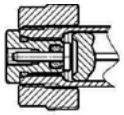
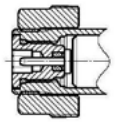
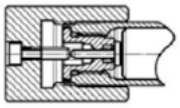
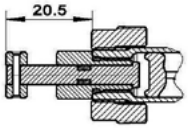
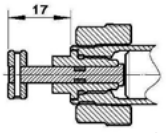
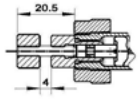
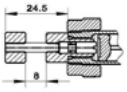
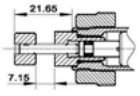
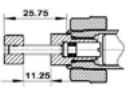
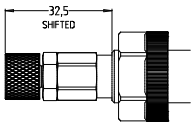
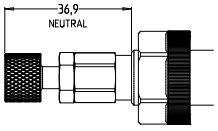
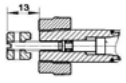
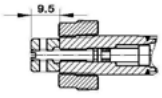
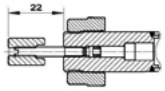
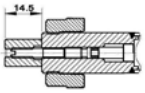
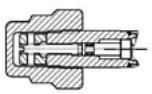
Comatrol RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog Application Notes

MANUAL OVERRIDES

Comatrol solenoid valves, where noted in the individual catalog pages, have optional manual overrides. The manual overrides are "safety" features for when power is lost and the solenoid needs to be operated. 2 position valves with manual overrides, when activated, shift the valve to its energized position. Some 3 position valves come standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2. Manual override options are intended for emergency use only and are not intended for continuous operation.

MANUAL OVERRIDE OPTIONS

Override Activated	Normal Position	Size	Order Code	Description
 08 Size (Normal)	 10 Size (Normal)	08 & 10 Size	OMIT (PN for HSV's)	Standard for any valve with push-pin manual override feature, where indicated in the catalog (HSV's & HSVP's noted with "PN" in the order code). Standard or Robust coil nuts are used, depending on the coil / valve.
		10 Size	OPS Push Pin Nut for Protection & Actuation	Optional for any 10-size valve with push-pin manual override. Kit for standard coil (nut + 2 O-rings) 173801368; Kit for 3-position, 4-way valve (nut + O-ring) 173801378; Nut for robust coil 173801388
 08 Size (Normal)	 10 Size (Normal)	08 & 10 Size	PB Push Button	Optional feature for any valve with push-pin manual override. Standard or Robust coil nuts are used, depending on the coil / valve.
		08 Size	SPS Screw Style (Push Type Valves)	Optional feature for any valve with push-pin manual override, standard or robust coil nuts are used, depending on the coil selected. Part number for SPS Manual Override Kit for 10 Size Tube = 170013919. Part number for SPS Manual Override Kit for 08 Size Tube = 272601688.
		10 Size		
		10 Size & HSVP12, 16 & 20	PAT Push-and-Twist (Push Type Valves)	Optional feature for any valve with push-pin manual override. Allows the operator to manually actuate a solenoid valve with a push style tube (normally open), without requiring an electrical signal to the coil. When the valve is in the normal (neutral) position, the operator can push in, and then twist CW or CCW) the override into an actuated (shifted) position. The valve will remain actuated until the operator again pushes in and twists (CW or CCW) the override to the neutral position.
		08 Size	M Screw Style (Pull-Type Manual Override)	Optional feature for any valve with pull-type manual override (Normally-Closed poppet-type valves). Standard or Robust Coil nuts are used depending on the coil selected.
		10 Size		
		08 Size	OP Screw Style w/ Protective Nut	Optional for any 08-size valve with pull-type manual override (M). Nut kit for standard coil 173803268 Not available with robust coil.

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Poppet
EVH 06/D5

OPERATION
This is a direct-acting, 2-position, 3-way, poppet-type Metric NCS 06-size solenoid valve. When de-energized, the valve checks flow from port 3, while allowing free flow between port 1 and 2. When energized, the valve poppet checks flow from port 1, while allowing free flow between port 2 and 3. This valve comes standard with a push-pin type manual override.

Shown with Standard Coil, Deutsch Connector

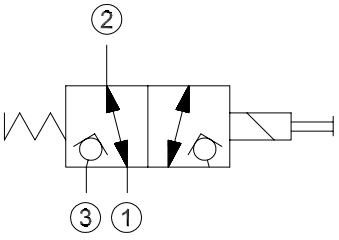
APPLICATIONS
This valve is designed for hydraulic circuits requiring very low leakage and can be used for load holding and blocking applications.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Weight	0.44 kg [0.97 lb]
Cavity	NCS06/3
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

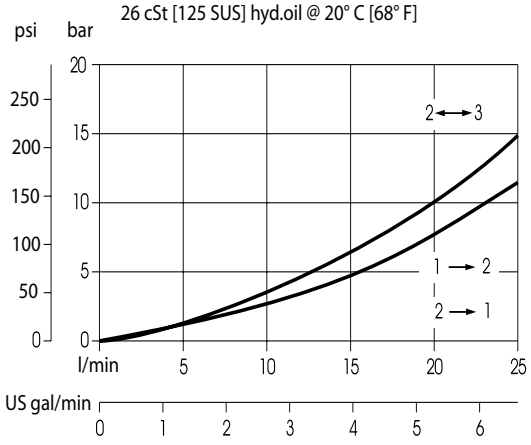
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC

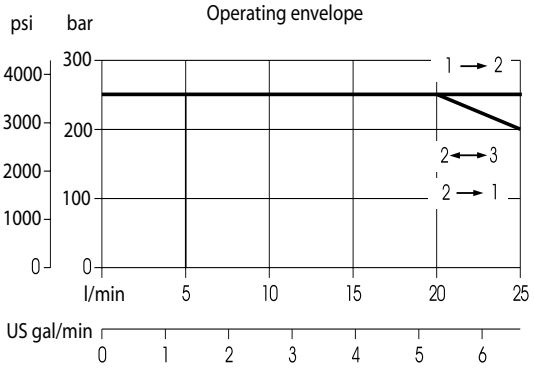


PERFORMANCE CURVES

Pressure drop
26 cSt [125 SUS] hyd.oil @ 20° C [68° F]



Operating envelope



11141717 • Rev CB • March 2018

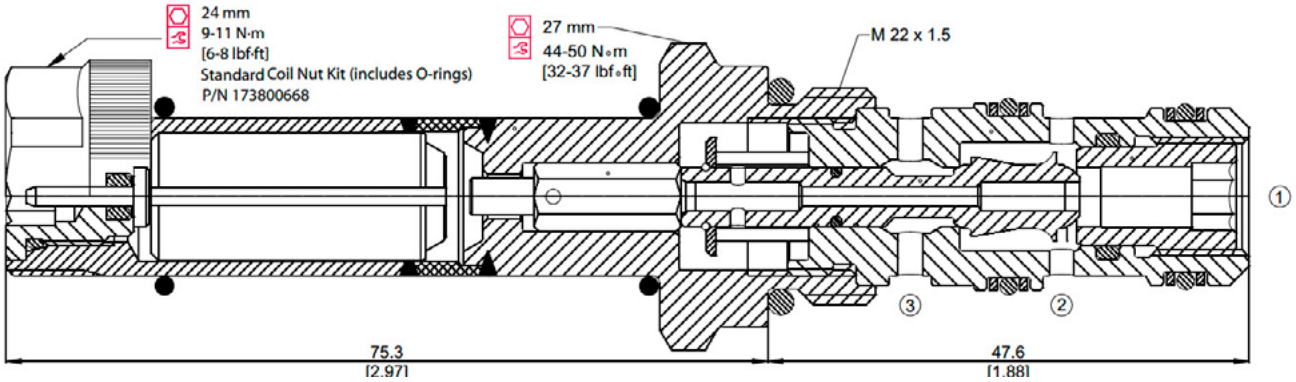
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Poppet
EVH 06/D5

DIMENSIONS

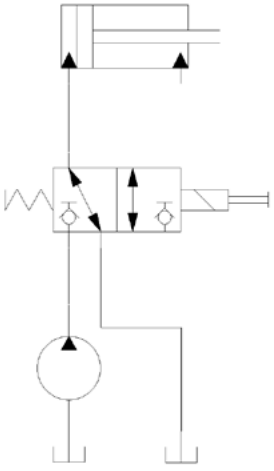
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Single Acting Cylinder



ORDERING INFORMATION

EVH 06/D5 - 12D - DE - PB - 00 - B

Solenoid Valve, Poppet Type, Metric NCS 06-size Cavity, 2 Position, 3 Way

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173804910 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Seal Code	Material	Seal Kits
B	Buna-N	230000590
V	Viton	230000430

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
SE6S	#6 SAE, AL	NCS06/3-SE-6S
SE8S	#8 SAE, AL	NCS06/3-SE-8S
SE3/8	3/8 BSP, AL	NCS06/3-SE-3/8
SE1/2	1/2 BSP, AL	NCS06/3-SE-1/2

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-CDB

OPERATION
This is a normally-closed, double-blocking poppet-type, 2 position, 08-size solenoid valve. When de-energized, the SVP08-CDB blocks flow in both directions. When energized, the valve's poppet lifts and allows flow from port 2 to port 1, and from port 1 to port 2. This valve comes standard with a push-pin type manual override.

APPLICATIONS
The SVP08-CDB is designed for low leakage applications and can be used to control the advance and retract of single acting and double acting cylinders. The valve can also be used to lock pressure in a group of cylinders.

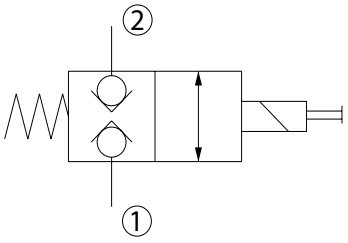
Shown with filter option

SPECIFICATIONS

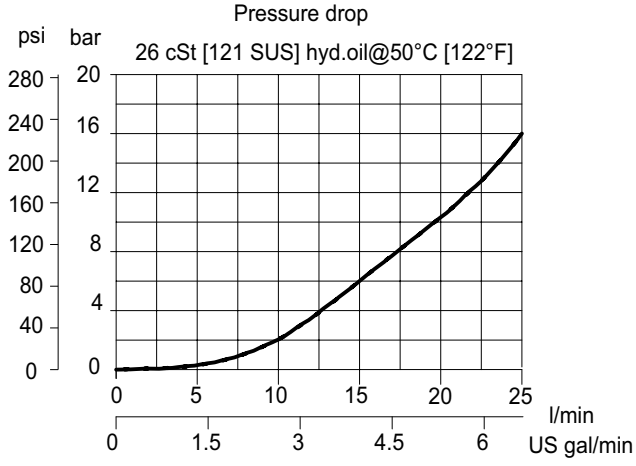
Rated pressure*	230 bar [3300 psi]
Rated flow at 7 bar [100 psi]	16 l/min [4 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.32 kg [0.71 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

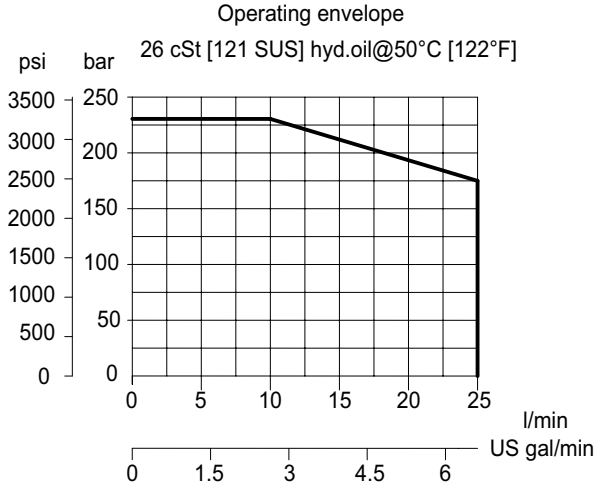
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES





Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-CDB

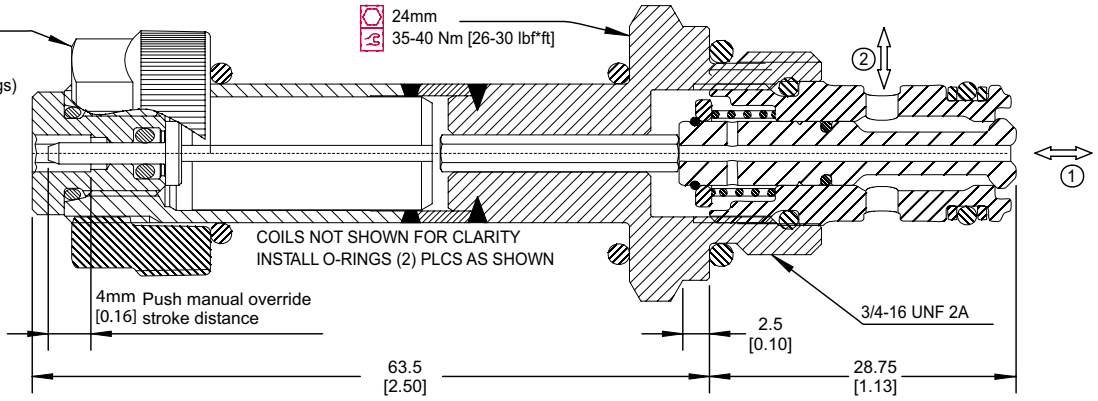
DIMENSIONS

mm [in]

20mm
4-6 Nm [35-53 lbf*in]

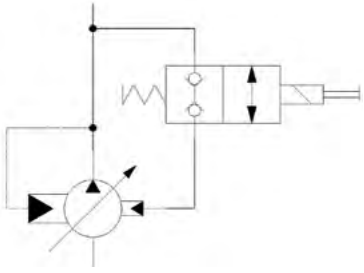
Standard KIT (Includes O-rings)
P/N 173800588

Cross-sectional view

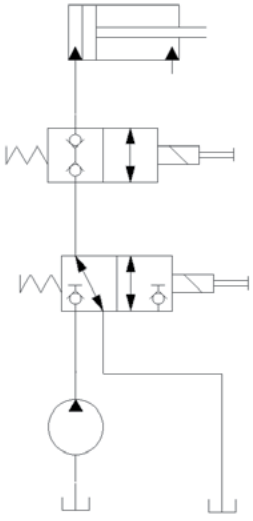


EXAMPLE CIRCUITS

To Circuit On Off for Pump



Single Acting Cylinder



ORDERING INFORMATION

SVP08 - CDB - 12D - DE - PB - B - F - 00

Solenoid Valve, Poppet Type, 08 Size Cavity

CDB: Normally Closed, Double Blocking, Push Type

Filter: No Filter 300 µm — **Omit** / **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2DG-2B
DG3B	3/8 BSP, AL	SDC08-2DG-3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354001619
V	Viton	354001719

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
EVK 06/C5

OPERATION
This is a normally-closed, double-blocking poppet-type, 2 position, Metric NCS 06-size solenoid valve. When de-energized, the EVK 06/C5 blocks flow in both directions. When energized, the valve's poppet lifts and allows flow from port 2 to port 1, and from port 1 to port 2. This valve comes standard with a push-pin type manual override.

APPLICATIONS
The EVK 06/C5 is designed for circuits requiring very low leakage can be used to control the advance and retract of single acting and double acting cylinders. The double blocking state can be used to lock pressure in a group of cylinders.

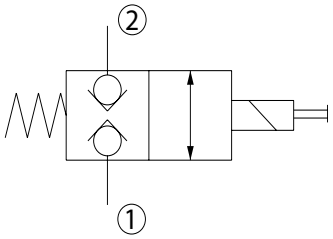
Shown with Standard Coil, Deutsch Connector

SPECIFICATIONS

Rated pressure*	210 bar [3000 psi]
Rated flow	40 l/min [10.6 US gal/min]
Weight	0.43 kg [0.95 lb]
Cavity	NCS06/2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

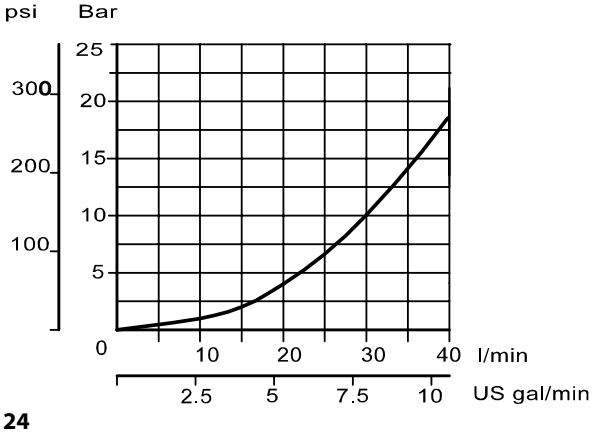
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC

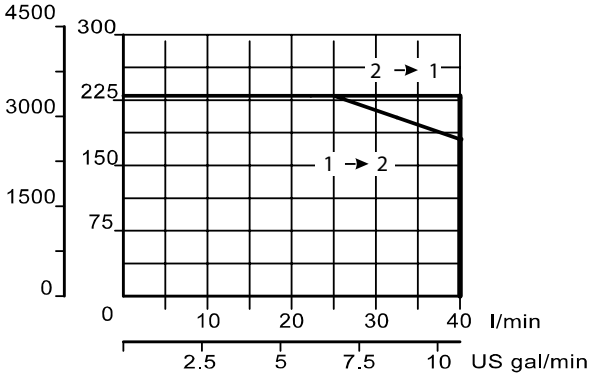


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]

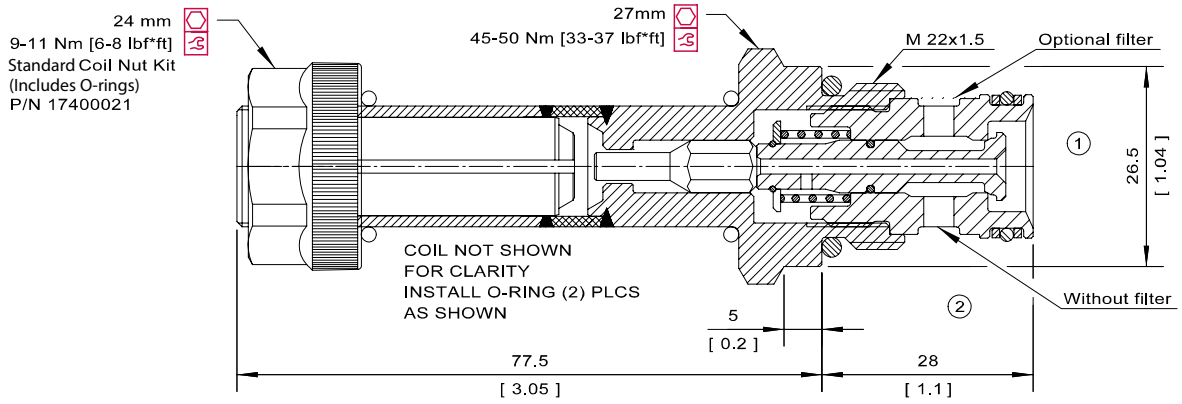


Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
EVK 06/C5

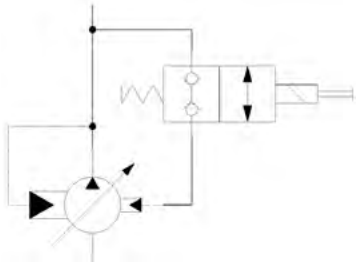
DIMENSIONS
mm [in]

Cross-sectional view

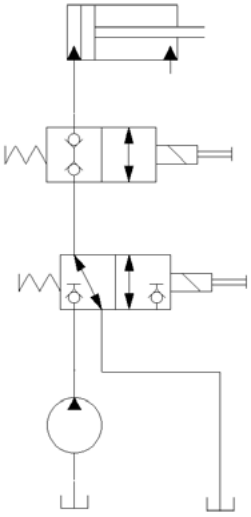


EXAMPLE CIRCUITS

To Circuit On Off for Pump



Single Acting Cylinder



ORDERING INFORMATION

EVK 06/C5 - F - 12D - DE - PB - 00 - B

Solenoid Valve, Double Blocking, Metric NCS 06-size Cavity, 2-Position, 2-Way

Filter:
No Filter **Omit**
300 µm **F**

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings;
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
SE6S	#6 SAE, AL	NCS06/3-SE-6S
SE8S	#8 SAE, AL	NCS06/3-SE-8S
SE3/8	3/8 BSP, AL	NCS06/3-SE-3/8
SE1/2	1/2 BSP, AL	NCS06/3-SE-1/2

Seal Code	Material	Seal Kits
B	Buna-N	230000110
V	Viton	230000070

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-CDB

OPERATION
This is normally-closed, poppet-style 10-size solenoid valve. When de-energized, the valve block in both directions. When energized, the valve's poppet is opens on its seat, allowing flow from 2 to 1 or 1 to 2.

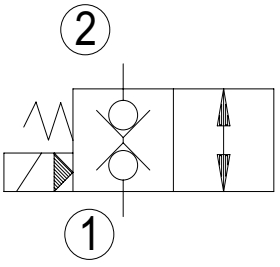
APPLICATIONS
The HSVP10-CDB is designed for high pressure, low leakage applications and can be used to control the advance and retract of single acting and double acting cylinders. The valve can also be used to lock pressure in a group of cylinders.

SPECIFICATIONS

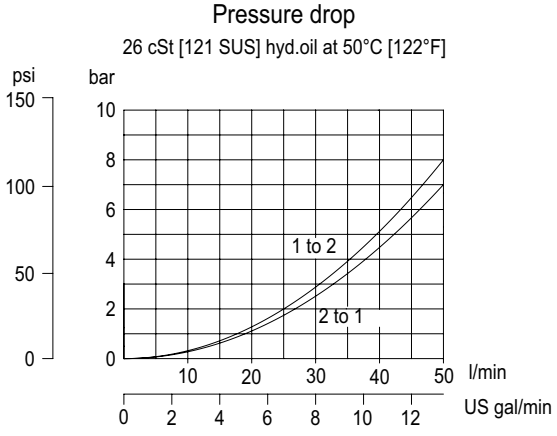
Rated pressure*	350 bar [5075 psi]
Rated flow at 7 bar [100 psi]	50 l/min [13.2 US gal/min]
Leakage	6 drops/min @ Rated Pressure
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

*Rated Pressure based on NFPA fatigue test standard (at 1 Million Cycles)

SCHEMATIC



PERFORMANCE CURVES



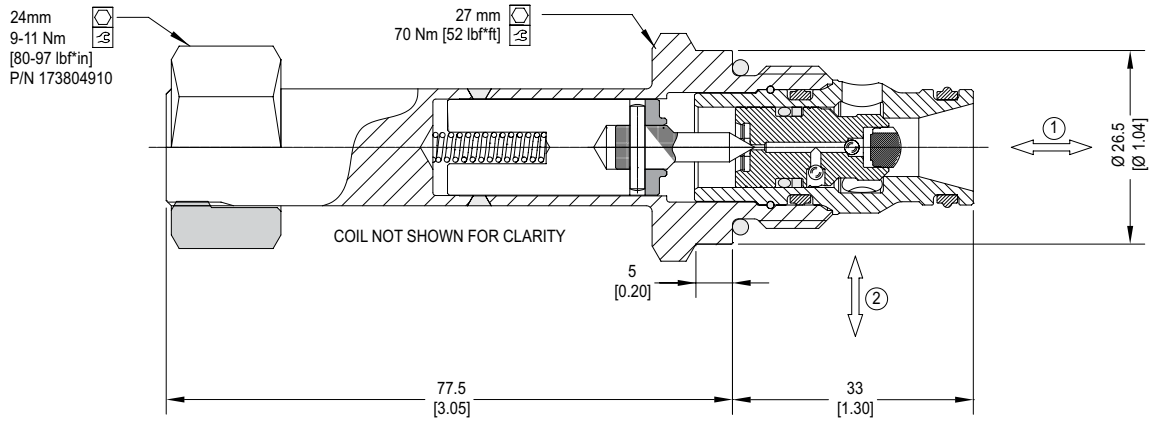
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-CDB

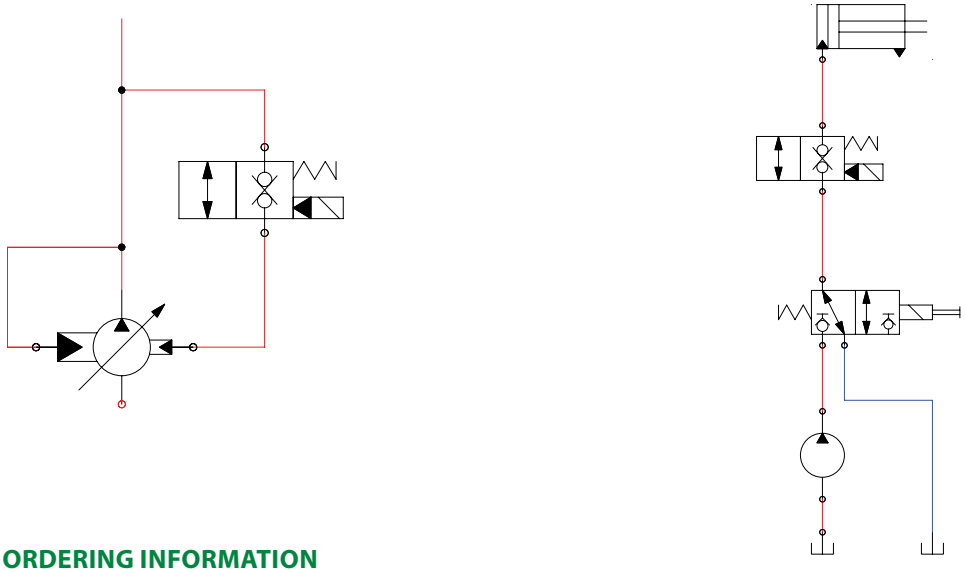
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

HSVP10 - CDB - H12D - DE - XC - P - 00

High Pressure Solenoid Valve, Poppet type, 10 Size cavity
CDB: Normally Closed, Double Blocking, Pull Type

Coil Voltage

Code	Description
00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 67
ASDB	AMP Super Seal with Bi-directional Diode	IP 67
DEDB	Deutsch with Bi-directional Diode	IP 69k
FLDB	Flying Lead with Bi-directional Diode	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminum bodies available for lower pressure applications. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11132135

Manual Override

Code	Description
XC	NO Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-ODB

OPERATION
This is a normally-open, poppet-style 10-size solenoid valve. When de-energized, the valve allows free flow from 2 to 1 or 1 to 2. When energized, the valve's poppet is seated and flow is blocked in both directions.

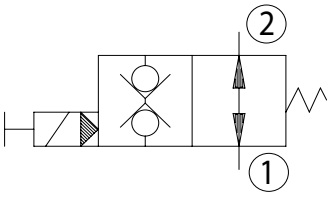
APPLICATIONS
The HSVP10-ODB is designed for high pressure, low leakage applications and can be used to control the advance and retract of single acting and double acting cylinders. The valve can also be used to lock pressure in a group of cylinders.

SPECIFICATIONS

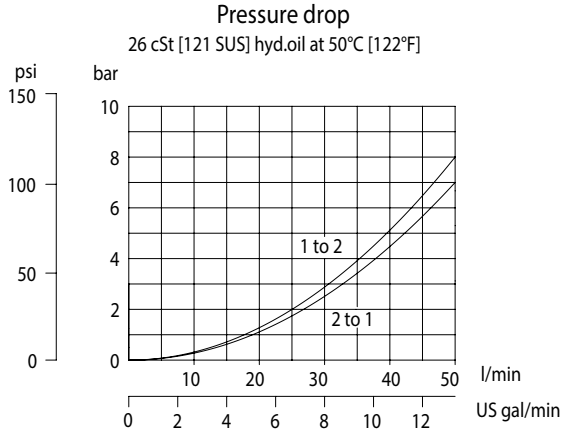
Rated pressure*	350 bar [5075 psi]
Rated flow at 7 bar [100 psi]	50 l/min [13.2 US gal/min]
Leakage	6 drops/min @ Rated Pressure
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

*Rated Pressure based on NFPA fatigue test standard (at 1 Million Cycles)

SCHEMATIC



PERFORMANCE CURVES

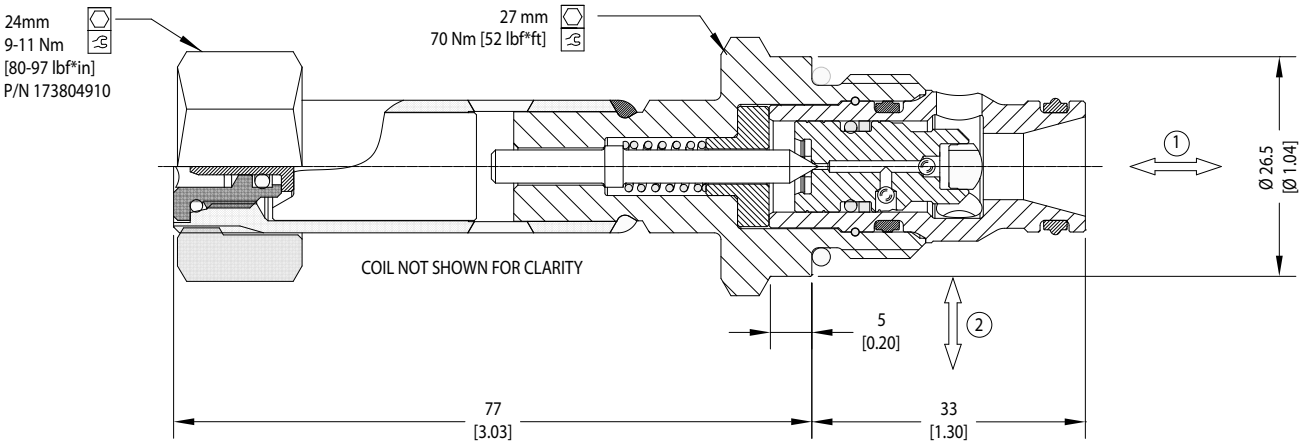


Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

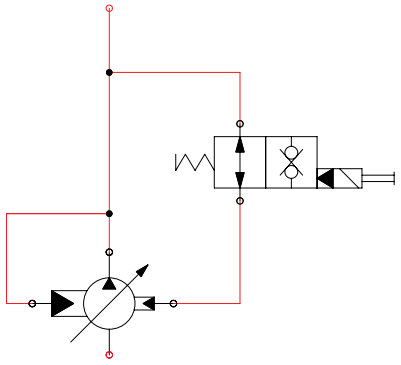
Solenoid Valves Catalog
2-Way Poppet
HSVP10-ODB

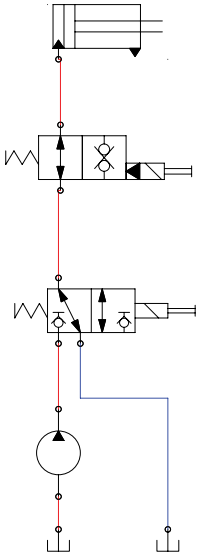
DIMENSIONS
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

HSVP10 - ODB - H12D - DE - PN - P - 00

High Pressure Solenoid Valve, Poppet type, 10 Size cavity
ODB: Normally Open, Double Blocking, Push Type

Coil Voltage

Code	Description
00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 67
ASDB	AMP Super Seal with Diode Bidirectional	IP 67
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminum bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11132135

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 08-size solenoid valve. When de-energized, the SVP08-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and blocks flow from port 2 to port 1, and severely restricts from port 1 to port 2. This valve is available with an optional pull-type manual override.

Shown with Robust Coil, Deutsch Connector

APPLICATIONS
The SVP08-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load. This valve can operate at an inlet pressure of 315 bar on port 2 for 600,000 cycles.

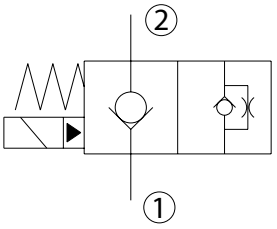
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Maximum flow at rated pressure	35 l/min [9 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

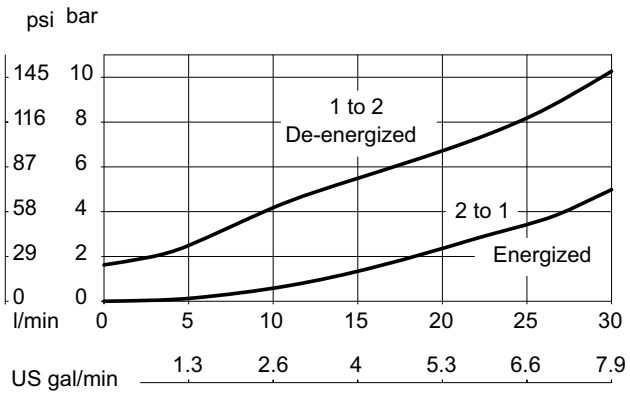
SCHEMATIC



PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



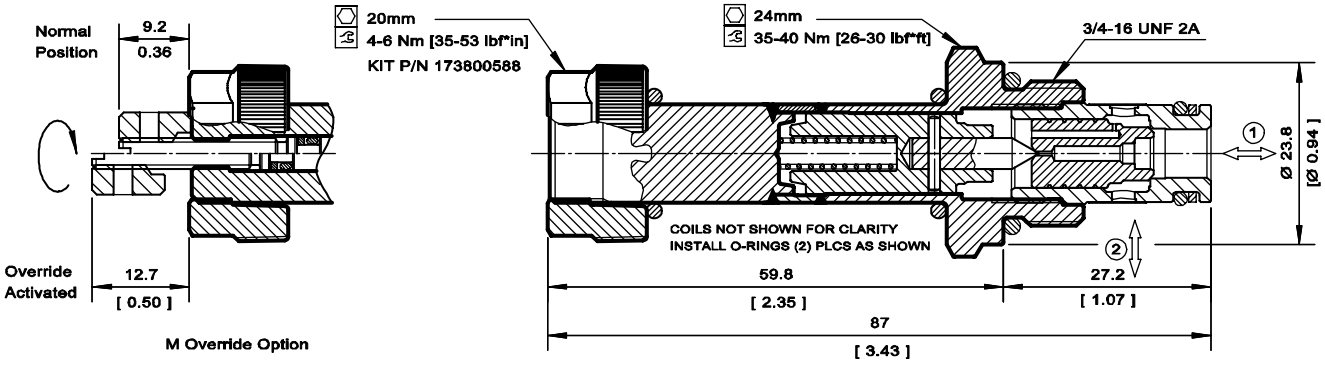
11141717 • Rev CB • March 2018

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NC

DIMENSIONS

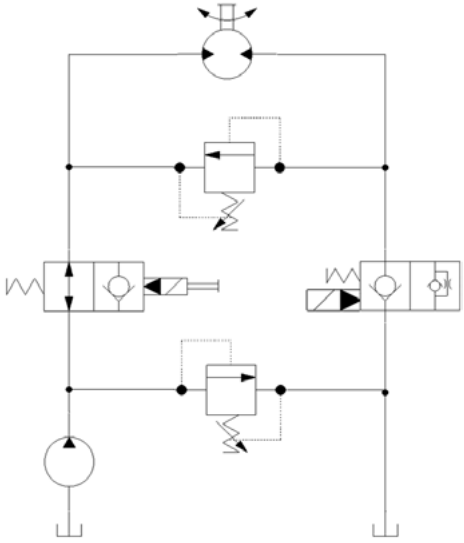
mm [in]



Cross-sectional view

EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

SVP08 - NC - 12D - DE - M - B - F - 00

Solenoid Valve, Poppet Type, 08 Size Cavity

NC: Normally Closed, Pull Type

Filter:
No Filter **Omit**
Filter 300 mμ **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354000119
V	Viton	354000219

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173800539 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Manual Override
Omit	No Override
M	Pull Screw
OP	Pull Screw w/ Protection*

* Only available with standard coil

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 10-size solenoid valve. When de-energized, the SVP10-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2. This valve is available with an optional pull-type manual override.

APPLICATIONS
The SVP10-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load. This valve can operate at an inlet pressure of 315 bar on port 2 for 250,000 cycles.

Shown with Standard Coil, Deutsch Connector

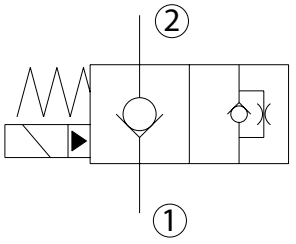
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	80 l/min [21 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

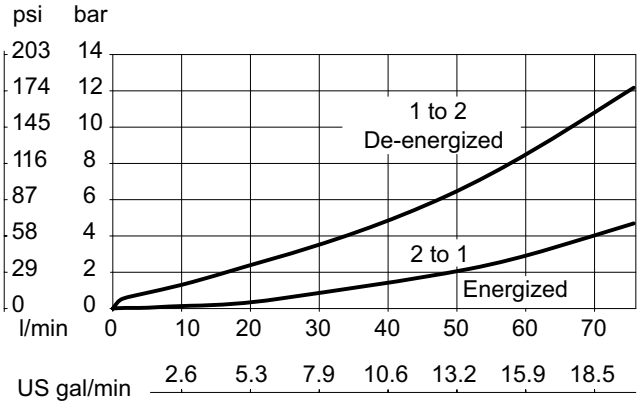
SCHEMATIC



PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



11141717 • Rev CB • March 2018

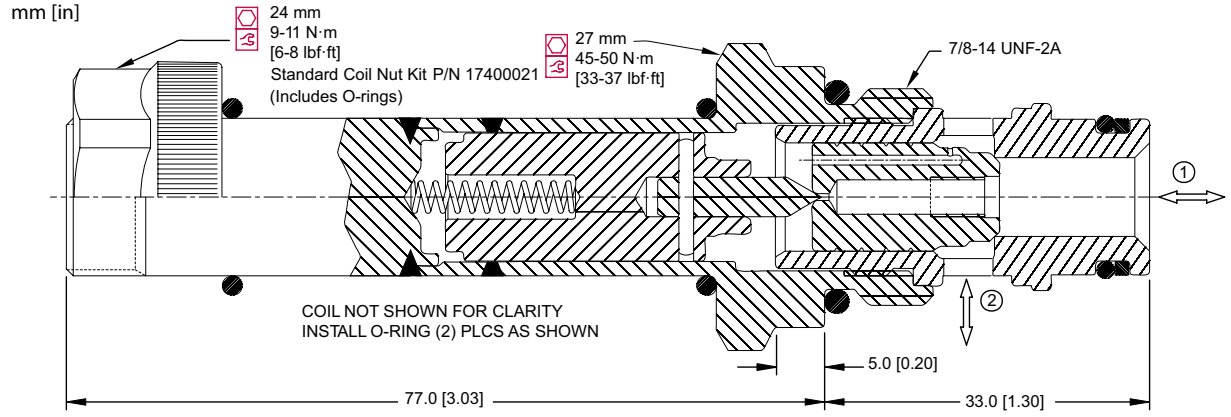
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NC

DIMENSIONS

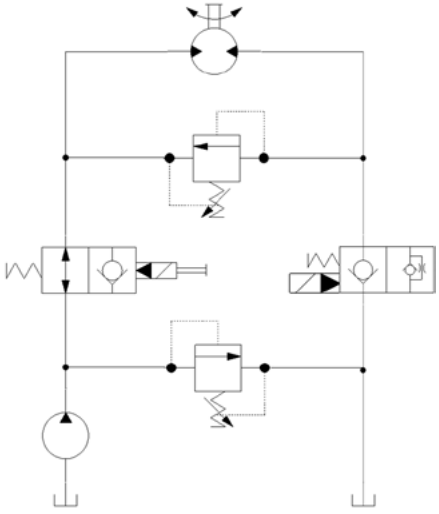
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

SVP10 - NC - 12D - DE - M - B - F - 00

Solenoid Valve, Poppet Type, 10 Size Cavity

NC: Normally Closed, Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

Filter:

No Filter	**Omit**
Filter 300 mμ	**F**

Seal Code	Material	Seal Kits
B	Buna-N	354000719
V	Viton	354000819

Code	Manual Override
Omit	No Override
M	Pull Screw

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 10-size solenoid valve. When de-energized, the HSVP10-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2.

APPLICATIONS
The HSVP10-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load.

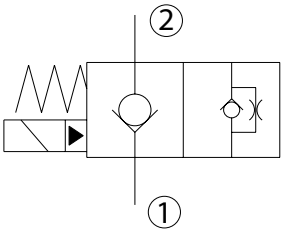
Shown with Standard H16 Coil, Deutsch Connector

SPECIFICATIONS

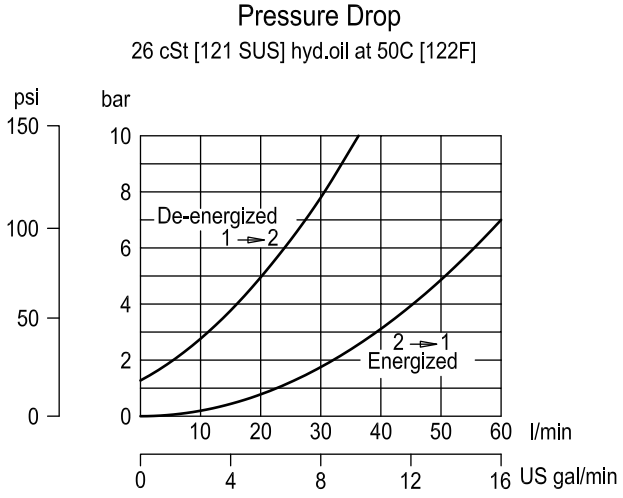
Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	65 l/min [17 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



11141717 • Rev CB • March 2018

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

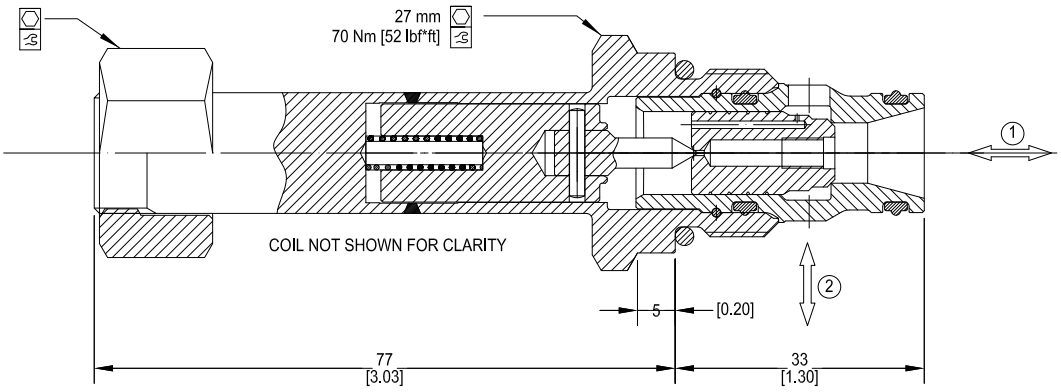
Solenoid Valves Catalog
2-Way Poppet
HSVP10-NC

DIMENSIONS

mm [in]

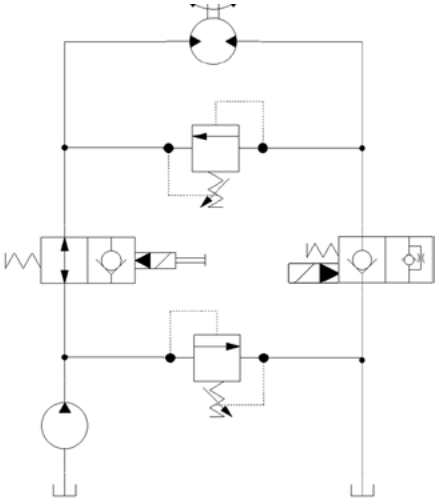
24mm
9-11 Nm
[80-97 lbf*in]
P/N 173804910

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

HSVP10 - NC - H12D - DE - XC - P - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
10 Size, Poppet Type

Coil Voltage

Code	Description
00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminum Bodies available for lower pressure applications. Please consult factory for details.

Seal Option

Code	Seal Material	Seal Kit
P	Polyurethane Single Seal	11132135
V	Viton	354000819

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 12-size solenoid valve. When de-energized, the SVP12-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2.

APPLICATIONS
The SVP12-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load.
This solenoid valve is a technical replacement for CP501-1.

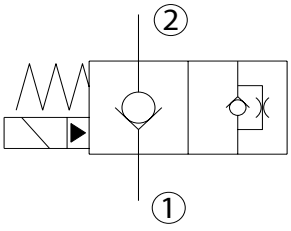
Shown with Robust Coil, Deutsch Connector

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.67 kg [1.47 lb]
Cavity	CP12-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

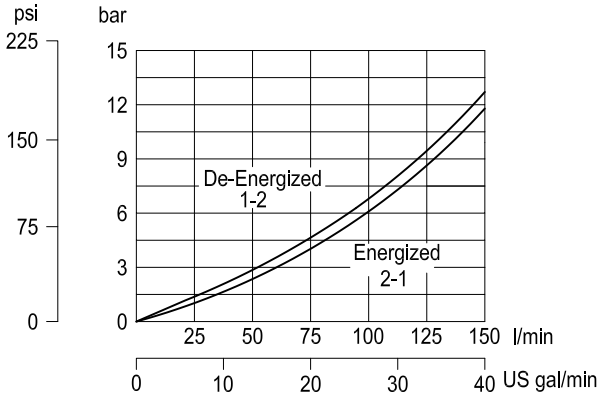
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



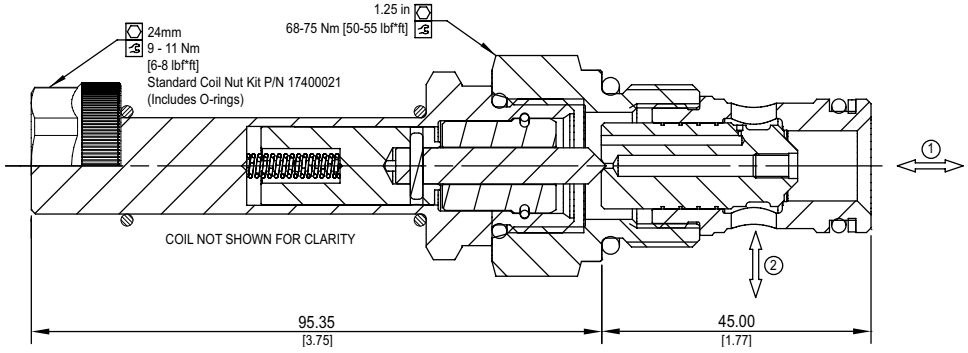
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NC

DIMENSIONS

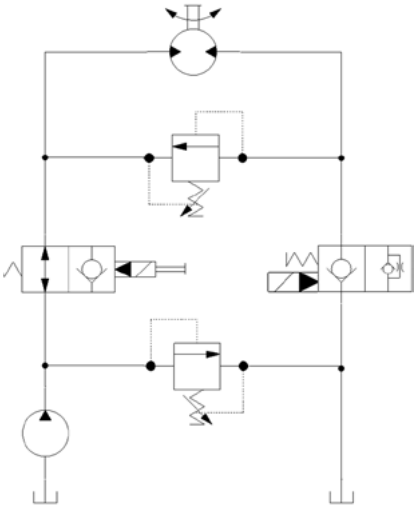
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

SVP12 - NC - 12D - DE - XC - B - 00

Solenoid Valve
Normally-Closed, Pilot Operated,
12 Size, Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP, DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120017
V	Viton	120018

Manual Override

Code	Description
XC	No Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 12-size solenoid valve. When de-energized, the HSVP12-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2.

APPLICATIONS
The HSVP12-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load.

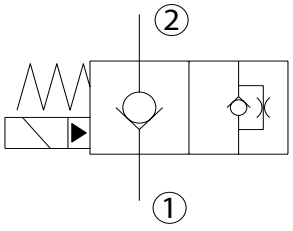
Shown with Standard H16 Coil, Deutsch Connector

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.67 kg [1.47 lb]
Cavity	CP12-2
Standard Coil	H16 29 Watt

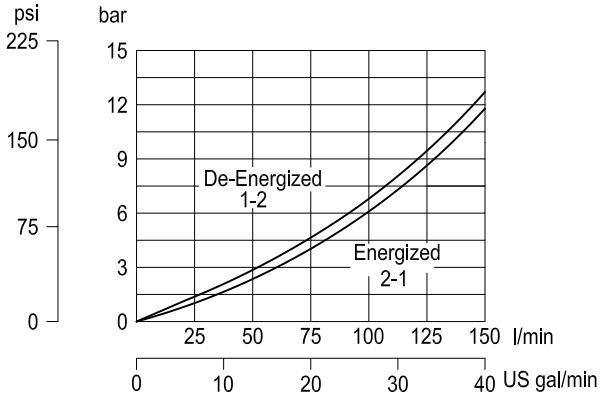
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



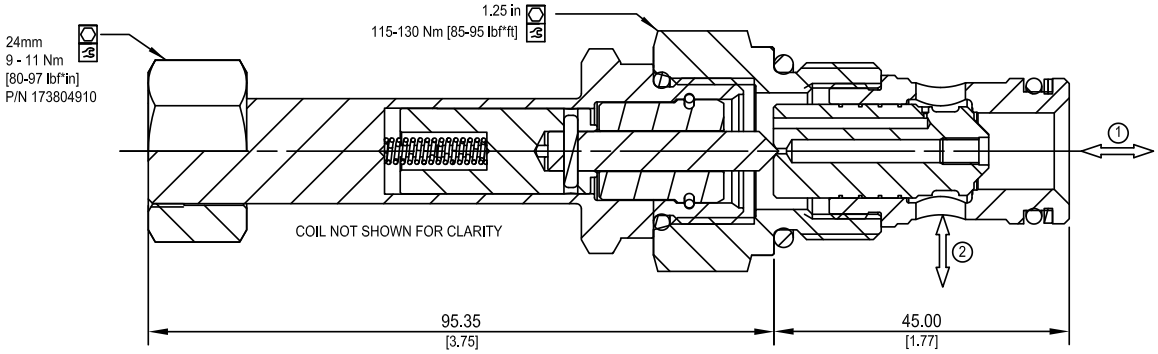
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NC

DIMENSIONS

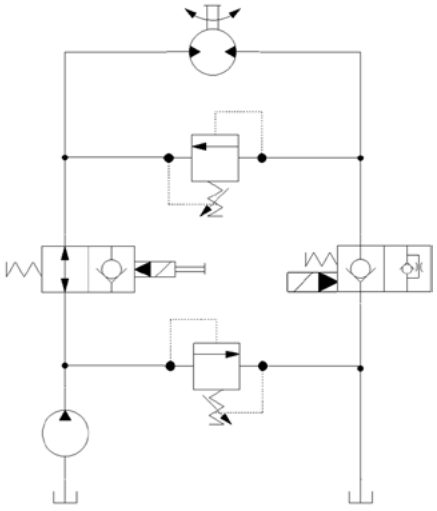
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

HSVP12 - NC - H12D - DE - XC - B - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
12 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP,DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120017
V	Viton	120018

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP16-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 16-size solenoid valve. When de-energized, the SVP16-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2.

Shown with Robust Coil, Deutsch Connector

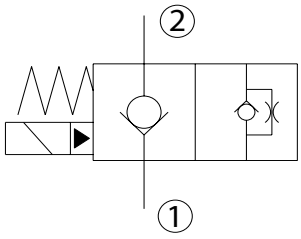
APPLICATIONS
The SVP16-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load. This solenoid valve is a technical replacement for CP502-1.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	.75 kg [1.6 lb]
Cavity	SDC16-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

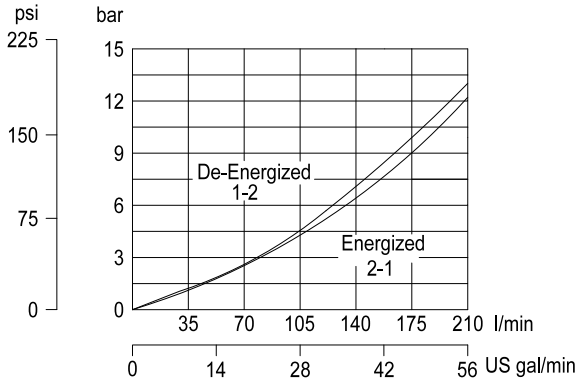
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



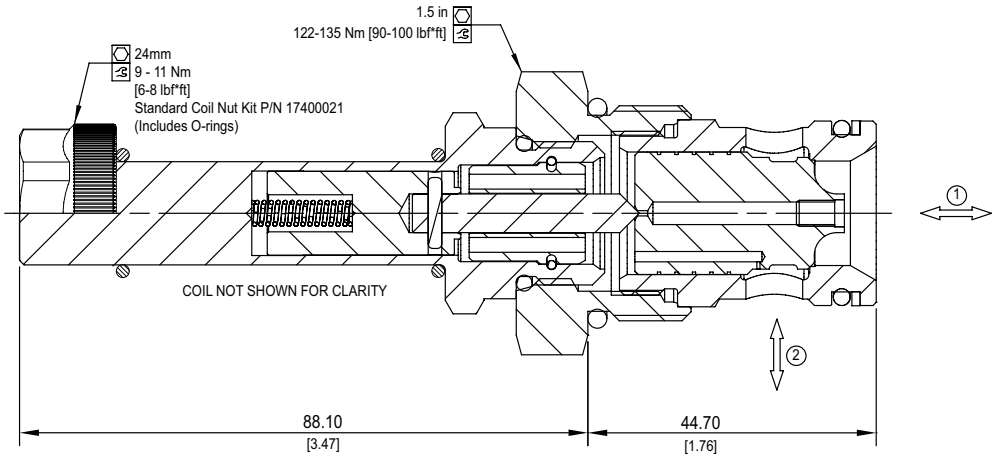
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP16-NC

DIMENSIONS

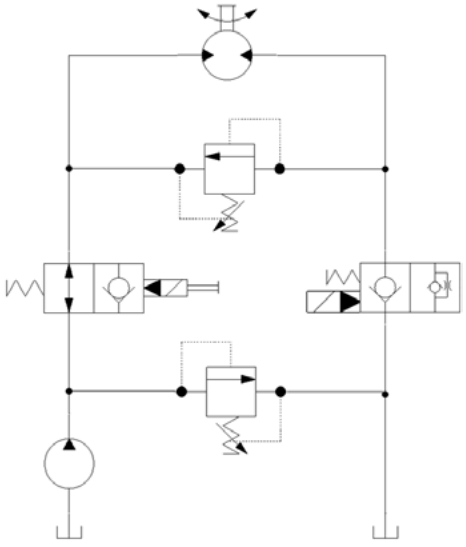
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

SVP16 - NC - 12D - DE - XC - B - 00

Solenoid Valve
Normally-Closed, Pilot Operated,
16 Size, Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SCD16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP, DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120019
V	Viton	120020

Manual Override

Code	Description
XC	No Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP16-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 16-size solenoid valve. When de-energized, the HSVP16-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2.

APPLICATIONS
The HSVP16-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load.

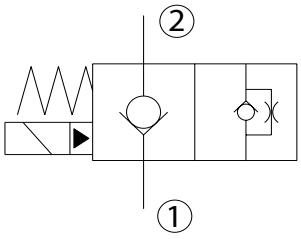
Shown with Standard H16 Coil, Deutsch Connector

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	.75 kg [1.6 lb]
Cavity	SDC16-2
Standard Coil	H16 29 Watt

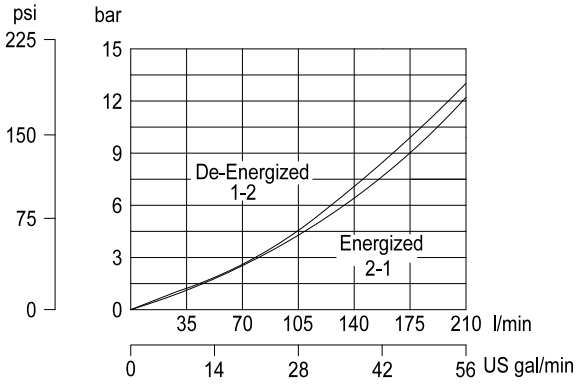
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



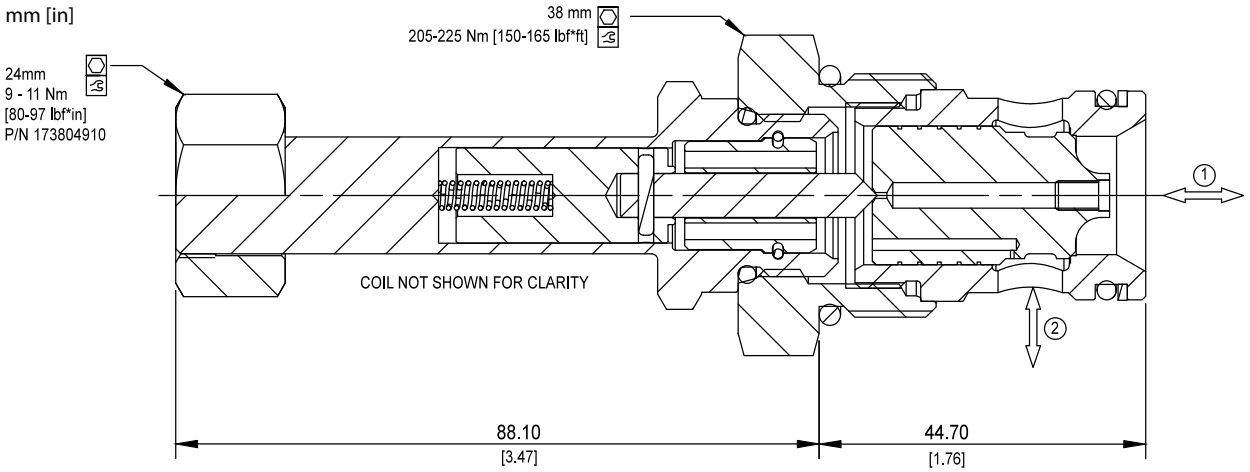
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP16-NC

DIMENSIONS

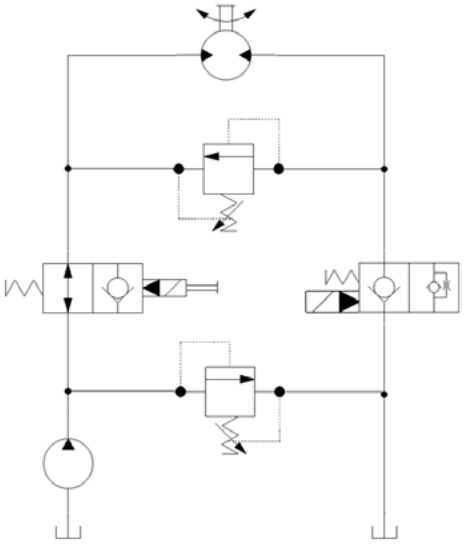
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

HSVP16 - NC - H12D - DE - XC - B - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
16 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SDC16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP,DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120019
V	Viton	120020

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP20-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 20-size solenoid valve. When de-energized, the SVP20-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2.

Shown with Robust Coil, Deutsch Connector

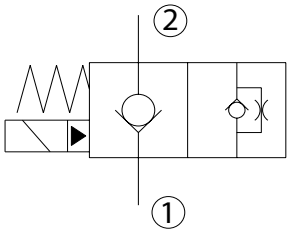
APPLICATIONS
The SVP20-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load. This solenoid valve is a technical replacement for CP503-1.

SPECIFICATIONS

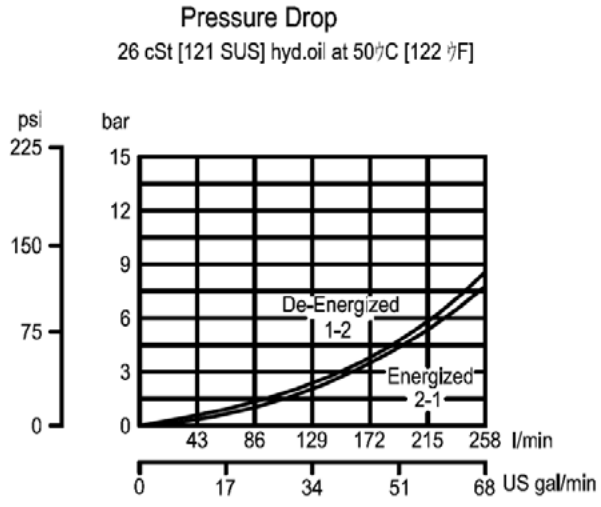
Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	227 l/min [60 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



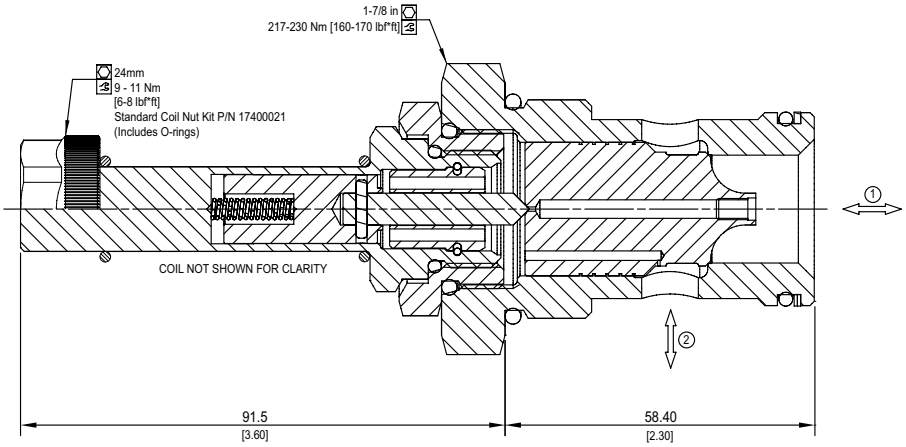
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP20-NC

DIMENSIONS

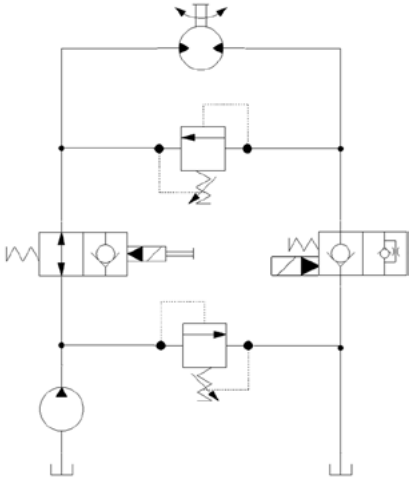
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

SVP20 - NC - 12D - DE - XC - B - 00

Solenoid Valve
Normally-Closed, Pilot Operated,
20 Size, Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SCD20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE, DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120011
V	Viton	120012

Manual Override

Code	Description
XC	No Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP20-NC

OPERATION
This is a normally-closed, pilot-operated, poppet-style 20-size solenoid valve. When de-energized, the HSVP20-NC acts as a check valve allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1 . When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and severely restricts from port 1 to port 2.

APPLICATIONS
The HSVP20-NC is designed to function as load holding or blocking valve in applications where low internal leakage is required. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load.

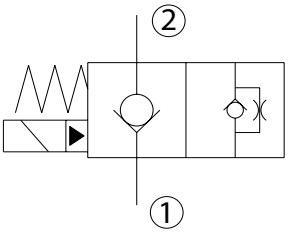
Shown with Standard H16 Coil, Deutsch Connector

SPECIFICATIONS

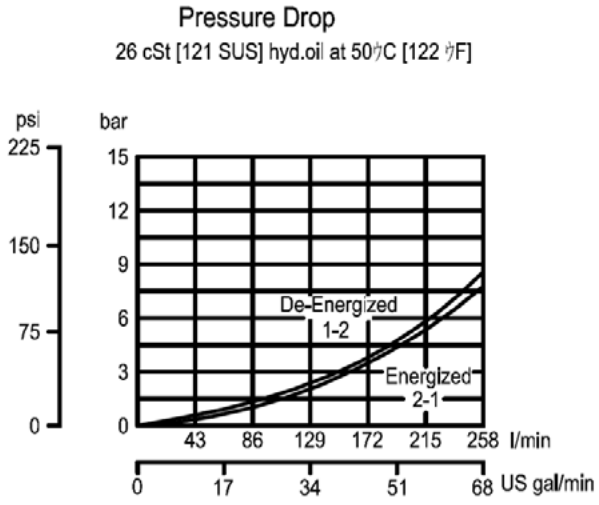
Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	227 l/min [60 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



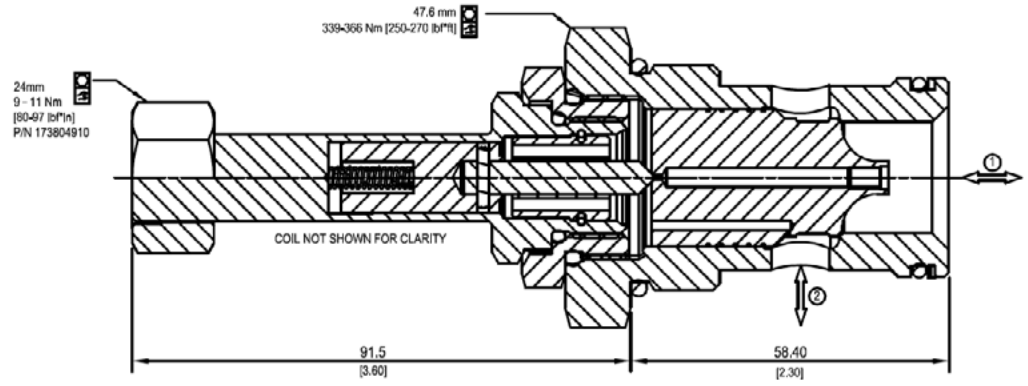
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP20-NC

DIMENSIONS

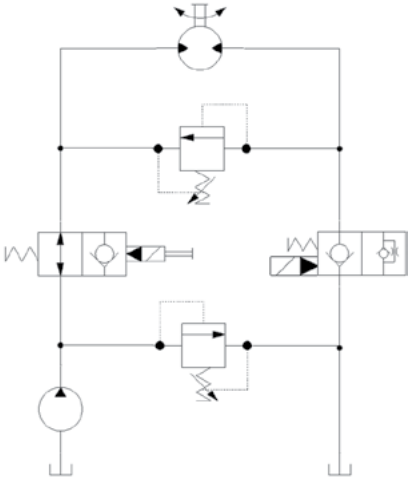
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

On/Off Motor Circuit



ORDERING INFORMATION

HSVP20 - NC - H12D - DE - XC - B - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
20 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SDC20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE,DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120011
V	Viton	120012

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NCF

OPERATION
This is a normally-closed, pilot-operated, poppet-style 08-size solenoid valve. When de-energized, the SPV08-NCF acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows restricted flow through the orifice from port 2 to port 1. This valve is available with optional filter and with pull-type manual override.

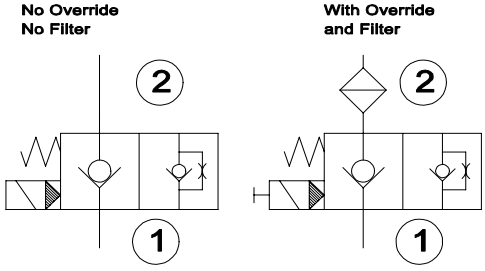
APPLICATIONS
The SVP08-NCF is designed to function as load holding or blocking valve in applications where low internal leakage and various bleeding flows are required in two different positions. In load holding applications, the circuit should be designed so that the de-energized state is the position that is holding the load. When it is energized, a load lowering function will be achieved via a non-compensated orifice. Example applications include scissor & telescopic manlifts, which use a single-acting cylinder for raising and lowering of the platform. The valve has an additional (optional) threaded pull-type override for emergency lowering via a wire cable or a knob handle.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]
Rated flow at 7 bar [100 psi]	16 l/min [4.2 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-02
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N 173800539 (no coil O-rings needed)
Robust Coil	R13 16 Watt Robust Nut P/N 173800539 (No coil O-rings needed)

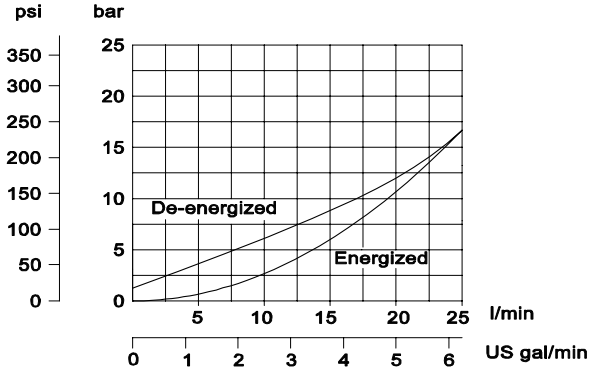
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC

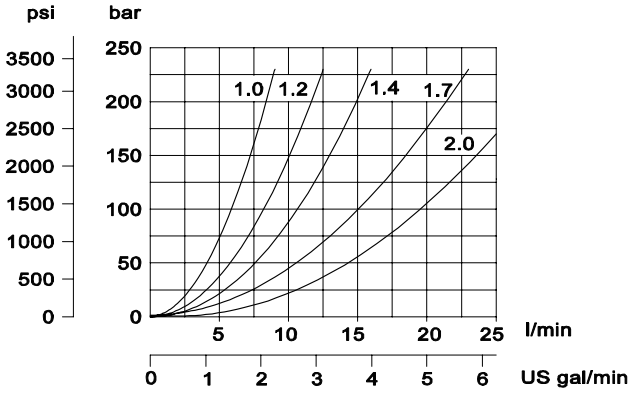


PERFORMANCE CURVES

Pressure drop (1 to 2)
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Pressure drop (2 to 1)
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



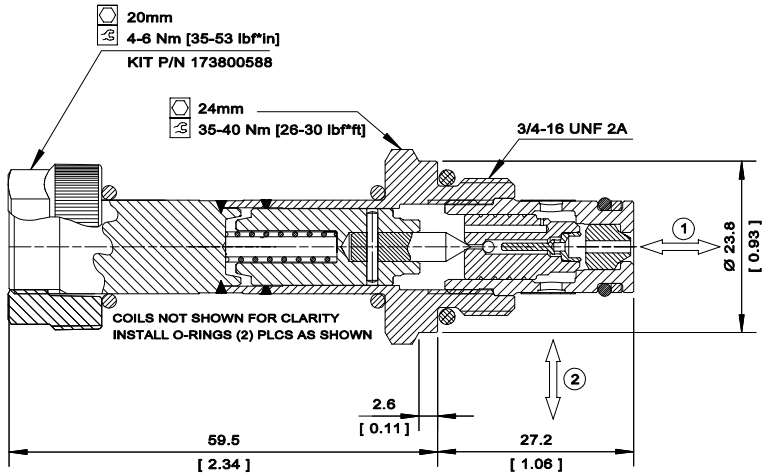
11141717 • Rev CB • March 2018

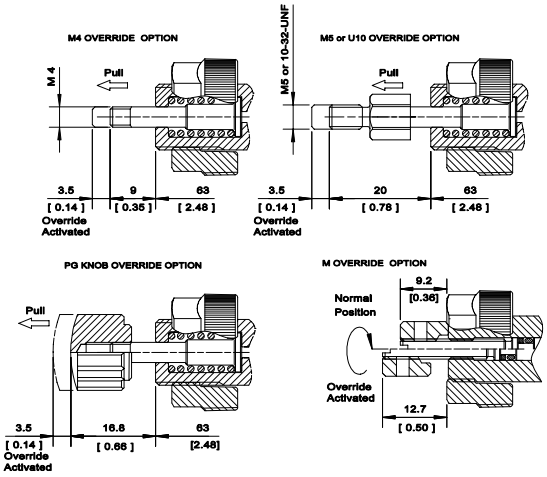
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NCF

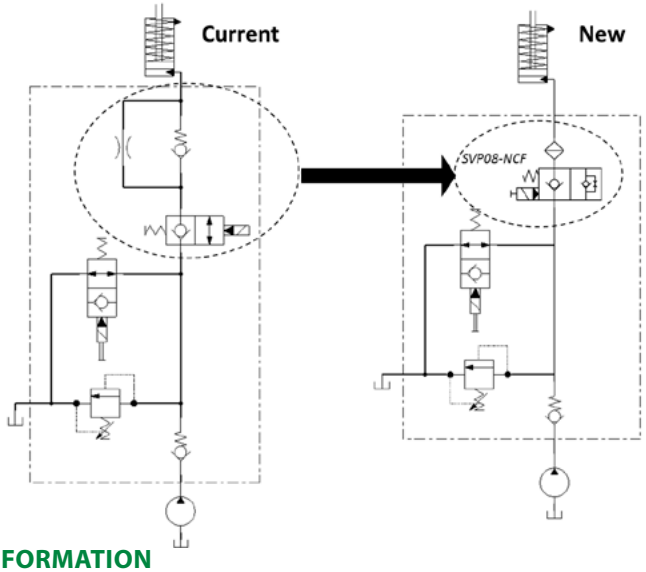
DIMENSIONS mm [in]

Cross-sectional view





EXAMPLE CIRCUITS



Current vs new circuit schematics for single-acting cylinder application. SVP08-NCF replaces 3 valves, while adding manual override and filter options.

ORDERING INFORMATION

SVP08 - NCF - 1.0 - 12D - DE - M4 - B - F - 00

Solenoid Valve, Poppet type
08 Size cavity

NCF: Normally Closed,
Flow Control Fixed, Pull Type

Orifice Ø	Flow 7 bar
1.0	1.3 LPM [0.34 GPM]
1.2	2.2 LPM [0.58 GPM]
1.4	2.7 LPM [0.71 GPM]
1.7	4 LPM [1.06 GPM]
2.0	5.8 LPM [1.54 GPM]

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil,with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC **	220A	-

* Standard coil-plastic nut and O-rings; R-coil- steel nut P/N 173800539 (no coil O-rings needed)
** DIN only-external rectifier needed

Filter	
No Filter	Omit
Filter 300 mµ	F

Code	Body and Ports	Body Nomenclature
00	Cartridge only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
2B	1/4 BSP, AL	SDC08-2-2B
3B	3/8 BSP, AL	SDC08-2-3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	00	-
Amp Junior	AJ	IP 67	-	-
Amp Junior W Diode	AJD	IP 67	-	-
AMP SuperSeal 1.5	AS	IP 67	AS	IP 69K
AMP SuperSeal W Diode	ASD	IP 67	ASDB	IP 69K
Deutsch	DE	IP 69K	DE	IP 69K
Deutsch W Diode	DED	IP 69K	DEDB	IP 69K
Flying Leads	FL	IP 65	FL	IP 69K
Flying Leads W Diode	FLD	IP 65	FLDB	IP 69K
DIN 43650	DN	IP 65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP 69K
Metri-Pack 150 W Diode	-	-	M3DB	IP 69K

Code	Material	Seal Kits
B	Buna-N	354000119
V	Viton	354000219

Code	Manual Override
Omit	No Override
M4	Pull Override M4 thread
M5	Pull Override M5 thread
U10	Pull O/R 10-32-UNF thread
PG	Pull Override with Knob
M	Pull Screw
OP	Pull Screw w/Protection*

* Only available with standard coil

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 08-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from 2 to 1. This valve is available with an optional pull-type manual override.

Shown with Robust Coil, Deutsch Connector

APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve. The SVP08-NCR can operate at an inlet pressure of 315 bar on port 2 for 600,000 cycles.

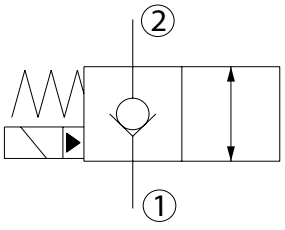
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Maximum flow at rated pressure	35 l/min [9 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

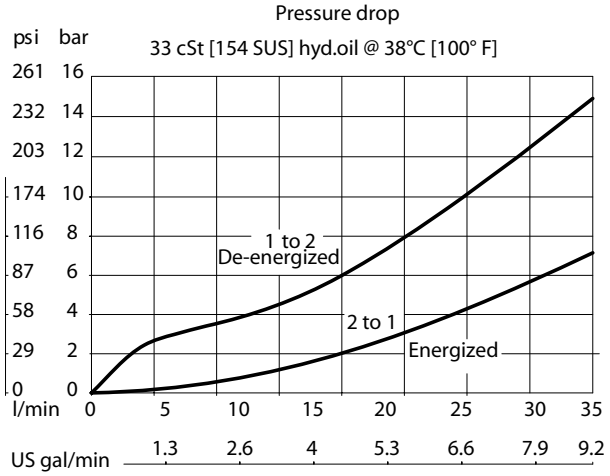
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES



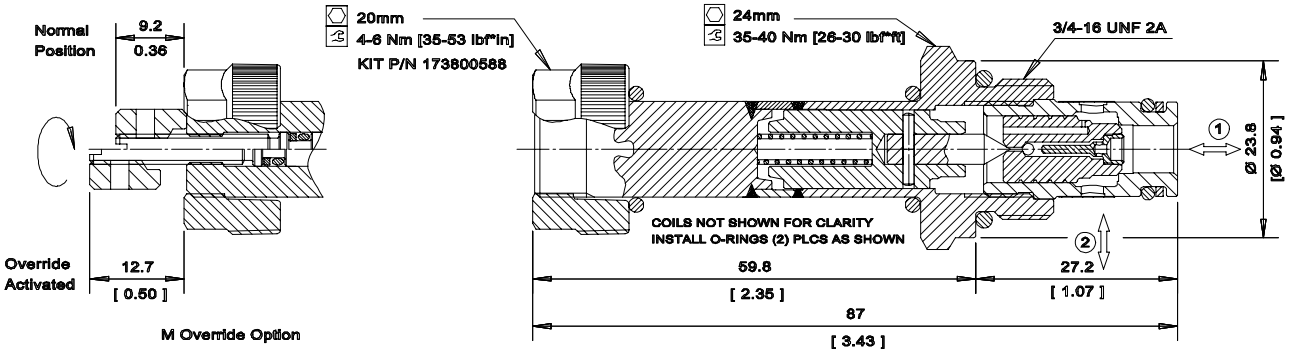
11141717 • Rev CB • March 2018

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NCR

DIMENSIONS

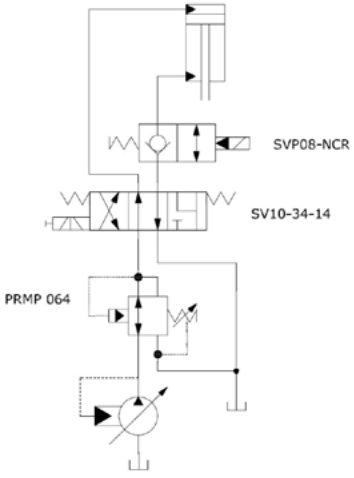
mm [in]



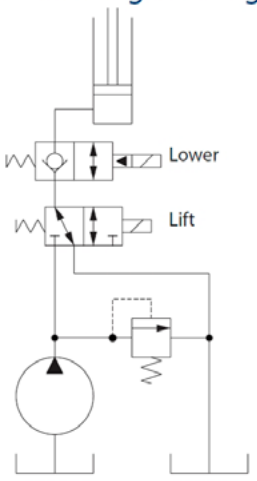
Cross-sectional view

EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

SVP08 - NCR - 12D - DE - M - B - F - 00

Solenoid Valve, Poppet Type, 08 Size Cavity

NCR:
Normally Closed, Free Reverse Flow, Pull Type

Filter:
No Filter **Omit**
Filter 300 mμ **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354000119
V	Viton	354000219

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173800539 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Manual Override
Omit	No Override
M	Pull Screw
OP	Pull Screw w/ Protection*

* Only available with standard coil

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 10-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from 2 to 1. This valve is available with an optional pull-type manual override.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve. The SVP10-NCR can operate at an inlet pressure of 315 bar on port 2 for 250,000 cycles.

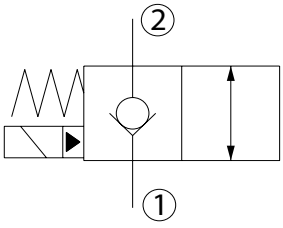
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	80 l/min [21 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

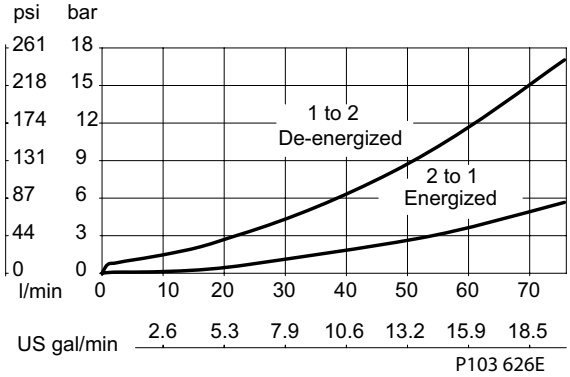
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES

Pressure drop
33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



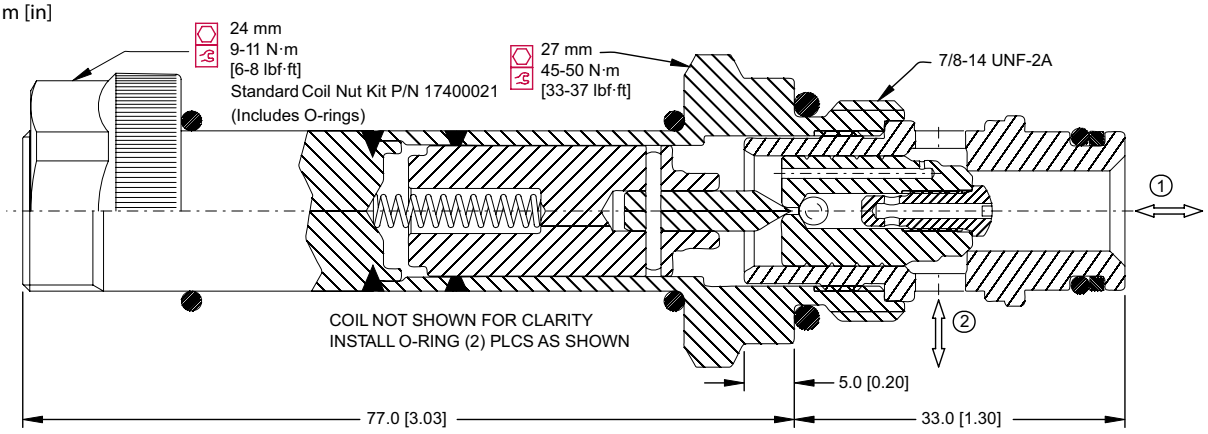
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NCR

DIMENSIONS

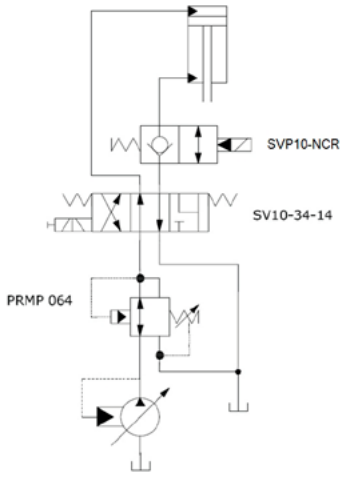
mm [in]

Cross-sectional view

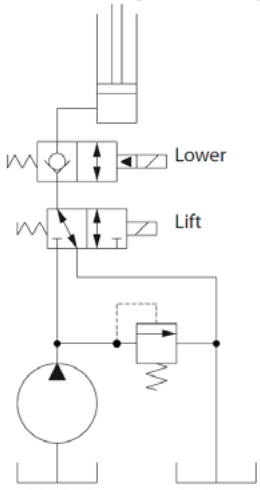


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

SVP10 - NCR - 12D - DE - M - B - F - 00

Solenoid Valve, Poppet Type, 10 Size Cavity

NCR: Normally Closed, Free Reverse Flow, Pull Type

Filter:
No Filter — **Omit**
Filter 300 mμ — **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354000719
V	Viton	354000819

Code	Manual Override
Omit	No Override
M	Pull Screw

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 10-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from 2 to 1.

Shown with Standard H16 Coil, Deutsch Connector

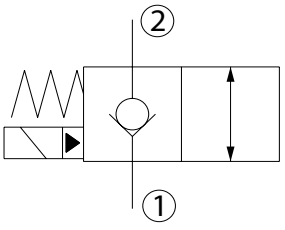
APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	65 l/min [17 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

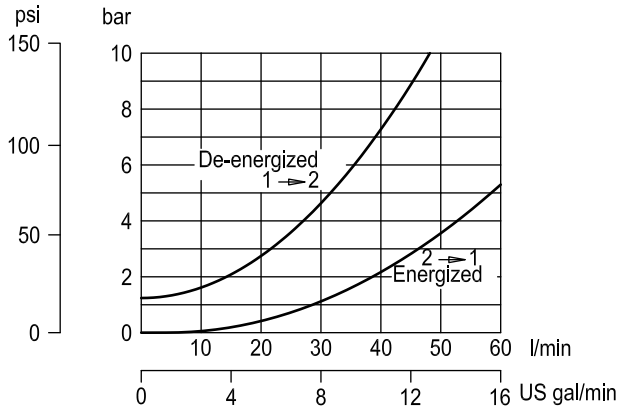
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



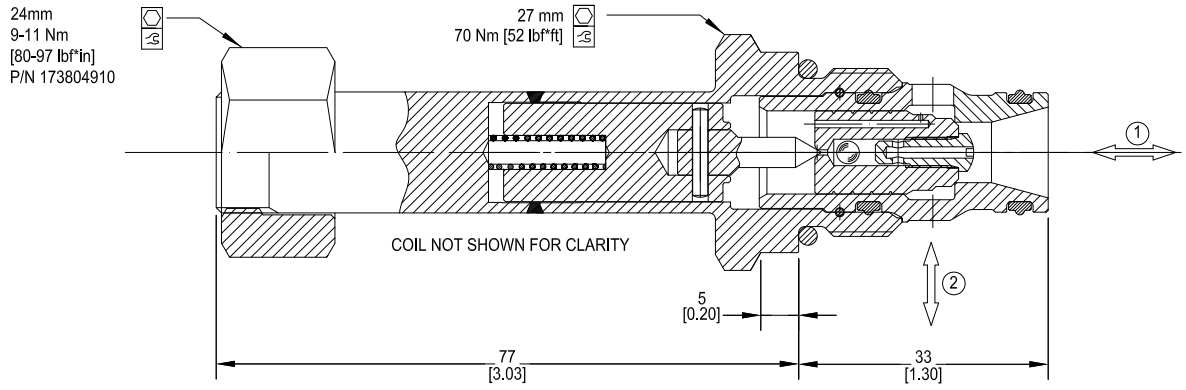
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-NCR

DIMENSIONS

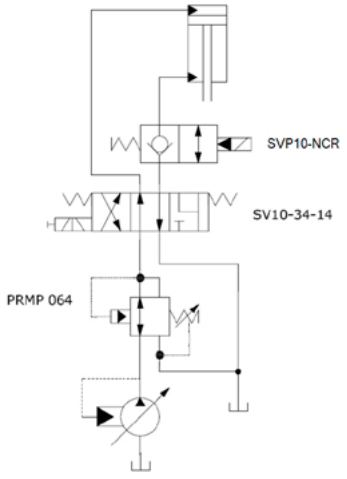
mm [in]

Cross-sectional view

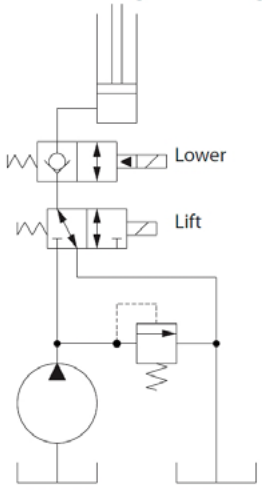


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

HSVP10 - NCR - H12D - DE - PN - P - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
10 Size, Poppet Type
with Reverse Free Flow

Coil Voltage

Code	Description
00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminum Bodies available for lower pressure applications. Please consult factory for details.

Seal Option

Code	Seal Material	Seal Kit
P	Polyurethane Single Seal	11132135
V	Viton	354000819

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 12-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from port 1 to port 2.

Shown with Robust Coil, Deutsch Connector

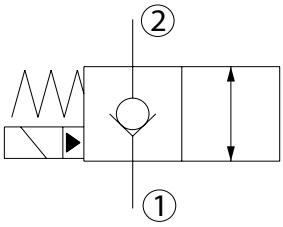
APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve. This solenoid valve is a technical replacement for CP501-3.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.43 kg [0.95 lb]
Cavity	CP12-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

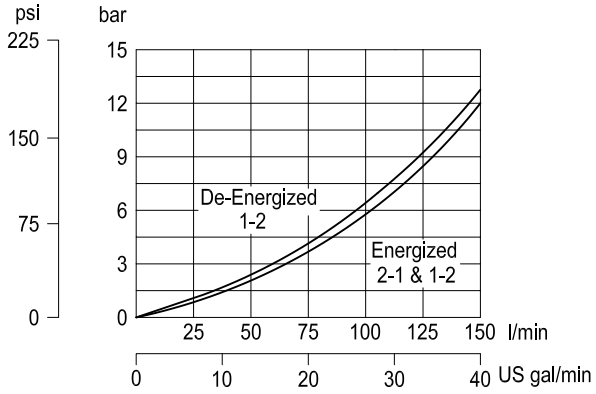
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



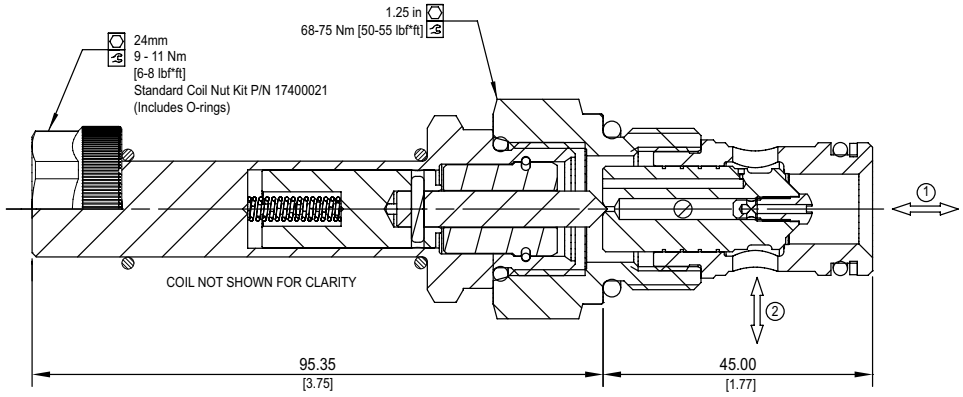
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NCR

DIMENSIONS

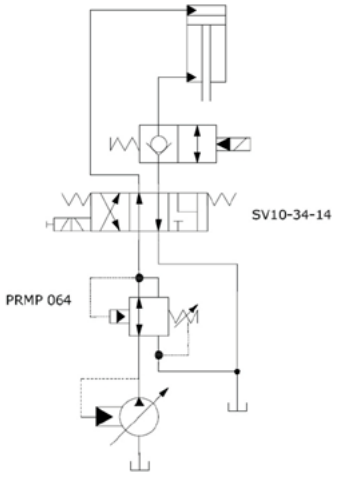
mm [in]

Cross-sectional view

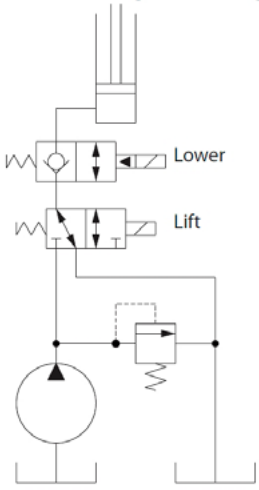


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

SVP12 - NCR - 12D - DE - XC - B - 00

Solenoid Valve
Normally-Closed, Pilot Operated,
Free Reverse Flow, 12 Size,
Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP, DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120017
V	Viton	120018

Manual Override

Code	Description
XC	No Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 12-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from port 1 to port 2.

Shown with Standard H16 Coil, Deutsch Connector

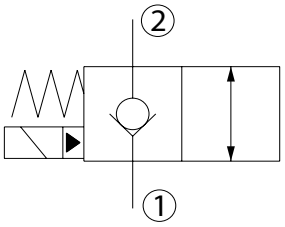
APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.43 kg [0.95 lb]
Cavity	CP12-2
Standard Coil	H16 29 Watt

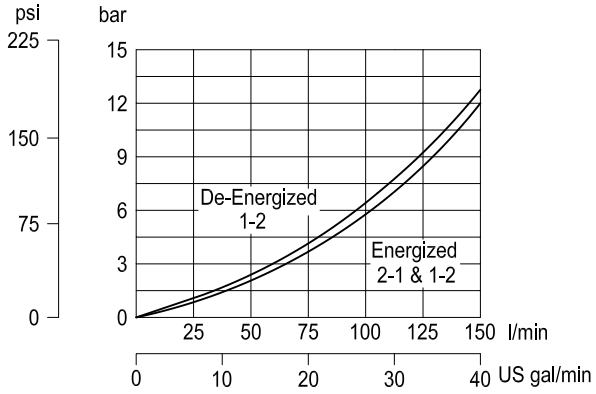
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



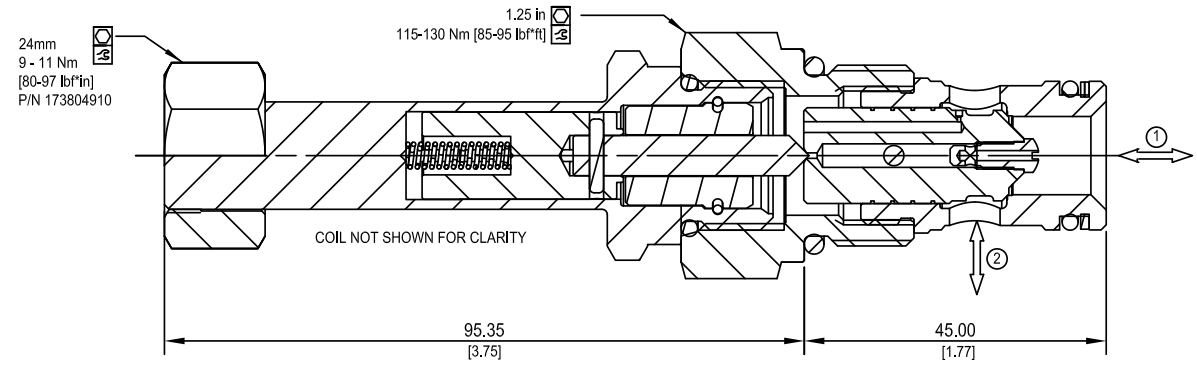
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NCR

DIMENSIONS

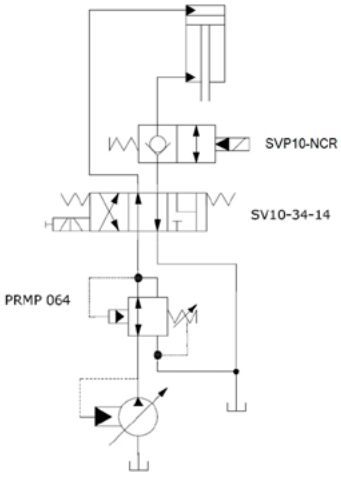
mm [in]

Cross-sectional view

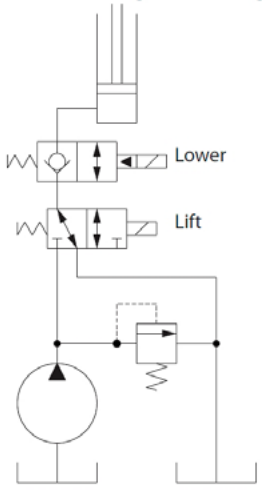


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

HSVP12 - NCR - H12D - DE - XC - B - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
Free Reverse Flow, 12 Size,
Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP,DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120017
V	Viton	120018

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP16-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 16-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from 1 to 2.

Shown with Robust Coil, Deutsch Connector

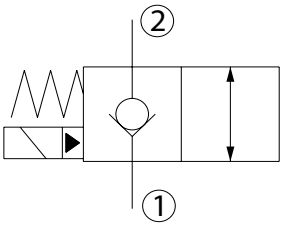
APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve. This solenoid valve is a technical replacement for CP502-3.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.73 kg [1.61 lb]
Cavity	SDC16-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

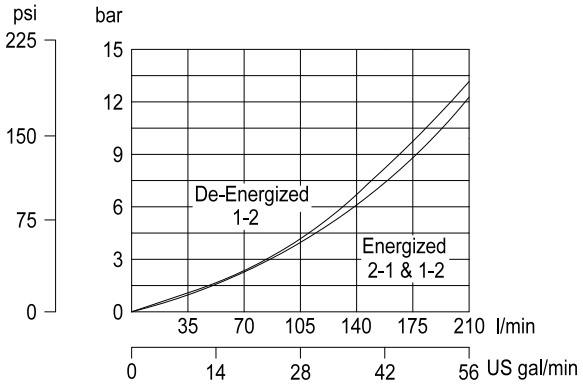
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



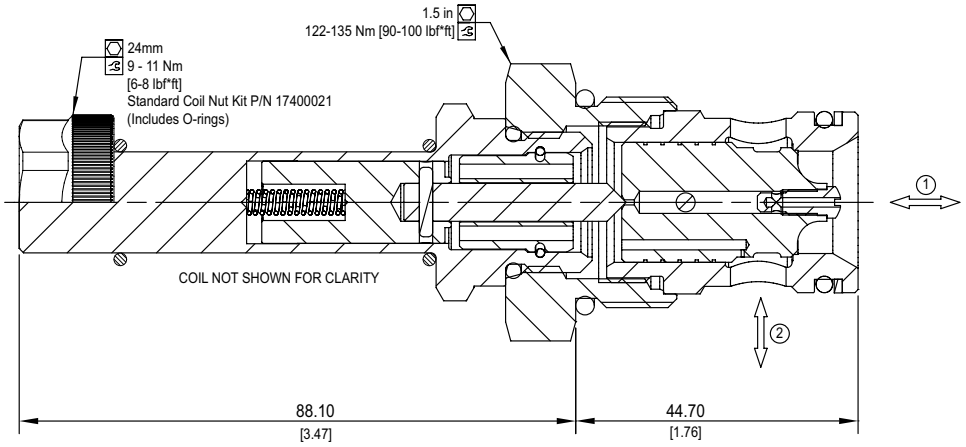
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP16-NCR

DIMENSIONS

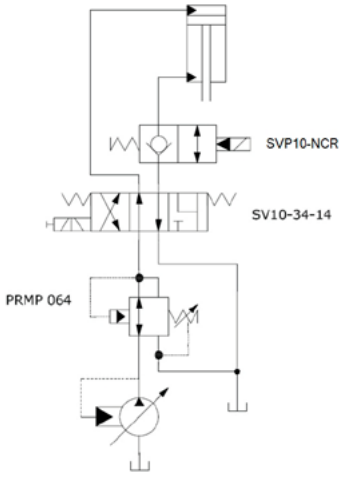
mm [in]

Cross-sectional view

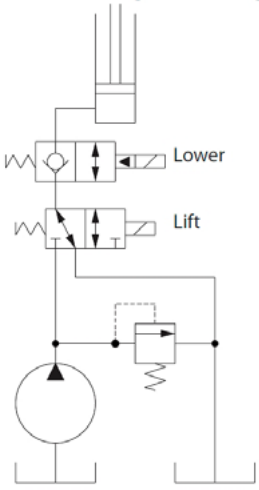


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

SVP16 - NCR - 12D - DE - XC - B - 00

Solenoid Valve
Normally-Closed, Pilot Operated,
Free Reverse Flow, 16 Size,
Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SCD16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP, DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120019
V	Viton	120020

Manual Override

Code	Description
XC	No Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP16-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 16-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from 1 to 2.

Shown with Standard H16 Coil, Deutsch Connector

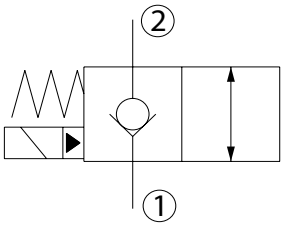
APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.73 kg [1.61 lb]
Cavity	SDC16-2
Standard Coil	H16 29 Watt

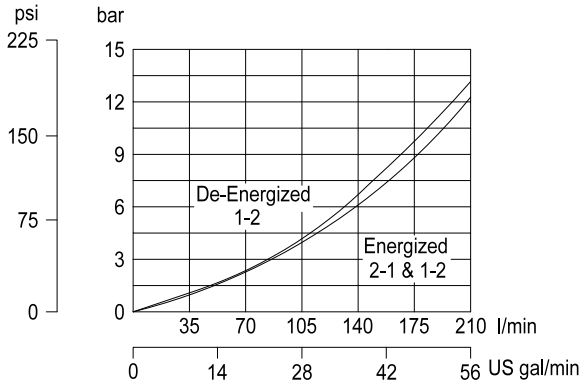
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



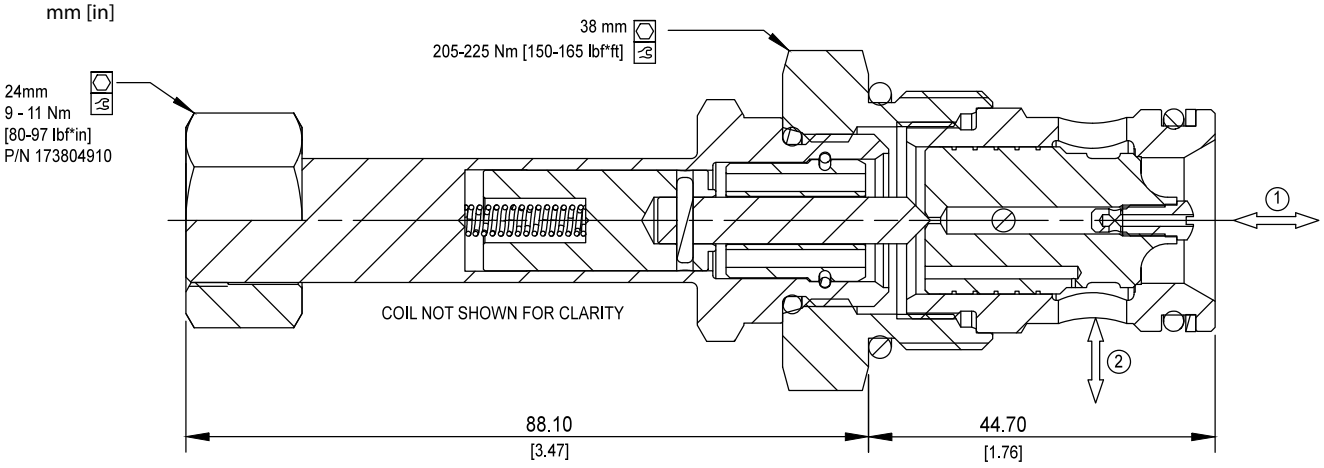
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP16-NCR

DIMENSIONS

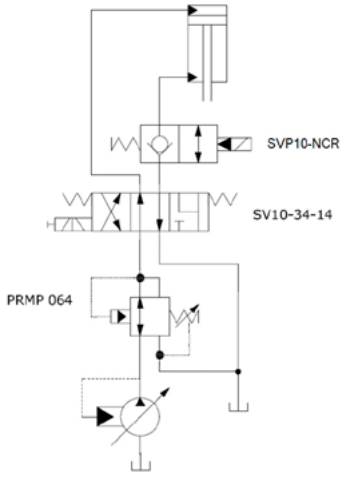
mm [in]

Cross-sectional view

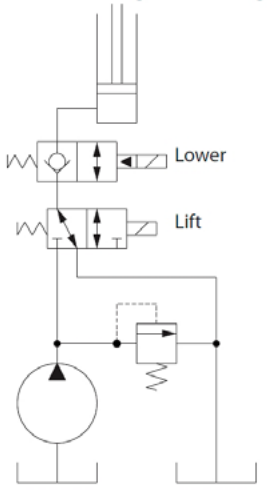


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

HSVP16 - NCR - H12D - DE - XC - B - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
Free Reverse Flow, 16 Size,
Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SDC16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP,DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120019
V	Viton	120020

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP20-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 20-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from port 1 to port 2.

Shown with Robust Coil, Deutsch Connector

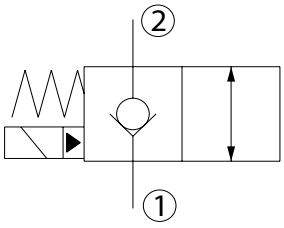
APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve. This solenoid valve is a technical replacement for CP503-3.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	227 l/min [60 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

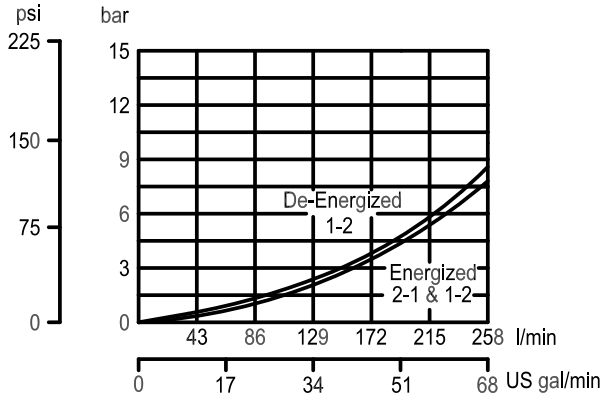
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50□C [122 □F]



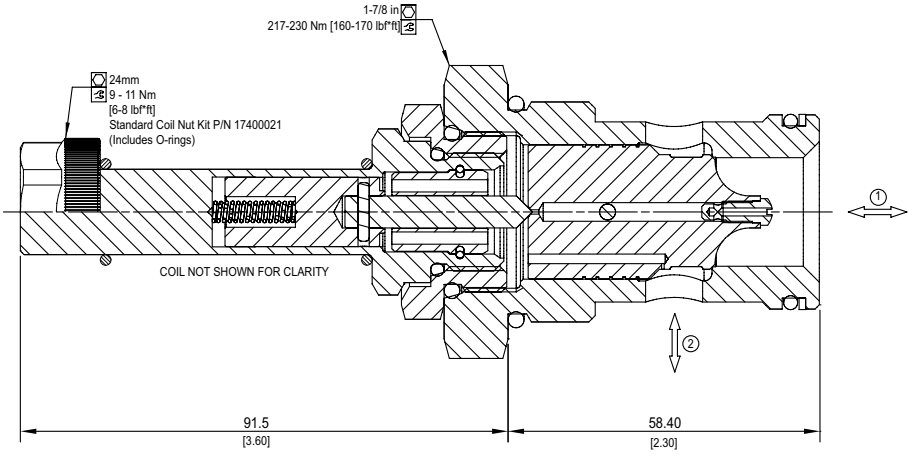
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP20-NCR

DIMENSIONS

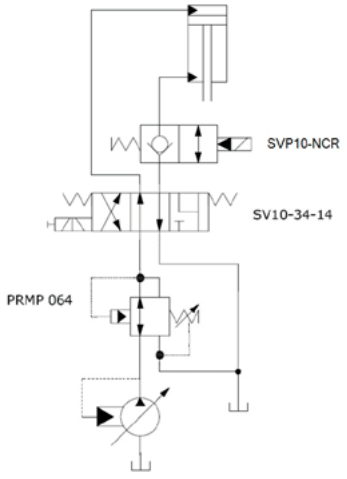
mm [in]

Cross-sectional view

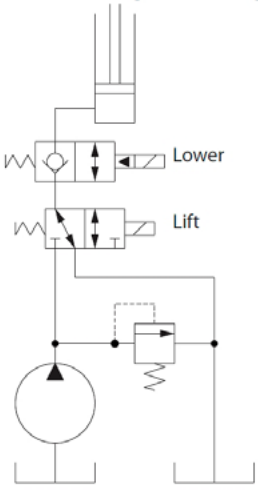


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

SVP20 - NCR - 12D - DE - XC - B - 00

Solenoid Valve
Normally-Closed, Pilot Operated,
Free Reverse Flow, 20 Size,
Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SCD20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE, DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120011
V	Viton	120012

Manual Override

Code	Description
XC	No Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP20-NCR

OPERATION
This is a normally-closed, pilot-operated, poppet-type 20-size solenoid valve with free reverse flow. When de-energized, the valve acts as a check valve, allowing flow from port 1 to port 2, and blocking flow from port 2 to port 1. When energized, the valve's poppet is shifted and allows flow from port 2 to port 1, and from port 1 to port 2.

Shown with Standard H16 Coil, Deutsch Connector

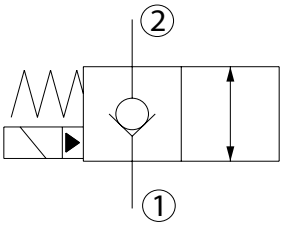
APPLICATIONS
This valve is designed for low leakage applications and can be used in a circuit with a single acting cylinder to control motion, provide load holding or as a general purpose diverter or dump valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	227 l/min [60 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	H16 29 Watt

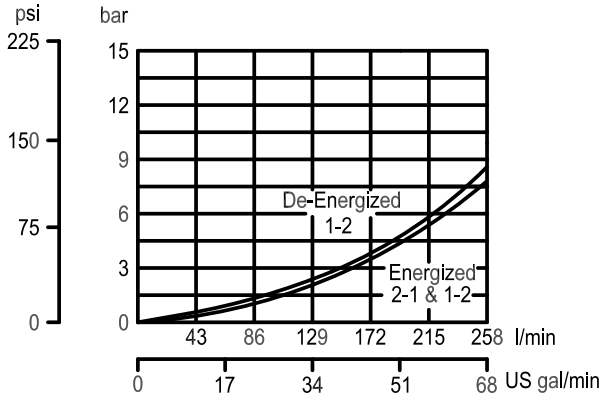
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50□C [122 □F]



11141717 • Rev CB • March 2018

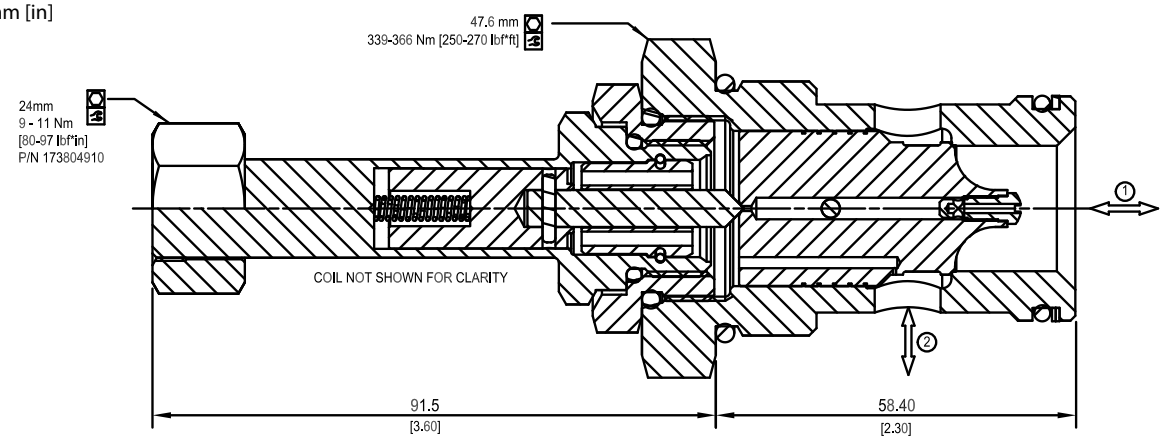
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP20-NCR

DIMENSIONS

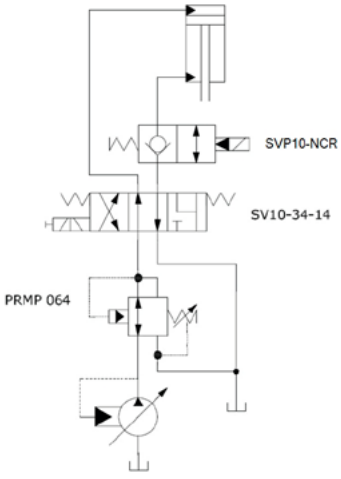
mm [in]

Cross-sectional view

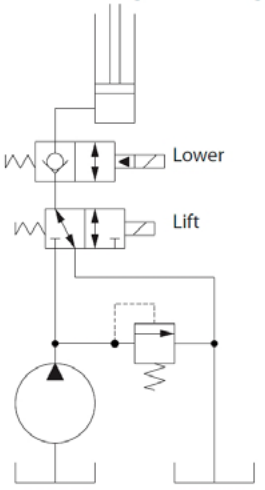


EXAMPLE CIRCUITS

Height Control with Float Option



Lift, hold, & lower single acting cylinder



P103 102E

ORDERING INFORMATION

HSVP20 - NCR - H12D - DE - XC - B - 00

High Pressure Solenoid Valve
Normally-Closed, Pilot Operated,
Free Reverse Flow, 20 Size,
Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SDC20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE,DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120011
V	Viton	120012

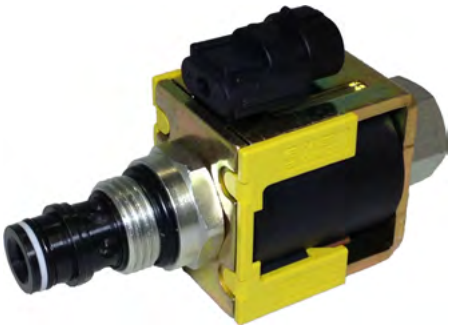
Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NO

OPERATION
This is a normally open, pilot-operated, poppet-type 08-size solenoid valve. When de-energized, the SVP08-NO severely restricts flow from port 1 to port 2, while allowing free flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allows reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.


Shown with Robust Coil

APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required. The SVP08-NO can operate at an inlet pressure of 315 bar on port 2 for 600,000 cycles.

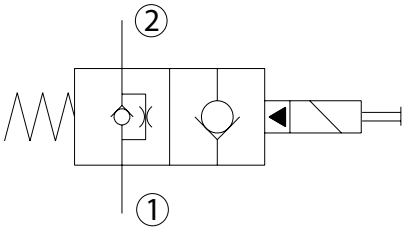
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	35 l/min [9 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

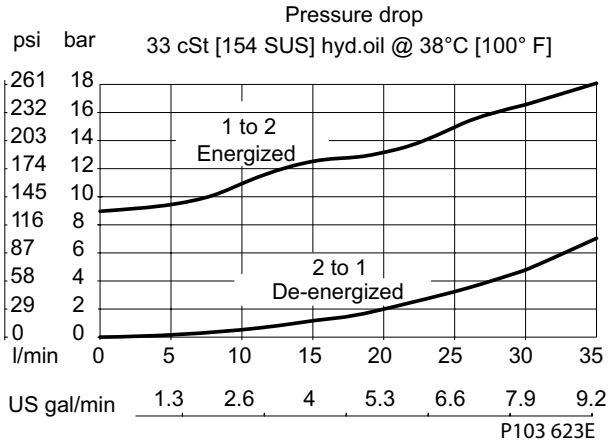
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES

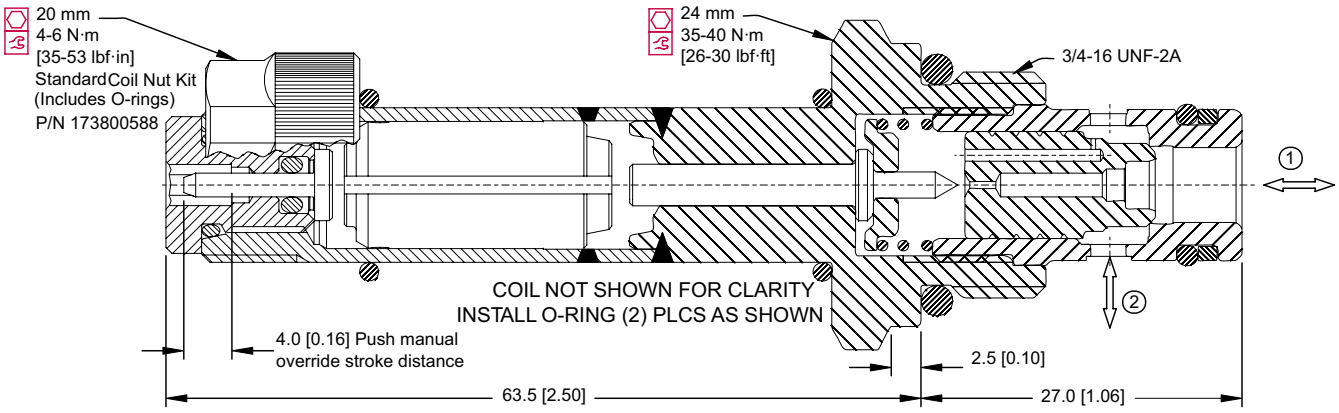


Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

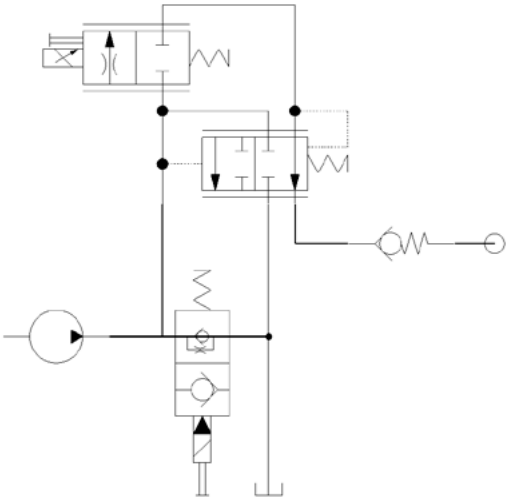
Solenoid Valves Catalog
2-Way Poppet
SVP08-NO

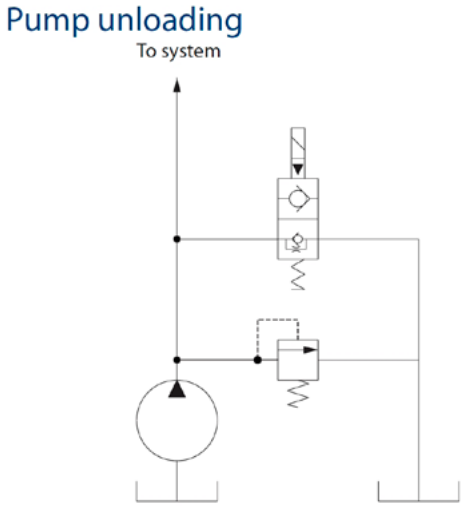
DIMENSIONS
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

SVP08 -NO- 12D - DE - PB - B - F - 00

Solenoid Valve, Poppet Type, 08 Size Cavity

NO: Normally Open, Push Type

Filter: No Filter **Omit**, 300 µm **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003119
V	Viton	354003619

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings;
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NO

OPERATION
This is a normally open, pilot-operated, poppet-type 10-size solenoid valve. When de-energized, the SVP10-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required. The SVP10-NO can operate at an inlet pressure of 315 bar on port 2 for 300,000 cycles.

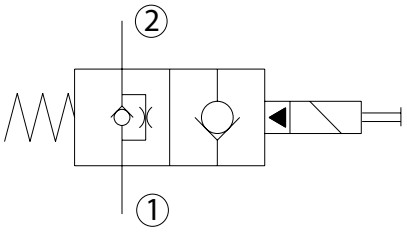
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	80 l/min [21 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

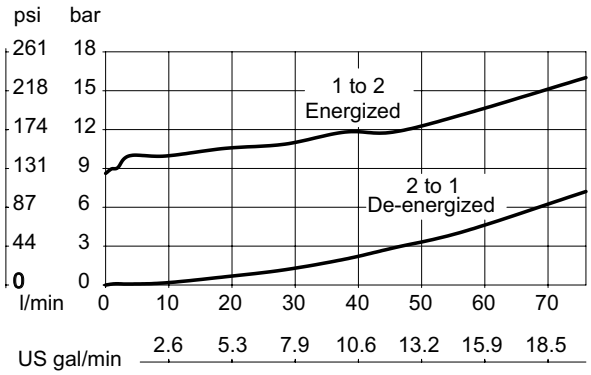
SCHEMATIC



PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



11141717 • Rev CB • March 2018

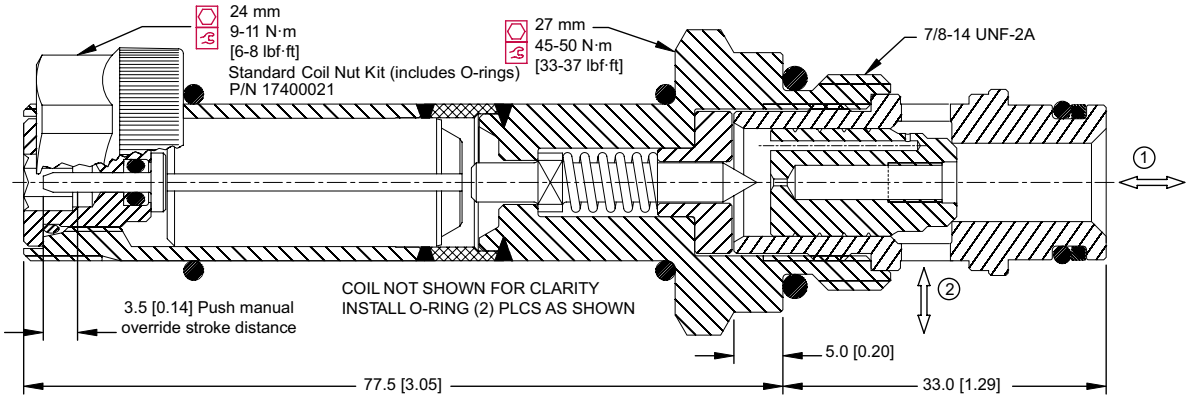
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NO

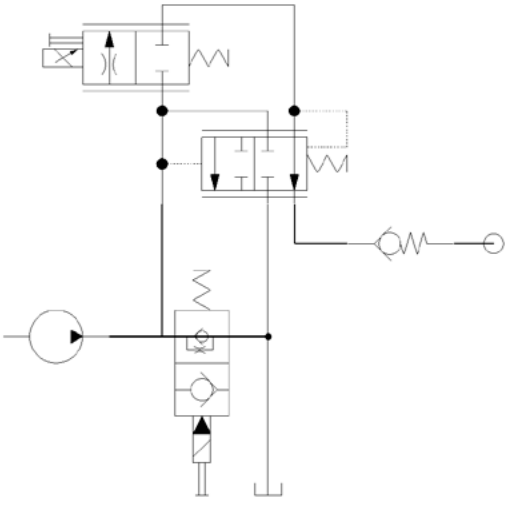
DIMENSIONS

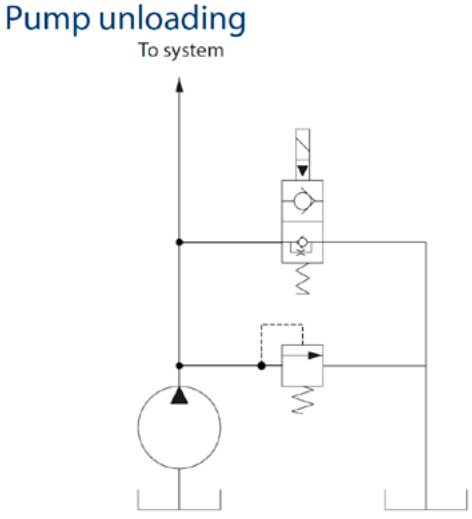
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

SVP10 - NO - 12D - DE - PB - B - F - 00

Solenoid Valve, Poppet Type, 10 Size Cavity

NO: Normally Open, Push Type

Filter:
No Filter — **Omit**
Filter 300 mμ — **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354000719
V	Viton	354000819

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-NO

OPERATION
This is a normally open, pilot-operated, poppet-type 10-size solenoid valve. When de-energized, the HSVP10-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

Shown with Standard H16 Coil, Deutsch Connector

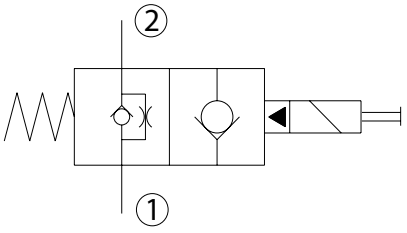
APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required.

SPECIFICATIONS

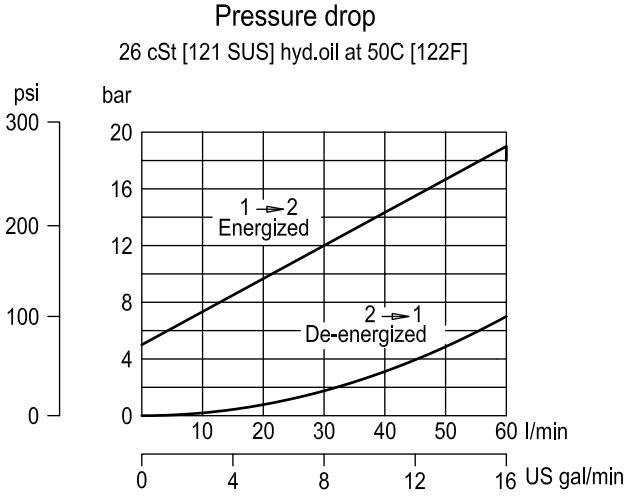
Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	65 l/min [17 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



11141717 • Rev CB • March 2018

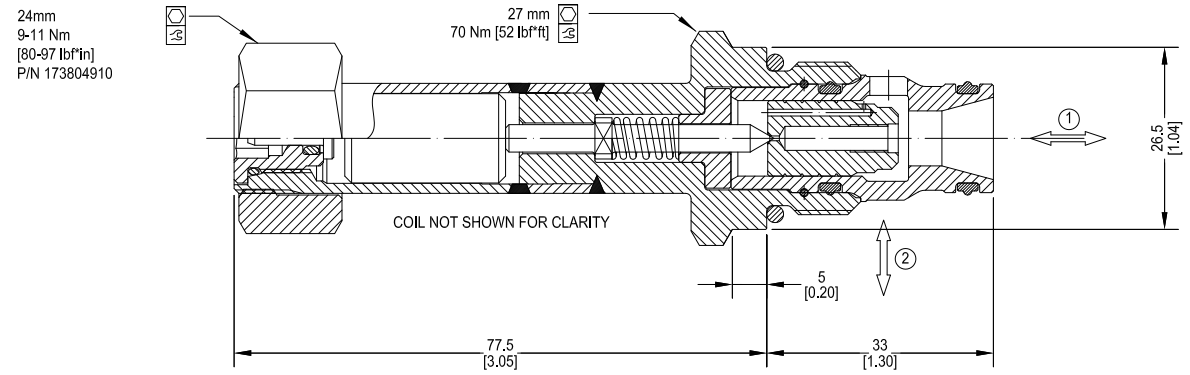
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-NO

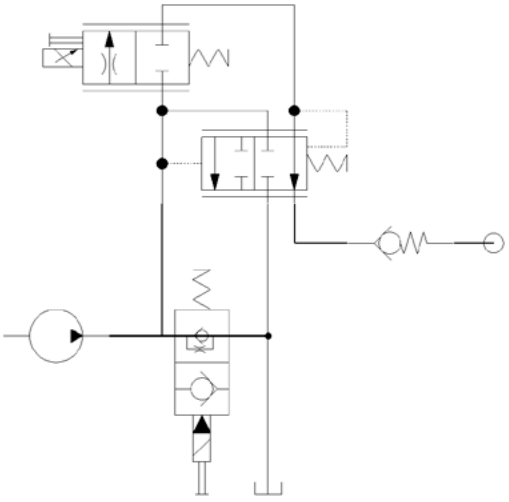
DIMENSIONS

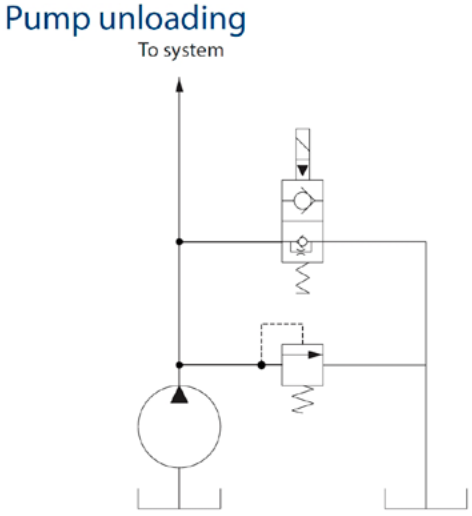
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

HSVP10 - NO - H12D - DE - PN - P - 00

High Pressure Solenoid Valve, Normally-Open, Pilot-Operated, 10 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminium bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11132135
V	Viton	354000819

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NO

OPERATION
This is a normally open, pilot-operated, poppet-type 12-size solenoid valve. When de-energized, the SVP12-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required. This solenoid valve is a technical replacement for CP501-2.

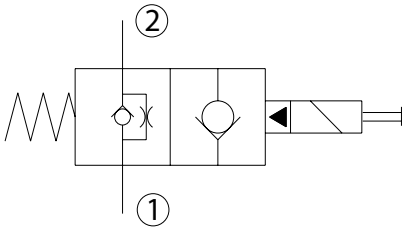
Shown with Robust Coil, Deutsch Connector

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.67 kg [1.47 lb]
Cavity	CP12-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

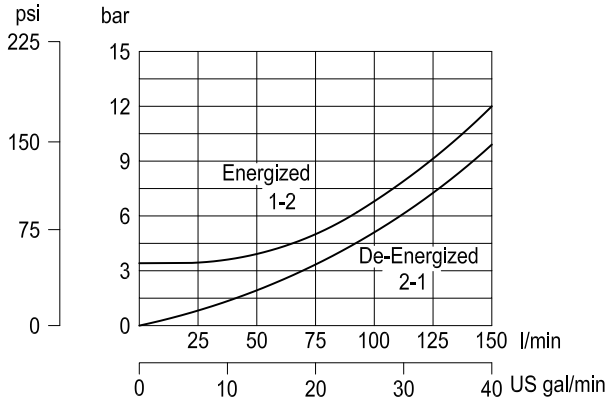
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



11141717 • Rev CB • March 2018

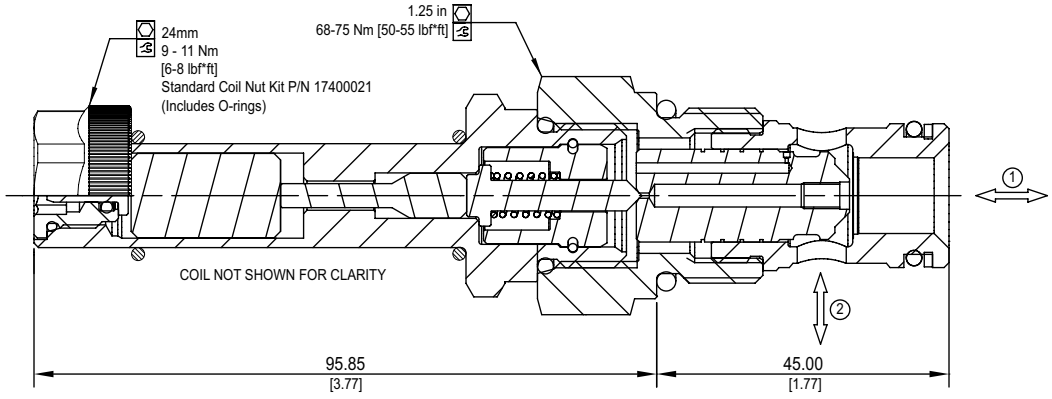
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NO

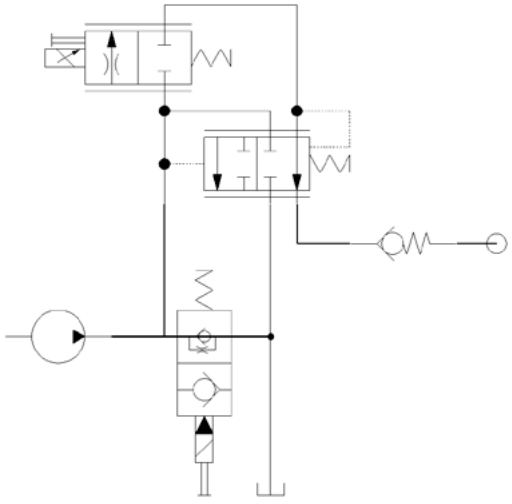
DIMENSIONS

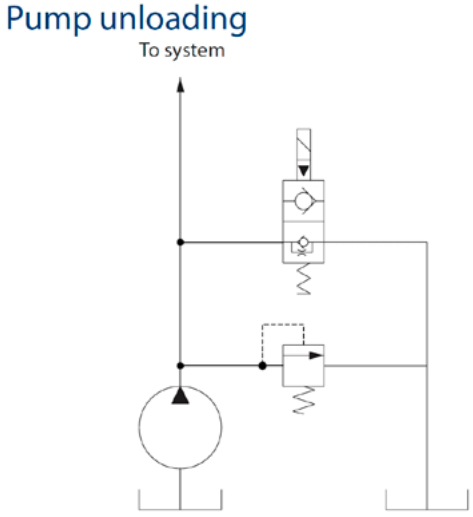
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

SVP12 - NO - 12D - DE - PN - B - 00

Solenoid Valve
Normally-Open, Pilot Operated,
12 Size, Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP, DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120017
V	Viton	120018

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin Override with Nut for Protection & Actuation

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NO

OPERATION
This is a normally open, pilot-operated, poppet-type 12-size solenoid valve. When de-energized, the HSVP12-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required.

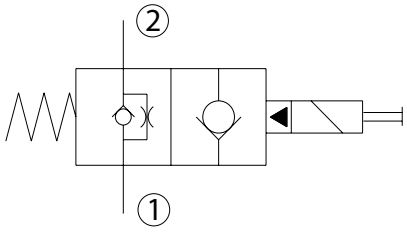
Shown with Standard H16 Coil, Deutsch Connector

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.67 kg [1.47 lb]
Cavity	CP12-2
Standard Coil	H16 29 Watt

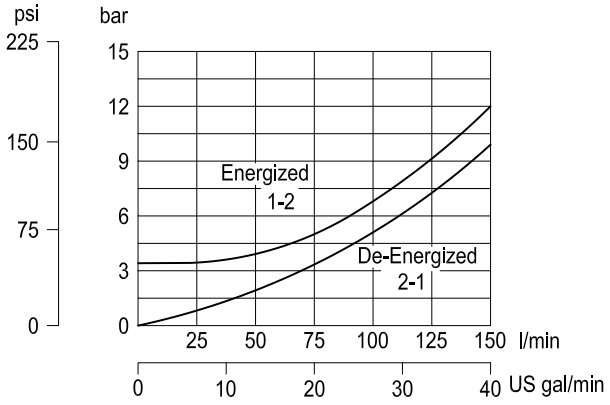
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



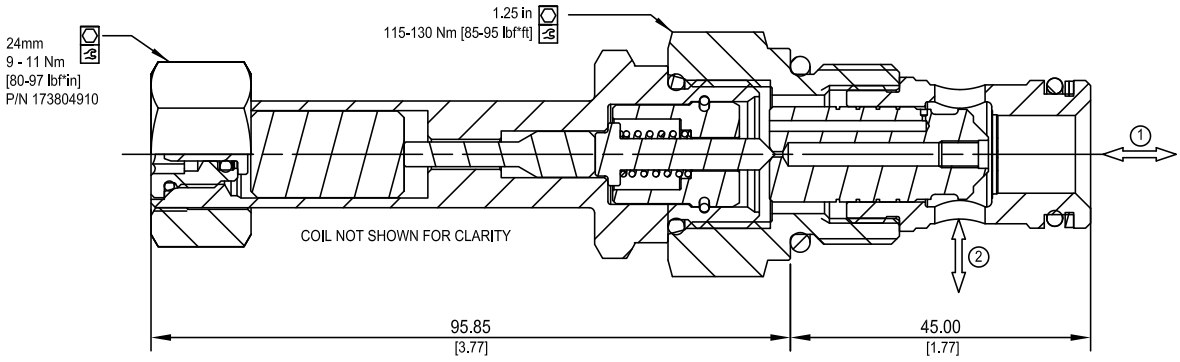
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NO

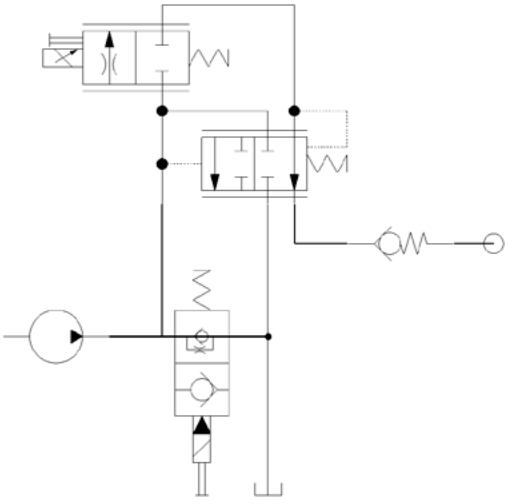
DIMENSIONS

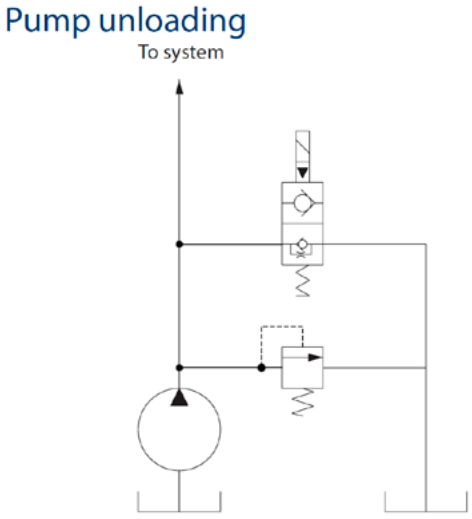
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

HSVP12 - NO - H12D - DE - PN - B - 00

High Pressure Solenoid Valve
Normally-Open, Pilot Operated,
12 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP,DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120017
V	Viton	120018

Manual Overrides

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP16-NO

OPERATION
This is a normally open, pilot-operated, poppet-type 16-size solenoid valve. When de-energized, the SVP16-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

Shown with Robust Coil, Deutsch Connector

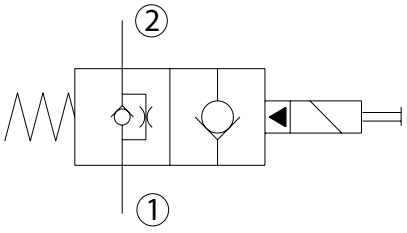
APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required. This solenoid valve is a technical replacement for CP502-2.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.73 kg [1.61 lb]
Cavity	SDC16-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

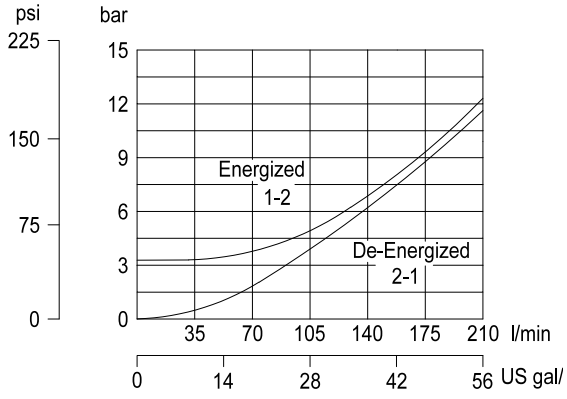
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



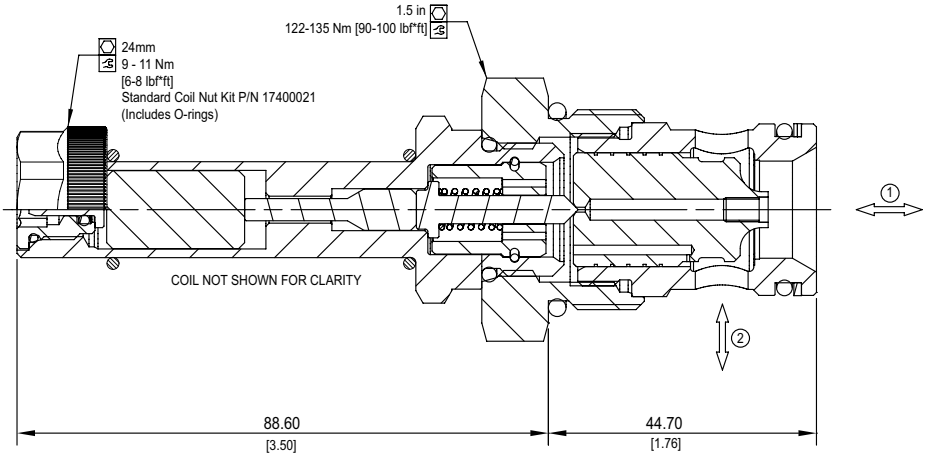
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP16-NO

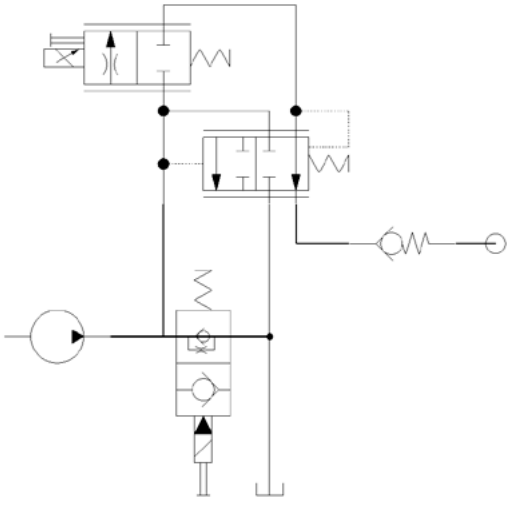
DIMENSIONS

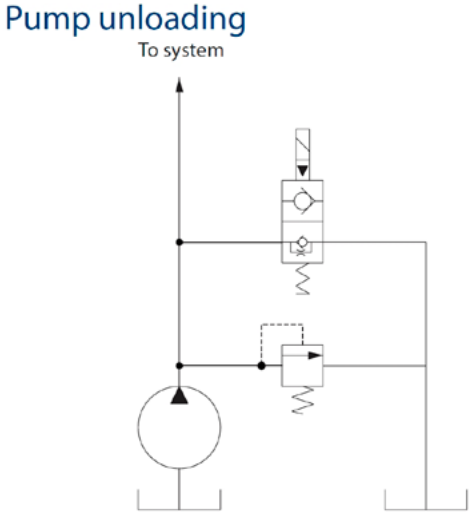
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

SVP16 - NO - 12D - DE - PN - B - 00

Solenoid Valve
Normally-Open, Pilot Operated,
16 Size, Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SCD16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP, DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120019
V	Viton	120020

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin Override with Nut for Protection & Actuation

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP16-NO

OPERATION
This is a normally open, pilot-operated, poppet-type 16-size solenoid valve. When de-energized, the HSVP16-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required.

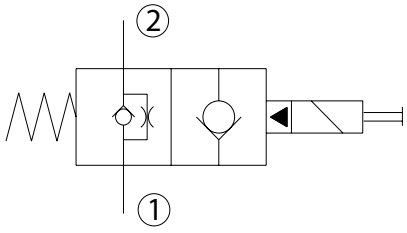
Shown with Standard H16 Coil, Deutsch Connector

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.73 kg [1.61 lb]
Cavity	SDC16-2
Standard Coil	H16 29 Watt

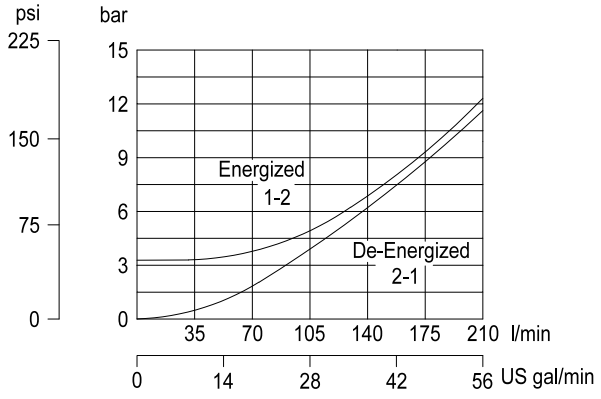
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



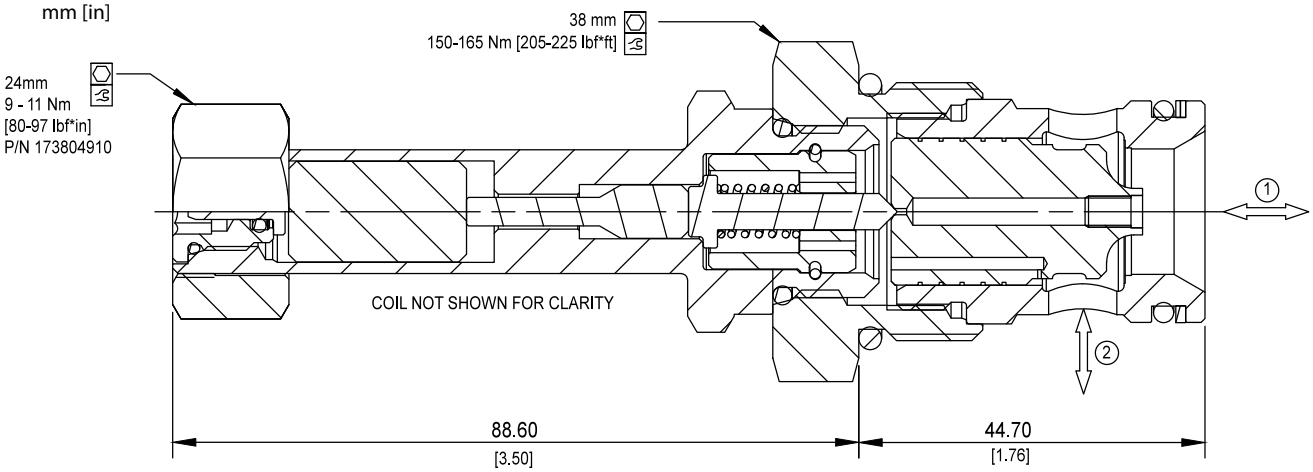
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP16-NO

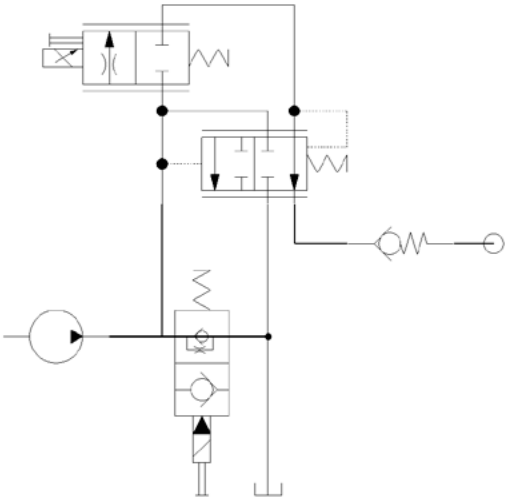
DIMENSIONS

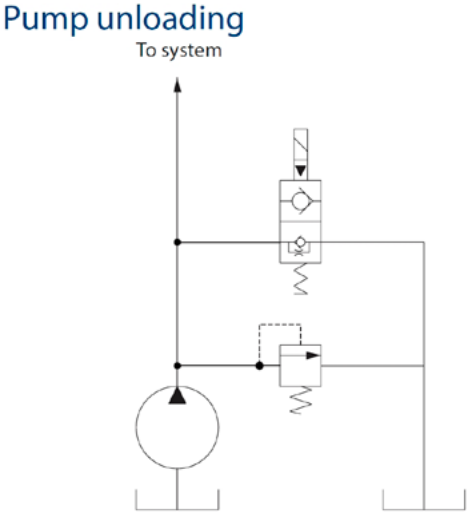
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

HSVP16 - NO - H12D - DE - PN - B - 00

High Pressure Solenoid Valve
Normally-Open, Pilot Operated,
16 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SDC16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP,DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120019
V	Viton	120020

Manual Overrides

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP20-NO

Shown with Robust Coil, Deutsch Connector

OPERATION
This is a normally open, pilot-operated, poppet-type 20-size solenoid valve. When de-energized, the SVP20-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

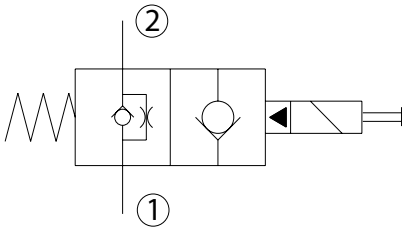
APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required. This solenoid valve is a technical replacement for CP503-2.

SPECIFICATIONS

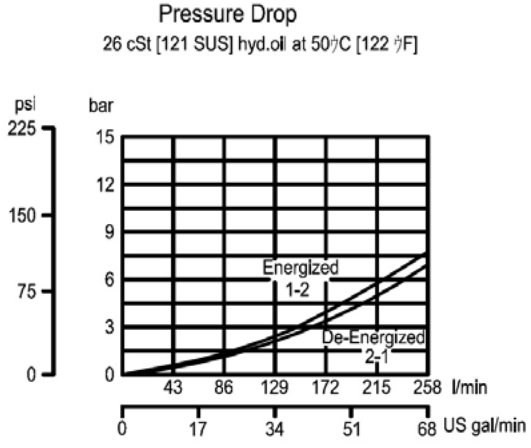
Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	265 l/min [70 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



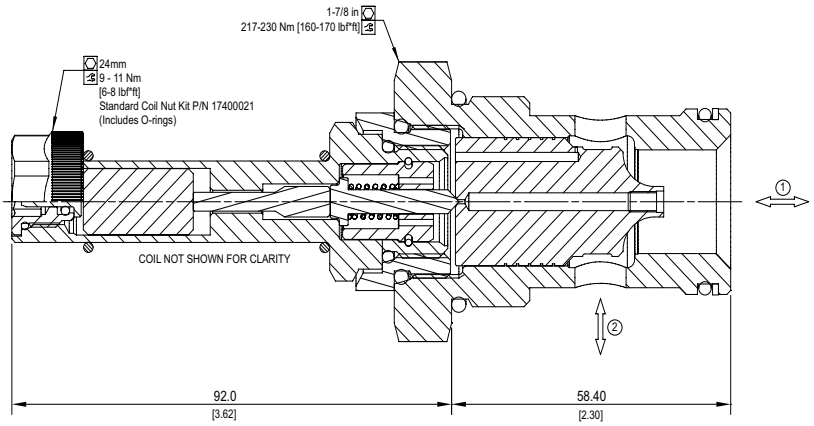
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP20-NO

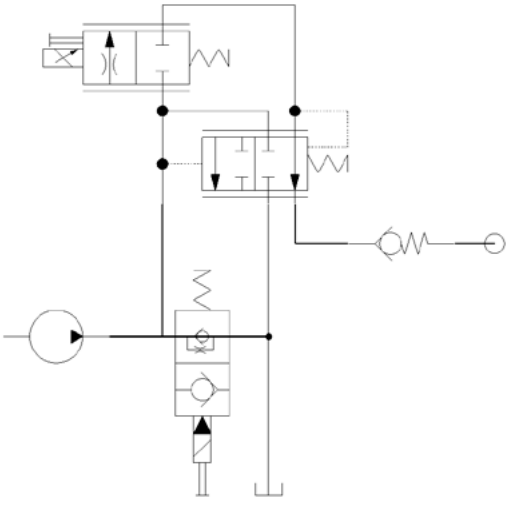
DIMENSIONS

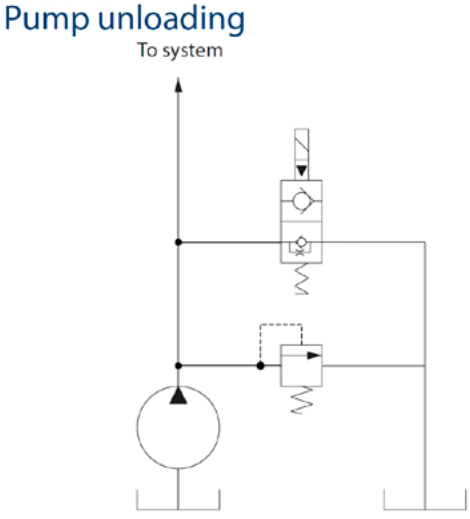
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

SVP20 - NO - 12D - DE - PN - B - 00

Solenoid Valve
Normally-Open, Pilot Operated,
20 Size, Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SCD20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE, DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120011
V	Viton	120012

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin Override with Nut for Protection & Actuation
SPS	Screw Style

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP20-NO

Shown with Standard H16 Coil, Deutsch Connector

OPERATION
This is a normally open, pilot-operated, poppet-type 20-size solenoid valve. When de-energized, the HSVP20-NO severely restricts flow from port 1 to port 2, while blocking flow from port 2 to 1. When energized, the valve's poppet is shifted to block flow from port 2 to port 1, and allow reverse flow between port 1 to port 2 at a high pressure drop. This valve comes standard with a push pin type manual override.

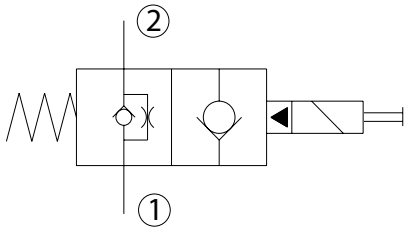
APPLICATIONS
This valve is designed for use for uni-directional blocking, load holding, clamping or gripping applications in hydraulic circuits where low internal leakage is required.

SPECIFICATIONS

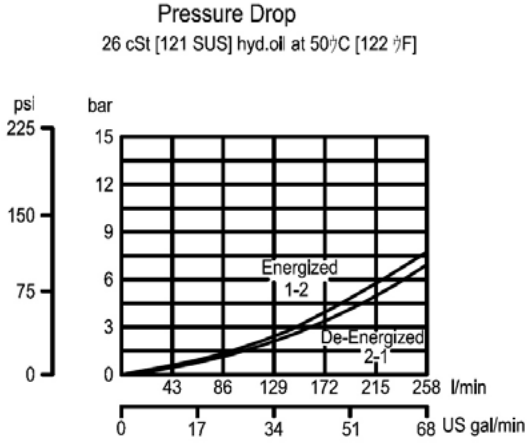
Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	265 l/min [70 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



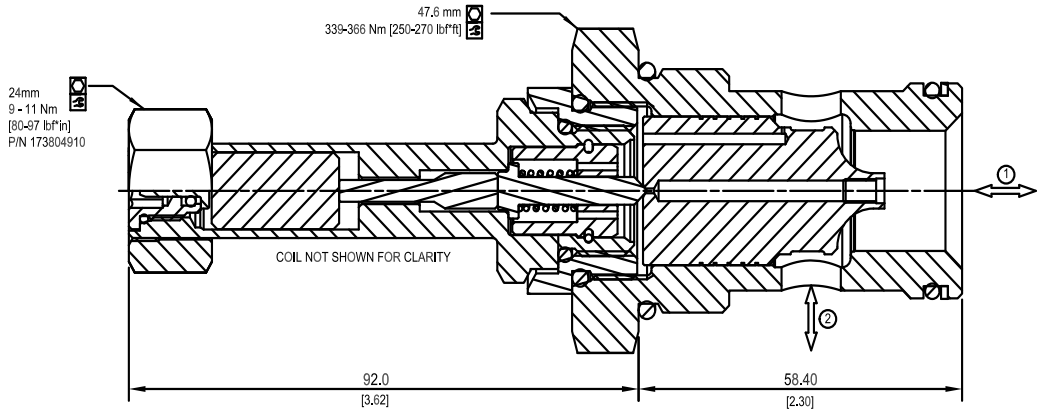
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP20-NO

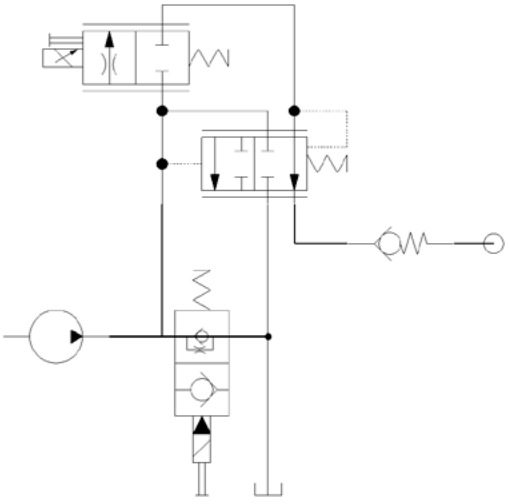
DIMENSIONS

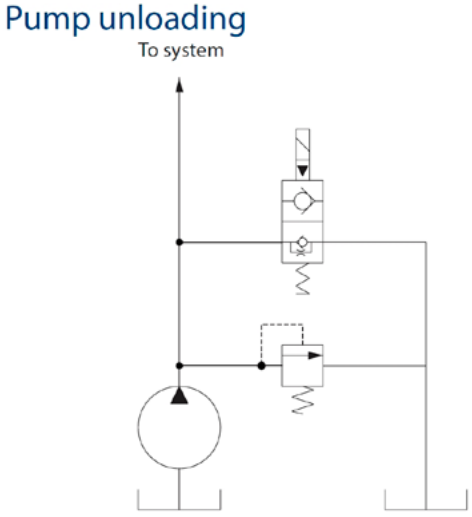
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS





ORDERING INFORMATION

HSVP20 - NO - H12D - DE - PN - B - 00

High Pressure Solenoid Valve
Normally-Open, Pilot Operated,
20 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SDC20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE,DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120011
V	Viton	120012

Manual Overrides

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NOR

OPERATION
This is a normally-open, pilot-operated, poppet-type 08-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve. The SVP08-NOR can operate at an inlet pressure of 315 bar on port 2 for 600,000 cycles.

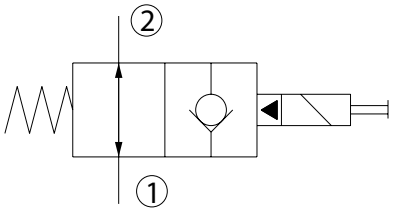
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	35 l/min [9 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

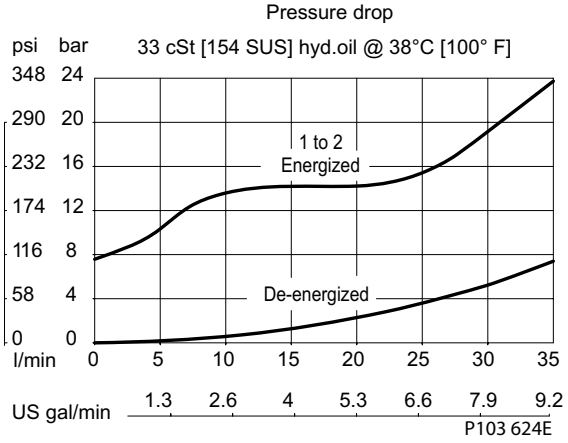
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES



11141717 • Rev CB • March 2018

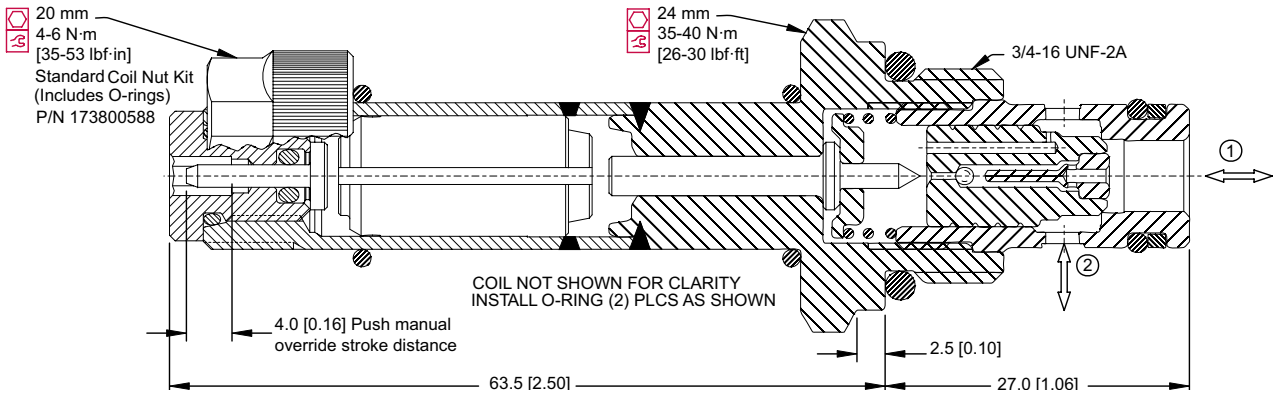
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP08-NOR

DIMENSIONS

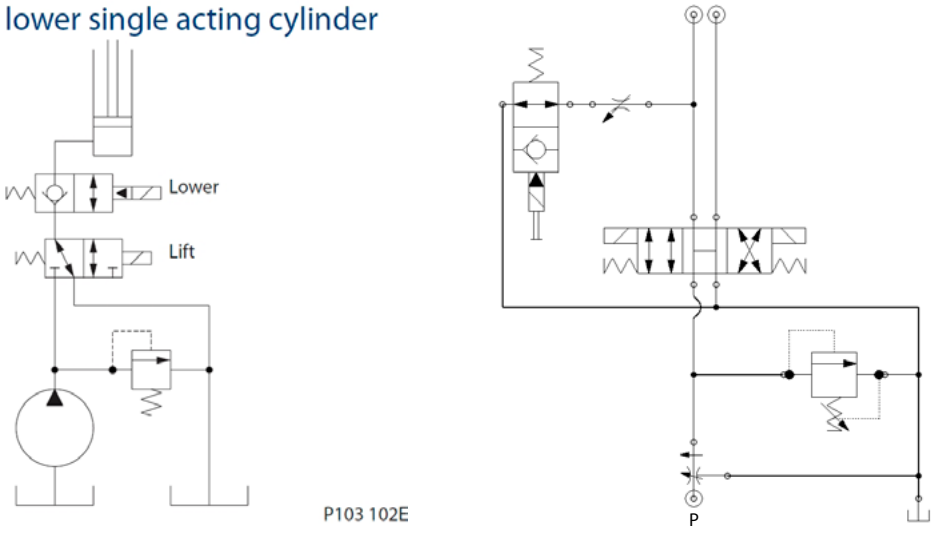
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Lift, hold, & lower single acting cylinder



ORDERING INFORMATION

SVP08 - NOR - 12D - DE - PB - B - F - 00

Solenoid Valve, Poppet Type, 08 Size Cavity

NOR:
Normally Open
Free Reverse Flow, Push Type

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Filter:
No Filter **Omit**
300 µm **F**

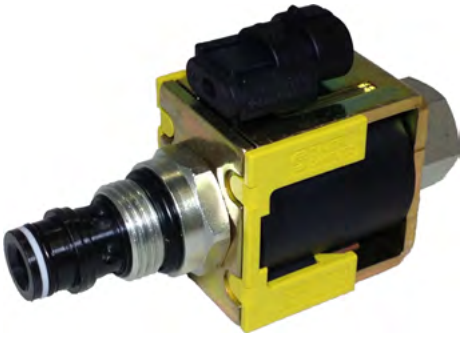
Seal Code	Material	Seal Kits
B	Buna-N	354003119
V	Viton	354003619

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NOR

OPERATION
This is a normally-open, pilot-operated, poppet-type 10-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.



Shown with Robust Coil, Deutsch Connector

APPLICATIONS
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve. The SVP10-NOR can operate at an inlet pressure of 315 bar on port 2 for 300,000 cycles.

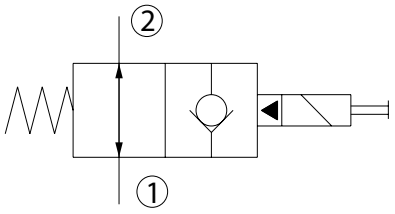
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	80 l/min [21 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

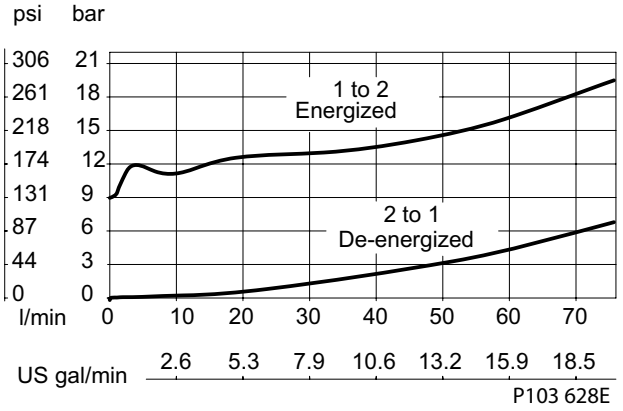
SCHEMATIC



PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



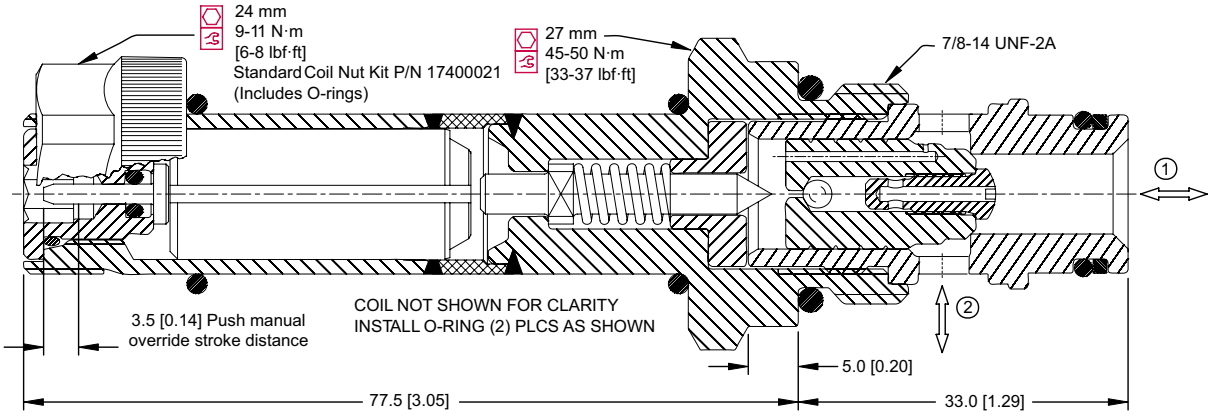
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP10-NOR

DIMENSIONS

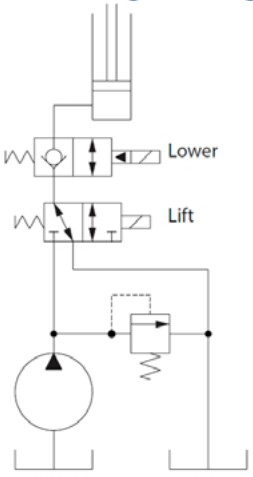
mm [in]

Cross-sectional view

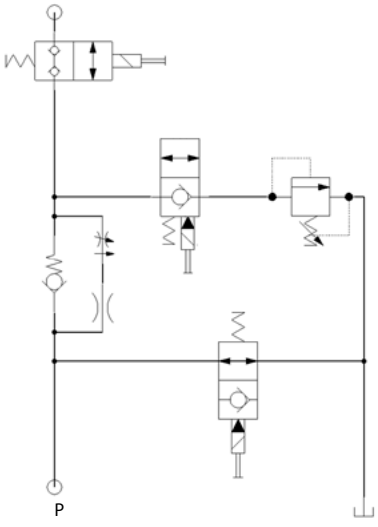


EXAMPLE CIRCUITS

Lift, hold, & lower single acting cylinder



P103 102E



ORDERING INFORMATION

SVP10 - NOR - 12D - DE - PB - B - F - 00

Solenoid Valve, Poppet Type, 10 Size Cavity

NOR: Normally Open, Free Reverse Flow, Push Type

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	00	-
Amp Junior	AJ	IP67	-	
Amp Junior with Diode	AJD	IP67	-	
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP67	DE	IP69K
Deutsch with Diode	DED	IP67	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Filter:
No Filter — **Omit**
Filter 300 mμ — **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354000719
V	Viton	354000819

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-NOR

OPERATION
This is a normally-open, pilot-operated, poppet-type 10-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

Shown with Standard H16 Coil, Deutsch Connector

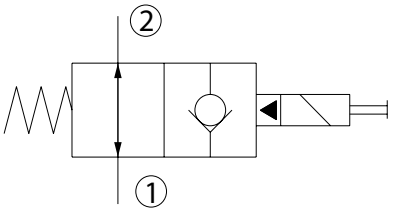
APPLICATIONS
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve.

SPECIFICATIONS

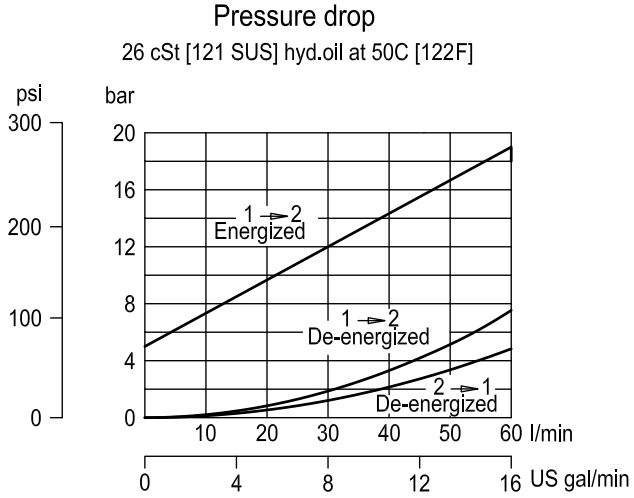
Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	65 l/min [17 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



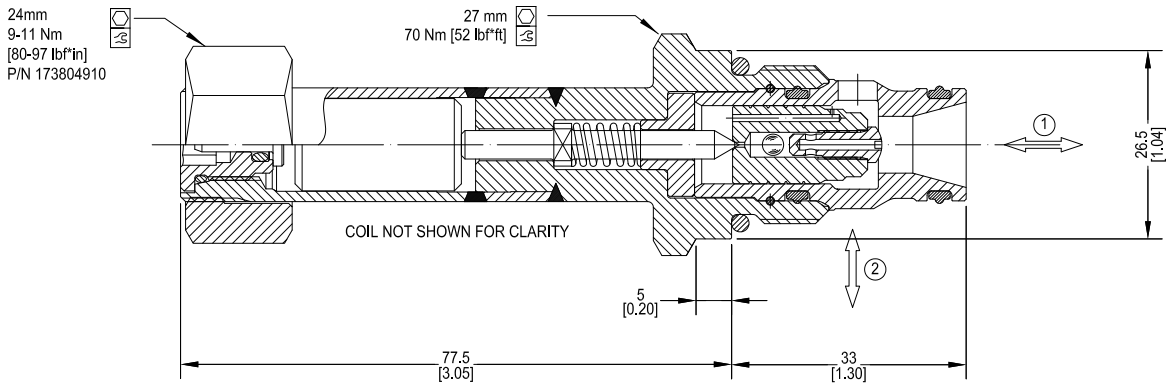
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP10-NOR

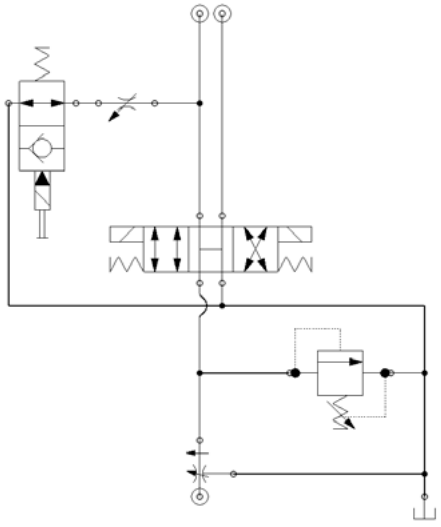
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

HSVP10 - NOR - H12D - DE - PN - P - 00

High Pressure Solenoid Valve, Normally-Open, Pilot-Operated, with Free Reverse Flow. 10 Size, Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminium bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11132135
V	Viton	354000819

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NOR

OPERATION
This is a normally-open, pilot-operated, poppet-type 12-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

Shown with Robust Coil, Deutsch Connector

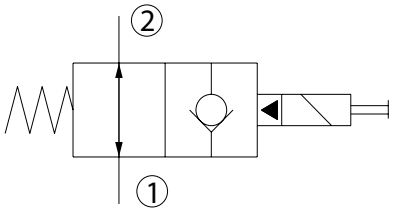
APPLICATIONS
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve. This solenoid valve is a technical replacement for CP501-4.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.67 kg [1.47 lb]
Cavity	CP12-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

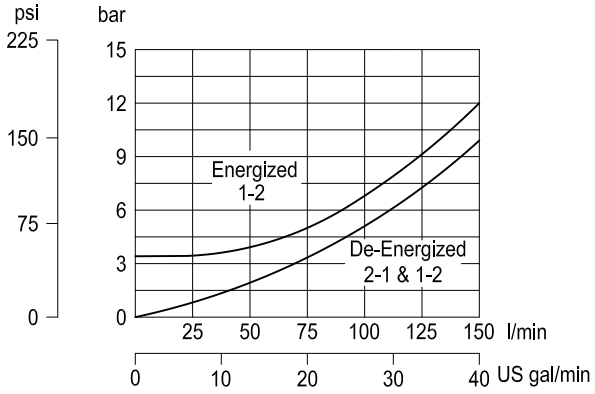
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



11141717 • Rev CB • March 2018

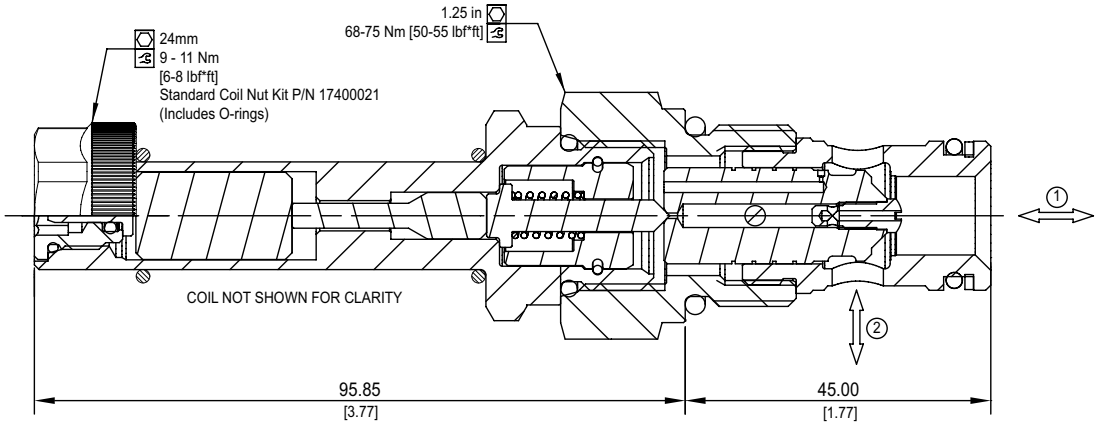
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP12-NOR

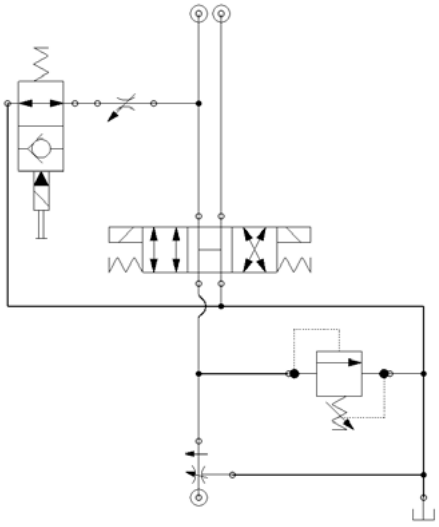
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

SVP12 - NOR - 12D - DE - PN - B - 00

Solenoid Valve
Normally-Open, Pilot Operated,
Free Reverse Flow, 12 Size,
Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP, DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120017
V	Viton	120018

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin Override with Nut for Protection & Actuation

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NOR

OPERATION
This is a normally-open, pilot-operated, poppet-type 12-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

Shown with Standard H16 Coil, Deutsch Connector

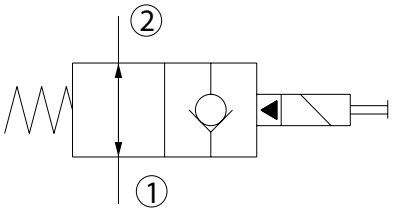
APPLICATIONS
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	114 l/min [30 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.67 kg [1.47 lb]
Cavity	CP12-2
Standard Coil	H16 29 Watt

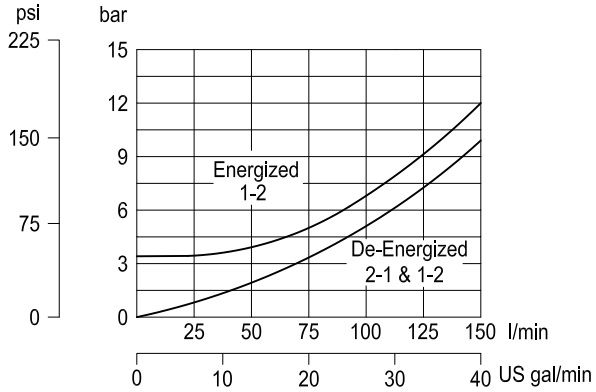
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



11141717 • Rev CB • March 2018

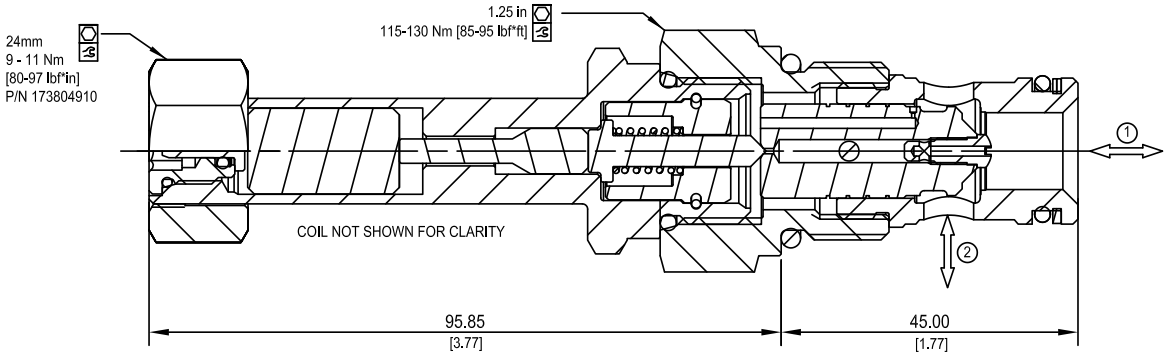
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP12-NOR

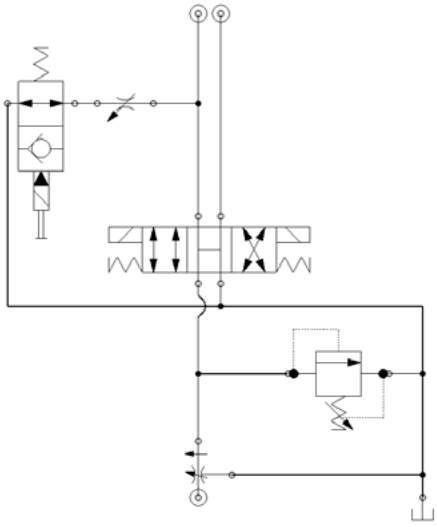
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

HSVP12 - NOR - H12D - DE - PN - B - 00

High Pressure Solenoid Valve
Normally-Open, Pilot Operated,
Free Reverse Flow, 12 Size,
Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
10S	#10 SAE, AL	CP12-2-10S
S10S	#10 SAE, DUCTILE	CP12-2-S10S
12S	#12 SAE, AL	CP12-2-12S
S12S	#12 SAE, DUCTILE	CP12-2-S12S
4B	1/2 BSP, AL	CP12-2-4B
S4B	1/2 BSP,DUCTILE	CP12-2-S4B
6B	3/4 BSP, AL	CP12-2-6B
S6B	3/4 BSP, DUCTILE	CP12-2-S6B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120017
V	Viton	120018

Manual Overrides

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog

2-Way Poppet
SVP16-NOR

OPERATION

This is a normally-open, pilot-operated, poppet-type 16-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

Shown with Robust Coil, Deutsch Connector

APPLICATIONS

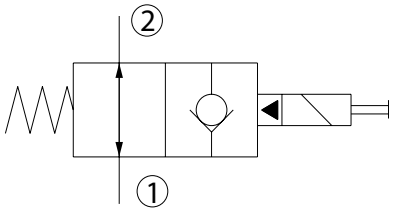
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve. This solenoid valve is a technical replacement for CP502-4.

SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.73 kg [1.61 lb]
Cavity	SDC16-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

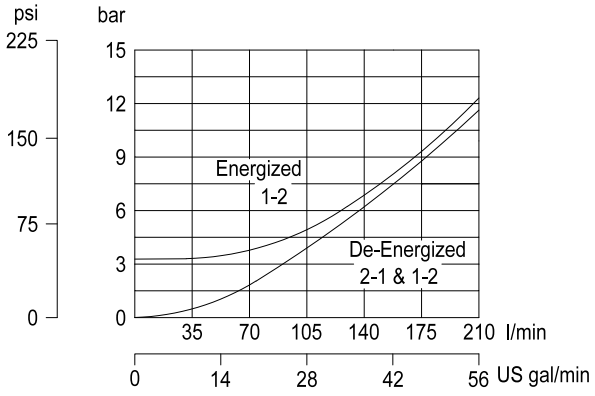
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



11141717 • Rev CB • March 2018

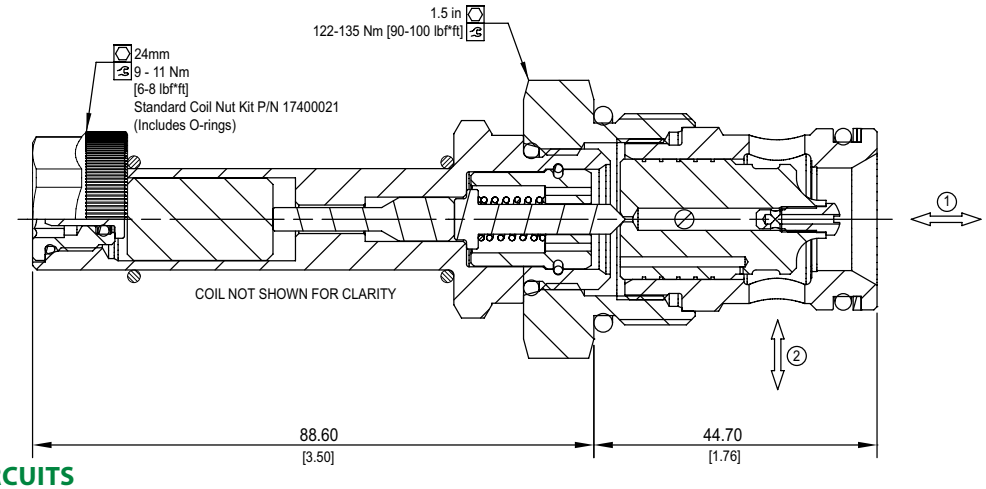
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP16-NOR

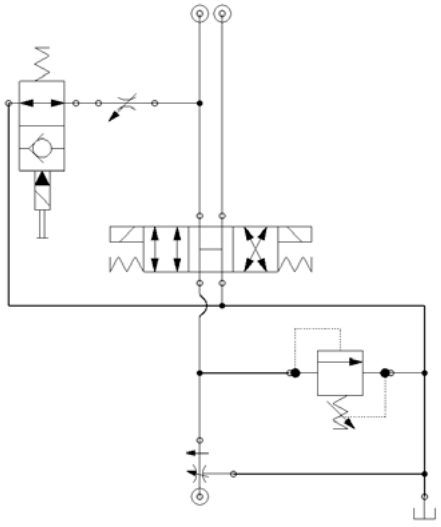
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

SVP16 - NOR - 12D - DE - PN - B - 00

Solenoid Valve
Normally-Open, Pilot Operated,
Free Reverse Flow, 16 Size,
Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SCD16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP, DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120019
V	Viton	120020

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin Override with Nut for Protection & Actuation

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog

2-Way Poppet
HSVP16-NOR

OPERATION

This is a normally-open, pilot-operated, poppet-type 16-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

Shown with Standard H16 Coil, Deutsch Connector

APPLICATIONS

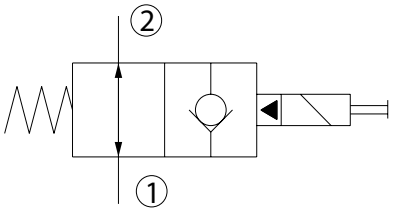
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	152 l/min [40 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.73 kg [1.61 lb]
Cavity	SDC16-2
Standard Coil	H16 29 Watt

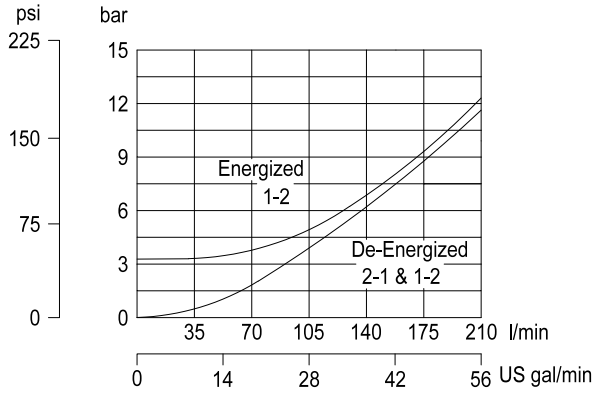
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



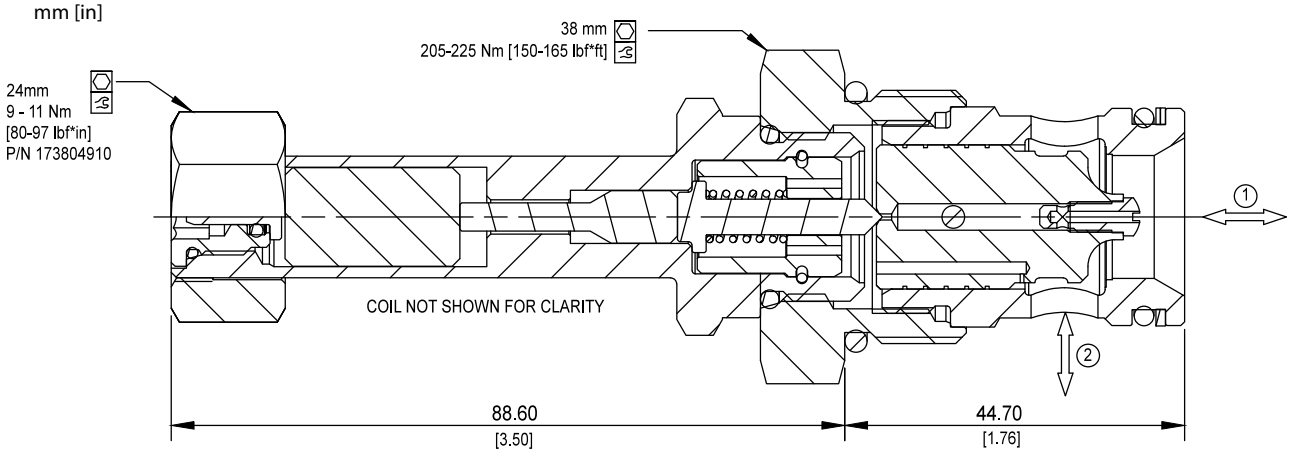
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP16-NOR

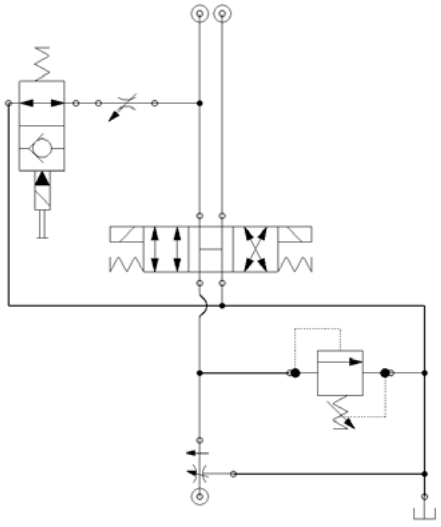
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

HSVP16 - NOR - H12D - DE - PN - B - 00

High Pressure Solenoid Valve
Normally-Open, Pilot Operated,
Free Reverse Flow, 16 Size,
Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1,5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
12S	#12 SAE, AL	SDC16-2-12S
S12S	#12 SAE, DUCTILE	SDC16-2-S12S
16S	#16 SAE, AL	SDC16-2-16S
S16S	#16 SAE, DUCTILE	SDC16-2-S16S
6B	3/4 BSP, AL	SDC16-2-6B
S6B	3/4 BSP,DUCTILE	SDC16-2-S6B
8B	1 BSP, AL	SDC16-2-8B
S8B	1 BSP, DUCTILE	SDC16-2-S8B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120019
V	Viton	120020

Manual Overrides

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog

2-Way Poppet
SVP20-NOR

Shown with Standard H16 Coil, Deutsch Connector

OPERATION

This is a normally-open, pilot-operated, poppet-type 20-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

APPLICATIONS

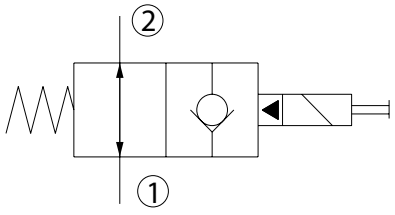
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve. This solenoid valve is a technical replacement for CP503-4.

SPECIFICATIONS

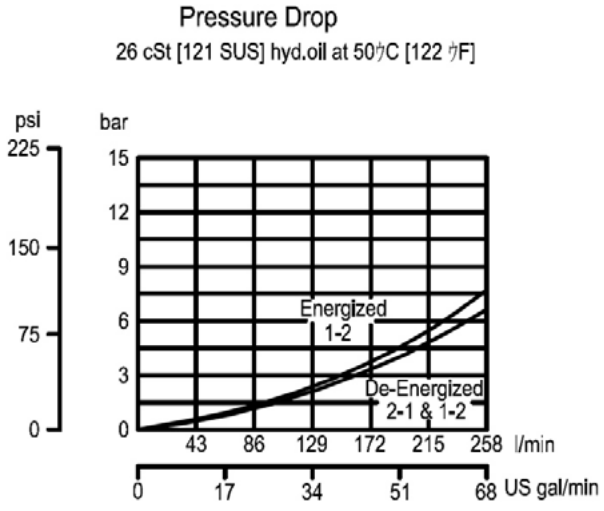
Rated pressure*	230 bar [3300 psi]*
Rated flow at 7 bar [100 psi]	265 l/min [70 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



11141717 • Rev CB • March 2018

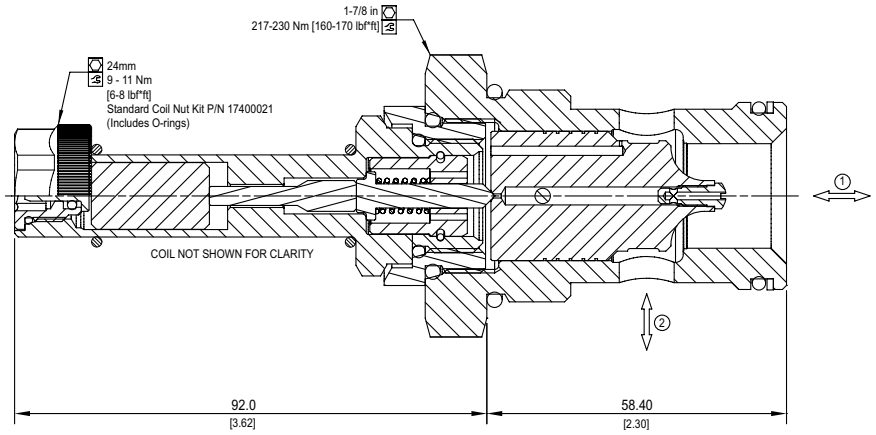
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
SVP20-NOR

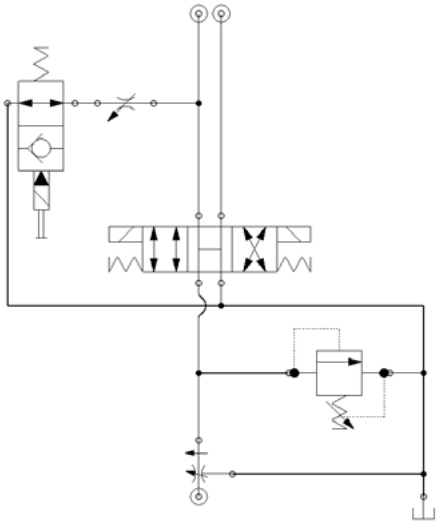
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

SVP20 - NOR - 12D - DE - PN - B - 00

Solenoid Valve
Normally-Open, Pilot Operated,
Free Reverse Flow, 20 Size,
Poppet Type

Coil Voltage

Description	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

*Standard coil - plastic nut and O-rings
R-coil -- steel nut P/N 173804910
(no coil O-rings needed)
**DIN only - external rectifier needed

Coil Termination

Type	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	R00	-
Amp Junior	AJ	IP67	-	-
Amp Junior with Diode	AJD	IP67	-	-
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP69K	DE	IP69K
Desutch with Diode	DED	IP69K	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SCD20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE, DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for pressures less than 210 bar (3,000 PSI)

Seal Option

Code	Material	Seal Kits
B	Buna	120011
V	Viton	120012

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin Override with Nut for Protection & Actuation
SPS	Screw Style

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog

2-Way Poppet
HSVP20-NOR

OPERATION

This is a normally-open, pilot-operated, poppet-type 20-size solenoid valve with free reverse flow. When de-energized the valve allows flow from port 1 to 2 and from port 2 to 1. When energized, the pilot poppet closes allowing the valve to act as a check valve flowing from port 1 to port 2, while blocking flow from port 2 to 1. This valve comes standard with a push pin type manual override.

Shown with Standard H16 Coil, Deutsch Connector

APPLICATIONS

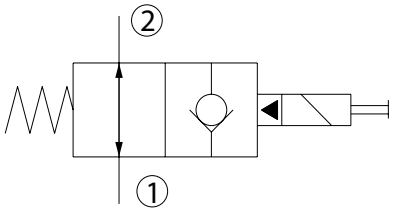
This is a low leakage valve designed for use in load holding applications or as a general purpose diverter or dump valve.

SPECIFICATIONS

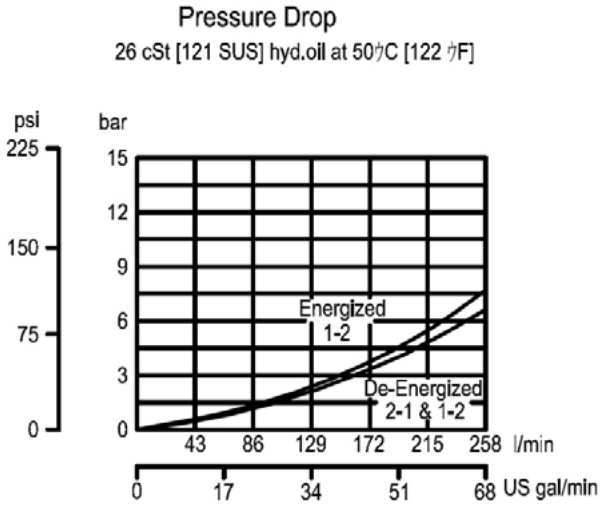
Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	265 l/min [70 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	1.04 kg [2.29 lb]
Cavity	SDC20-2
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



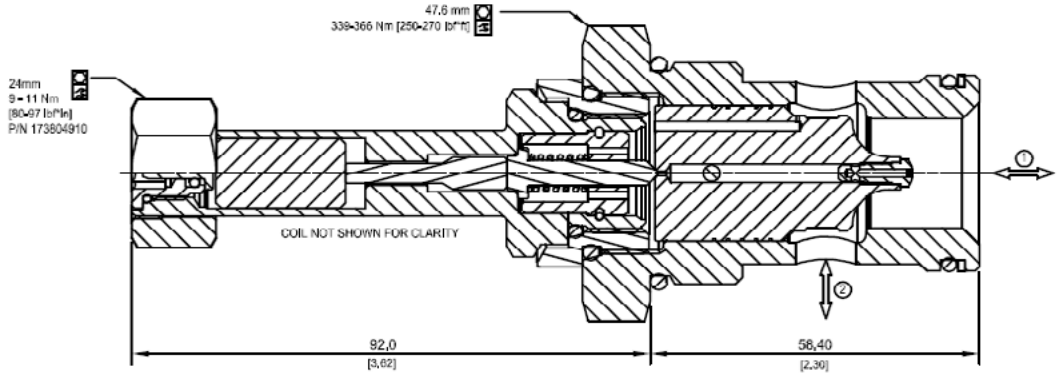
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Poppet
HSVP20-NOR

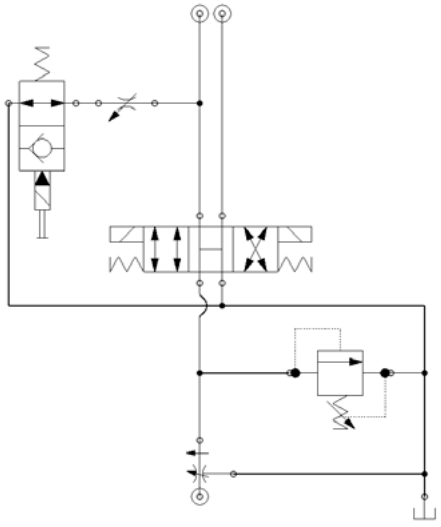
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

HSVP20 - NOR - H12D - DE - PN - B - 00

High Pressure Solenoid Valve
Normally-Open, Pilot Operated,
Free Reverse Flow, 20 Size,
Poppet Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
16S	#16 SAE, AL	SDC20-2-16S
S16S	#16 SAE, DUCTILE	SDC20-2-S16S
20S	#20 SAE, AL	SDC20-2-6B
S20S	#20 SAE,DUCTILE	SDC20-2-S6B
8B	1 BSP, AL	SDC20-2-8B
S8B	1 BSP, DUCTILE	SDC20-2-S8B
10B	1 1/4 BSP, AL	SDC20-2-10B
S10B	1 1/4 BSP, DUCTILE	SDC20-2-S10B

**Aluminum bodies are to be used for lower pressures less than 210 bar (3,000 psi)

Seal Option

Code	Seal Material	Seal Kit
B	Buna	120011
V	Viton	120012

Manual Overrides

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV08-22-01

OPERATION
Solenoid Valve, Spool Type, 2-Position, 2-Way, Normally Open, Push-Type. When de-energized, the SV08-22-01 allows flow in both directions. When energized, flow is blocked in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve comes standard with a one-direction, push-pin manual override.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

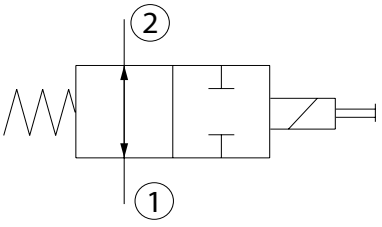
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	16 l/min [4 US gal/min]
Weight	0.29 kg [0.64 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

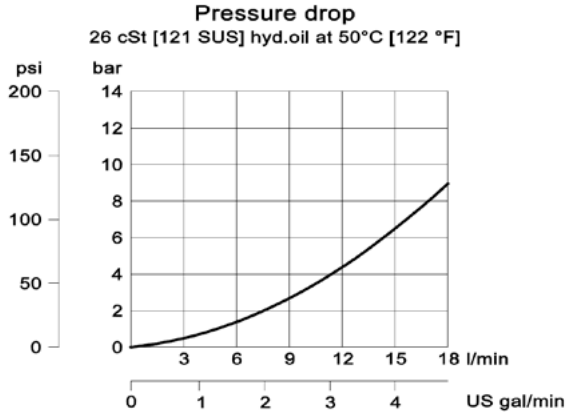
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

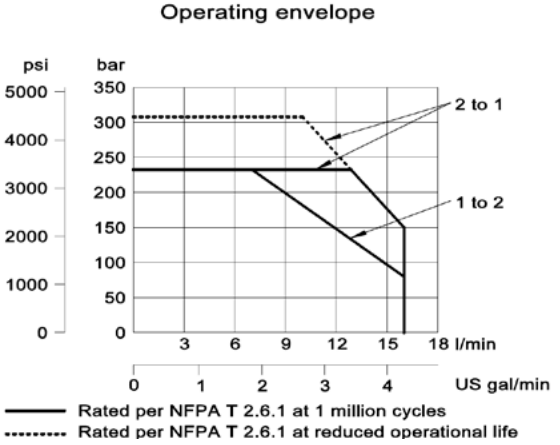
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

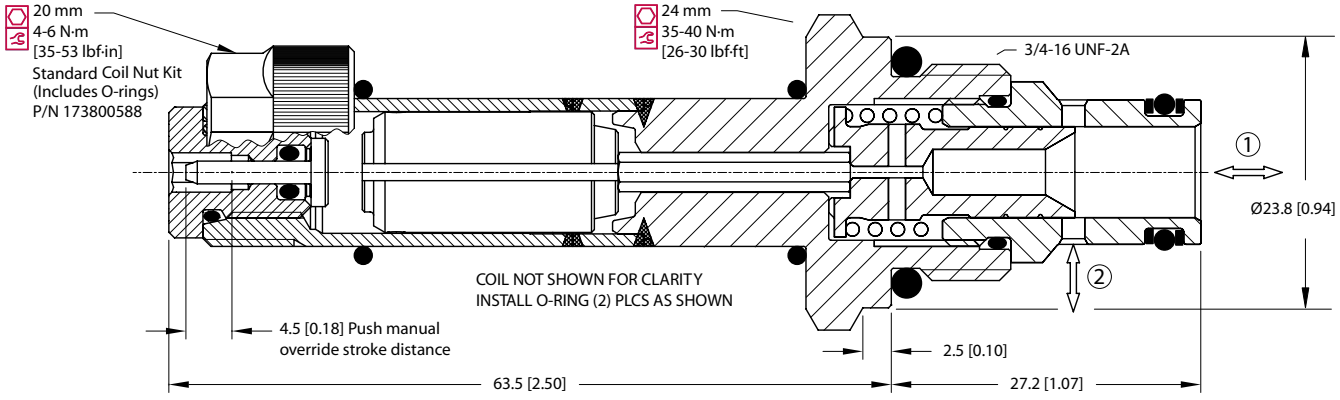
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV08-22-01

DIMENSIONS

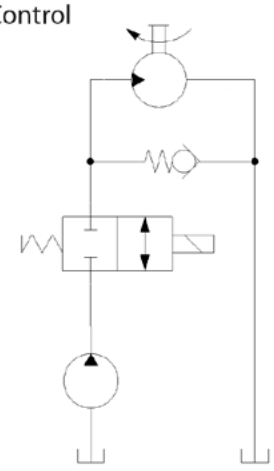
mm [in]

Cross-sectional view



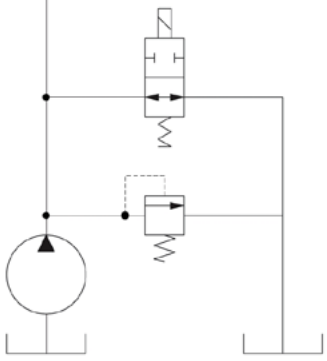
EXAMPLE CIRCUITS

On-Off Motor Control



To system

Pump Unloading



ORDERING INFORMATION

SV08 - 22 - 01 - 12D - DE - PB - B - 00

Solenoid Valve, 08 Size Cavity

22: 2 Position, 2 Way, Spool Type

01: Schematic: Normally Open, Push Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003119
V	Viton	354003619

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push- Type Valve)

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings;
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
HSV10-22-01

OPERATION
This is a Spool Type, 2-Position, 2-Way, Normally Open, Push-Type, 10-size Solenoid Valve. When de-energized, the HSV10-22-01 allows flow in both directions. When energized, flow is blocked in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard H16 Coil, Deutsch Connector

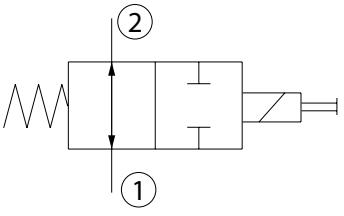
APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

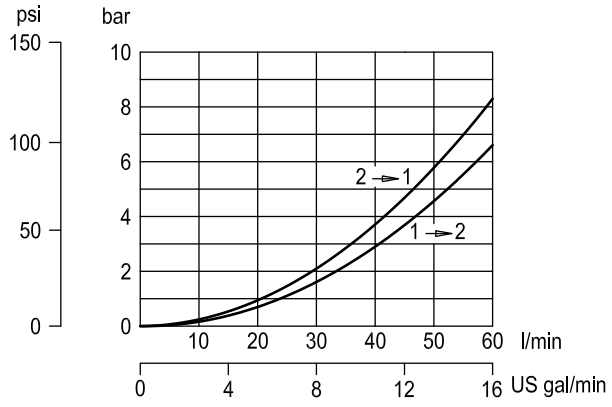
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC

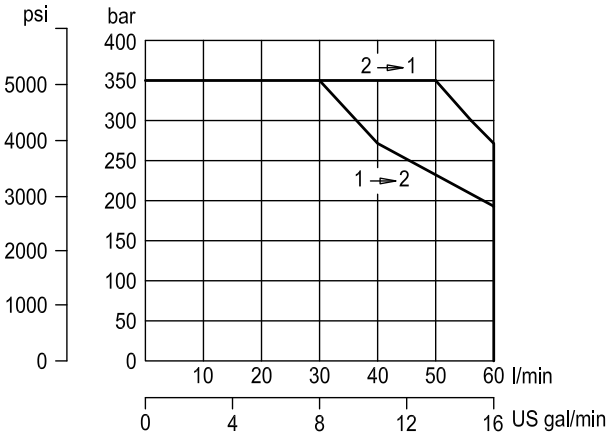


PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



Operating Envelope



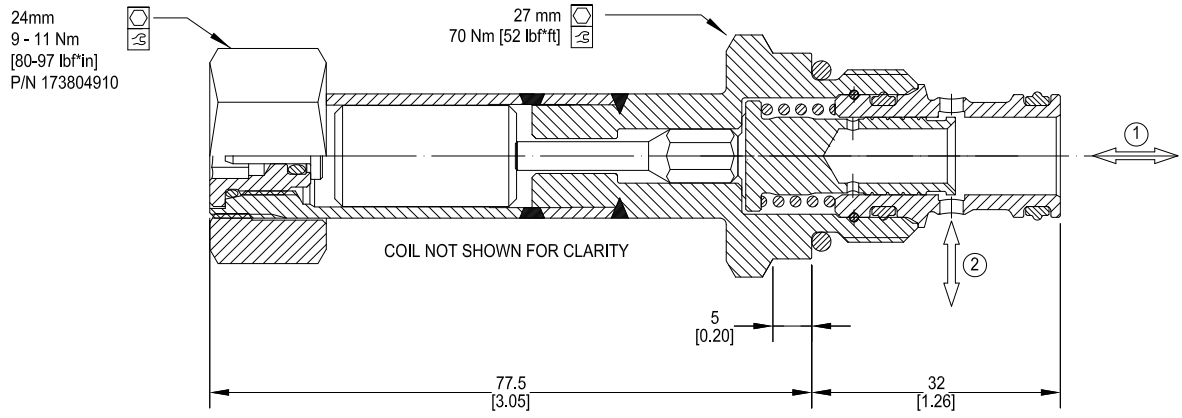
11141717 • Rev CB • March 2018

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

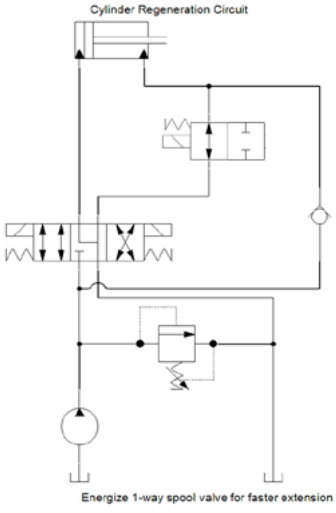
Solenoid Valves Catalog
2-Way Spool
HSV10-22-01

DIMENSIONS
mm [in]

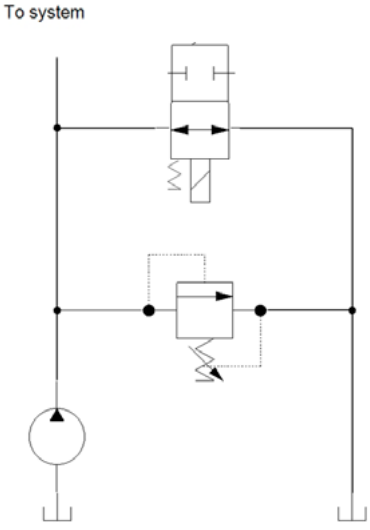
Cross-sectional view



EXAMPLE CIRCUITS



Pump Unloading



ORDERING INFORMATION

HSV10 - 22 - 01 - H12D - DE - PN - P - 00

High Pressure Solenoid Valve, Normally-Open, Direct-Acting, 10 Size, Spool Type

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminium bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11132135

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV10-22-01

OPERATION

Solenoid Valve, Spool Type, 2-Position, 2-Way, Normally Open, Pull-Type, 10-size. When de-energized, the SV10-22-01 allows flow in both directions. When energized, flow is blocked in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Deutsch Connector

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 120,000 cycles. In case of inlet from port 2 this value can be increased to 500,000 cycles.

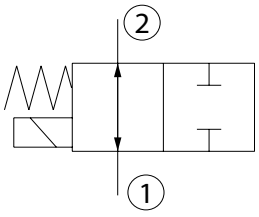
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	27 l/min [7 US gal/min]
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

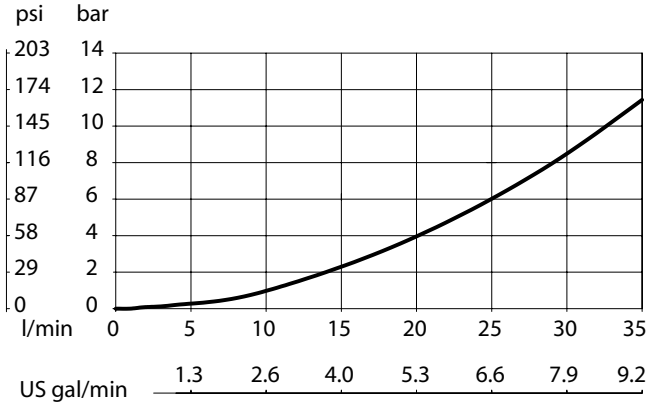
SCHEMATIC



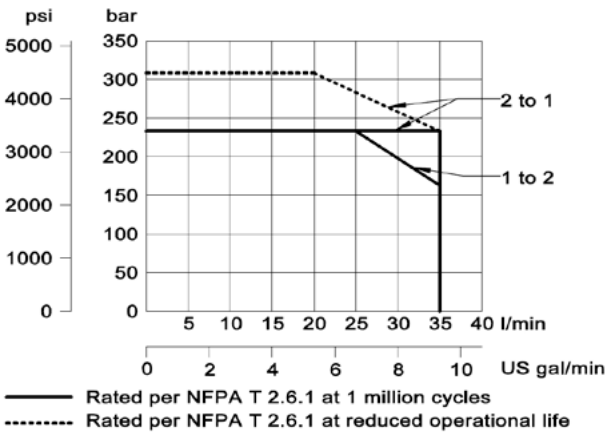
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

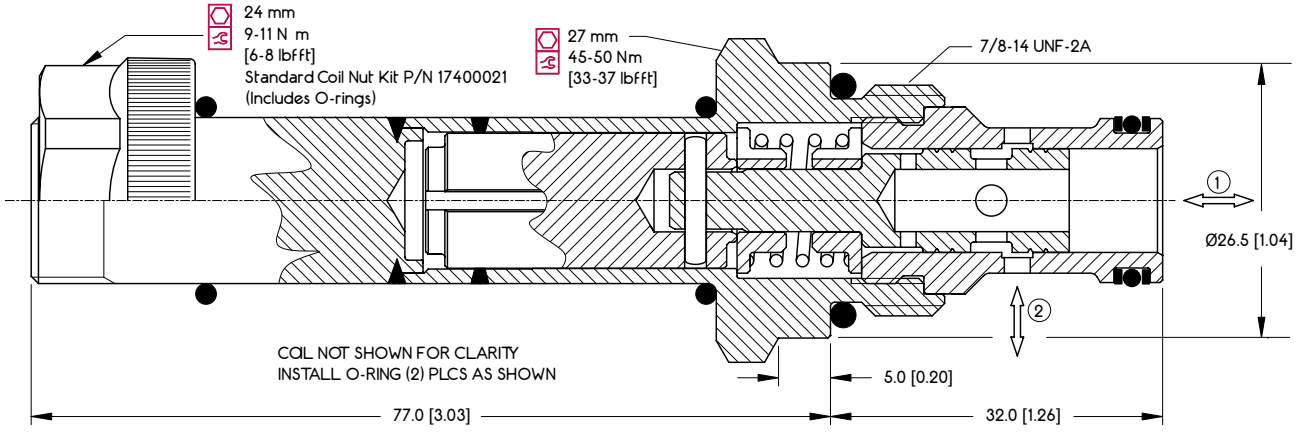
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV10-22-01

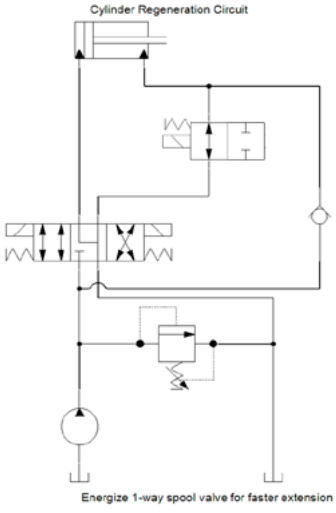
DIMENSIONS

mm [in]

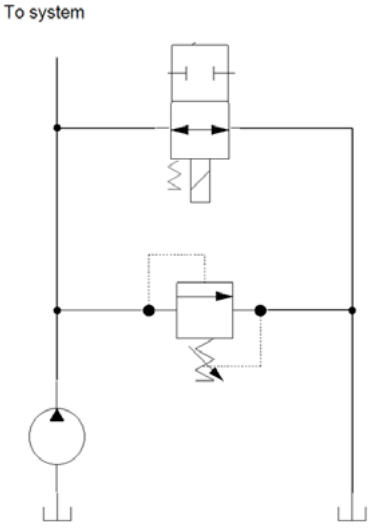
Cross-sectional view



EXAMPLE CIRCUITS



Pump Unloading



ORDERING INFORMATION

SV10 - 22 - 01 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

22:
2 Position, 2 Way, Spool Type

01:
Schematic: Normally Open, Pull Type

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings;
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354004019
V	Viton	354003419

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2 Way, 2 Position Spool
SV15-22-01

OPERATION
Solenoid Valve, Spool Type, 2-Position, 2-Way, Normally Open, Pull-Type, High Flow (15-Size). When de-energized, the SV15-22-01 allows flow in both directions. When energized, flow is blocked in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/NA and uses a metric M33x2 cavity (NCS 12/2) for high flow capability.

Shown with Standard Coil, DIN Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 100,000 cycles. In case of inlet from port 2 this value can be increased to 300,000 cycles.

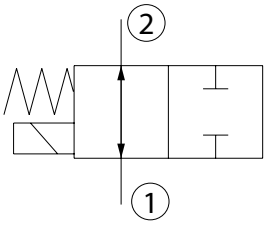
SPECIFICATIONS

Rated Pressure*	210 bar [3000 psi]**
Maximum Rated Flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight including coil	0.65 kg [1.65 lbs]
Cavity	NCS 12/2
Coil	M19-33W
Diode (Optional)	Unidirectional

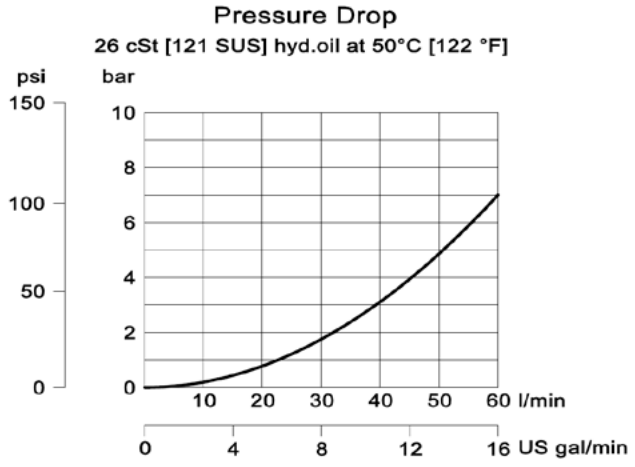
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

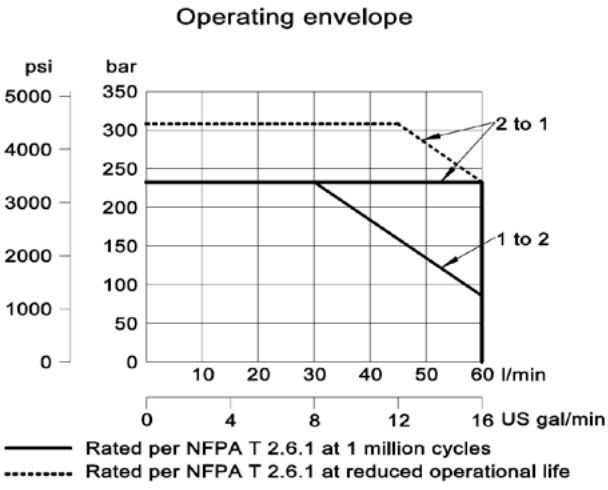
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

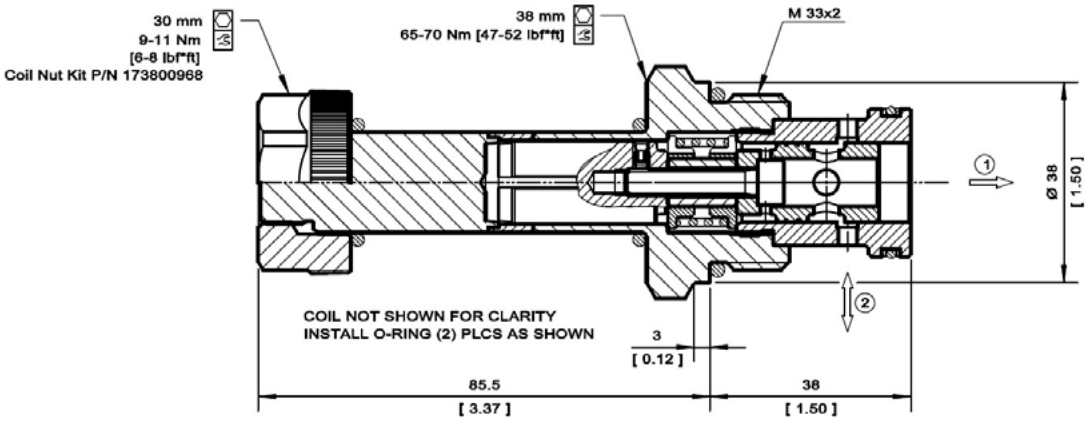
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2 Way, 2 Position Spool
SV15-22-01

DIMENSIONS

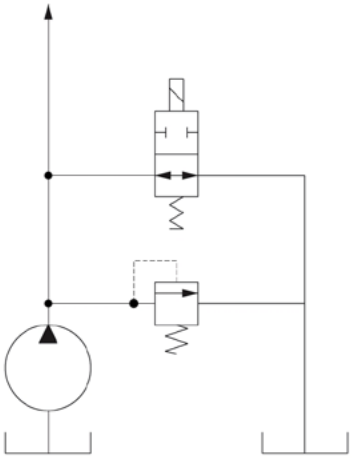
mm [in]

Cross-sectional view

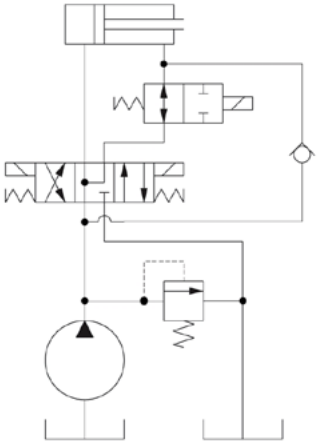


EXAMPLE CIRCUITS

To system



Cylinder regeneration circuit



Energize 2-way spool valve for faster extenstion

ORDERING INFORMATION

SV15 - 22 - 01 - 12D - DE - B - 00

Solenoid Valve, Spool Type, 15 Size Cavity

22:
2 Position, 2 Way

01:
Schematic type – Normally Open

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/2-DG-8S
12S	#12 SAE, AL	NCS 12/2-DG-12S
4B	1/2 BSP, AL	NCS 12/2-DG-1/2
6B	3/4 BSP, AL	NCS 12/2-DG-3/4

Seal Code	Material	Seal Kits
B	Buna-N	11115411
V	Viton	11115413

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV08-22-02

OPERATION
Solenoid Valve, Spool Type, 2-Position, 2-Way, Normally Closed, Pull-Type. When de-energized, the SV08-22-02 blocks flow in both directions. When energized, the spool shifts to allow flow in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

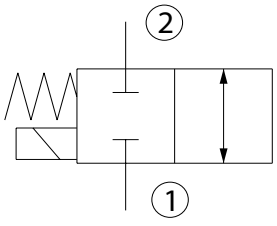
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	14 l/min [4 US gal/min]
Weight	0.29 kg [0.64 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

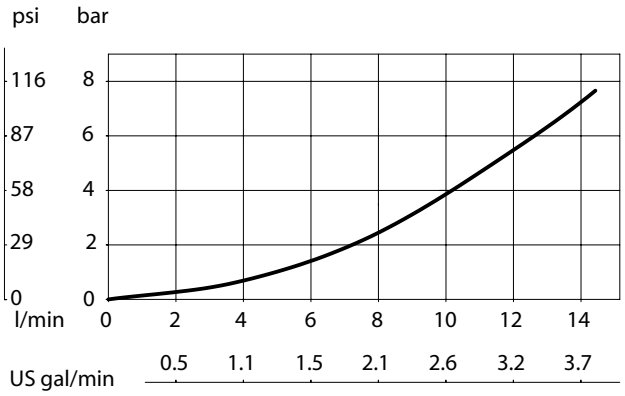
SCHEMATIC



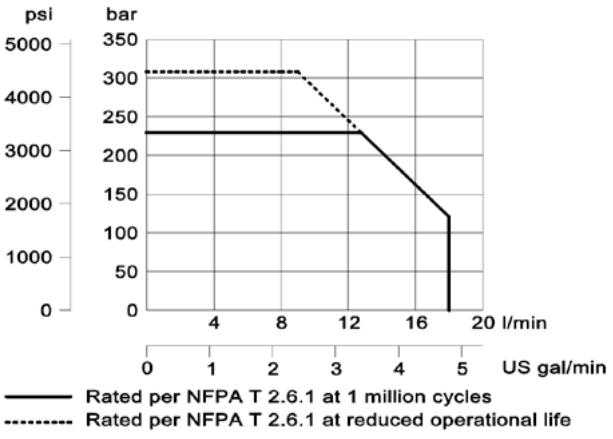
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

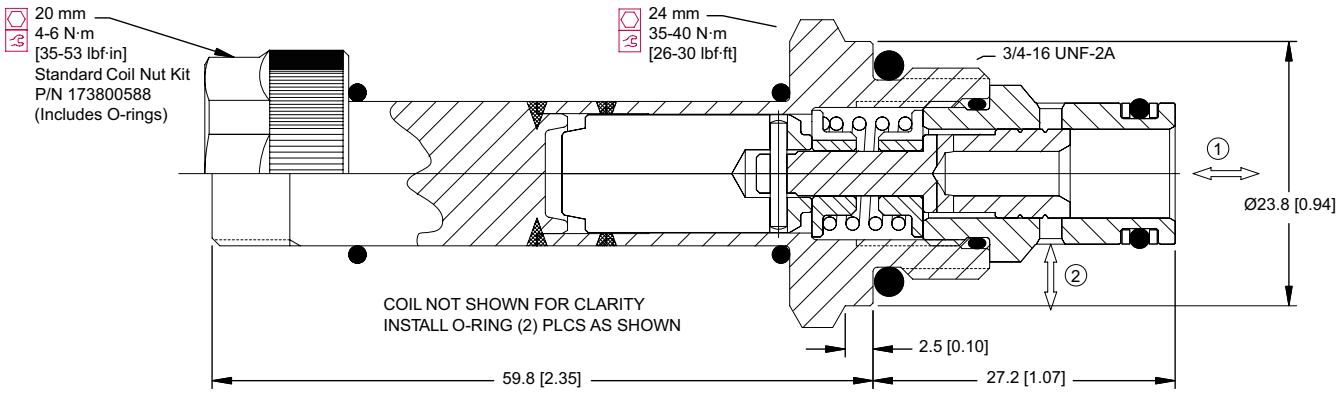
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV08-22-02

DIMENSIONS

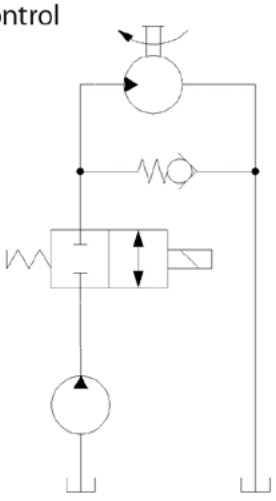
mm [in]

Cross-sectional view

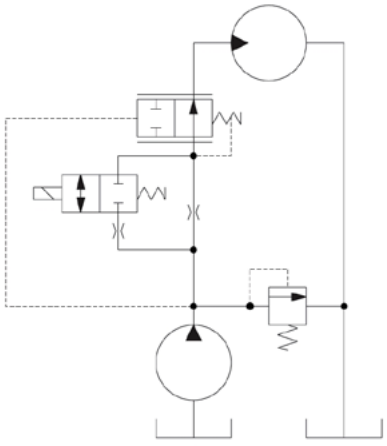


EXAMPLE CIRCUITS

On-Off Motor Control



Two-speed motor circuit



ORDERING INFORMATION

SV08 - 22 - 02 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

22: 2 Position, 2 Way, Spool Type

03: Schematic: Normally Closed, Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003119
V	Viton	354003619

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV10-22-02

OPERATION
Solenoid Valve, Spool Type, 2-Position, 2-Way, Normally Closed, Push-Type, 10-size. When de-energized, the SV10-22-02 blocks flow in both directions. When energized, the spool shifts to allow flow in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 120,000 cycles. In case of inlet from port 2 this value can be increased to 500,000 cycles.

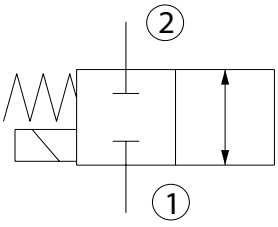
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	35 l/min [9 US gal/min]
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

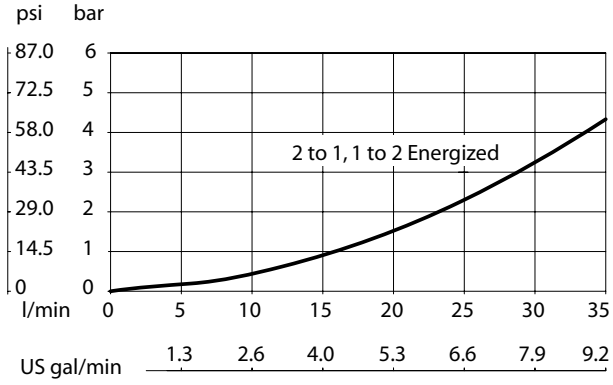
SCHEMATIC



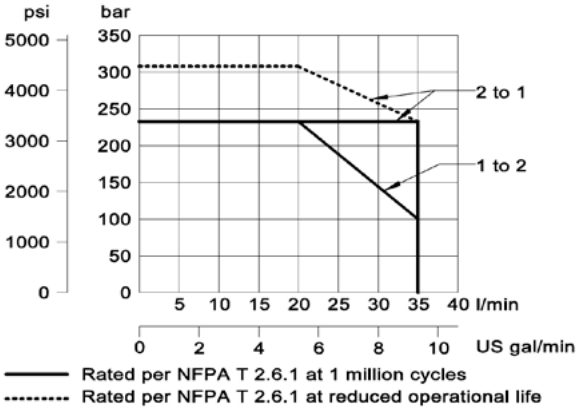
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

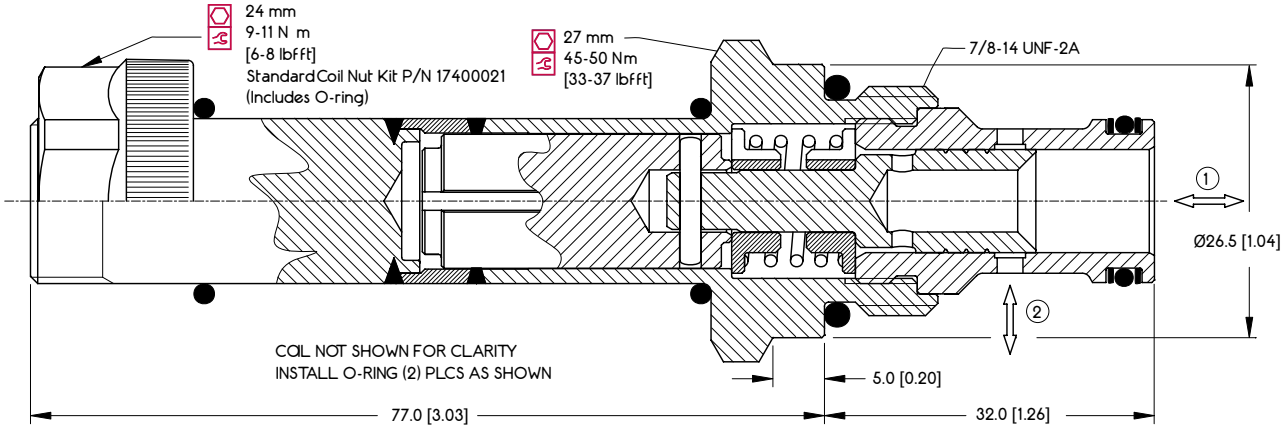
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV10-22-02

DIMENSIONS

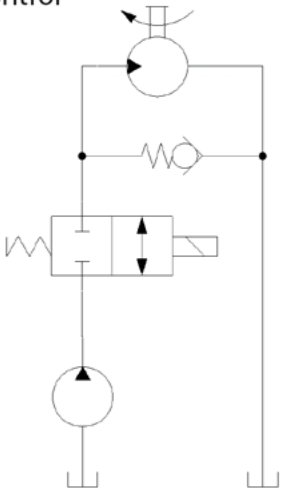
mm [in]

Cross-sectional view

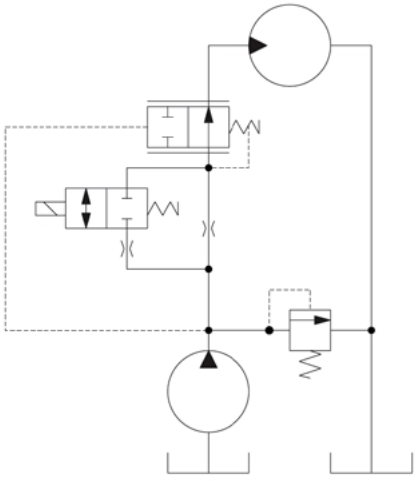


EXAMPLE CIRCUITS

On-Off Motor Control



Two-speed motor circuit



ORDERING INFORMATION

SV10 - 22 - 02 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

22:
2 Position, 2 Way, Spool Type

02:
Schematic: Normally Closed, Pull Type

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings;
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, AL	CP10-2-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354004019
V	Viton	354003419

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
HSV10-22-02

OPERATION
This is a Spool Type, 2-Position, 2-Way, Normally Closed, Pull-Type, 10-size Solenoid Valve. When de-energized, the HSV10-22-02 blocks flow in both directions. When energized, the spool shifts to allow flow in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard H16 Coil, Deutsch Connector

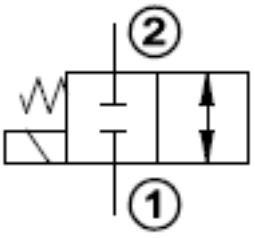
APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-2
Standard Coil	H16 29 Watt

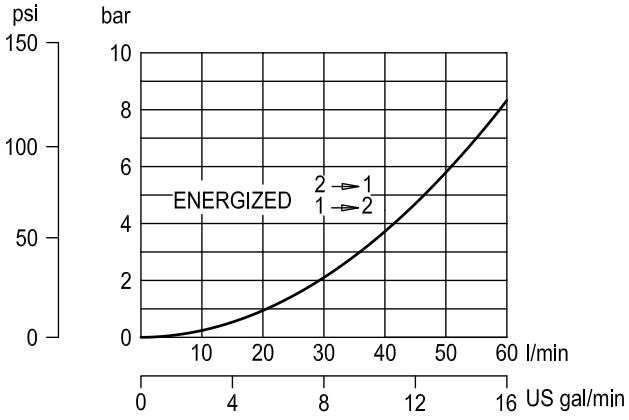
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC

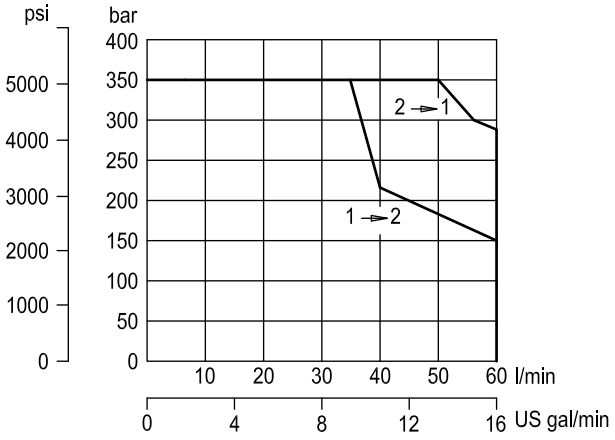


PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50C [122F]



Operating Envelope



11141717 • Rev CB • March 2018

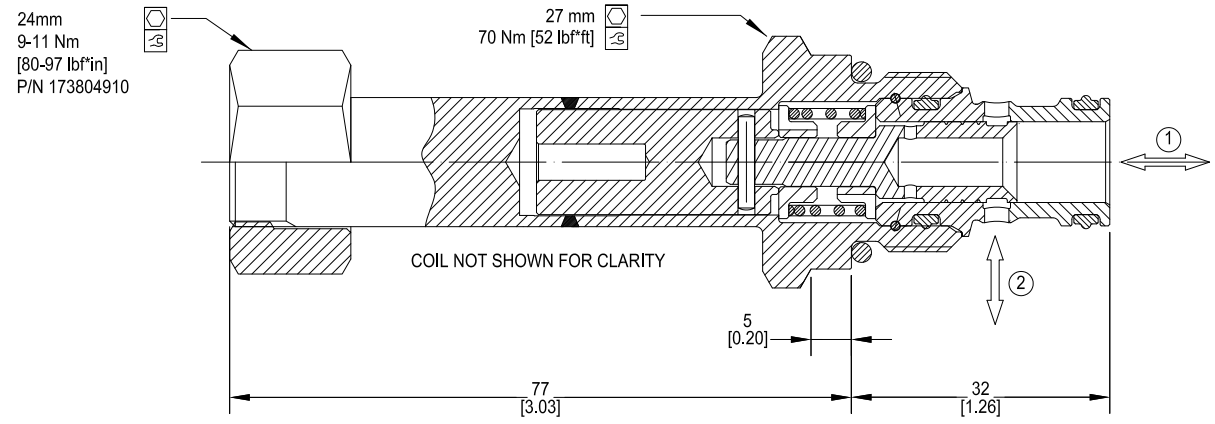
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
HSV10-22-02

DIMENSIONS

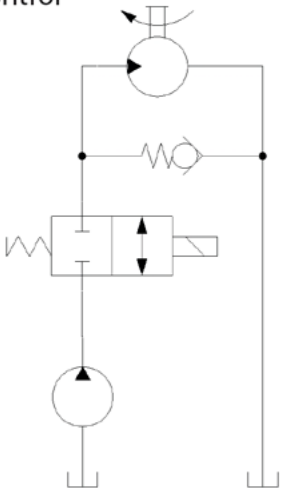
mm [in]

Cross-sectional view

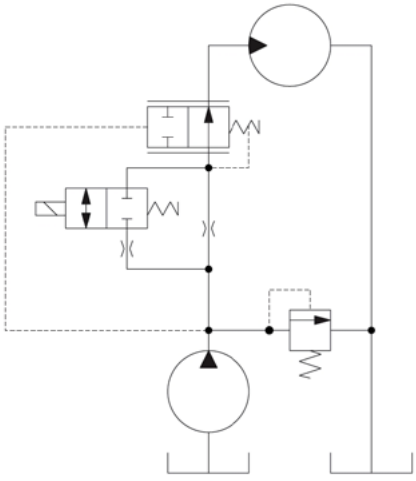


EXAMPLE CIRCUITS

On-Off Motor Control



Two-speed motor circuit



ORDERING INFORMATION

HSV10 - 22 - 02 - H12D - DE - XC - P - 00

High Pressure Solenoid Valve
Normally-Closed, Direct Acting,
10 Size, Spool Type

Coil Voltage

Code	Description
00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP69K
DE	Deutsch	IP69K
AS	AMP Super Seal 1.5 & Metri Pack 150 type 1	IP69K
ASDB	AMP Super Seal with Diode Bidirectional	IP69K
DEDB	Deutsch with Diode Bidirectional	IP69K
FLDB	Flying Lead with Diode Bidirectional	IP69K

Bodies

Code	Ports & Material	Body Nomenclature
00	Cartridge Only	No Body
S3B	3/8 BSP, Ductile	SDC10-2-S3B
S4B	1/2 BSP, Ductile	SDC10-2-S4B
S6S	#6 SAE, Ductile	SDC10-2-S6S
S8S	#8 SAE, Ductile	SDC10-2-S8S

*** Aluminum Bodies available for lower pressure applications. Please consult factory for details.

Seal Option

Code	Seal Material	Seal Kit
P	Polyurethane Single Seal	11132135

Manual Overrides

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2 Way, 2 Position Spool
SV15-22-02

OPERATION

Solenoid Valve, Spool Type, 2-Position, 2-Way, Normally Closed, Pull-Type, High Flow (15-Size). When de-energized, the SV15-22-02 blocks flow in both directions. When energized, the spool shifts to allow flow in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/NC and uses a metric M33x2 cavity (NCS 12/2) for high flow capability.

Shown with Standard Coil, DIN Connector

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 100,000 cycles. In case of inlet from port 2 this value can be increased to 300,000 cycles.

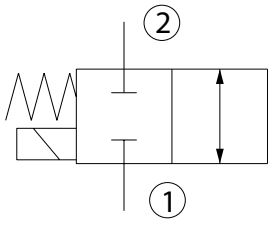
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight including coil	0.65 kg [1.65 lbs]
Cavity	NCS 12/2
Coil	M19-33W
Diode (Optional)	Unidirectional

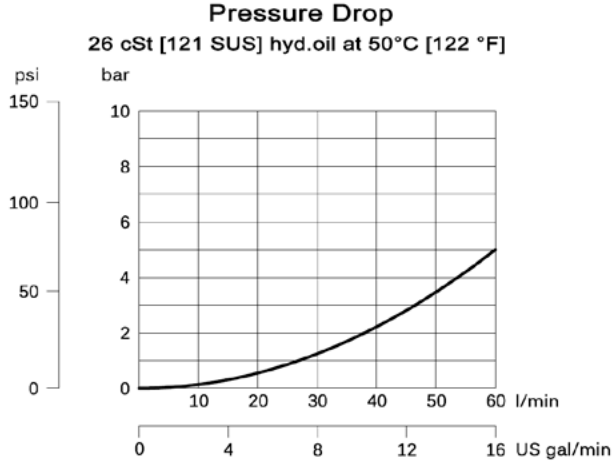
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

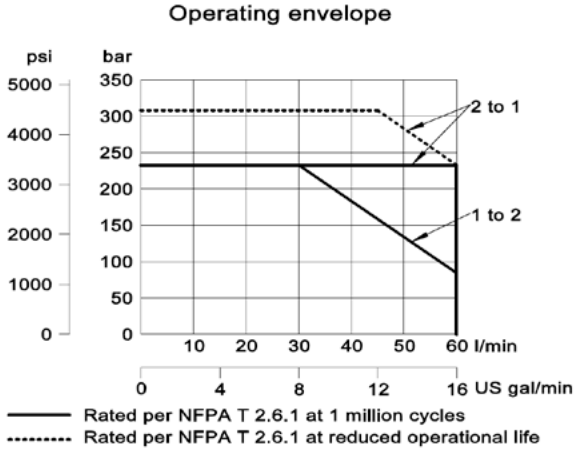
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





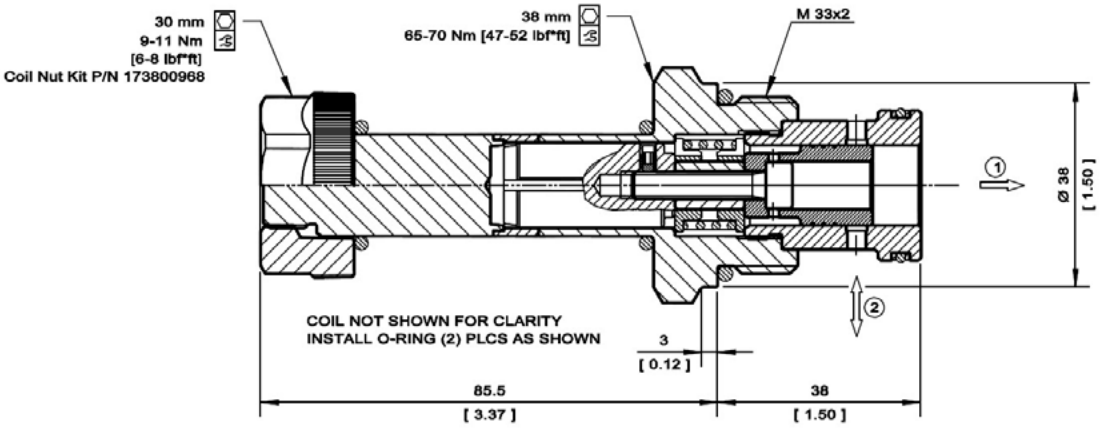
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2 Way, 2 Position Spool
SV15-22-02

DIMENSIONS

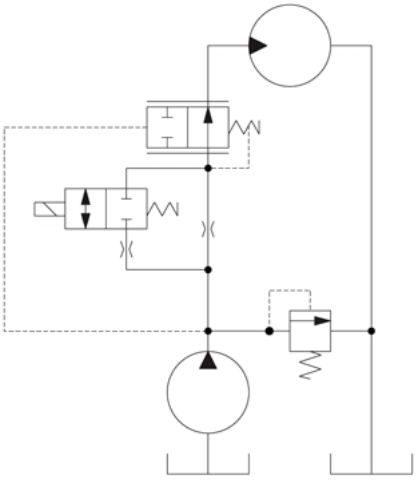
mm [in]

Cross-sectional view

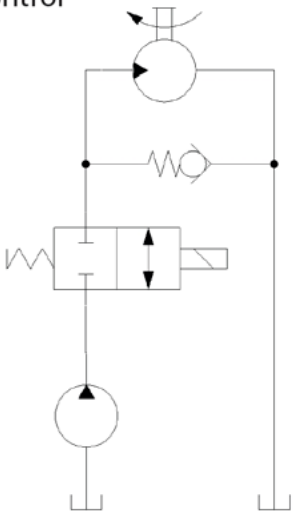


EXAMPLE CIRCUITS

Two-speed motor circuit



On-Off Motor Control



ORDERING INFORMATION

SV15 - 22 - 02 - 12D - DE - B - 00

Solenoid Valve, Spool Type, 15 Size Cavity

22:
2 Position, 2 Way

02:
Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/2-DG-8S
12S	#12 SAE, AL	NCS 12/2-DG-12S
4B	1/2 BSP, AL	NCS 12/2-DG-1/2
6B	3/4 BSP, AL	NCS 12/2-DG-3/4

Seal Code	Material	Seal Kits
B	Buna-N	11115411
V	Viton	11115413

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 43650	**DN**	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV08-22-03

OPERATION
Solenoid Valve, Spool Type, 2-Position, 2-Way, Normally Open, Pull-Type. When de-energized, the SV08-22-03 allows flow in both directions. When energized, flow is blocked in both directions. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

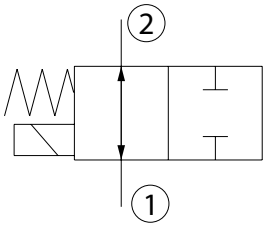
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Maximum flow at rated pressure	12 l/min [3.2 US gal/min]
Weight	0.29 kg [0.64 lb]
Cavity	SDC08-2
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

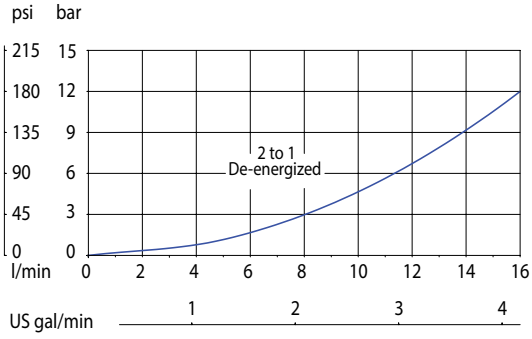
** See 315 bar pressure rating note on page 10.

SCHEMATIC

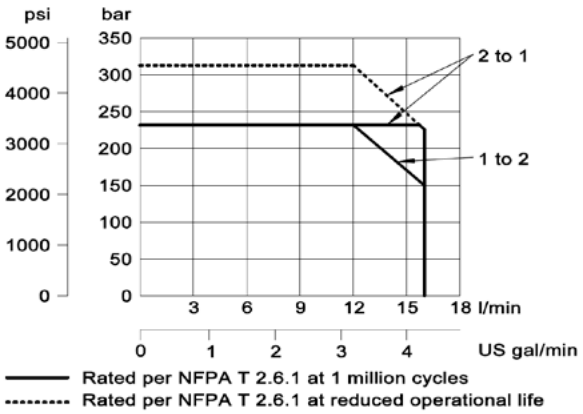


PERFORMANCE CURVES

Pressure Drop
33 cSt [154 SUS] hyd.oil @ 38 C [100 F]



Operating envelope



11141717 • Rev CB • March 2018

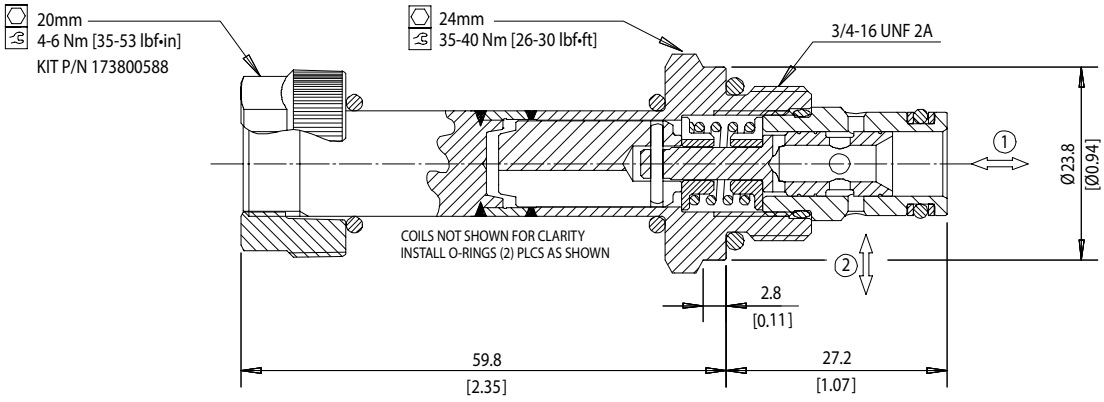
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
2-Way Spool
SV08-22-03

DIMENSIONS

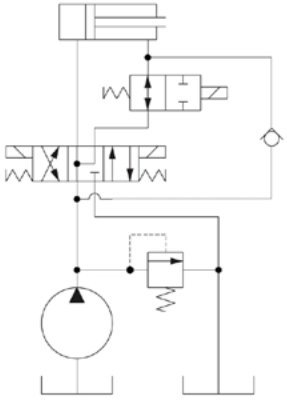
mm [in]

Cross-sectional view



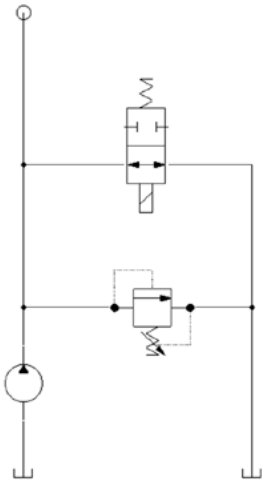
EXAMPLE CIRCUITS

Cylinder regeneration circuit



Energize 2-way spool valve for faster extenstion

Pump Unloading



ORDERING INFORMATION

SV08 - 22 - 03 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

22: 2 Position, 2 Way, Spool Type

03: Schematic: Normally Open, Pull Type

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003119
V	Viton	354003619

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-01

OPERATION

Solenoid Valve, Spool Type, 2-Position, 3-Way, Normally Closed, Push-Type. When de-energized, the SV08-23-01 allows flow from port 1 to port 2, while port 3 is blocked. When energized, flow is allowed from port 3 to port 1, while port 2 is blocked. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve comes standard with a one-direction, push-pin manual override.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS

These spool-type valves are commonly used in a selector circuit, or as an on/off pilot control for a directional spool valve. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

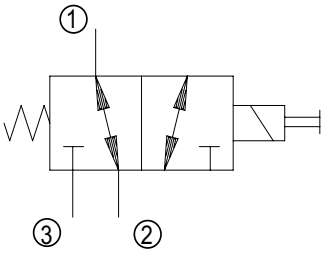
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	17 l/min [4.5 US gal/min]
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-3
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

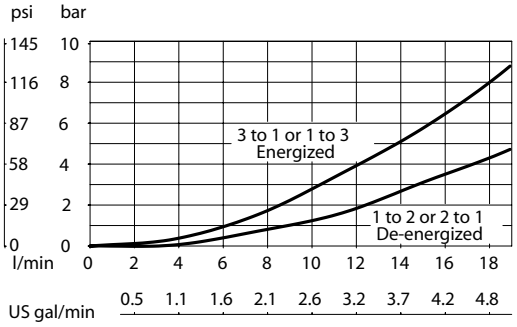
SCHEMATIC



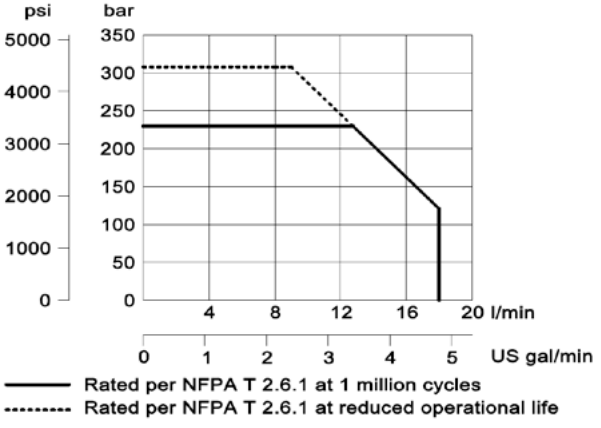
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

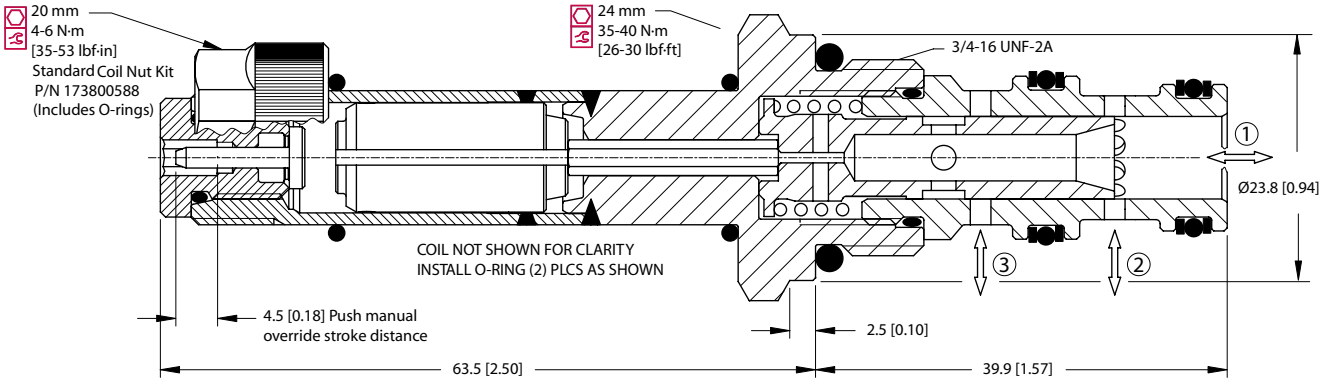
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-01

DIMENSIONS

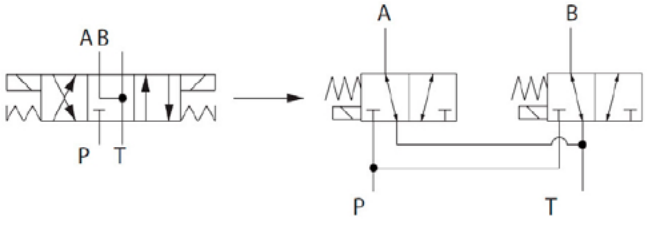
mm [in]

Cross-sectional view

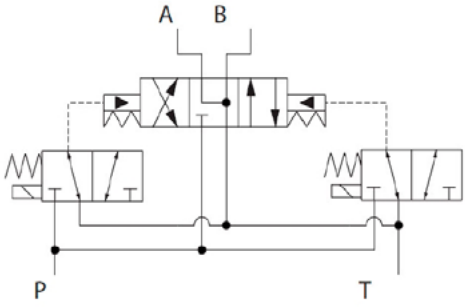


EXAMPLE CIRCUITS

Create a Low Pressure 4-Way, 3-Position Directional Control Valve



On/Off Pilot Control for Directional Spool Valve



ORDERING INFORMATION

SV08 - 23 - 01 - 12D - DE - PB - B - 00

Solenoid Valve, 08 Size Cavity

23:
2 Position, 3 Way, Spool Type

01:
Schematic: Push Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	#6 SAE, Steel	CP08-3-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003210
V	Viton	354003819

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-ring
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV10-23-01

OPERATION
Solenoid Valve, Spool Type, 2-Position, 3-Way, Normally Closed, Pull-Type. When de-energized, the SV10-23-01 allows flow from port 1 to port 2, while port 3 is blocked. When energized, flow is allowed from port 3 to port 1, while port 2 is blocked. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve comes standard with a one-direction, push-pin manual override.

Shown with Robust Coil, Metri-Pack Type 2 Connector

APPLICATIONS
These spool-type valves are commonly used in a selector circuit, or as an on/off pilot control for a directional spool valve. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

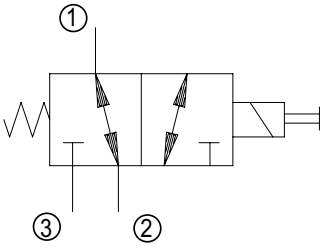
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	28 l/min [7 US gal/min]
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-3
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

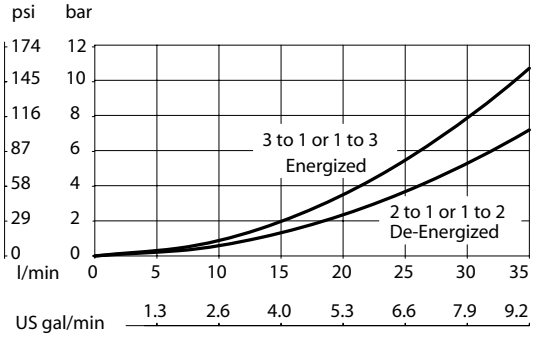
SCHEMATIC



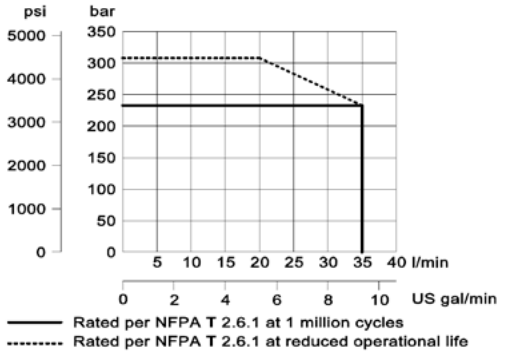
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

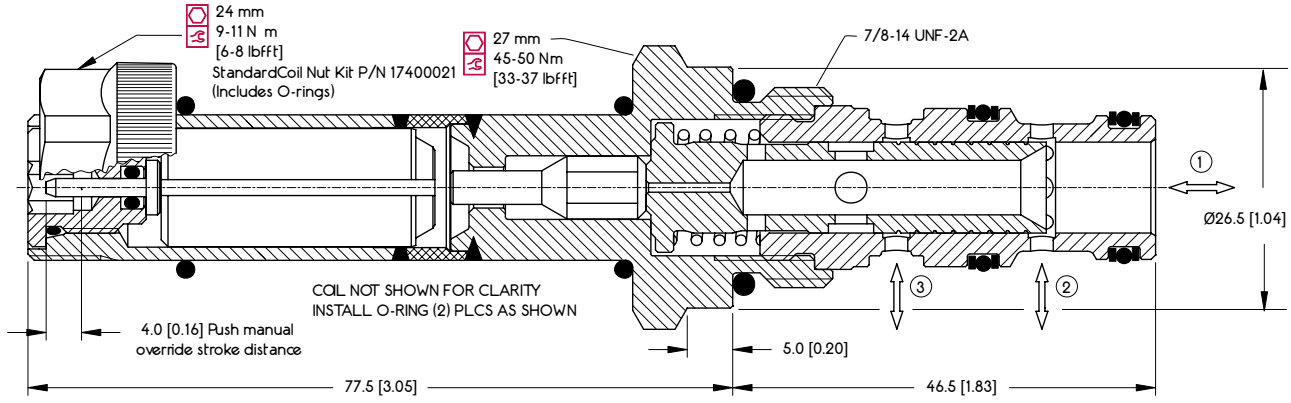
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV10-23-01

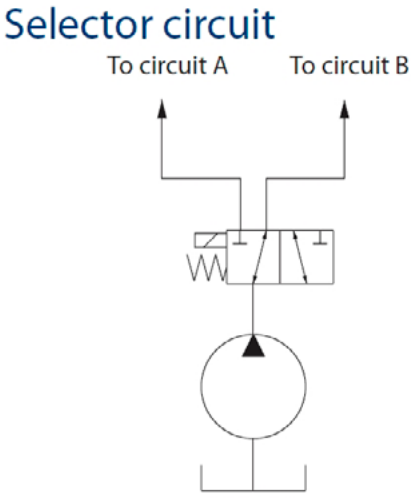
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

SV10 - 23 - 01 - 12D - DE - PB - B - 00

Solenoid Valve, 10 Size Cavity

23:
2 Position, 3 Way, Spool Type

01:
Schematic: Push Type

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-3-6S
8S	#8 SAE, AL	CP10-3-8S
S8S	#8 SAE, Steel	CP10-3-S8S
DG3B	3/8 BSP, AL	SDC10-3-DG3B
DG4B	1/2 BSP, AL	SDC10-3-DG4B
S4B	1/2 BSP, Steel	CP10-3-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354004210
V	Viton	354003719

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
HSV10-23-01

Shown with Robust Coil, Metri-Pack Type 1 Connector

OPERATION
Solenoid Valve, Spool Type, 2-Position, 3-Way, Normally Closed, Pull-Type. When de-energized, the HSV10-23-01 allows flow from port 1 to port 2, while port 3 is blocked. When energized, flow is allowed from port 3 to port 1, while port 2 is blocked. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve comes standard with a one-direction, push-pin manual override.

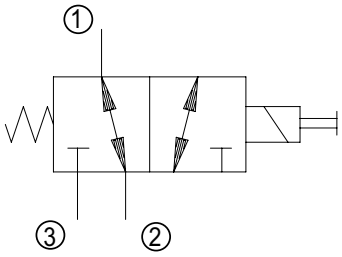
APPLICATIONS
These spool-type valves are commonly used in a selector circuit, or as an on/off pilot control for a directional spool valve. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.

SPECIFICATIONS

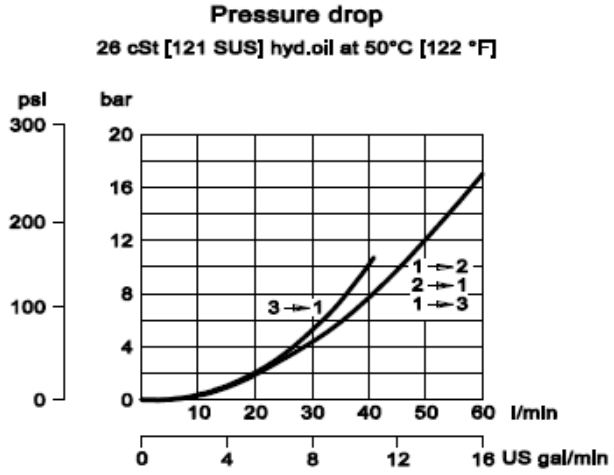
Rated pressure*	350bar [5075 psi]*
Rated flow at 7 bar [100 psi]	30 l/min [8 US gal/min]
Weight	0.57 kg [1.26 lb]
Cavity	SDC10-3
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES



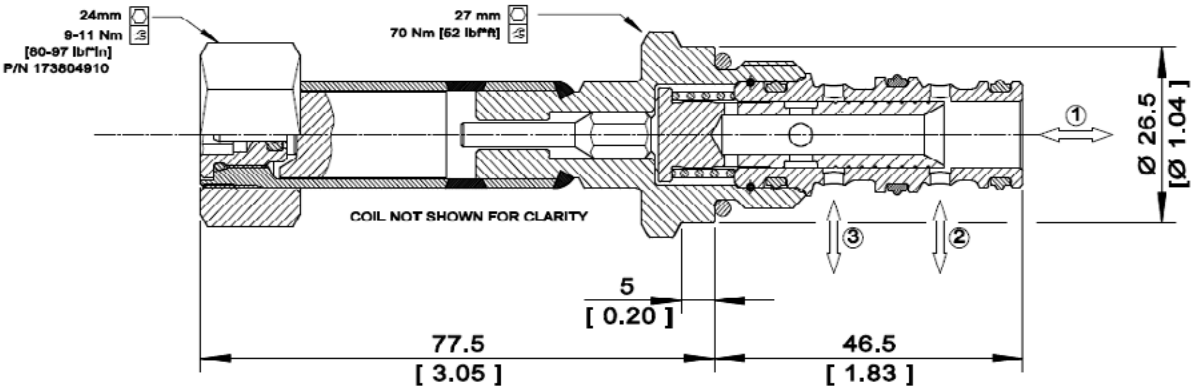
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
HSV10-23-01

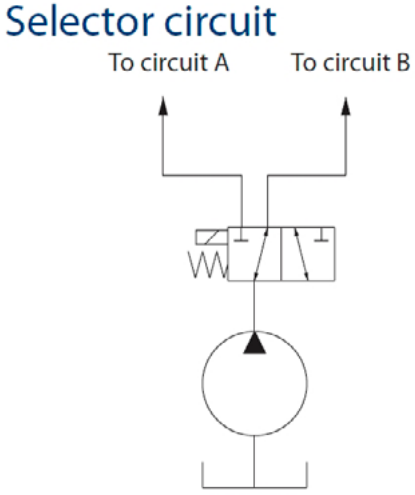
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

HSV10 - 23 - 01 - H12D - DE - PN - P - 00

High Pressure Solenoid Valve,
This is a direct-acting, 2-position,
3-way, spool-type solenoid valve.

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-3-S3B
S4B	1/2 BSP, Ductile	SDC10-3-S4B
S6S	#6 SAE, Ductile	SDC10-3-S6S
S8S	#8 SAE, Ductile	SDC10-3-S8S

*** Aluminium bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11140113

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
CP521-21

OPERATION

Solenoid Valve, Poppet Type, 2-Position, 3-Way, Pull-Type, 12-size. When de-energized, the CP521-21 allows flow from port 1 to port 2, while port 3 is blocked. When energized, flow is allowed from port 3 to port 1, while port 2 is blocked. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve comes standard with a one-direction, push-pin manual override.

APPLICATIONS

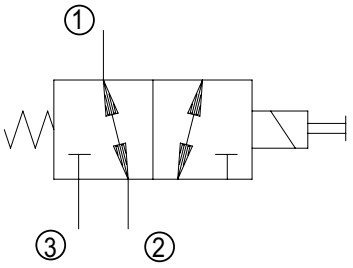
These spool-type valves are commonly used in a selector circuit, or as an on/off pilot control for a directional spool valve. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

SPECIFICATIONS

Rated pressure*	240 bar [3500 psi]
Rated flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight	0.80 kg [1.76 lb]
Cavity	CP12-3
Robust Coil (Standard)	D14E 30 Watt Robust Nut P/N 321567

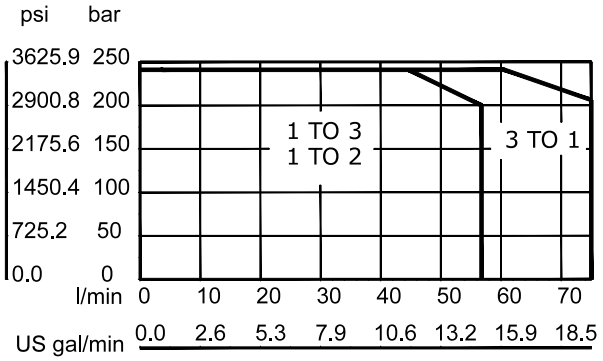
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES

Operating Envelope
33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



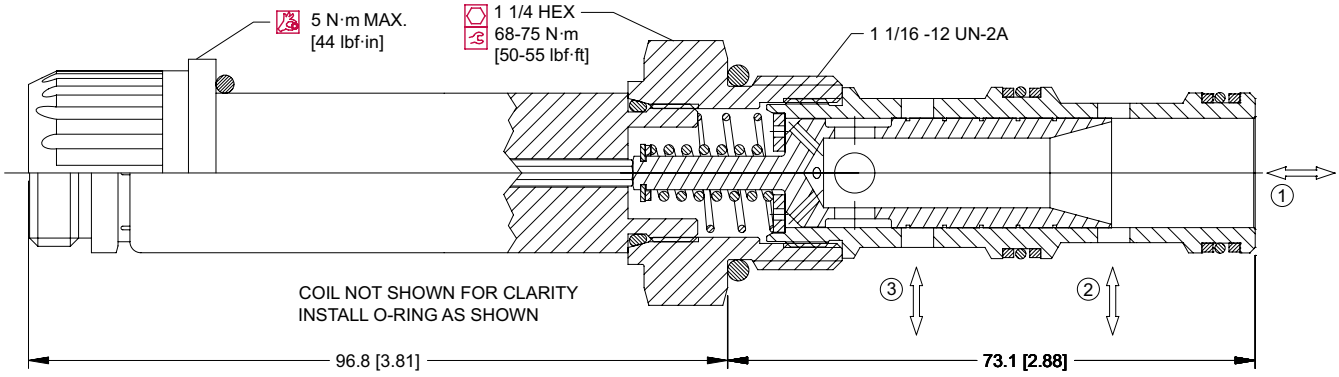
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
CP521-21

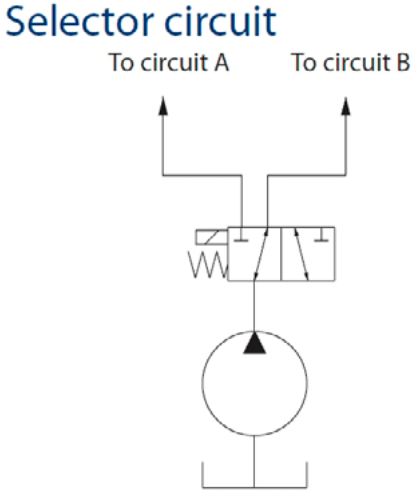
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

CP521-21-B-10S-24D-S

Seals

	Seal kit
B = Buna-N	120053
V = Viton	120052

Housing and ports

0	=	No Housing
4B	=	AL, 1/2 BSP
6B	=	AL, 3/4 BSP
10S	=	AL, #10 SAE
12S	=	AL, #12 SAE

Housing P/N

No Housing
CP12-3-4B
CP12-3-6B
CP12-3-10S
CP12-3-12S

Termination

0 = No connector
S = Spade
L = Lead wire
H = DIN 43650
M2 = Metripak 150 Type 1
DE = Deutsch
AJ = Amp Junior

Coil Voltage

000 = No coil
12D = 12 VDC
24D = 24 VDC

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-02

OPERATION

This is a direct-acting, 3-way, 2-position, spool-type solenoid valve. Recommend the following connections: port 3 to inlet, port 1 to actuator and port 2 to drain. When de-energized, the SV08-23-02 allows flow from port 1 to port 2, while port 3 is blocked. When energized, flow is allowed from port 3 to port 1, while port 2 is blocked. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Metri-Pack Type 2 Connector

APPLICATIONS

Common applications include on-off control of single-acting cylinders, clutches, or motors. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

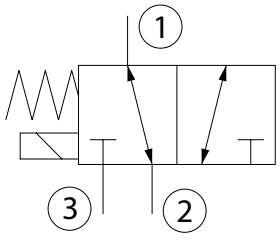
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	10 l/min [3 US gal/min]
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-3
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

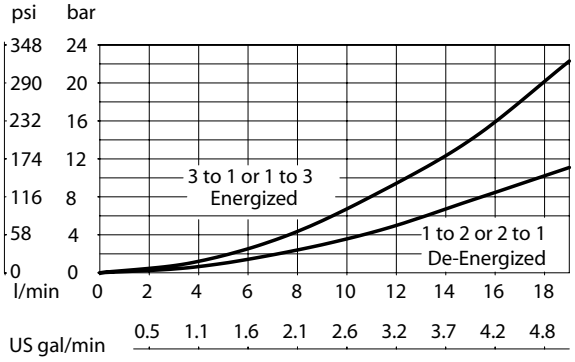
SCHEMATIC



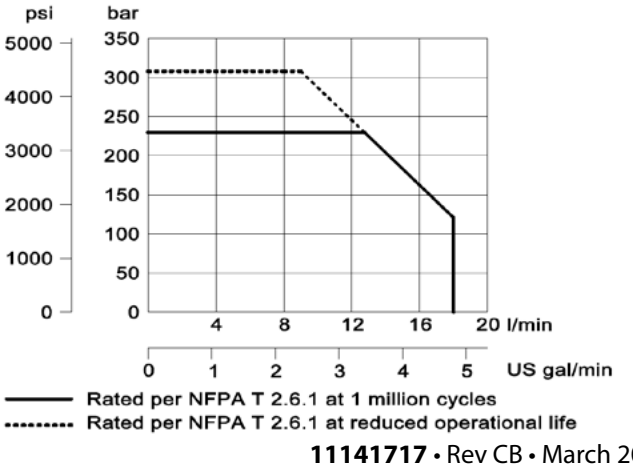
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

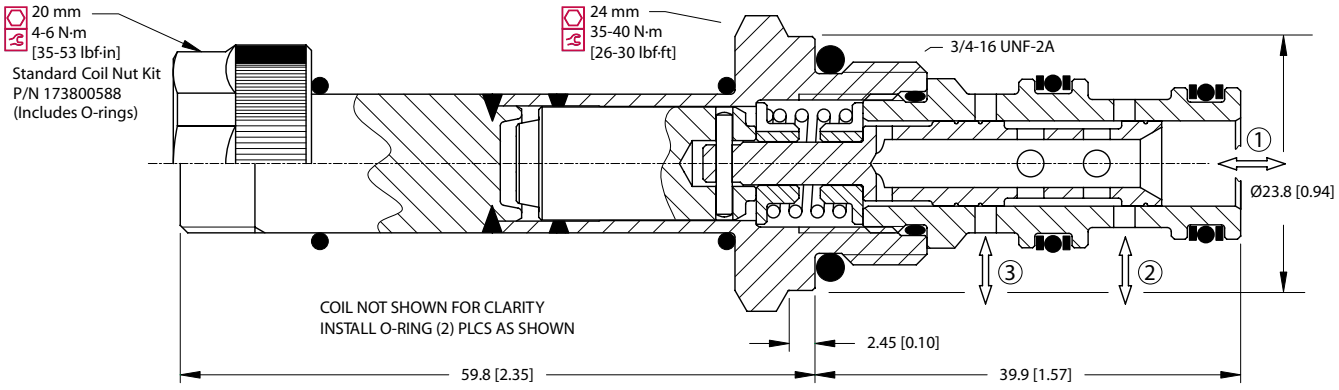
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-02

DIMENSIONS

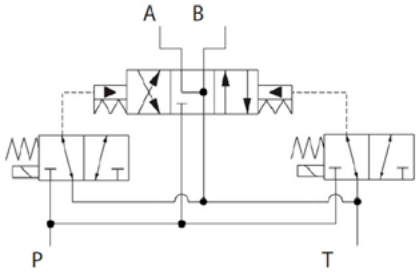
mm [in]

Cross-sectional view

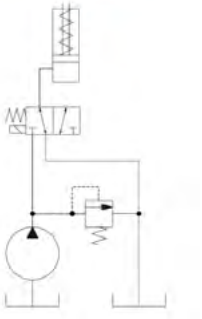


EXAMPLE CIRCUITS

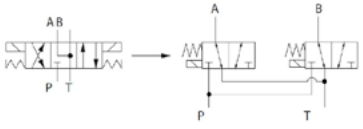
On/Off Pilot Control for Directional Spool Valve



On/Off Pilot Control for Single-Acting Cylinder, Clutch or Brake



Create a Low Pressure 4-Way, 3-Position Directional Control Valve



ORDERING INFORMATION

SV08 - 23 - 02 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

23: 2 Position, 3 Way, Spool Type

02: Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	#6 SAE, Steel	CP08-3-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003210
V	Viton	354003819

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV09-23-02

OPERATION

This is a direct-acting, 3-way, 2-position, spool-type solenoid valve. Recommend the following connections: port 3 to inlet, port 1 to actuator and port 2 to drain. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. The 09 Series valve uses a 10 size cavity with an 08 size tube and coil, providing an optimal product for high flow and low pressure, while minimizing pressure drop in the system.

Shown with Standard Coil and Filter

APPLICATIONS

Common applications include low-pressure on-off control of single-acting cylinders, clutches, or brakes. It is also optimal for hydraulically piloting large directional spool valves or for pilot cut-off valve of the control pressure of a valve or psiton pump. Refer to example circuits. Use the optional screen to help protect the actuator from large particles. Select the robust coil for those extreme environmental conditions – voltage extremes, high temperature, shock & vibration, chemicals, and/or water ingression.

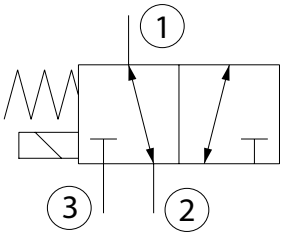
Shown with Robust Coil and Filter

SPECIFICATIONS

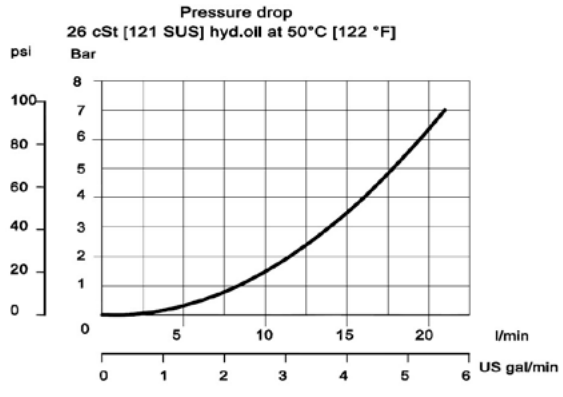
Rated pressure*	100 bar [1450 psi]
Maximum flow at 7 bar [100 psi]	21 l/min [6 US gal/min]
Leakage	20 ml/mln [1.22 ln^3/mln] at rated pressure
Weight	0.354 kg [0.78 lb]
Cavity	SDC10-3
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N 173800539 No coil O-rings needed.

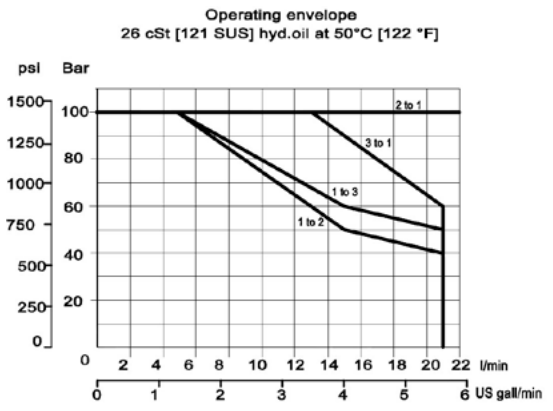
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC



PERFORMANCE CURVES





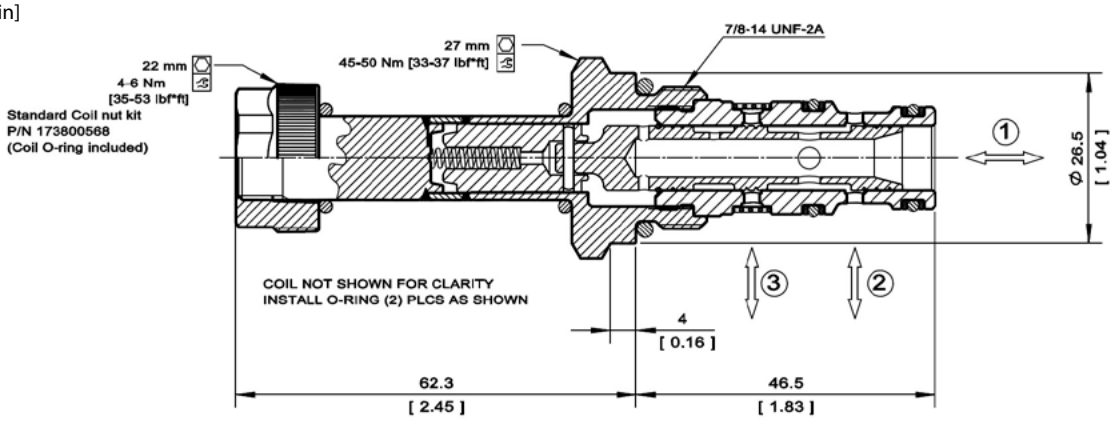
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV09-23-02

DIMENSIONS

mm [in]

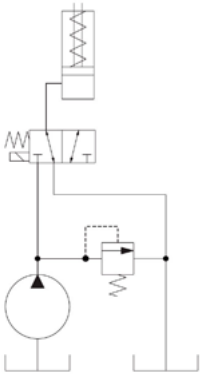
Cross-sectional view



EXAMPLE CIRCUITS

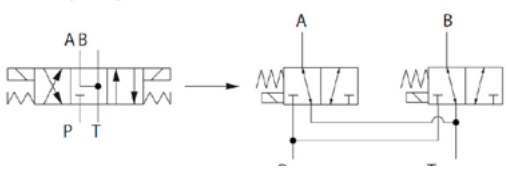
On/Off Pilot Control for Single-Acting Cylinder, Clutch or Brake

Single acting cylinder, clutch, or brake

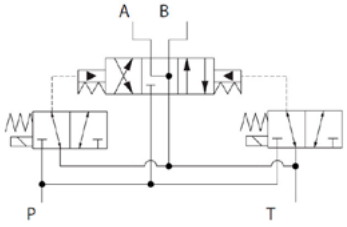


P103 109

Create a Low Pressure 4-Way, 3-Position Directional Control Valve



On/Off Pilot Control for Directional Spool Valve



P103 111

ORDERING INFORMATION

SV09 - 23 - 02 - 12D - DE - B - F - 00

Solenoid Valve, Spool Type, 10 Size Cavity

23: 2 Position, 3 Way

02: Schematic type

Filter: No Filter **Omit** / 500 µm **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B

Seal Code	Material	Seal Kits
B	Buna-N	354004210
V	Viton	354003719

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP65
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP65
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV10-23-02

OPERATION

Solenoid Valve, Spool Type, 2-Position, 3-Way, Normally Closed, Pull-Type. Recommend the following connections: port 3 to inlet, port 1 to actuator and port 2 to drain. When de-energized, the SV10-23-02 allows flow from port 1 to port 2, while port 3 is blocked. When energized, flow is allowed from port 3 to port 1, while port 2 is blocked. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS

Common applications include on-off control of single-acting cylinders, clutches, or motors. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.

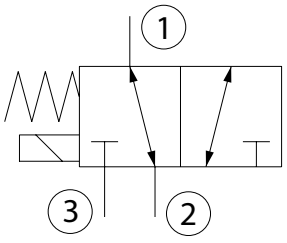
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	15 l/min [4 US gal/min]
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-3
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

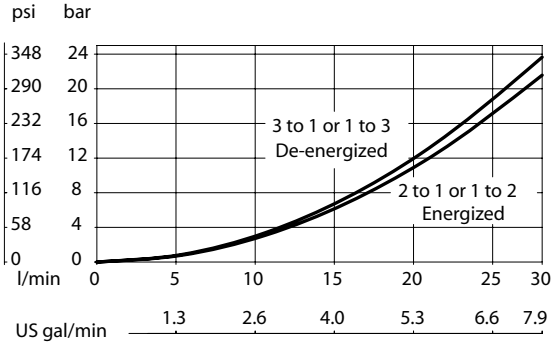
SCHEMATIC



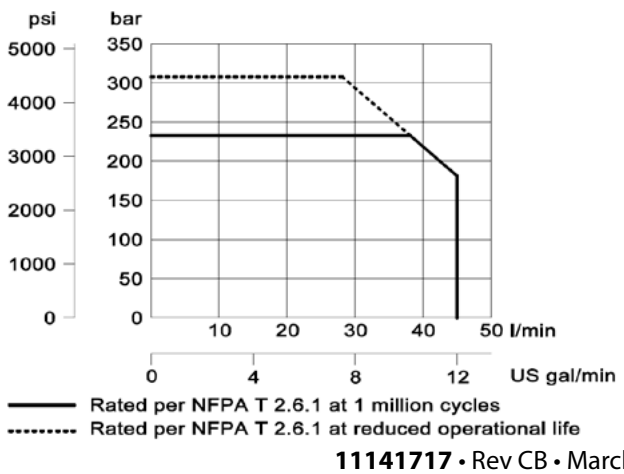
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

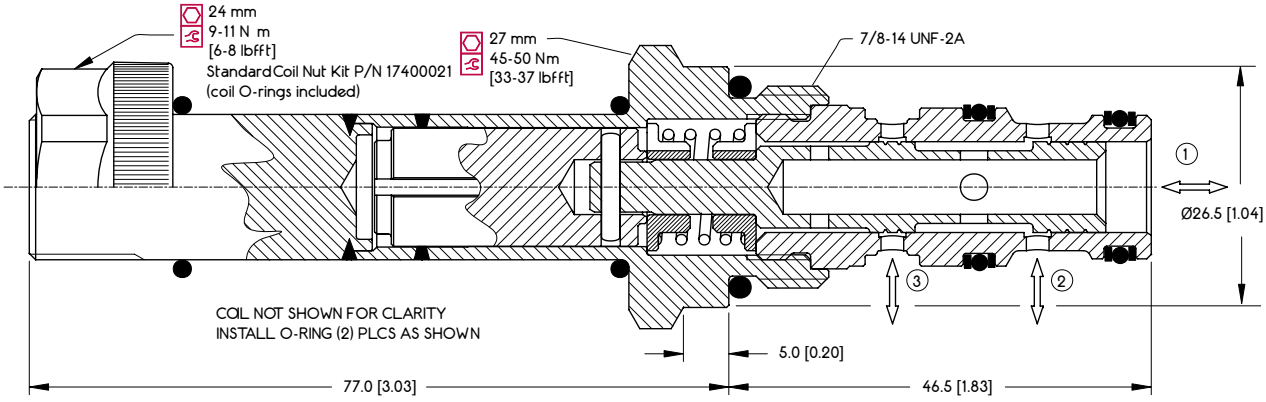
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV10-23-02

DIMENSIONS

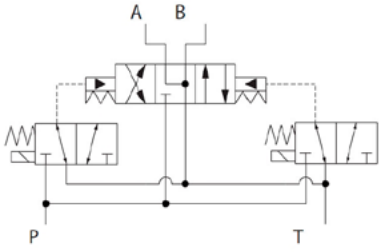
mm [in]

Cross-sectional view

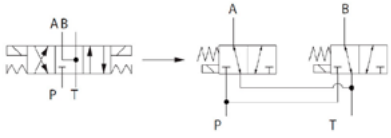


EXAMPLE CIRCUITS

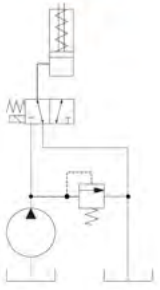
On/Off Pilot Control for Directional Spool Valve



Create a Low Pressure 4-Way, 3-Position Directional Control Valve



On/Off Pilot Control for Single-Acting Cylinder, Clutch or Brake



ORDERING INFORMATION

SV10 - 23 - 02 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

23:
2 Position, 3 Way, Spool Type

02:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-3-6S
8S	#8 SAE, AL	CP10-3-8S
S8S	#8 SAE, Steel	CP10-3-S8S
SE3B	3/8 BSP, AL	SDC10-3-SE3B
SE4B	1/2 BSP, AL	SDC10-3-SE4B
S4B	1/2 BSP, Steel	CP10-3-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354004210
V	Viton	354003719

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings;
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	**-**	-
Amp Junior with Diode	**AJD**	IP67	**-**	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	**-**	-
Metri-Pack 150 Type 2	**-**	-	**M3**	IP69K
Metri-Pack 150 with Diode	**-**	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog

3-Way, 2-Position Spool
HSV10-23-02

OPERATION

Solenoid Valve, Spool Type, 2-Position, 3-Way, Normally Closed, Pull-Type. Recommend the following connections: port 3 to inlet, port 1 to actuator and port 2 to drain. When de-energized, the HSV10-23-02 allows flow from port 1 to port 2, while port 3 is blocked. When energized, flow is allowed from port 3 to port 1, while port 2 is blocked. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Metri-Pack Type 1 Connector

APPLICATIONS

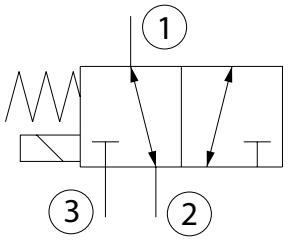
Common applications include on-off control of single-acting cylinders, clutches, or motors. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. In case of inlet from port 2 this value can be increased to 500,000 cycles.

SPECIFICATIONS

Rated pressure*	350bar [5075 psi]*
Rated flow at 7 bar [100 psi]	28 l/min [7 US gal/min]
Weight	0.57 kg [1.26 lb]
Cavity	SDC10-3
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

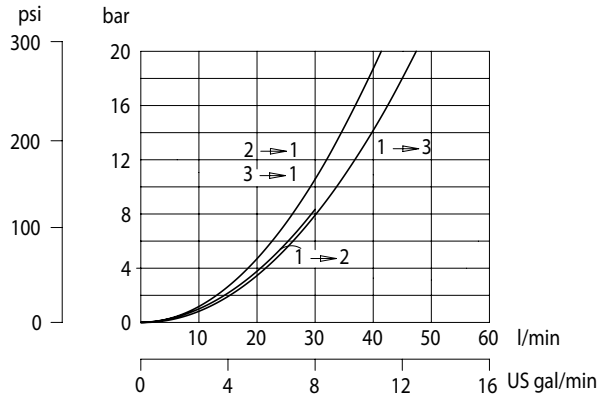
SCHEMATIC



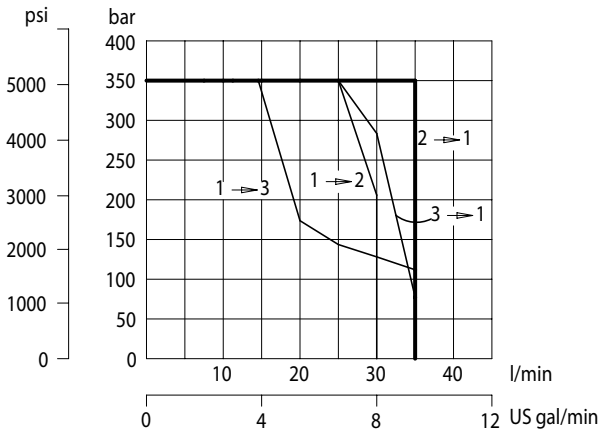
PERFORMANCE CURVES

Pressure drop

26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

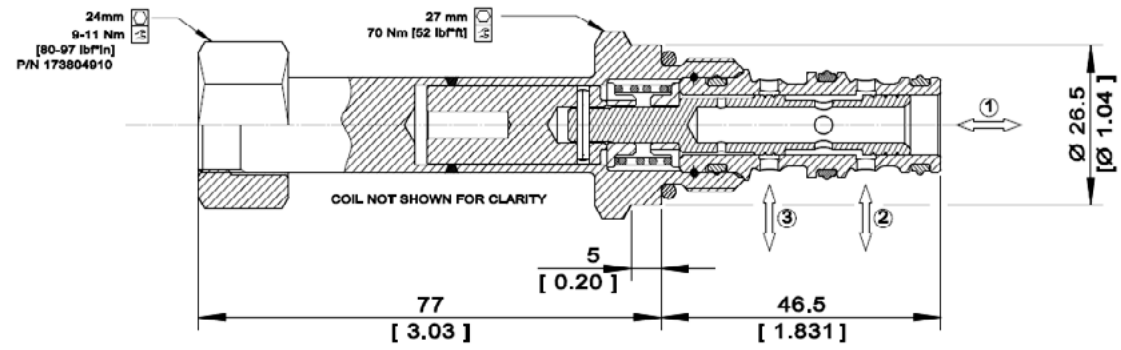
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
HSV10-23-02

DIMENSIONS

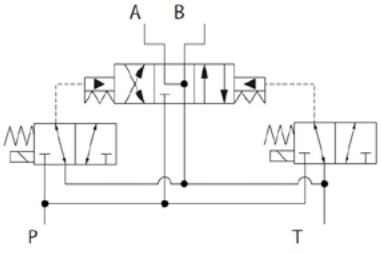
mm [in]

Cross-sectional view

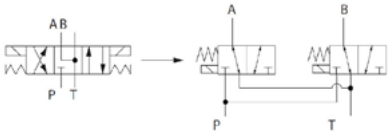


EXAMPLE CIRCUITS

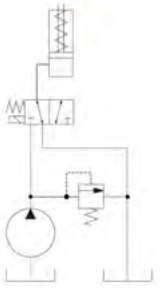
On/Off Pilot Control for Directional Spool Valve



Create a High Pressure 4-Way, 3-Position Directional Control Valve



On/Off Pilot Control for Single-Acting Cylinder, Clutch or Brake



ORDERING INFORMATION

HSV10 - 23 - 02 - H12D - DE - XC - P - 00

High Pressure Solenoid Valve, This is a direct-acting, 2-position, 3-way, spool-type solenoid valve.

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-3-S3B
S4B	1/2 BSP, Ductile	SDC10-3-S4B
S6S	#6 SAE, Ductile	SDC10-3-S6S
S8S	#8 SAE, Ductile	SDC10-3-S8S

*** Aluminium bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11140113

Manual Override

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-03

OPERATION
This is a direct-acting, 3-way, 2-position, spool-type, 08-size solenoid valve. When de-energized, the SV08-23-03 allows flow between port 1 and port 2, while port 3 is blocked. When energized, flow is allowed between port 3 and port 2, while port 1 is blocked. This valve comes standard with a one-direction, push-pin manual override.

Shown with Robust Coil,
Metri-Pack Type 2 Connector

APPLICATIONS
Common applications include on-off control of single-acting cylinders, clutches, or motors. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

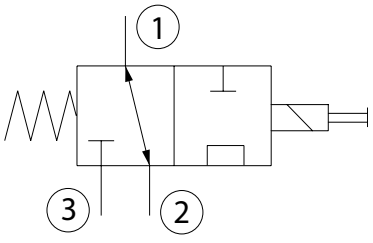
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	18 l/min [5 US gal/min]
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-3
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

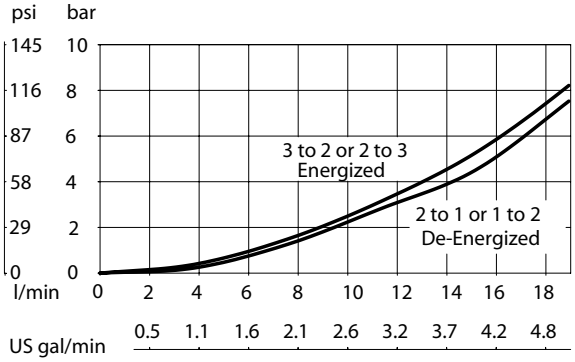
SCHEMATIC



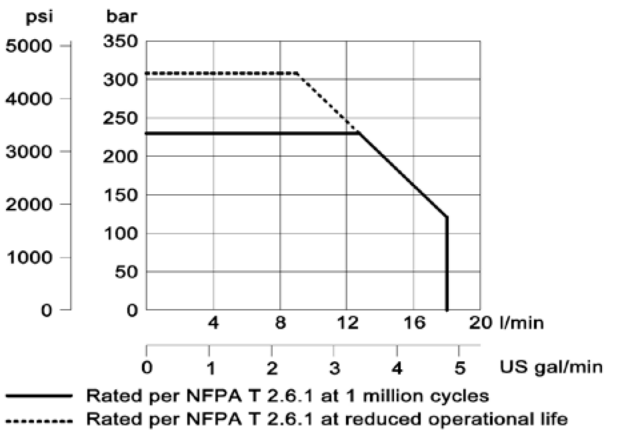
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

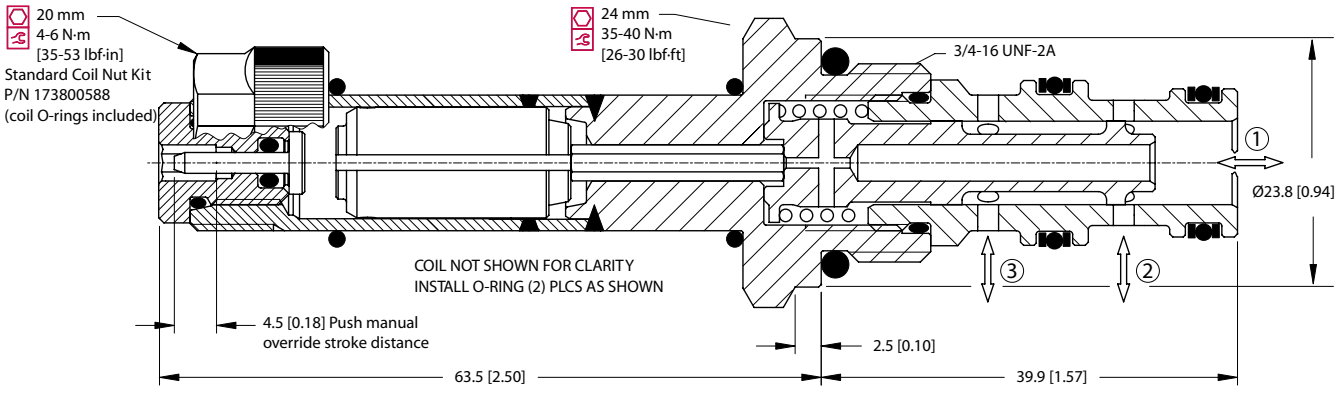
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-03

DIMENSIONS

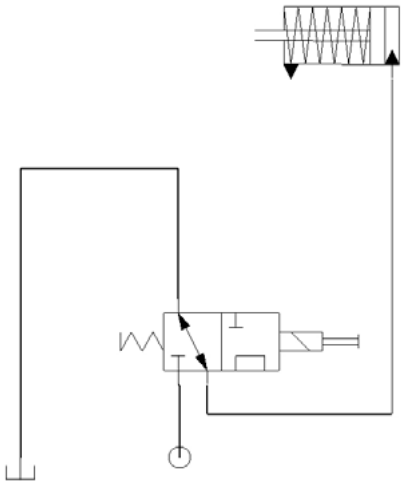
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Single Acting Cylinder



ORDERING INFORMATION

SV08 - 23 - 03 - 12D - DE - PB - B - 00

Solenoid Valve, 08 Size Cavity

23: 2 Position, 3 Way, Spool Type

03: Schematic: Push Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	#6 SAE, Steel	CP08-3-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003210
V	Viton	354003819

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-04

OPERATION
Solenoid Valve, Spool Type, 2-Position, 3-Way, 08 size. When de-energized, the SV08-23-04 allows flow from port 3 to port 2, blocking port 1. When energized, ports 2 and 1 are connected, blocking port 3. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit like a single-acting cylinder, clutch, brake, circuit selector valve, or pilot for a large directional spool valve. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 400,000 cycles. In case of inlet from port 2 this value can be increased to 600,000 cycles.

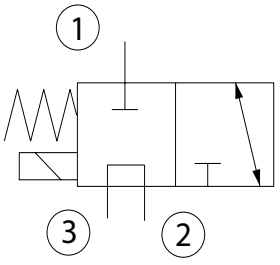
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	10 l/min [3 US gal/min]
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-3
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

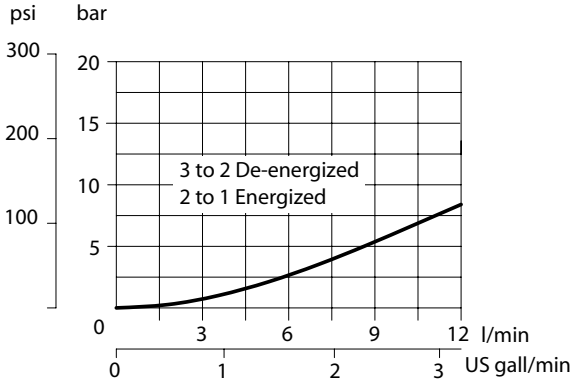
** See 315 bar pressure rating note on page 10.

SCHEMATIC

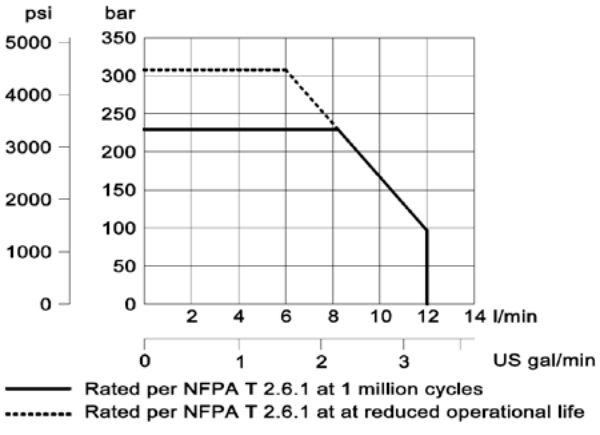


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

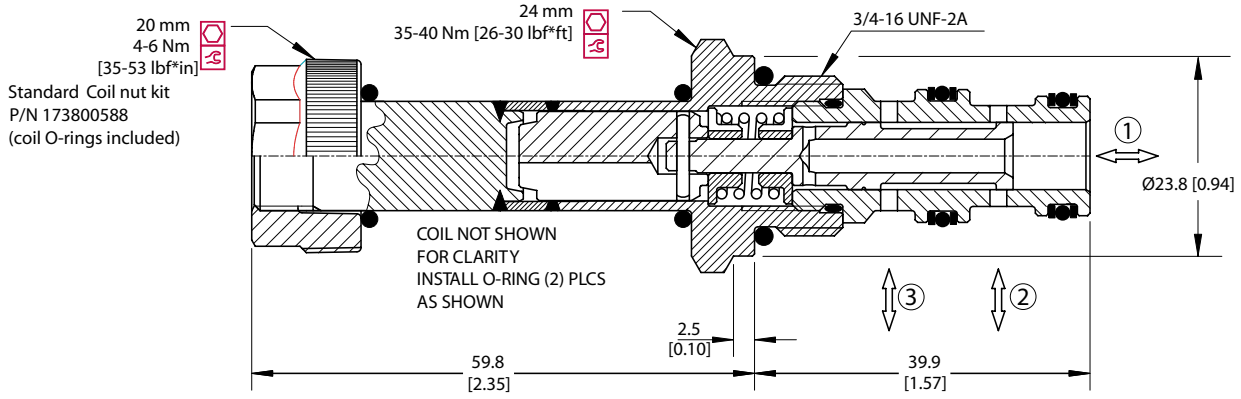
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV08-23-04

DIMENSIONS

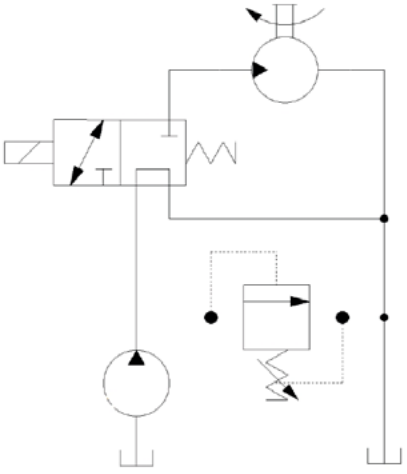
mm [in]

Cross-sectional view

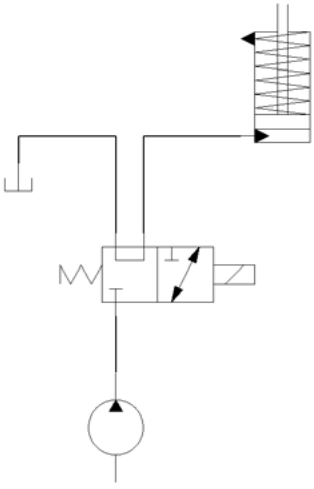


EXAMPLE CIRCUITS

Uni-directional Motor



Single Acting Cylinder



ORDERING INFORMATION

SV08 - 23 - 04 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

23: 2 Position, 3 Way, Spool Type

04: Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	#6 SAE, Steel	CP08-3-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003210
V	Viton	354003819

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV10-23-04

OPERATION
Solenoid Valve, Spool Type, 2-Position, 3-Way, 10-Size. When de-energized, the SV10-23-04 allows flow from port 3 to port 2, blocking port 1. When energized, ports 2 and 1 are connected, blocking port 3. Port 1 may be fully pressurized, but is not intended to be the inlet port. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit like a single-acting cylinder, clutch, brake, circuit selector valve, or pilot for a large directional spool valve. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can be pressurized to 315 Bar on port 2 for 500,000 operating cycles.

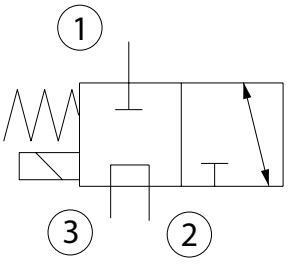
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-3
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

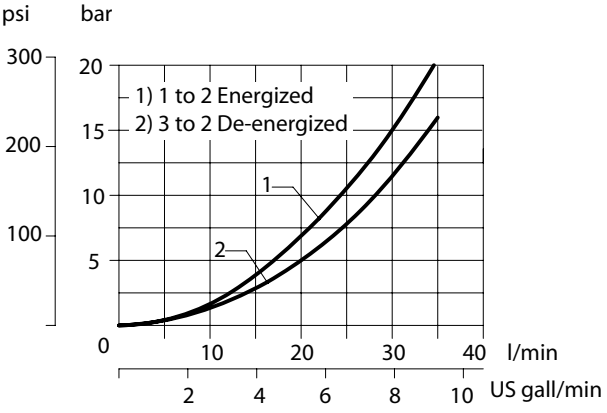
** See 315 bar pressure rating note on page 10.

SCHEMATIC

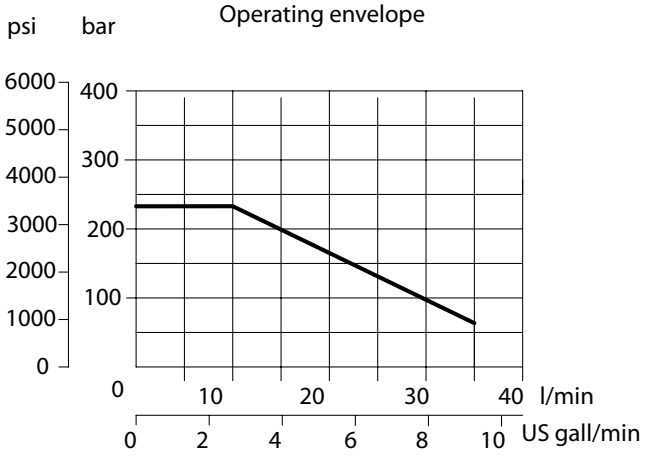


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

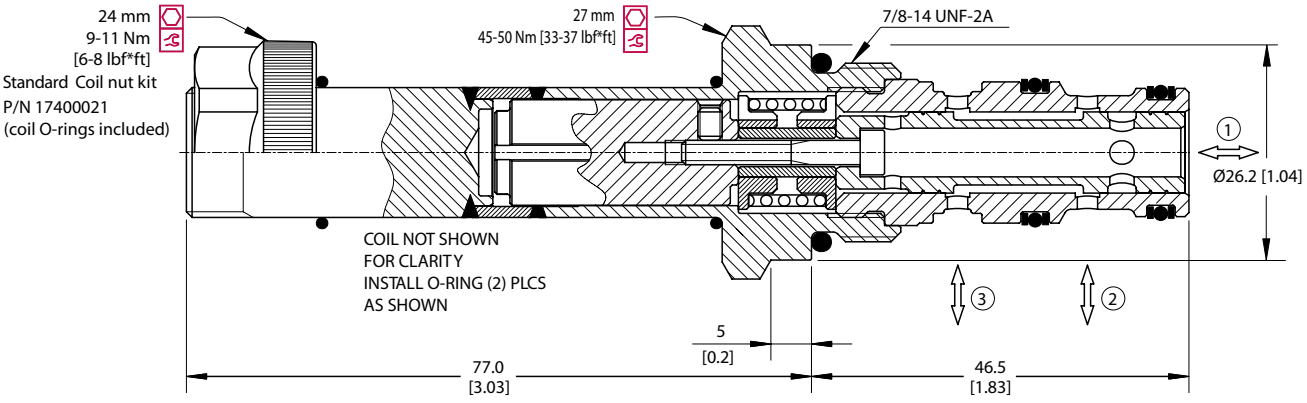
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3-Way, 2-Position Spool
SV10-23-04

DIMENSIONS

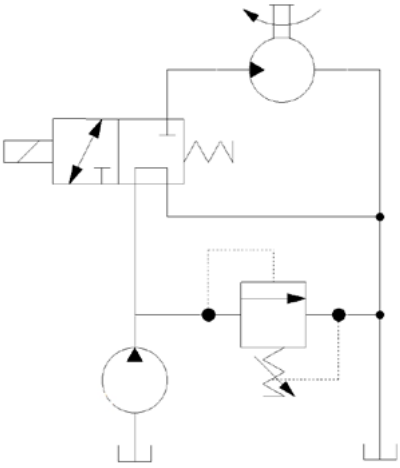
mm [in]

Cross-sectional view

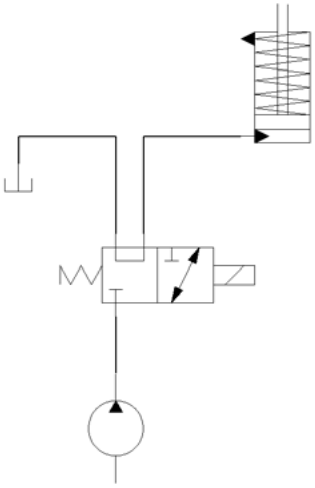


EXAMPLE CIRCUITS

Uni-directional Motor



Single Acting Cylinder



ORDERING INFORMATION

SV10 - 23 - 04 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

23:
2 Position, 3 Way, Spool Type

04:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-3-6S
8S	#8 SAE, AL	CP10-3-8S
S8S	#8 SAE, Steel	CP10-3-S8S
L3B	3/8 BSP, AL	SDC10-3-SE3B
L4B	1/2 BSP, AL	SDC10-3-SE4B
S4B	1/2 BSP, Steel	CP10-3-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354004210
V	Viton	354003719

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings;
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3 Way, 2 Position Spool
SV15-23-04

OPERATION

Solenoid Valve, Spool Type, 2-Position, 3-Way, High Flow (15-Size). When de-energized, the SV15-23-04 allows flow from port 3 to port 2, blocking port 1. When energized, ports 2 and 1 are connected, blocking port 3. Port 1 may be fully pressurized, but is not intended to be the inlet port. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/3201 and uses a metric M33x2 cavity (NCS 12/3) for high flow capability.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit like a single-acting cylinder, clutch, brake, circuit selector valve, or pilot for a large directional spool valve. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar for 100,000 cycles. In case of inlet from port 2 this value can be increased to 300,000 cycles.

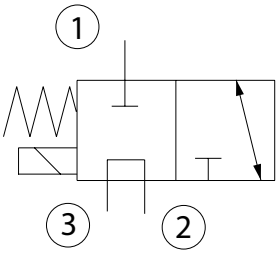
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Weight including coil	0.89 kg [1.96 lbs]
Cavity	NCS 12/3
Coil	M19-33W
Diode (Optional)	Unidirectional

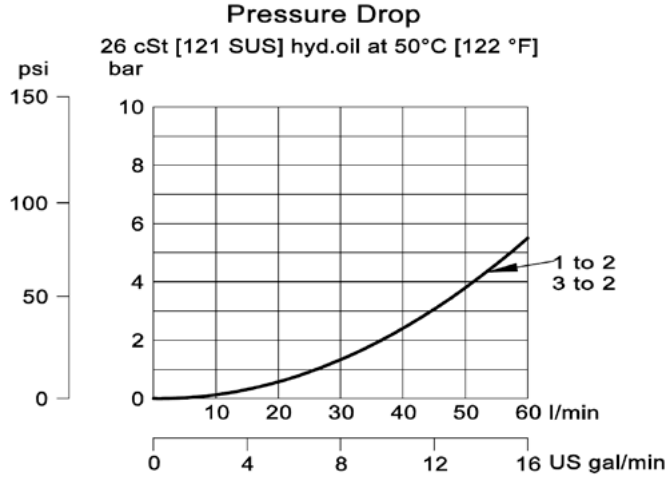
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

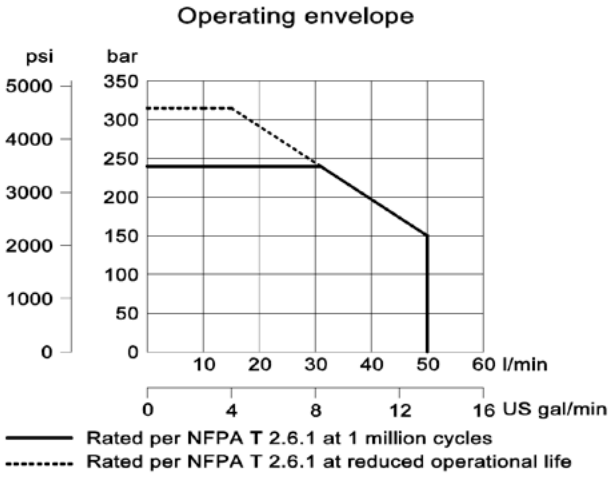
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

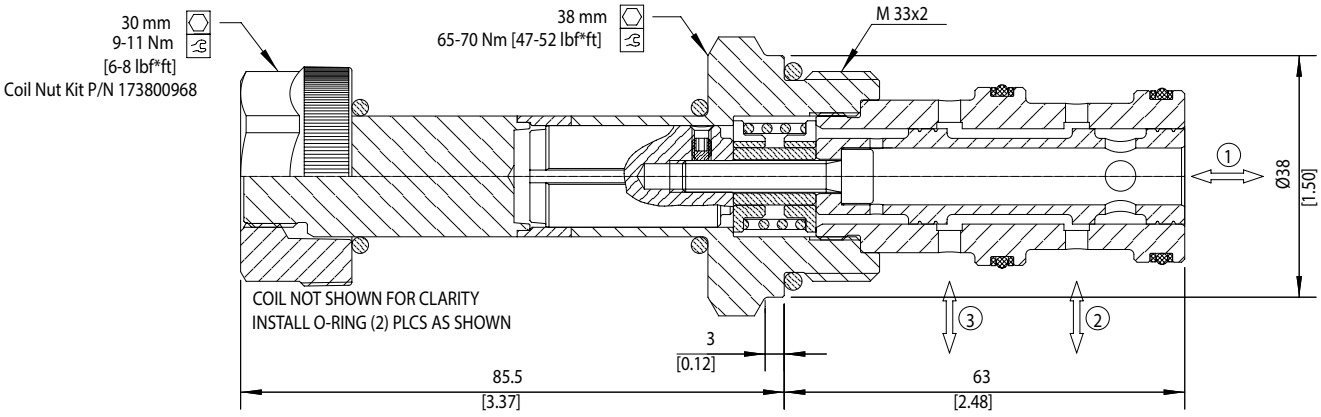
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
3 Way, 2 Position Spool
SV15-23-04

DIMENSIONS

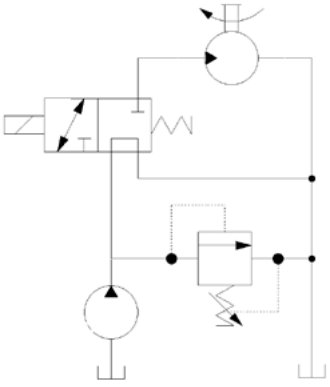
mm [in]

Cross-sectional view

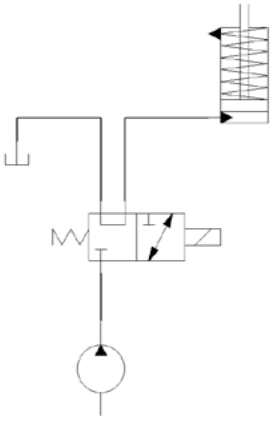


EXAMPLE CIRCUITS

Uni-directional Motor



Single Acting Cylinder



ORDERING INFORMATION

SV15 - 23 - 04 - 12D - DE - B - 00

Solenoid Valve, Spool Type, 15 Size Cavity

23: 2 Position, 3 Way

04: Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/3-SE-8S
12S	#12 SAE, AL	NCS 12/3-SE-12S
4B	1/2 BSP, AL	NCS 12/3-SE-1/2
6B	3/4 BSP, AL	NCS 12/3-SE-3/4

Seal Code	Material	Seal Kits
B	Buna-N	11115764
V	Viton	11115765

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-01

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, 08-size. When de-energized, the SV08-24-01 allows flow from port 3 to port 2, and from port 4 to port 1. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Can be used in combination to duplicate a four-way, three-position valve, creating an economical, compact function. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

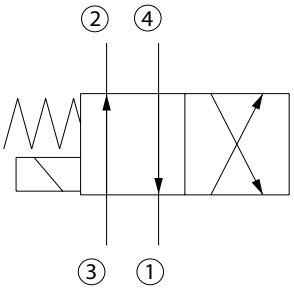
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	8 l/min [2 US gal/min]
Weight	0.32 kg [0.71 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

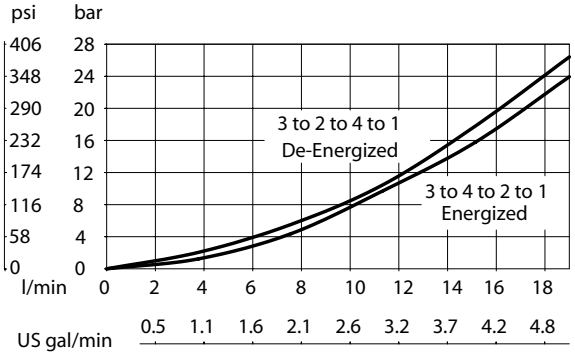
SCHEMATIC



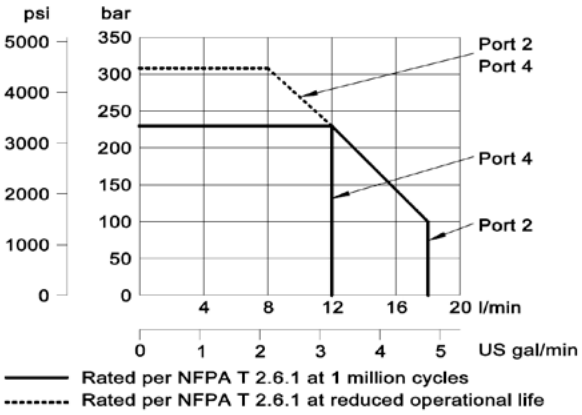
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

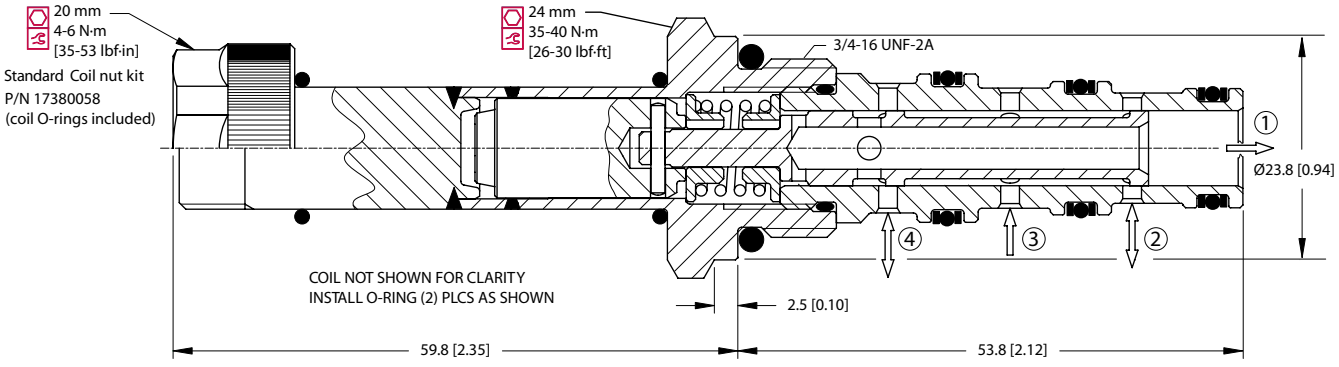
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-01

DIMENSIONS

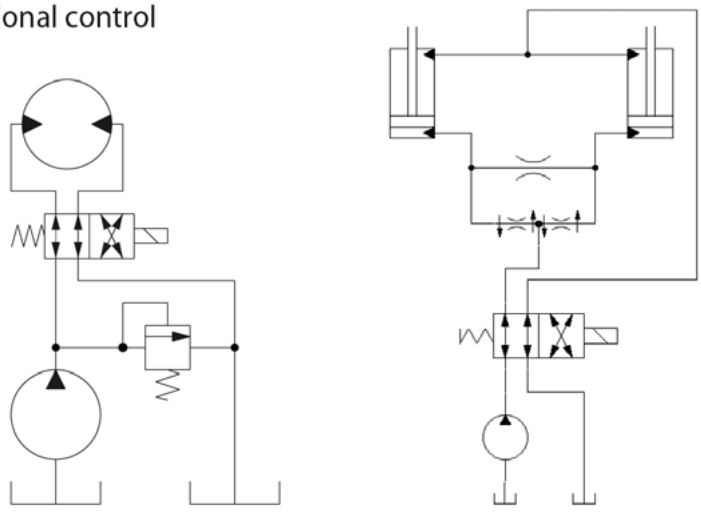
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Motor directional control



ORDERING INFORMATION

SV08 - 24 - 01 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

24: 2 Position, 4 Way, Spool Type

01: Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003919

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV09-24-01

Shown with Standard Coil and Filter

Shown with Robust Coil and Filter

OPERATION

This is a direct-acting, 4-way, 2-position, spool-type solenoid valve.
Recommend the following connections: port 3 to inlet, ports 2 & 4 to actuator(s) and port 1 to drain. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. The 09 Series valve uses a 10 size cavity with an 08 size tube and coil, providing an optimal product for high flow and low pressure, while minimizing pressure drop in the system.

APPLICATIONS

Common applications include low-pressure on-off control of dual clutch systems or pressure-assist brakes. It can also be used for low pressure bi-directional control of motors. Refer to example circuits. Use the optional screen to help protect the actuator from large particles. Select the robust coil for those extreme environmental conditions – voltage extremes, high temperature, shock & vibration, chemicals, and/or water ingression.

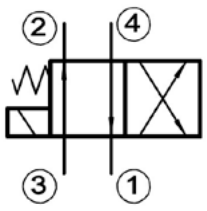
SPECIFICATIONS

Rated pressure*	100 bar [1450 psi]
Maximum flow at 7 bar [100 psi]	20 l/min [5.33 US gal/min]
Leakage	75 ml/mln [5.6 In^3/mln]
Weight Including coil	0.37 kg [0.78 lb]
Cavity	SDC10-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

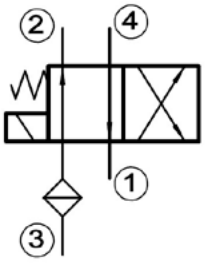
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC

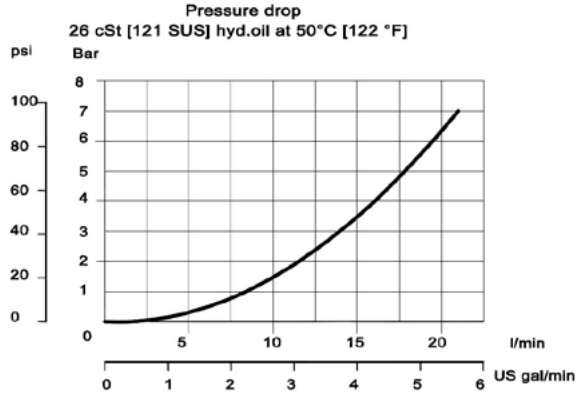
No Filter Option

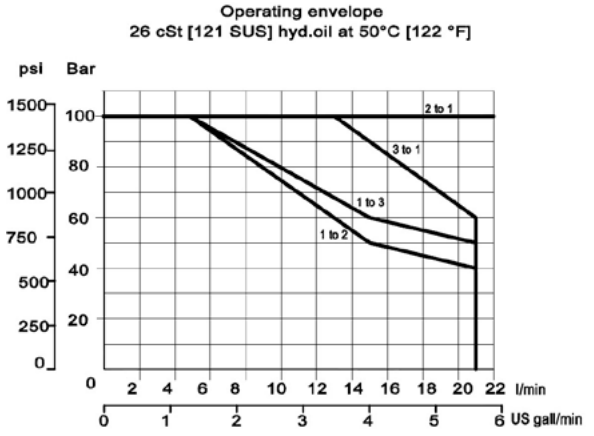


Filter Option



PERFORMANCE CURVES





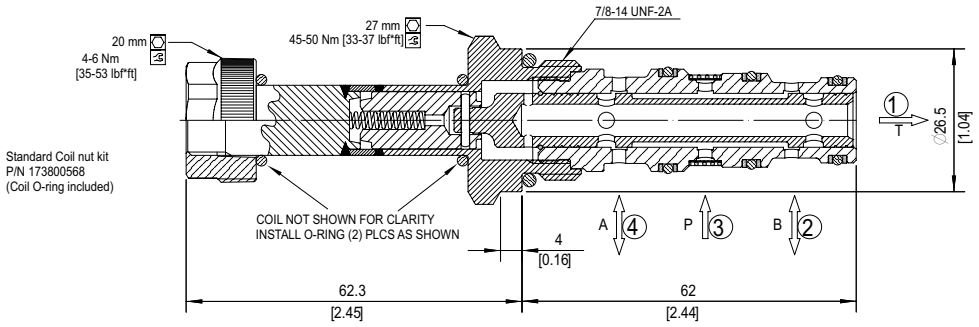
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV09-24-01

DIMENSIONS

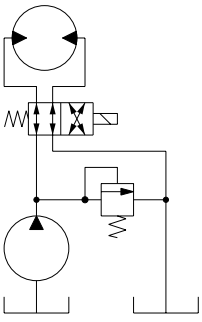
mm [in]

Cross-sectional view



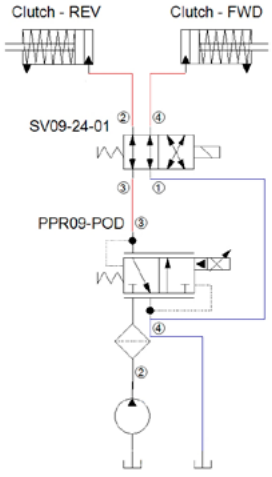
EXAMPLE CIRCUITS

Bi-Directional Control of Motors - Low Pressure



P103 114

Dual Clutch System Using Pressure Reducing Valve and 2-Position, 4-Way Solenoid



ORDERING INFORMATION

SV09 - 24 - 01 - 12D - DE - B - F - 00

Solenoid Valve, Spool Type, 10 Size Cavity

24:
2 Position, 4 Way

01:
Normally Open Schematic

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP65
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP65
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Filter:
No Filter **Omit**
500 µm **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-01

OPERATION

Solenoid Valve, Spool Type, 2-Position, 4-Way, 10 size. When de-energized, the SV10-24-01 allows flow from port 3 to port 2, and from port 4 to port 1. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Can be used in combination to duplicate a four-way, three-position valve, creating an economical, compact function. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

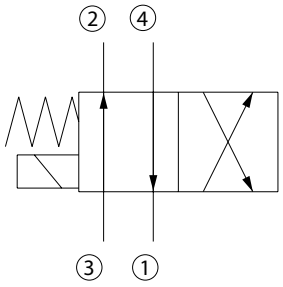
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	15 l/min [4 US gal/min]
Weight	0.45 kg [0.99 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

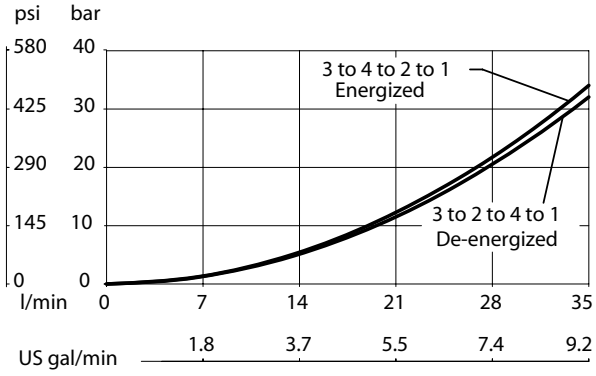
SCHEMATIC



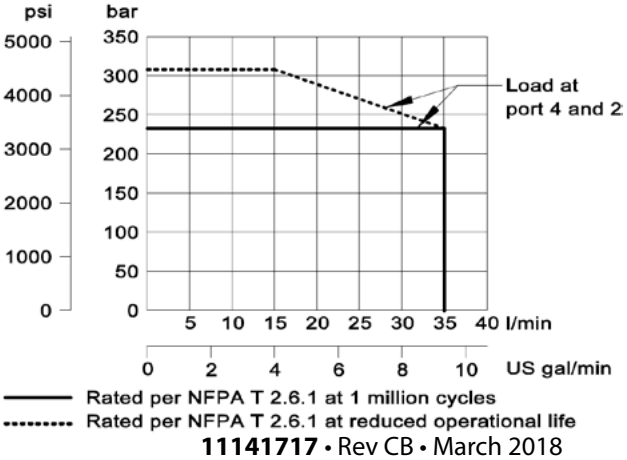
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

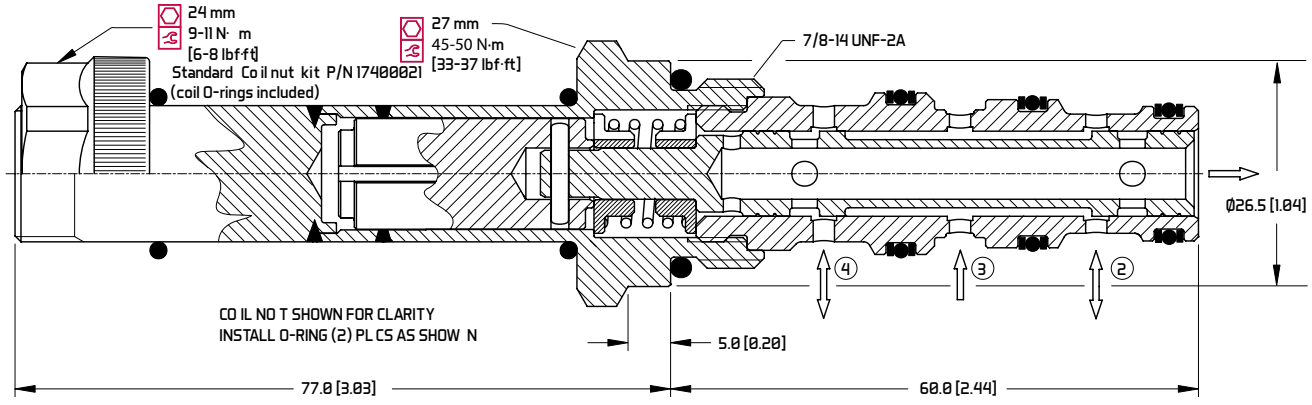
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-01

DIMENSIONS

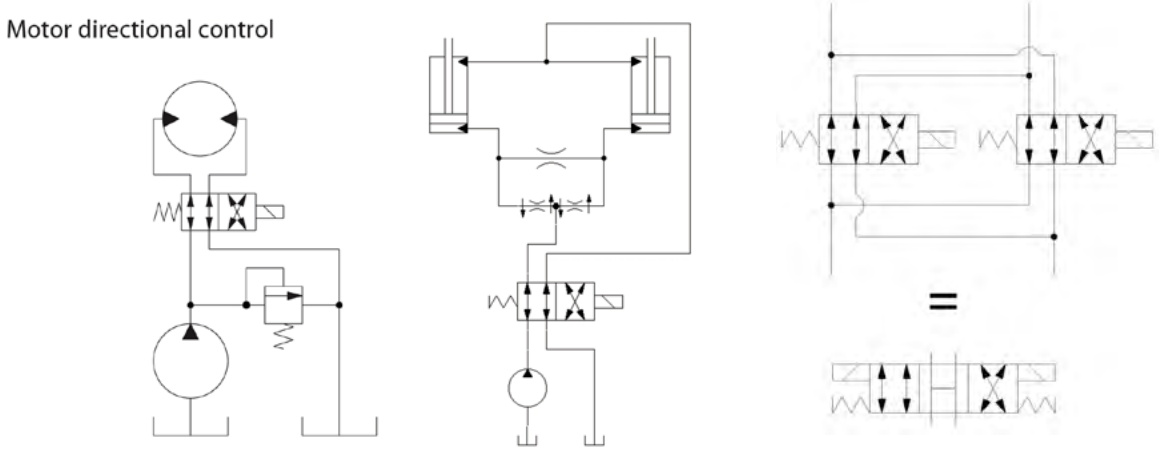
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Motor directional control



ORDERING INFORMATION

SV10 - 24 - 01 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

24:
2 Position, 4 Way, Spool Type

01:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
HSV10-24-01

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, 10-size. When de-energized, the HSV10-24-01 allows flow from port 3 to port 2, and from port 4 to port 1. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

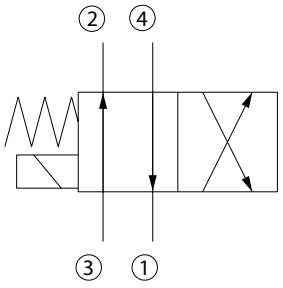
APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for blocking the flow of a 2-way function, pump unloading or cylinder regeneration. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	25 l/min [6.6 US gal/min]
Weight	0.45 kg [0.99 lb]
Cavity	SDC10-4
Standard Coil	H16 29Watt

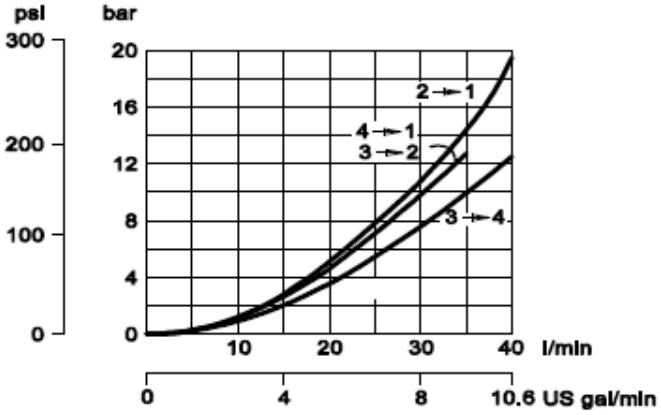
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

SCHEMATIC

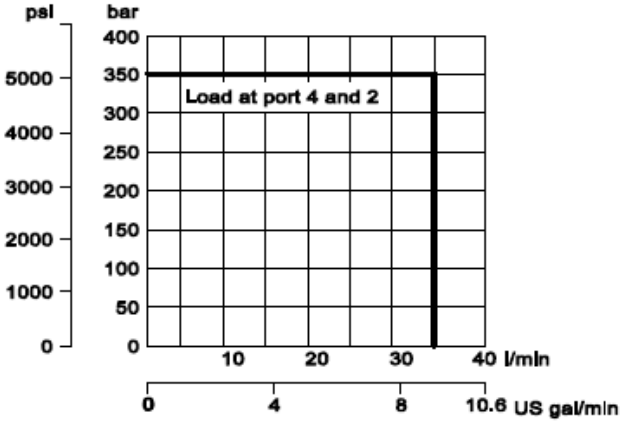


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

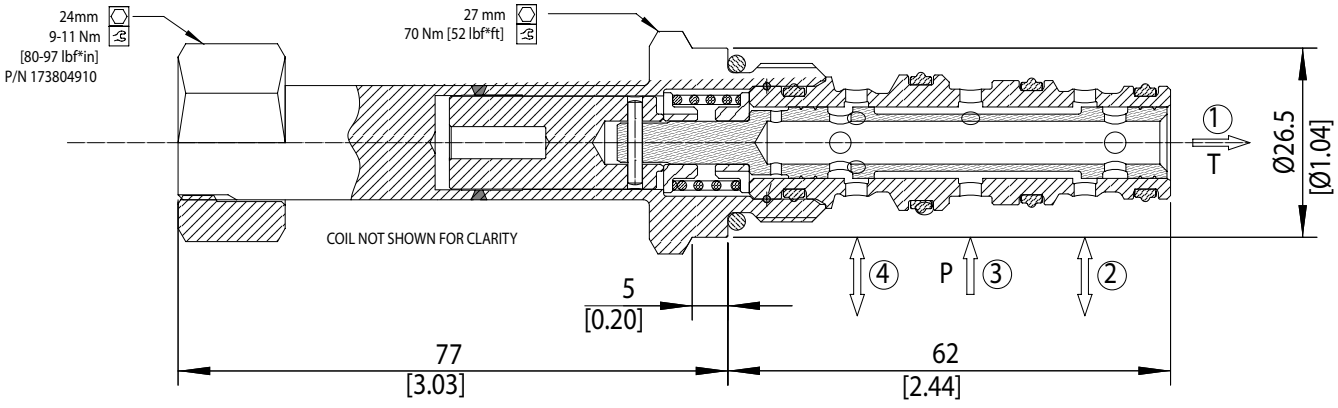
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog

4-Way, 2-Position Spool
HSV10-24-01

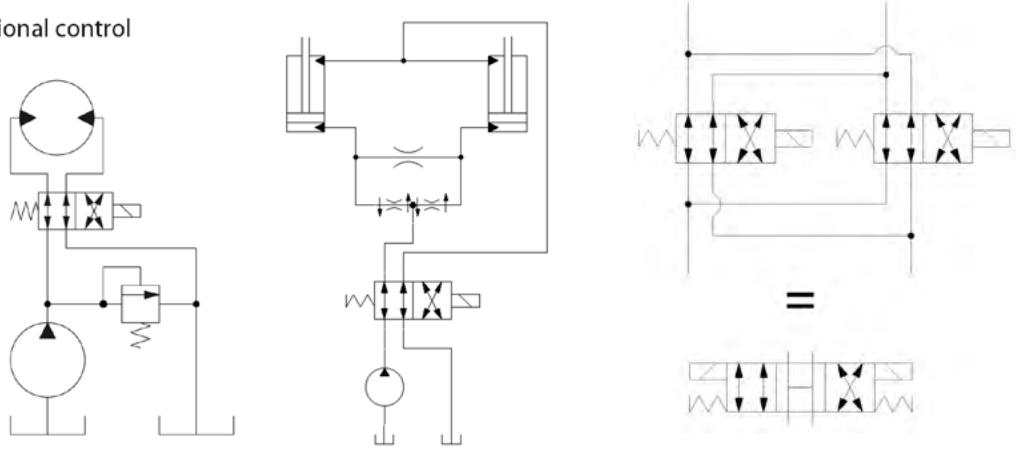
DIMENSIONS

mm [in]



EXAMPLE CIRCUITS

Motor directional control



ORDERING INFORMATION

HSV10 - 24 - 01 - H12D - DE - XC - P - 00

High Pressure Solenoid Valve,
This is a direct-acting, 2-position,
4-way, spool-type solenoid valve.

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-4-S3B
S4B	1/2 BSP, Ductile	SDC10-4-S4B
S6S	#6 SAE, Ductile	SDC10-4-S6S
S8S	#8 SAE, Ductile	SDC10-4-S8S

*** Aluminium bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11143824

Manual Override

Code	Description
XC	No Manual Override

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-01

OPERATION

Solenoid Valve, Spool Type, 2-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-24-01 allows flow from port 3 to port 2, and from port 4 to port 1. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/4205 and uses a metric M33x2 cavity (NCS 12/4) for high flow capability.

Shown with Standard Coil, DIN Connector

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Use the optional screen to help protect the actuator from large particles. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

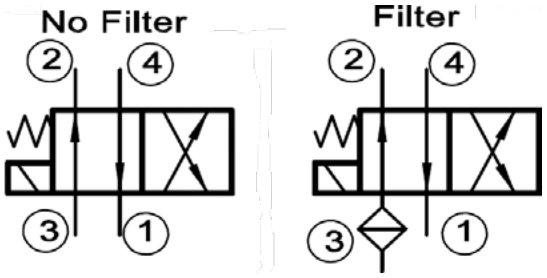
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight including coil	0.95 kg [2.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

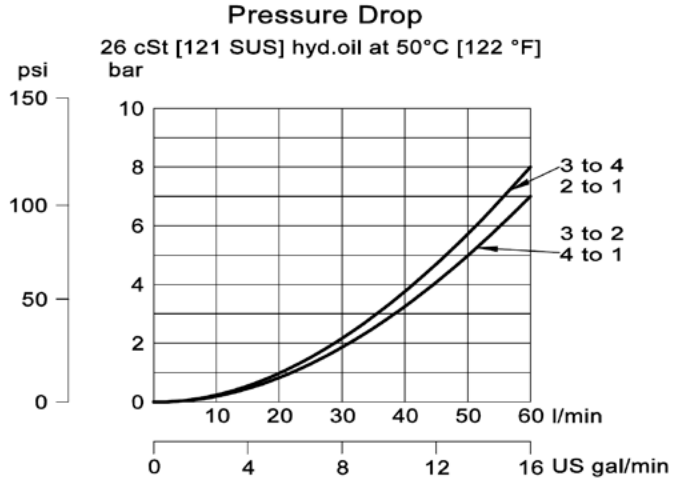
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

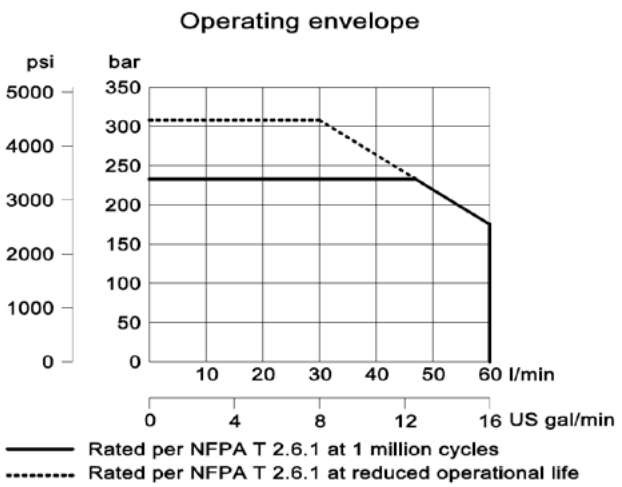
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

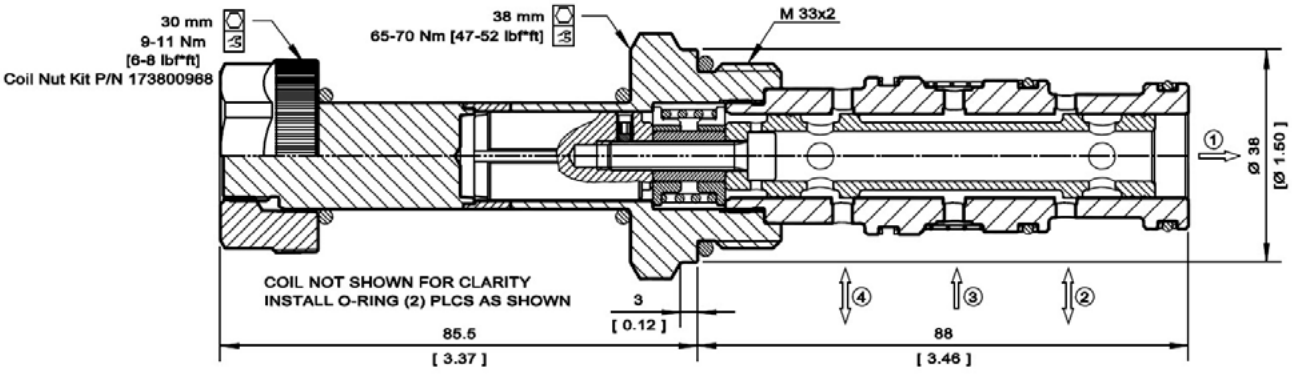
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-01

DIMENSIONS

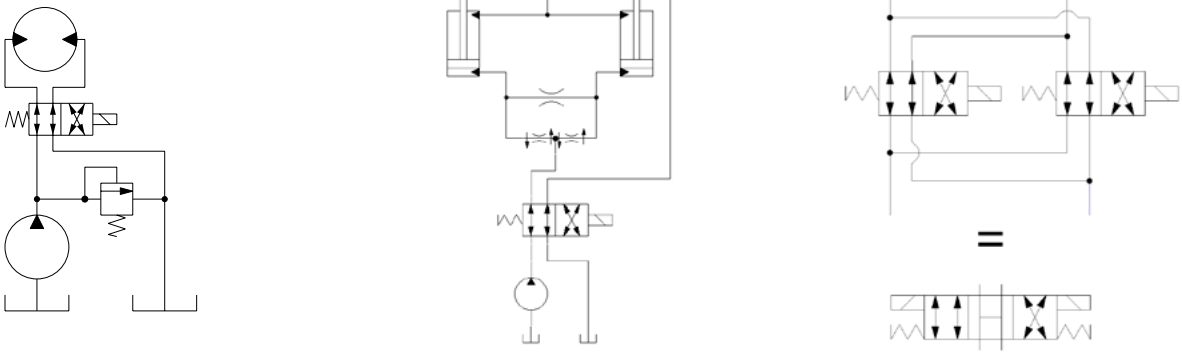
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Motor directional control



ORDERING INFORMATION

SV15 - 24 - 01 - 12D - DE - B - F - 00

Solenoid Valve, Spool Type, 15 Size Cavity

24:
2 Position, 4 Way

01:
Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Filter:
No Filter **Omit**
300 µm **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-02

OPERATION
This is a direct-acting, 2-position, 4-way, 08-size spool-type solenoid valve. When de-energized, the SV08-24-02 blocks flow to all ports. When energized, the spool shifts to allow flow from port 3 to 4, and from port 2 to 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.
This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

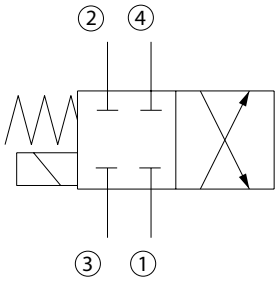
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	10 l/min [3 US gal/min]
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

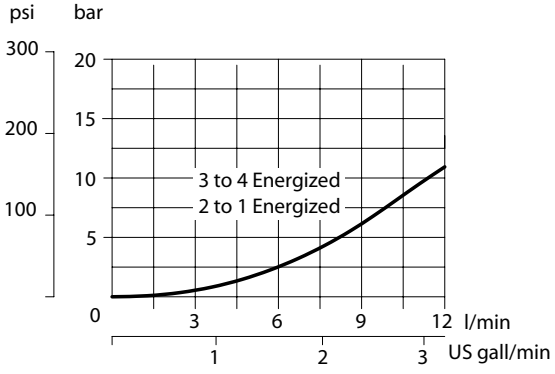
** See 315 bar pressure rating note on page 10.

SCHEMATIC

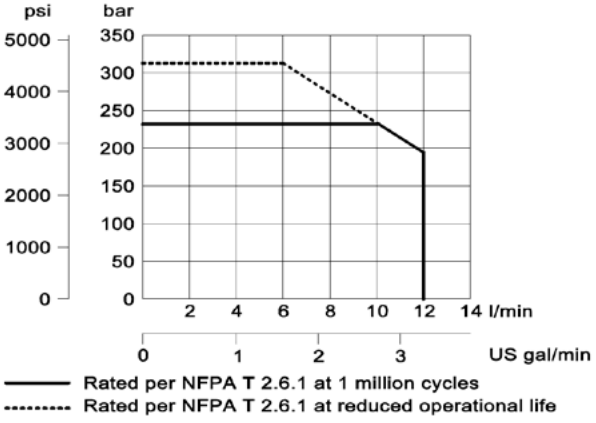


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

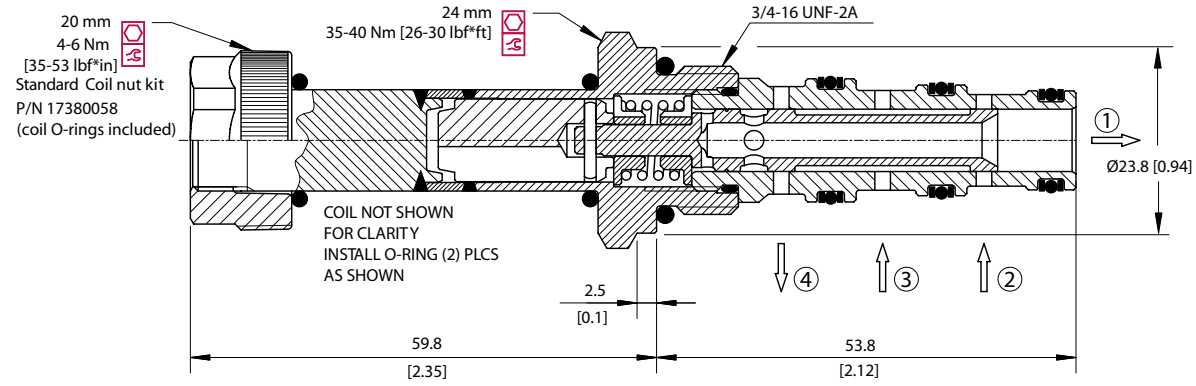
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-02

DIMENSIONS

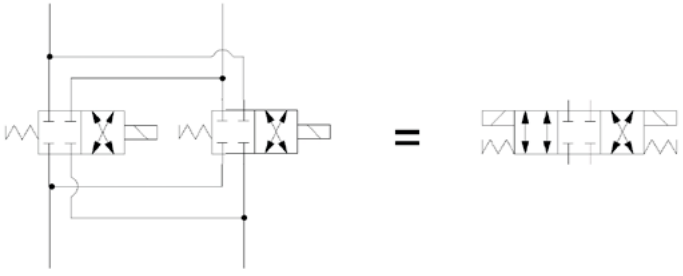
mm [in]

Cross-sectional view

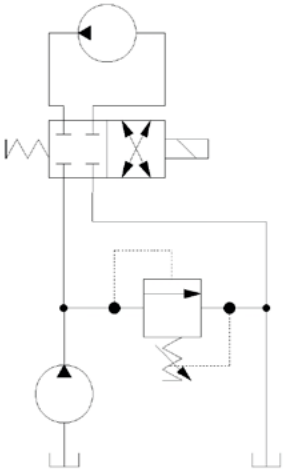


EXAMPLE CIRCUITS

Create a 4-Way 3-Position Valve Circuit



Uni-directional Motor



ORDERING INFORMATION

SV08 - 24 - 02 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

24: 2 Position, 4 Way, Spool Type

02: Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003919

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

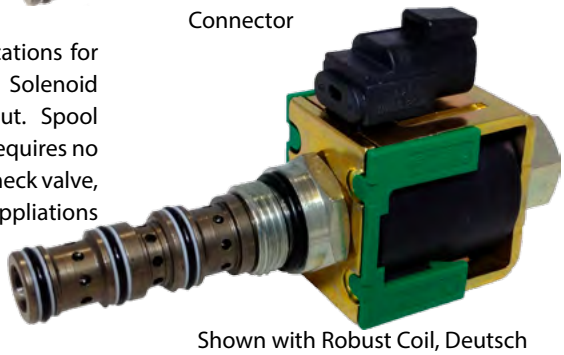
* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV10-24-02

Shown with Standard Coil, Deutsch Connector



Shown with Robust Coil, Deutsch Connector

OPERATION

This is a direct-acting, 2-position, 4-way, 10-size spool-type solenoid valve. When de-engergized, the SV10-24-02 blocks flow to all ports. When energized, the spool shifts to allow flow from port 3 to 4, and from port 2 to 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Common appliations include unidirectional motor or cylinder control.

This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

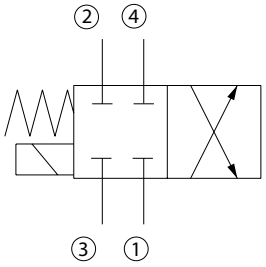
SPECIFICATIONS

Rated Pressure*	230 bar [3330 psi]**
Maximum Rated Flow at 7 bar [100 psi]	20 l/min [5.3 US gal/min]
Weight including coil	0.45 kg [1lbs]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N 173804910 (no coil O-rings needed)
Diode (Optional)	Standard Coil - Unidirectional Robust Coil - Bidirectional

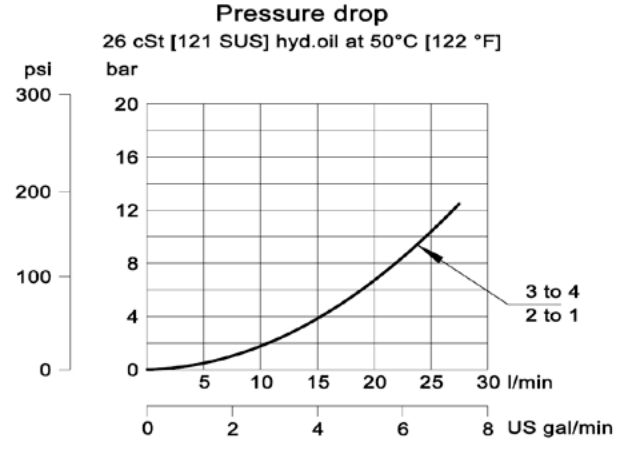
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

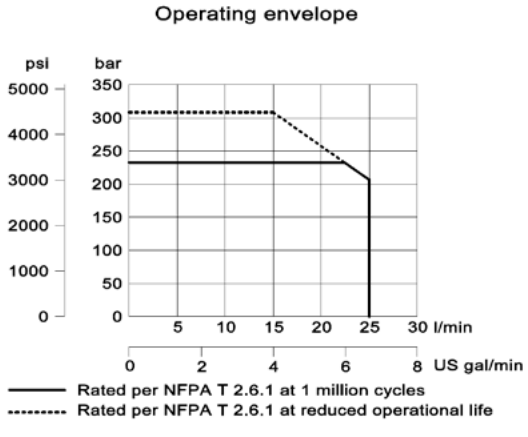
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





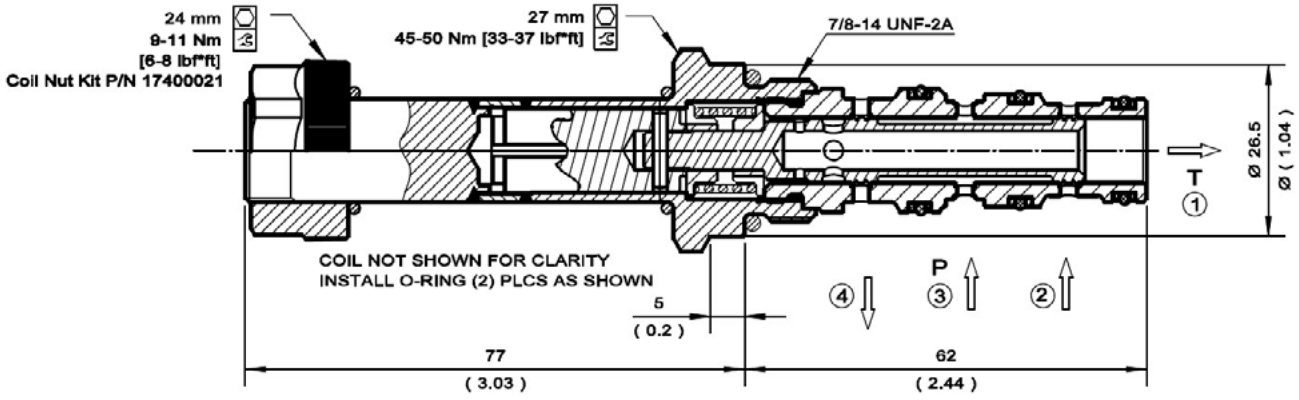
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV10-24-02

DIMENSIONS

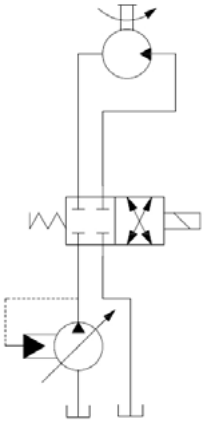
mm [in]

Cross-sectional view

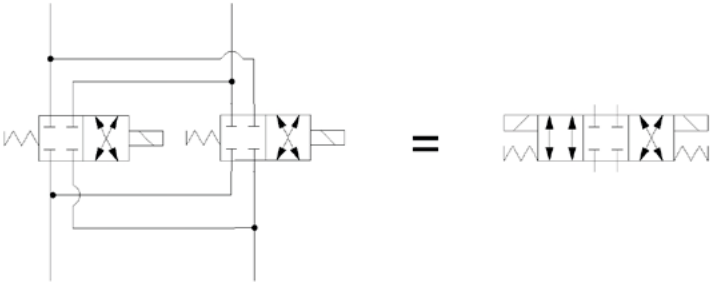


EXAMPLE CIRCUITS

Uni-directional Motor, Variable Pump



Create a 4-Way 3-Position Valve Circuit



ORDERING INFORMATION

SV10 - 24 - 02 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

24:
2 Position, 4 Way, Spool Type

02:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-02

OPERATION

Solenoid Valve, Spool Type, 2-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-24-02 blocks flow to all ports. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. The SV15 uses a 15 size cavity. This valve is a direct replacement for EDH 12/4206 and uses a metric M33x2 cavity (NCS 12/4) for high flow capability.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS

These valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Use the optional screen to help protect the actuator from large particles. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

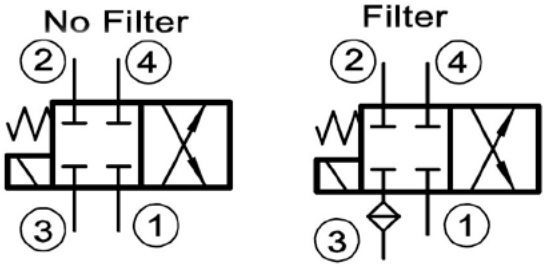
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight including coil	0.95 kg [2.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

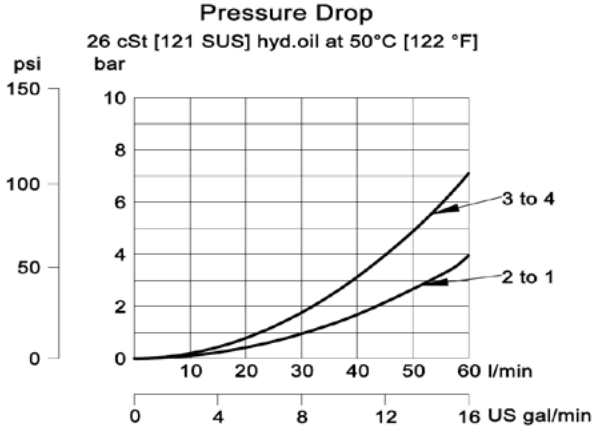
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

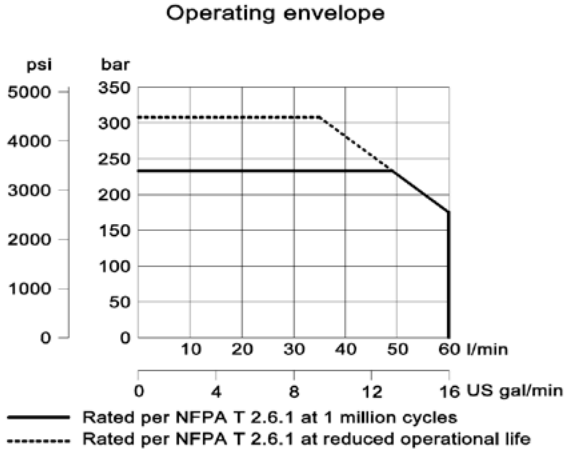
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

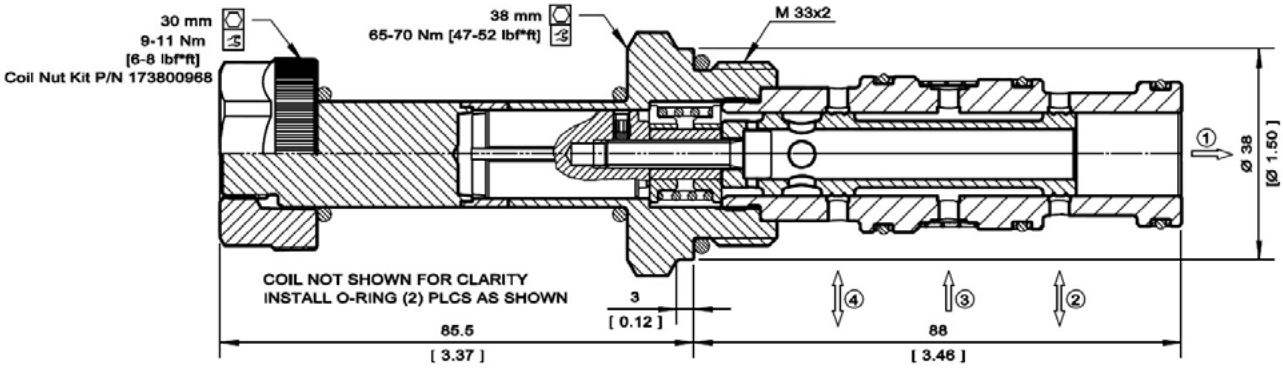
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-02

DIMENSIONS

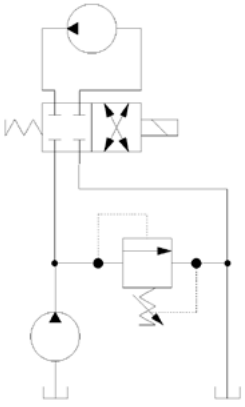
mm [in]

Cross-sectional view

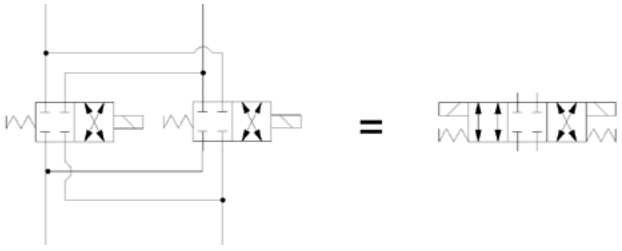


EXAMPLE CIRCUITS

Uni-directional Motor



Create a 4-Way 3-Position Valve Circuit



ORDERING INFORMATION

SV15 - 24 - 02 - 12D - DE - B - F - 00

Solenoid Valve, Spool Type, 15 Size Cavity

24:
2 Position, 4 Way

02:
Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Filter:
No Filter **Omit**
300 µm **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-03

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-24-03 opens flow between all four ports. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/4207 and uses a metric M33x2 cavity (NCS 12/4) for high flow capability.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

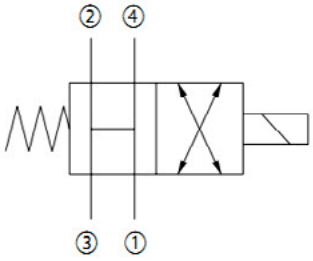
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Weight including coil	0.95 kg [2.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

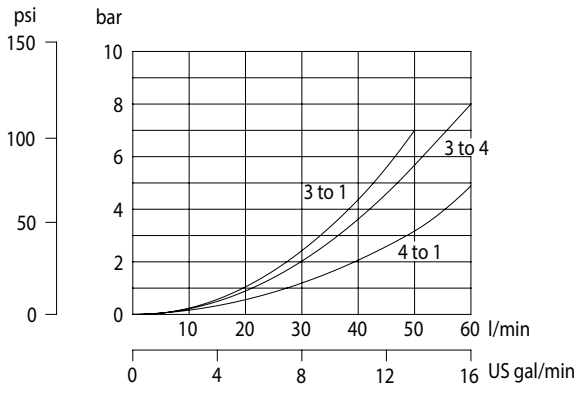
** See 315 bar pressure rating note on page 10.

SCHEMATIC

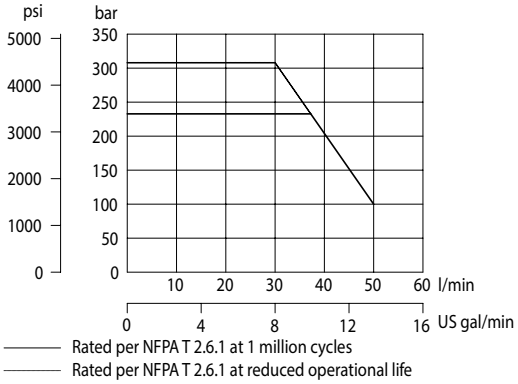


PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

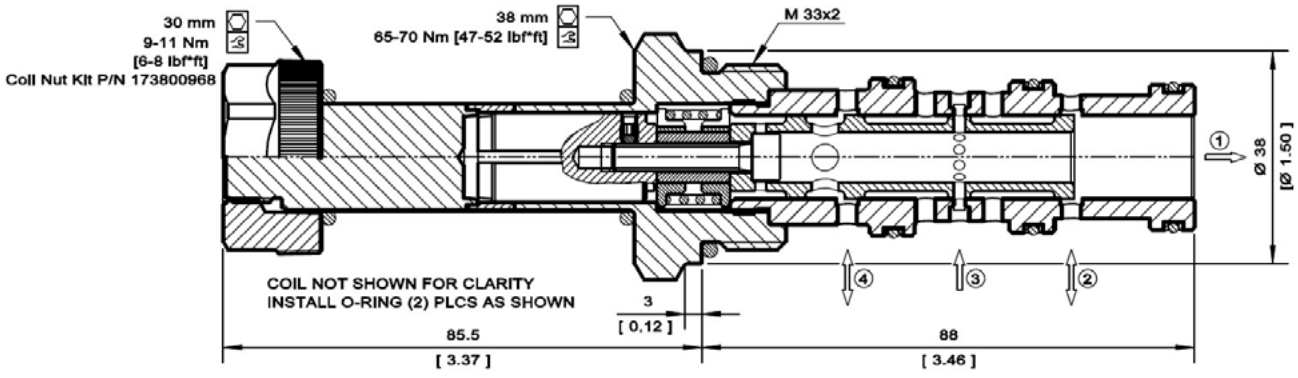
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-03

DIMENSIONS

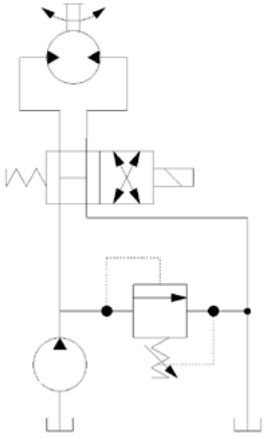
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Freewheel Uni-directional Motor



ORDERING INFORMATION

SV15 - 24 - 03 - 12D - DE - B - 00

Solenoid Valve, Spool Type, 15 Size Cavity

24:
2 Position, 4 Way

03:
Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-04

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, 08 size. When de-energized, the SV08-24-04 allows flow from port 3 to port 1, while ports 2 and 4 are blocked. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Can be used in combination to duplicate a four-way, three-position valve, creating an economical, compact function. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

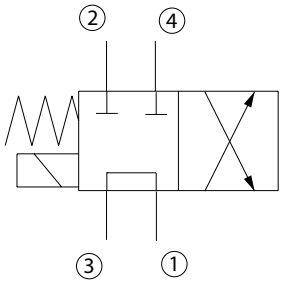
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	8 l/min [2 US gal/min]
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

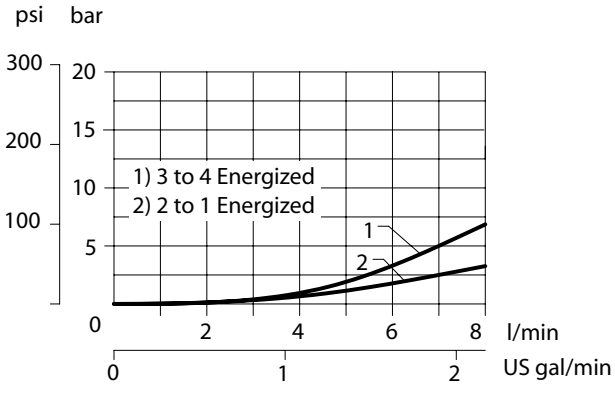
** See 315 bar pressure rating note on page 10.

SCHEMATIC

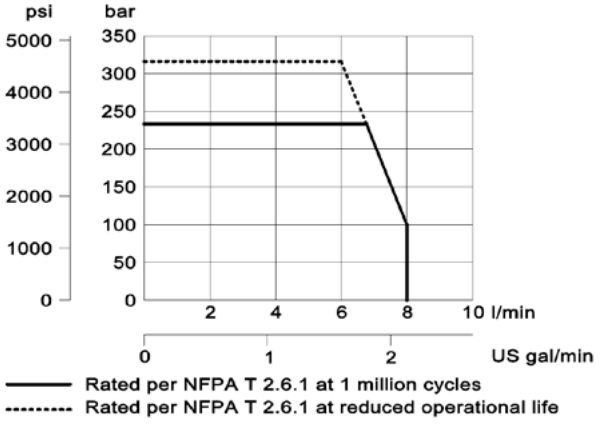


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

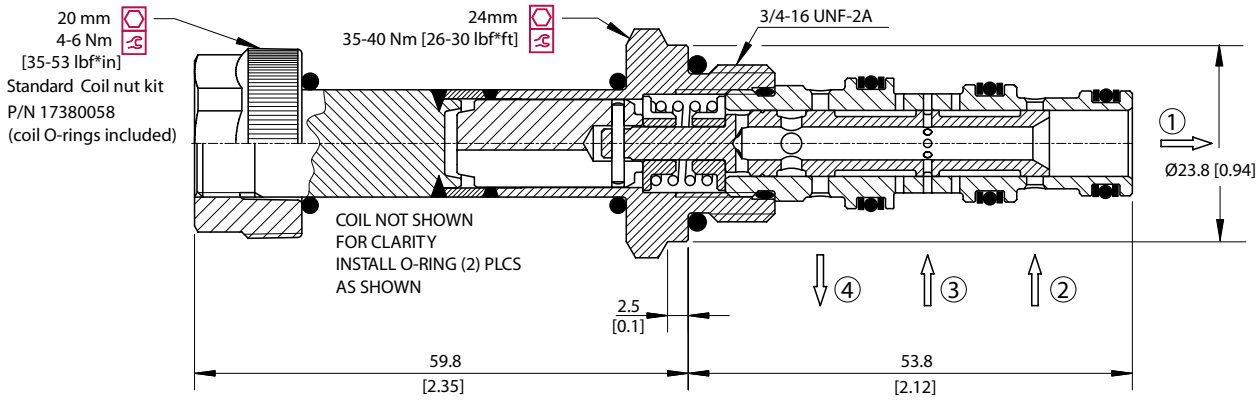
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-04

DIMENSIONS

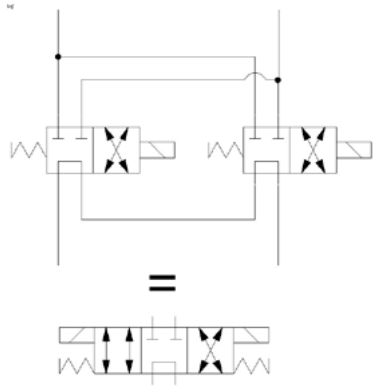
mm [in]

Cross-sectional view

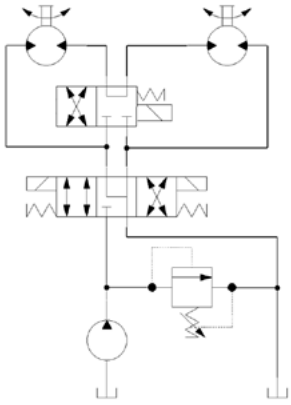


EXAMPLE CIRCUITS

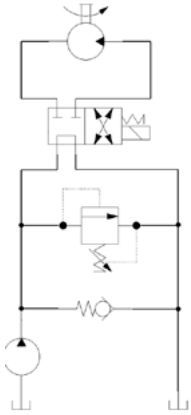
Create a 4-Way 3-Position Valve Circuit



Series/Parallel



Uni-directional Motor Control



ORDERING INFORMATION

SV08 - 24 - 04 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

24: 2 Position, 4 Way, Spool Type

04: Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003419

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	
Amp Junior with Diode	**AJD**	IP67	-	
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-04

OPERATION

Solenoid Valve, Spool Type, 2-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-24-04 allows flow from port 3 to port 1, while ports 2 and 4 are blocked. When energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/4208 and uses a metric M33x2 cavity (NCS 12/4) for high flow capability.

Shown with Standard Coil, DIN Connector

APPLICATIONS

These valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

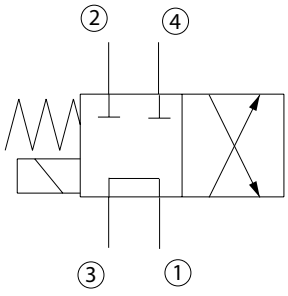
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Weight including coil	0.95 kg [2.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

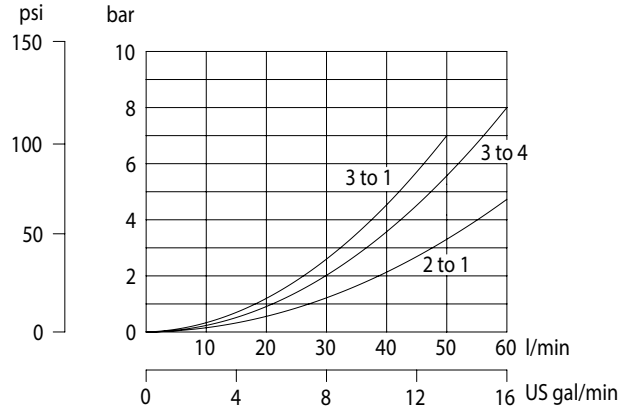
SCHEMATIC



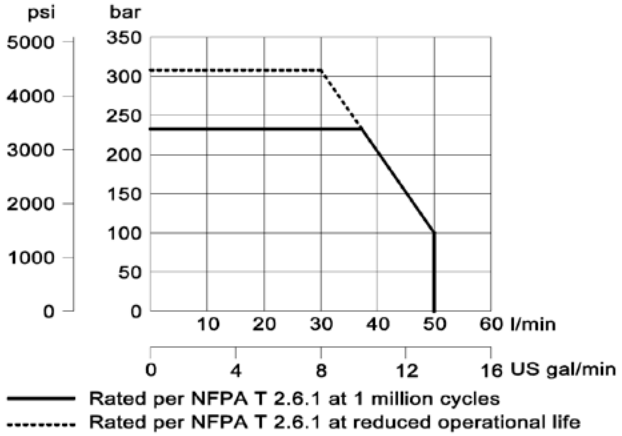
PERFORMANCE CURVES

Pressure Drop

26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

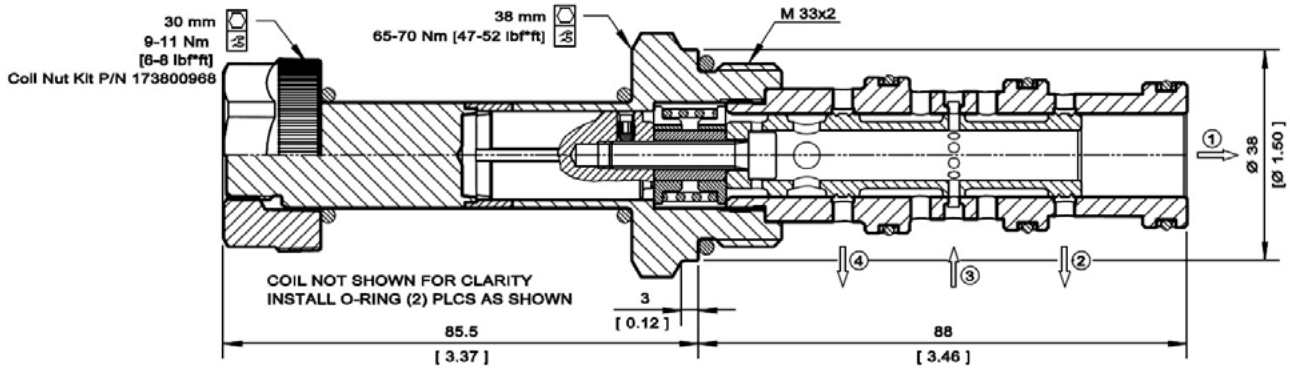
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV15-24-04

DIMENSIONS

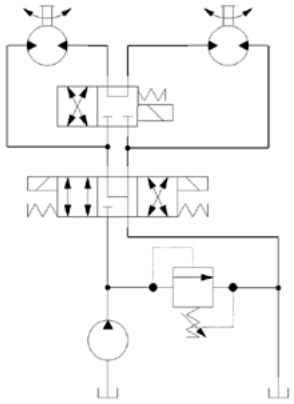
mm [in]

Cross-sectional view

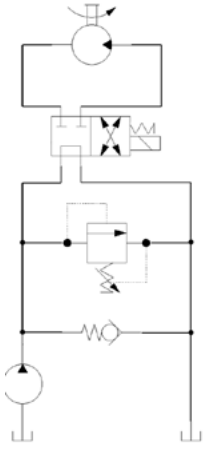


EXAMPLE CIRCUITS

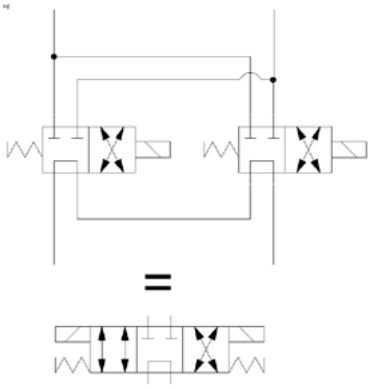
Series/Parallel Circuit



Uni-directional Motor Control



Create a 4-Way 3-Position Valve Circuit



ORDERING INFORMATION

SV15 - 24 - 04 - 12D - DE - B - 00

Solenoid Valve, Spool Type, 15 Size Cavity

24: 2 Position, 4 Way

04: Schematic type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Coil Voltage	Standard Coil Code
No Coil, with nut*	00
10 VDC	10D
12 VDC	12D
20 VDC	20D
24 VDC	24D
110 VAC**	110A
220 VAC**	220A

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Coil Termination	Standard Coil Code	IP Rating
No Coil	00	-
Amp Junior	AJ	IP67
Amp Junior with Diode	AJD	IP67
Deutsch	DE	IP67
Deutsch with Diode	DED	IP67
Flying Leads	FL	IP65
DIN 46650	DN	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-12

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, 10-size. When de-energized, the SV10-24-12 allows flow from port 3 to port 1, while ports 2 and 4 are blocked. When energized, the spool shifts to allow flow from port 2 to port 3, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Metri-Pack Type 2 Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.
This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

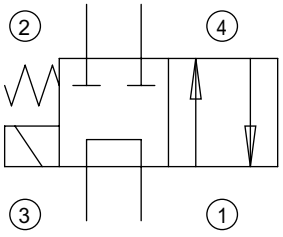
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	18 l/min [5 US gal/min]
Weight	0.31 kg [0.68 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

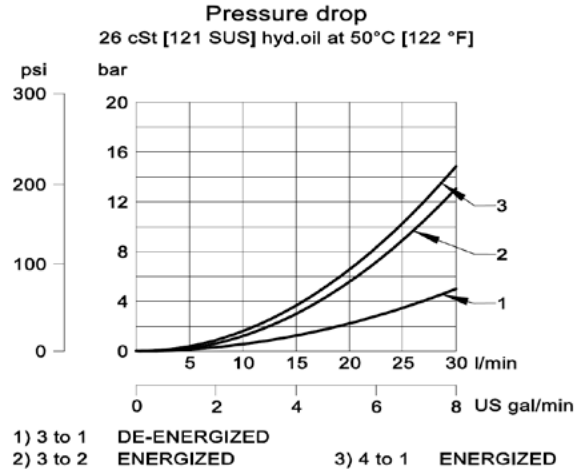
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

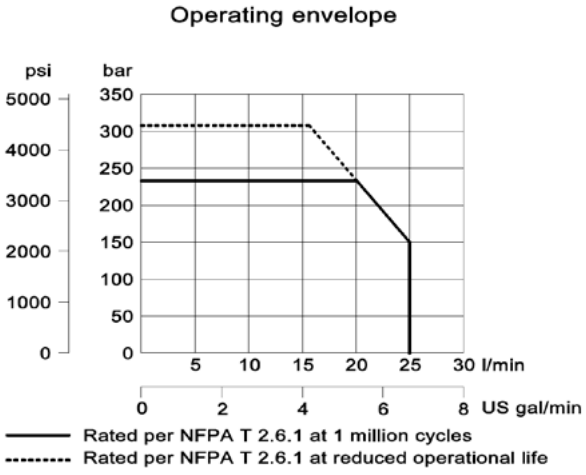
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

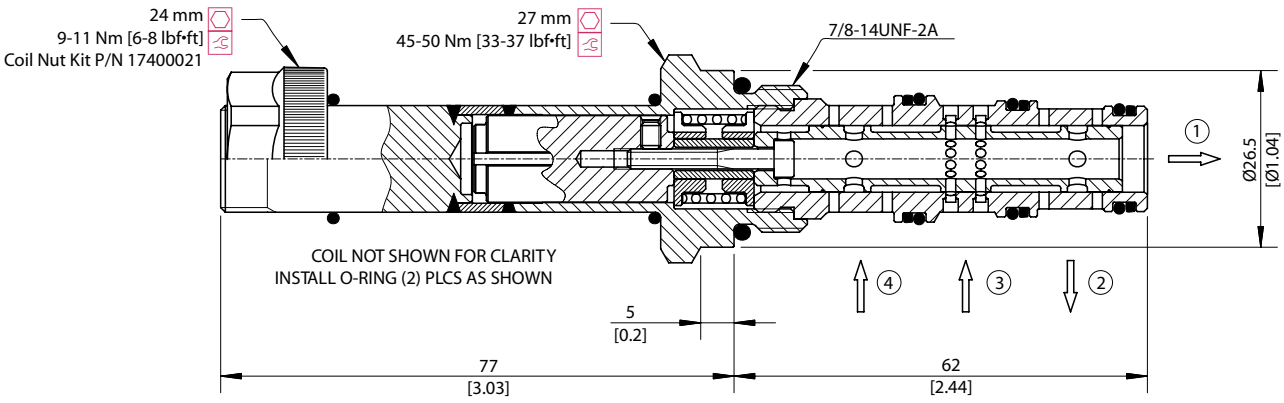
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-12

DIMENSIONS

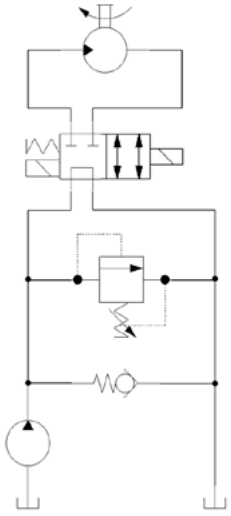
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Uni-directional Motor



ORDERING INFORMATION

SV10 - 24 - 12 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

24:
2 Position, 4 Way, Spool Type

12:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-05

OPERATION

Solenoid Valve, Spool Type, 2-Position, 3-Way, 10-Size. When de-energized, the SV10-24-05 allows flow from port 3 to port 4, and from port 2 to port 1. When energized, all ports are blocked. Port 1 may be fully pressurized, but is not intended to be the inlet port. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.

This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

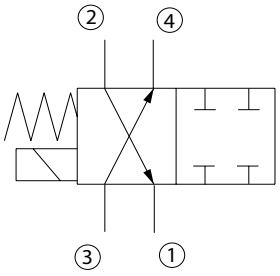
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	25 l/min [7 US gal/min]
Weight	0.45 kg [0.99 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

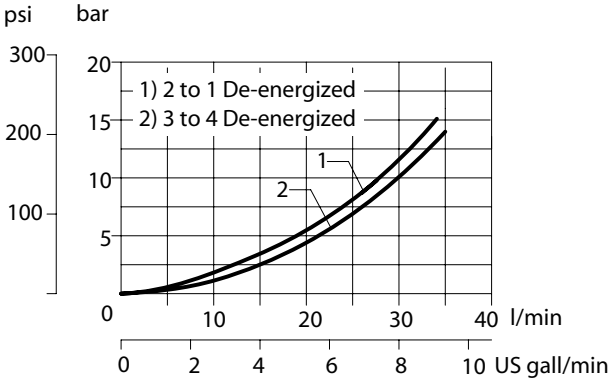
** See 315 bar pressure rating note on page 10.

SCHEMATIC

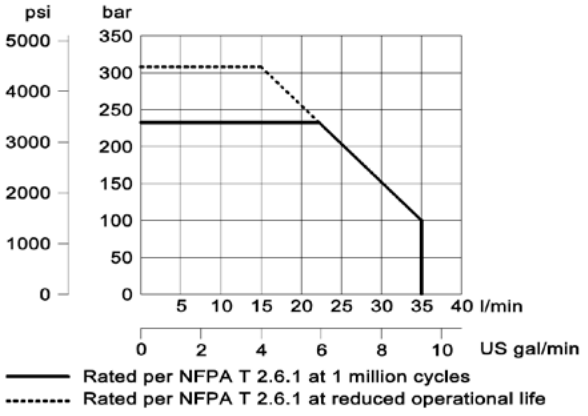


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

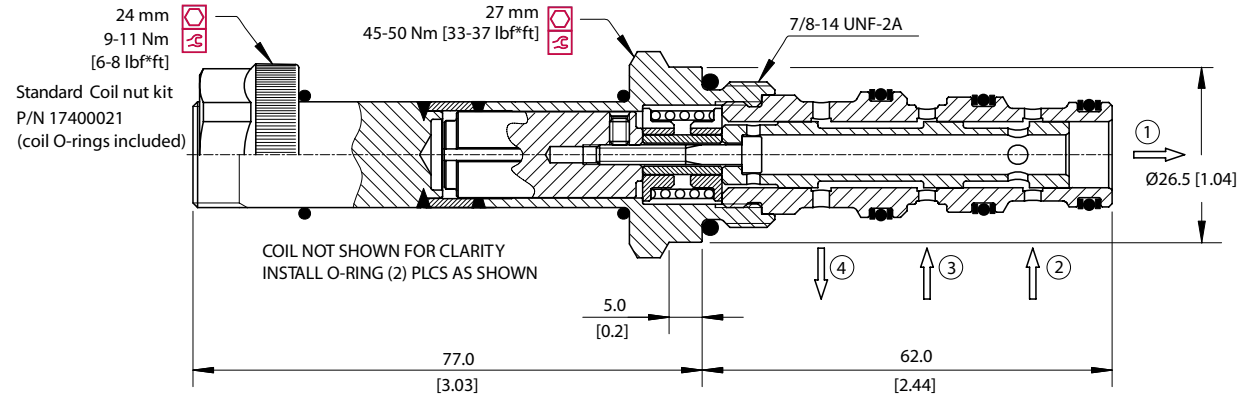
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-05

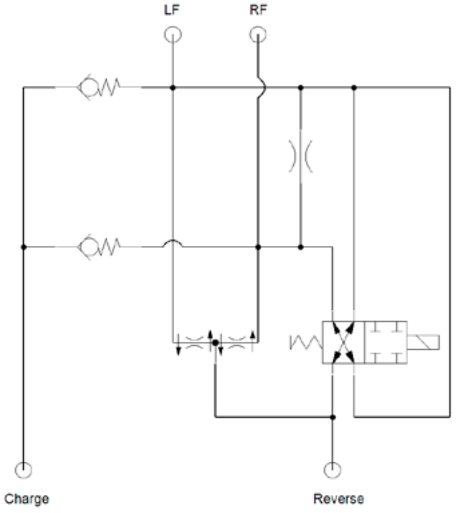
DIMENSIONS

mm [in]

Cross-sectional view



EXAMPLE CIRCUITS



ORDERING INFORMATION

SV10 - 24 - 05 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

24:
2 Position, 4 Way, Spool Type

05:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV10-24-06

Shown with Standard Coil, Deutsch Connectors

Shown with Robust Coil. Deutsch Connector

OPERATION
This is a direct acting, 2-postion, 4-way spool type solenoid valve. When de-energized , the SV10-24-06 blocks flow to all ports. When energized, the spool shifts to allow flow from port 2 and 4 to port 1, while blocking flow to port 3. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve uses the SDC10-4 cavity.

APPLICATIONS
Common applications include switching a motor or cylinder between locked and free floating mode, or for fourth position float. Port 3 is closed independently of spool position. An external float can be created with this valve, without the need for an external "T" and hose. This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

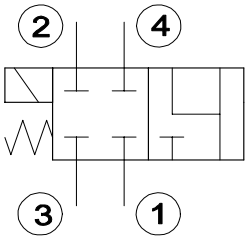
SPECIFICATIONS

Rated Pressure*	230 bar [3330 psi]**
Rated Flow at 10 bar (145 psi)	23 l/min [6 US gal/min]
Weight including coil	0.45 kg [1.0 lbs]
Cavity	SDC10-4
Standard Coil	M16 26W
Robust Coil	R16 20W Robust nut P/N 173804910 (No coil O-ring needed)
Diode (Optional)	Standard Coil - Unidirectional Robust Coil - Bidirectional

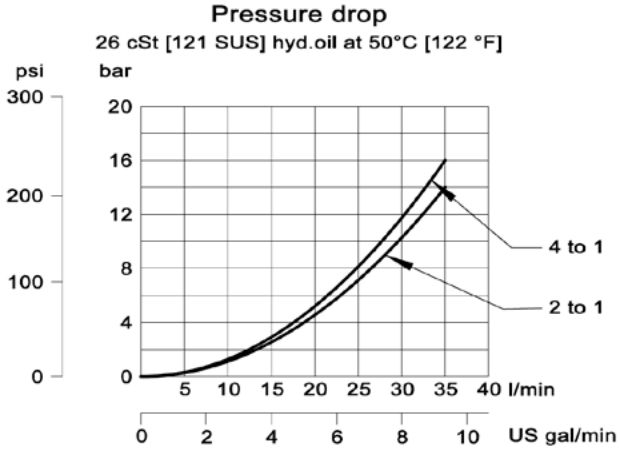
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

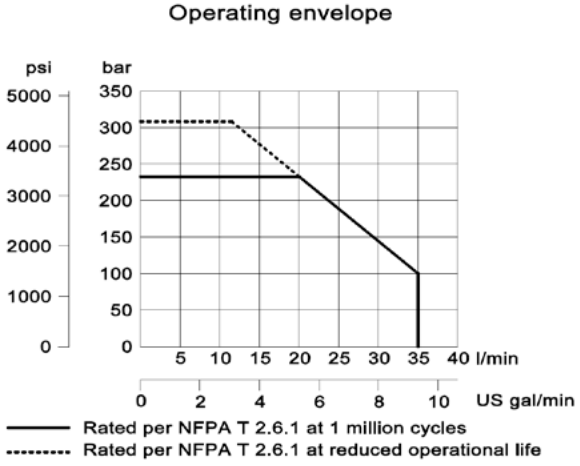
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

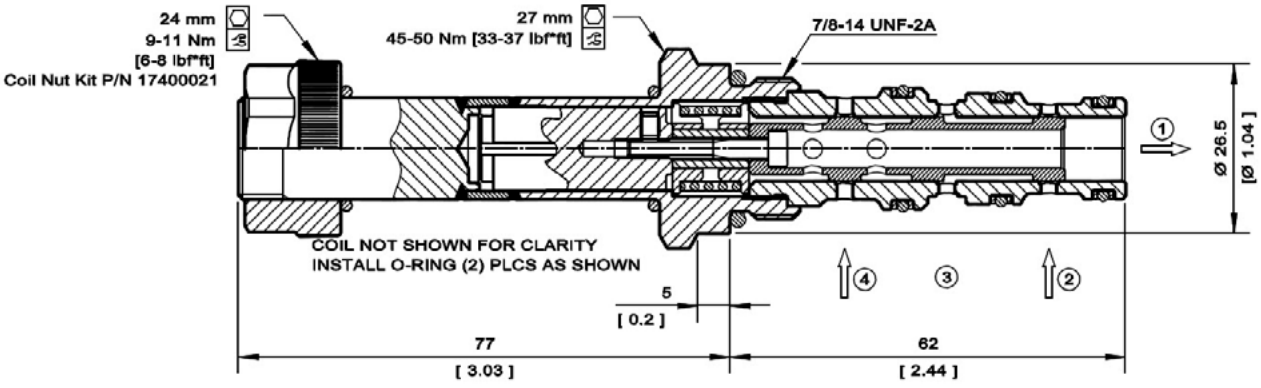
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 2 Position Spool
SV10-24-06

DIMENSIONS

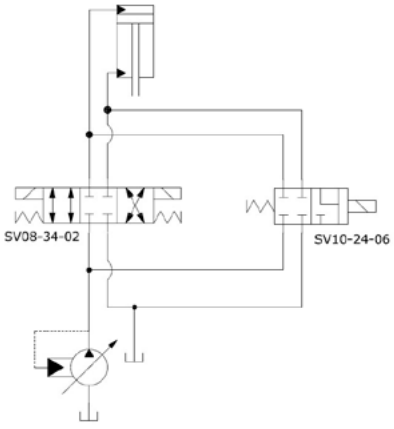
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Fourth Position Float



ORDERING INFORMATION

SV10 - 24 - 06 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

24:
2 Position, 4 Way, Spool Type

06:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-07

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, 10-Size. When de-energized, all ports on the SV10-24-07 are blocked. When energized, the spool shifts allow from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.
This valve can be operated with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

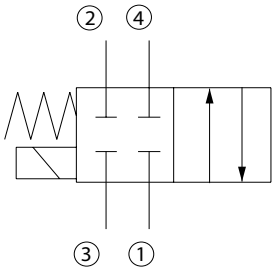
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	24 l/min [6 US gal/min]
Weight	0.45 kg [0.99 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

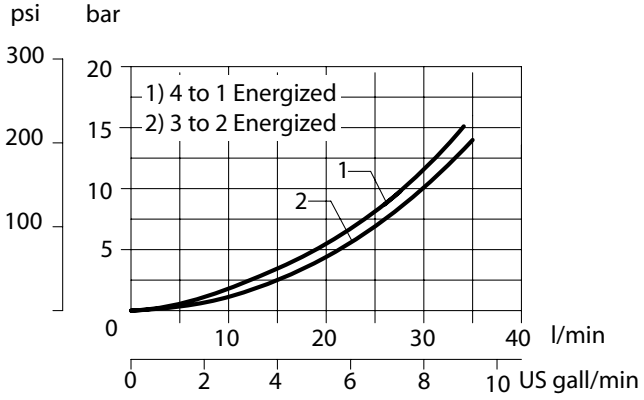
** See 315 bar pressure rating note on page 10.

SCHEMATIC

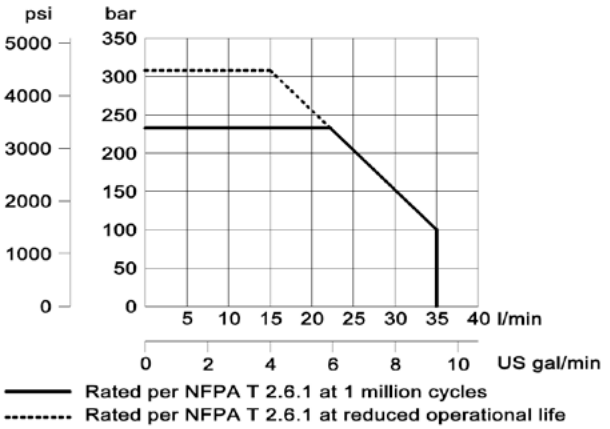


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

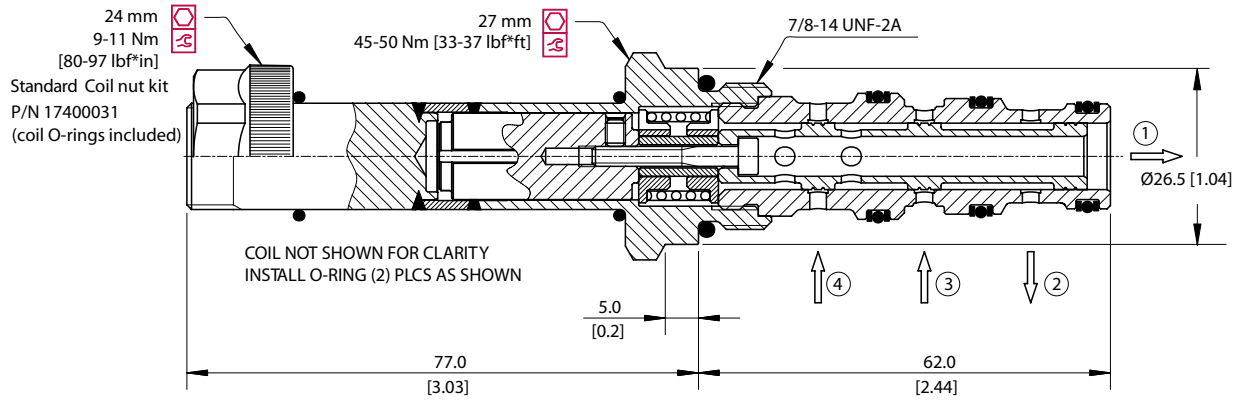
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-07

DIMENSIONS

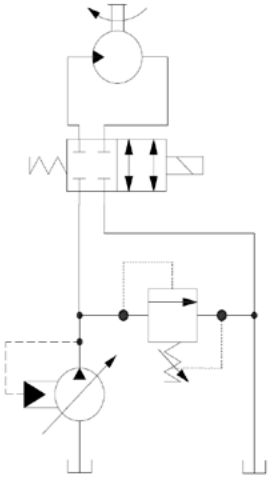
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Uni-directional Motor



ORDERING INFORMATION

SV10 - 24 - 07 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

24:
2 Position, 4 Way, Spool Type

07:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-08

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, 08-size. When de-energized, the SV08-24-08 allows flow from ports 2 and 4 to port 1, while port 3 is blocked. When energized, the spool shifts to allow flow from port 3 to 4, and from 2 to 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coil, Metri-Pack Type 2 Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for connecting both sides of a motor (free-wheeling) or cylinder to tank when not energized. Then, when energized, the valve provides unidirectional flow to the motor or cylinder. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.
This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

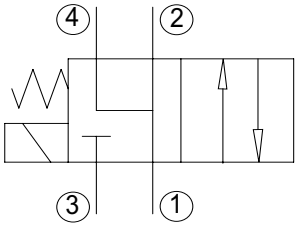
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	24 l/min [6 US gal/min]
Weight	0.45 kg [0.99 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

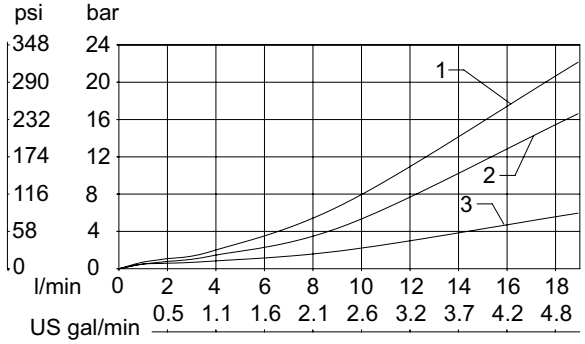
** See 315 bar pressure rating note on page 10.

SCHEMATIC



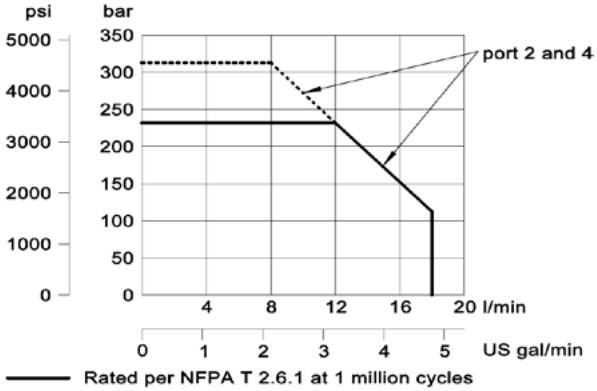
PERFORMANCE CURVES

Pressure Drop
33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



1) 3 to 2 to 4 to 1 Energized
2) 4 to 1 De-Energized
3) 2 to 1 De-Energized

Operating envelope



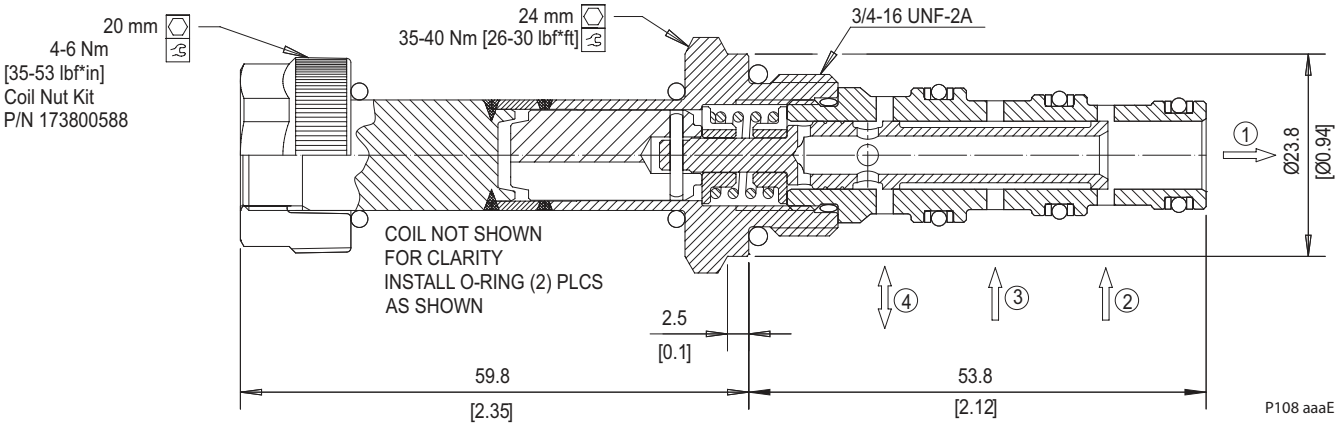
11141717 • Rev CB • March 2018

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV08-24-08

DIMENSIONS

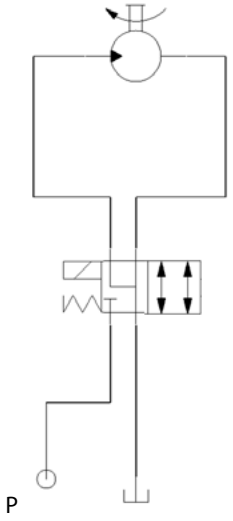
mm [in]



Cross-sectional view

EXAMPLE CIRCUITS

Free wheel on Uni-directional Motor



ORDERING INFORMATION

SV08 - 24 - 08 - 12D - DE - B - 00

Solenoid Valve, 08 Size Cavity

24: 2 Position, 4 Way, Spool Type

08: Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003919

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	00	R00
10 VDC	10D	R10D
12 VDC	12D	R12D
20 VDC	20D	R20D
24 VDC	24D	R24D
110 VAC**	110A	-
220 VAC**	220A	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	00	-	00	-
Amp Junior	AJ	IP67	-	
Amp Junior with Diode	AJD	IP67	-	
AMP SuperSeal 1.5	AS	IP67	AS	IP69K
AMP SuperSeal with Diode	ASD	IP67	ASDB	IP69K
Deutsch	DE	IP67	DE	IP69K
Deutsch with Diode	DED	IP67	DEDB	IP69K
Flying Leads	FL	IP65	FL	IP69K
Flying Leads with Diode	FLD	IP65	FLDB	IP69K
DIN 43650	DN	IP65	-	-
Metri-Pack 150 Type 2	-	-	M3	IP69K
Metri-Pack 150 with Diode	-	-	M3DB	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
CP531-21

OPERATION
This is a solenoid valve, spool-type, 4-way, 2-position, 12-size. When de-engergized, the CP531-21 allows flow from port 3 to port 4, and from port 2 to port 1. When energized, flow s allowed from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

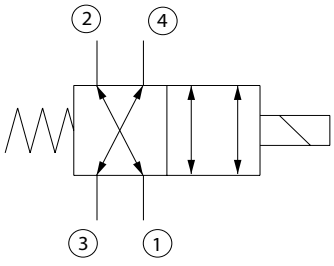
APPLICATIONS
These valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit, like motors or cylinders. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve.

SPECIFICATIONS

Rated pressure*	240 bar [3500 psi]*
Rated flow at 7 bar [100 psi]	32 l/min [8 US gal/min]
Weight	0.82 kg [1.81 lb]
Cavity	SDC12-4
Robust Coil (Standard)	D14E 30 Watt Robust Nut P/N **321567**

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

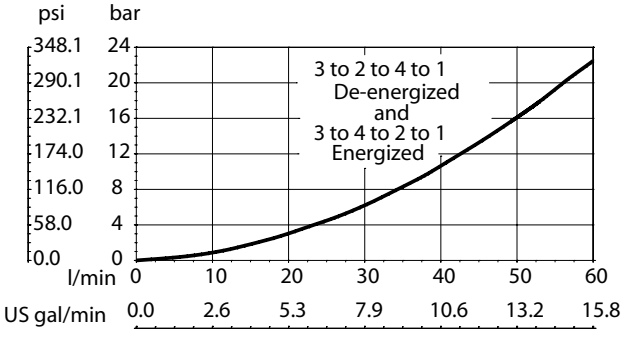
SCHEMATIC



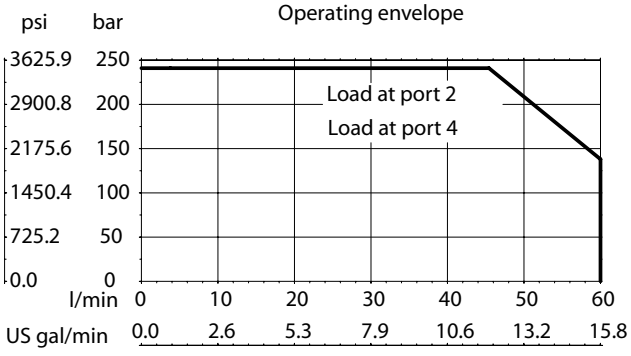
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

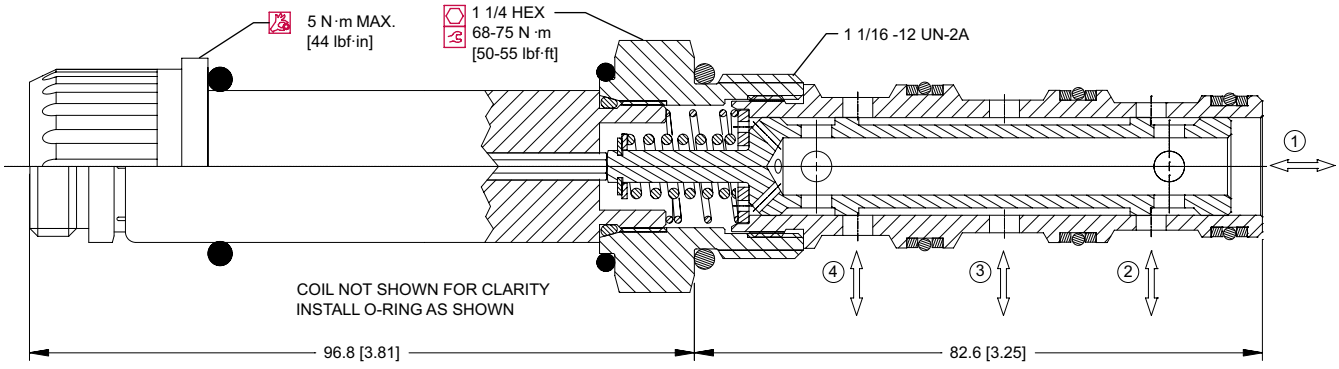
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
CP531-21

DIMENSIONS

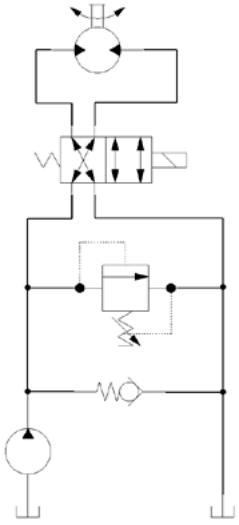
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Bi-directional Motor



ORDERING INFORMATION

CP531-21-B-10S-24D-S

Seals

	Seal kit
B = Buna-N	120262
V = Viton	120263

Housing and ports

0	=	No Housing
3B	=	AL, 3/8 BSP
4B	=	AL, 1/2 BSP
10S	=	AL, #10 SAE
12S	=	AL, #12 SAE

Other housings available

Housing P/N

No Housing
CP12-4-3B
CP12-4-4B
CP12-4-10S
CP12-4-12S

Termination

0 = No connector
S = Spade
L = Lead wire
H = DIN 43650
M2 = Metripak 150, Type 1
DE = Deutsch
AJ = Amp Junior

Coil Voltage

000 = No coil
12D = 12 VDC
24D = 24 VDC

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-13

OPERATION
Solenoid Valve, Spool Type, 2-Position, 4-Way, 10-Size. When de-energized, a
ports on the SV10-24-13 are open. When energized, the spool shifts allow fror
port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limit
to ensure shifting of the valve during operation.

Shown with Standard Coil, Deutsch Connector

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for connecting both sides of a motor (free-wheeling) or cylinder to both the pressure and tank ports when not energized. Then, when energized, the valve provides unidirectional flow to the motor or cylinder. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can be operated with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

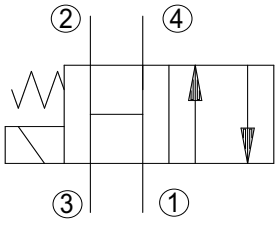
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	21 l/min [6 US gal/min]
Weight	0.45 kg [0.99 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

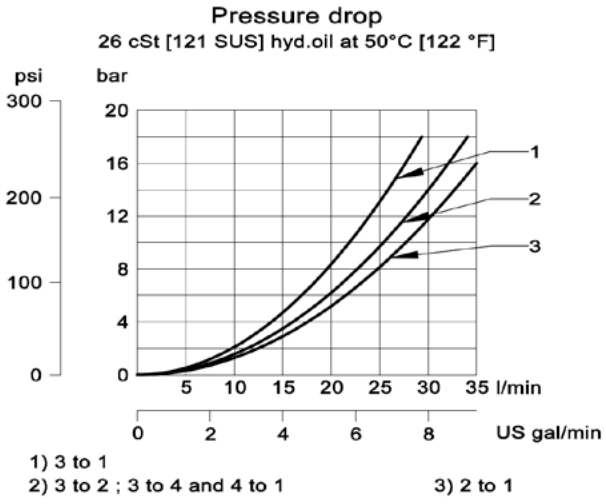
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

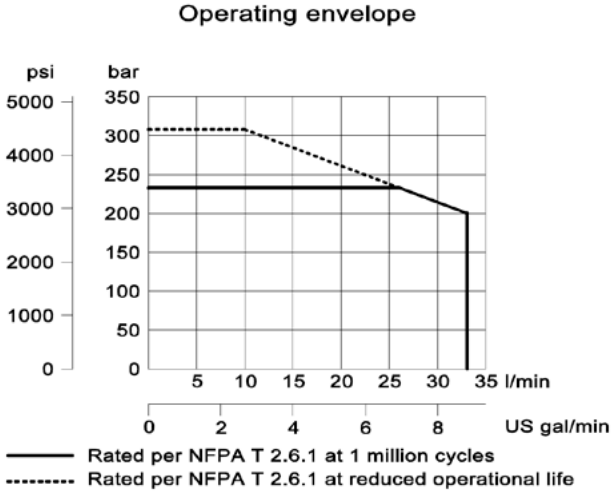
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

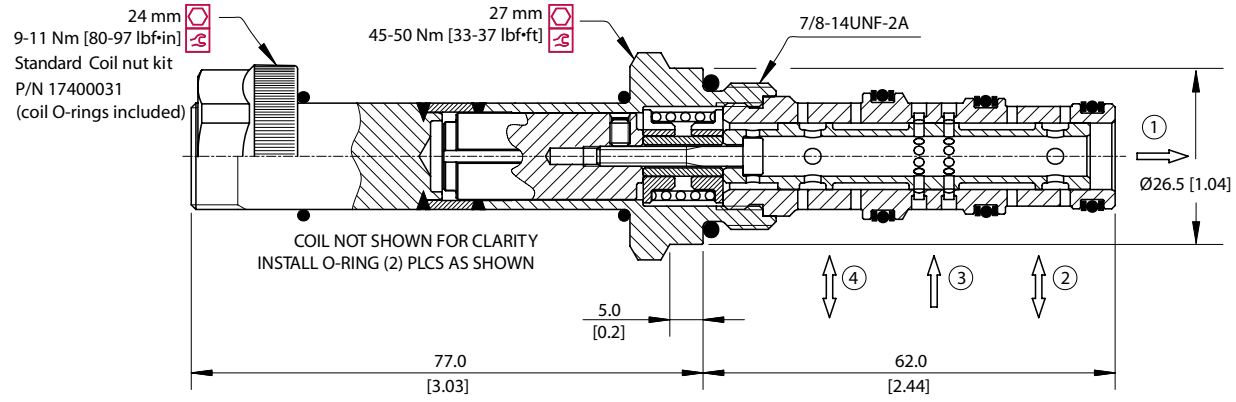
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 2-Position Spool
SV10-24-13

DIMENSIONS

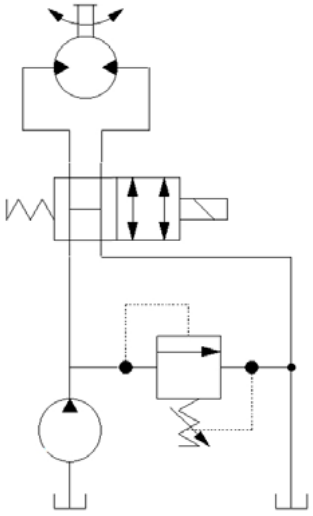
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Free Wheel and Motor Control



ORDERING INFORMATION

SV10 - 24 - 13 - 12D - DE - B - 00

Solenoid Valve, 10 Size Cavity

24:
2 Position, 4 Way, Spool Type

13:
Schematic: Pull Type

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173804910
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-02

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, 08-size. When de-energized, the SV08-34-02 is closed center, blocking all flow. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. The SV08-34-02 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2.

Shown with Robust Coils, Metri-Pack Type 2 Connectors

APPLICATIONS

These valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve comes standard with a manual override (one-direction, push-pin style). This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

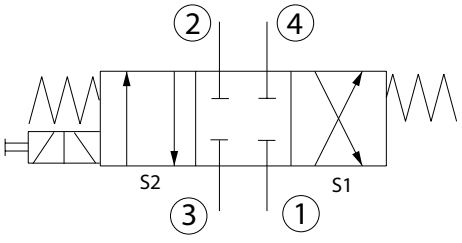
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	10 l/min [3 US gal/min]
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

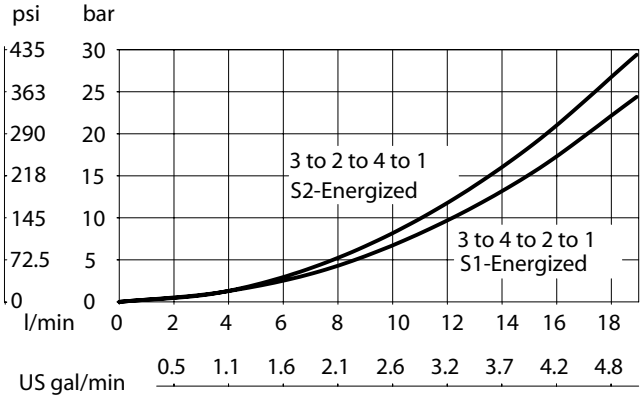
SCHEMATIC



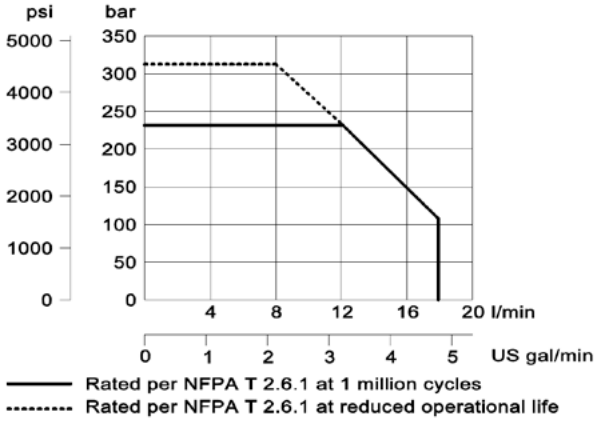
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

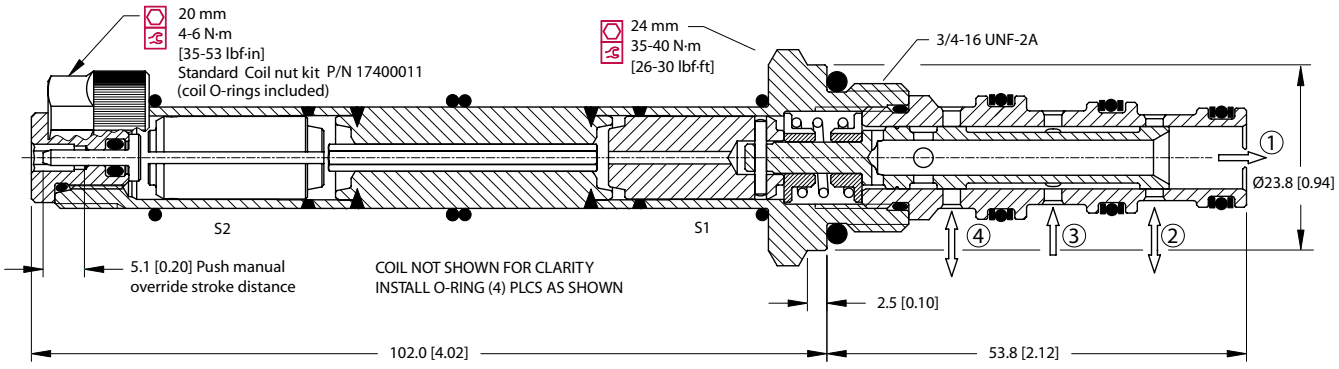
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-02

DIMENSIONS

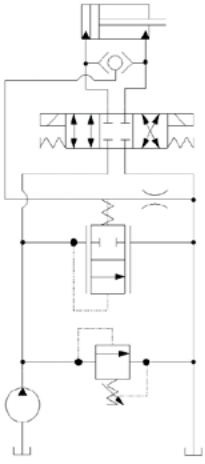
mm [in]

Cross-sectional view

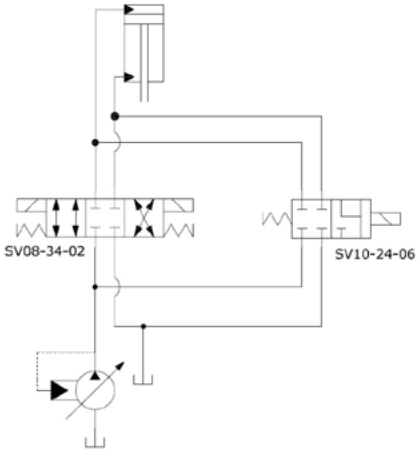


EXAMPLE CIRCUITS

Double Acting Cylinder with Unloading Valve



Fourth Position Float



ORDERING INFORMATION

SV08 - 34 - 02 - 12D - DE - PB - B - 00

Solenoid Valve, 08 Size Cavity

34: 3 Position, 4 Way, Spool Type

02: Schematic: Closed Center

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN Only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BPS, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003919

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-02

OPERATION
Solenoid Valve, Spool Type, 3-Position, 4-Way, 10-size. When de-energized, the SV10-34-02 is closed center, blocking all flow. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. This valve comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coils, Deutsch Connectors

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve comes standard with a manual override (one-direction, push-pin style). Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

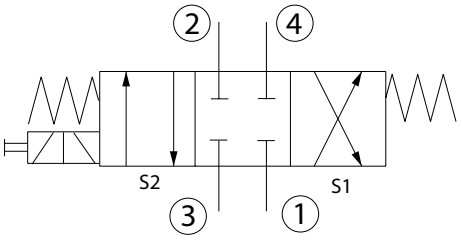
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

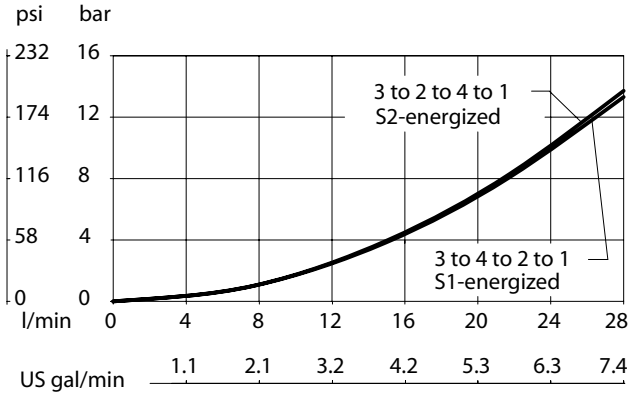
SCHEMATIC



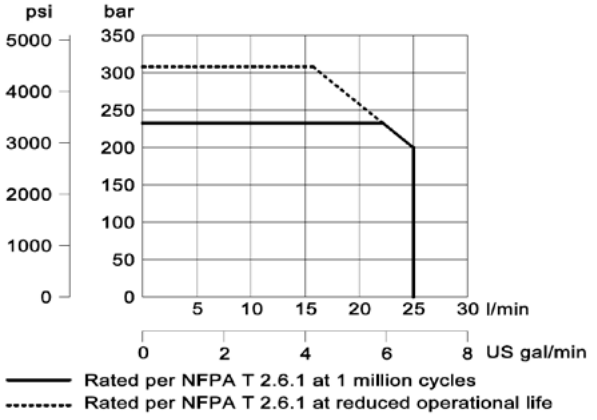
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

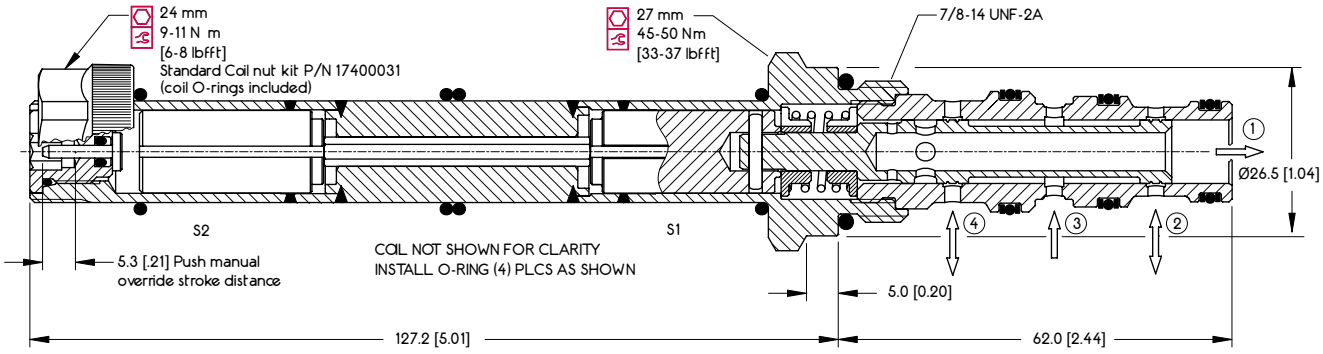
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-02

DIMENSIONS

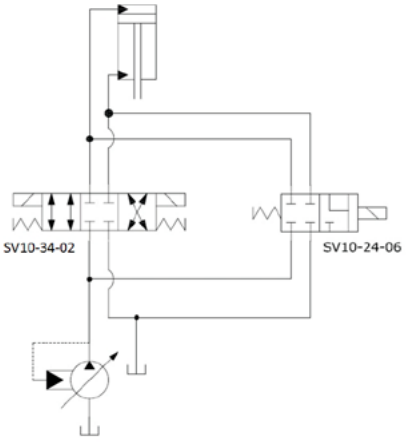
mm [in]

Cross-sectional view

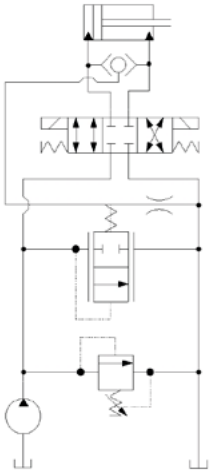


EXAMPLE CIRCUITS

Fourth Position Float



Double Acting Cylinder with Unloading Valve



ORDERING INFORMATION

SV10 - 34 - 02 - 12D - DE - PB - B - 00

Solenoid Valve, 10 Size Cavity

34:
3 Position, 4 Way, Spool Type

02:
Schematic: Closed Center

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173804910 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
HSV10-34-02

Shown with High Pressure Coils, Deutsch Connectors

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, 10-size. When de-energized, the HSV10-34-02 is closed center, blocking all flow. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. This valve comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

APPLICATIONS

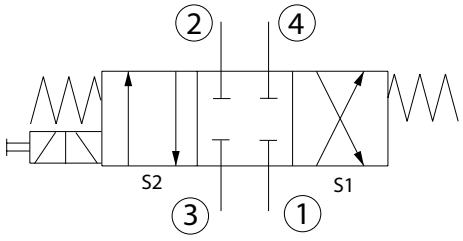
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Use the optional screen to help protect the actuator from large particles. This valve comes standard with a manual override (one-direction, push-pin style). Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	25 l/min [6.6 US gal/min]
Weight	0.85 kg [1.87 lb]
Cavity	SDC10-4
Standard Coil	H16 29 Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

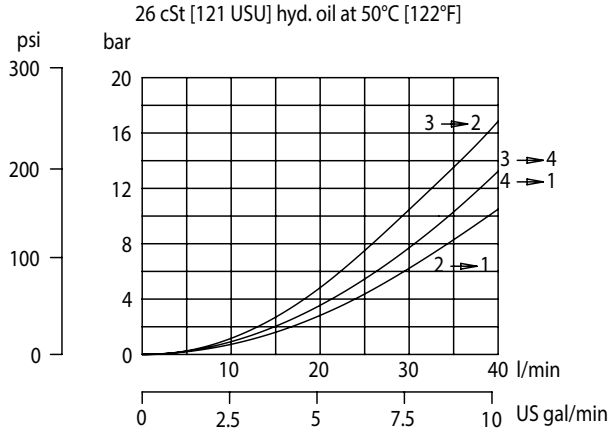
SCHEMATIC



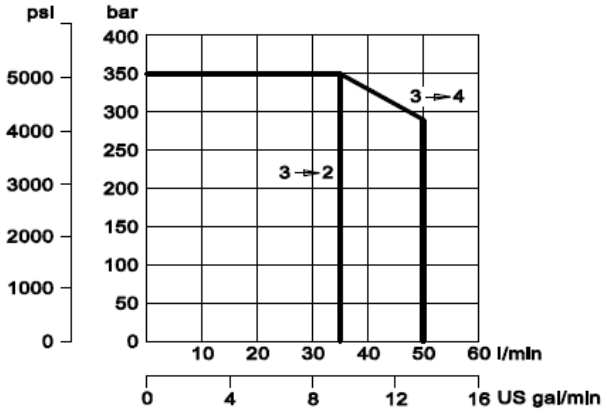
PERFORMANCE CURVES

Pressure drop

26 cSt [121 USU] hyd. oil at 50°C [122°F]



Operating envelope



11141717 • Rev CB • March 2018

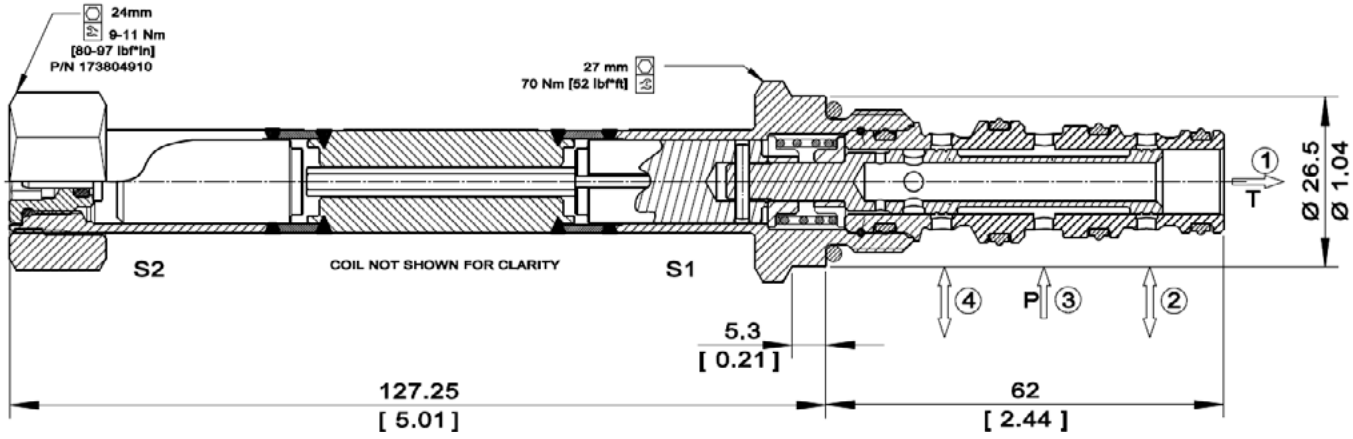
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
HSV10-34-02

DIMENSIONS

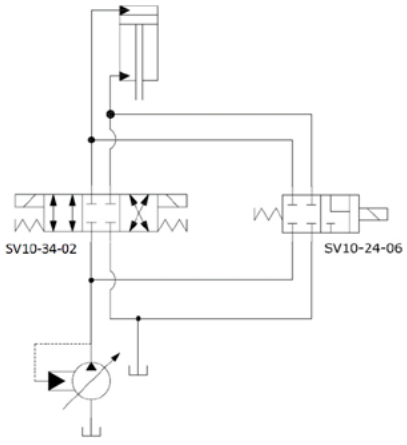
mm [in]

Cross-sectional view

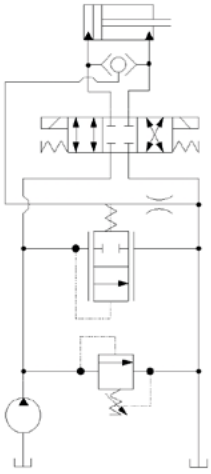


EXAMPLE CIRCUITS

Fourth Position Float



Double Acting Cylinder with Unloading Valve



ORDERING INFORMATION

HSV10 - 34 - 02 - H12D - DE - PN - P - 00

High Pressure Solenoid Valve,
This is a direct-acting, 3-position,
4-way, spool-type solenoid valve.

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-4-S3B
S4B	1/2 BSP, Ductile	SDC10-4-S4B
S6S	#6 SAE, Ductile	SDC10-4-S6S
S8S	#8 SAE, Ductile	SDC10-4-S8S

*** Aluminum bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11143824

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-02

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-34-02 is closed center, blocking all flow. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/4306 and uses a metric M33x2 cavity (NCS 12/4) for high flow capability. The SV15-34-02 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2.

APPLICATIONS

These valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Use the optional screen to help protect the actuator from large particles. This valve comes standard with a manual override (one-direction, push-pin style). This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

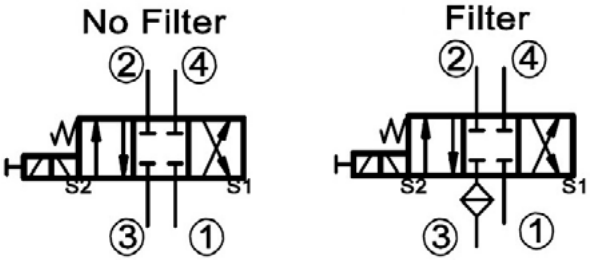
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight including coil	1.400 kg [3.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

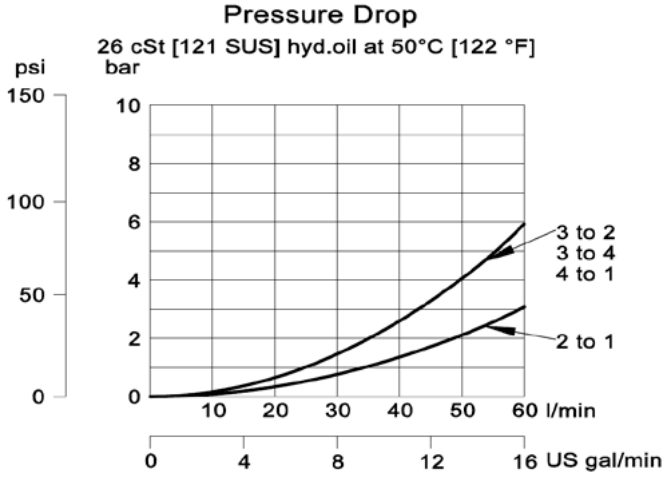
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

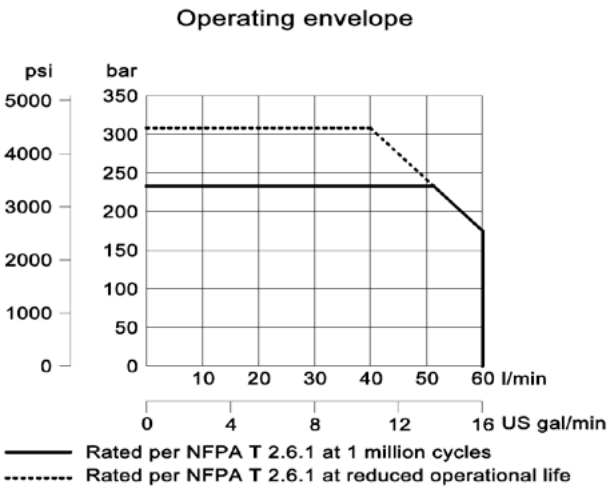
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

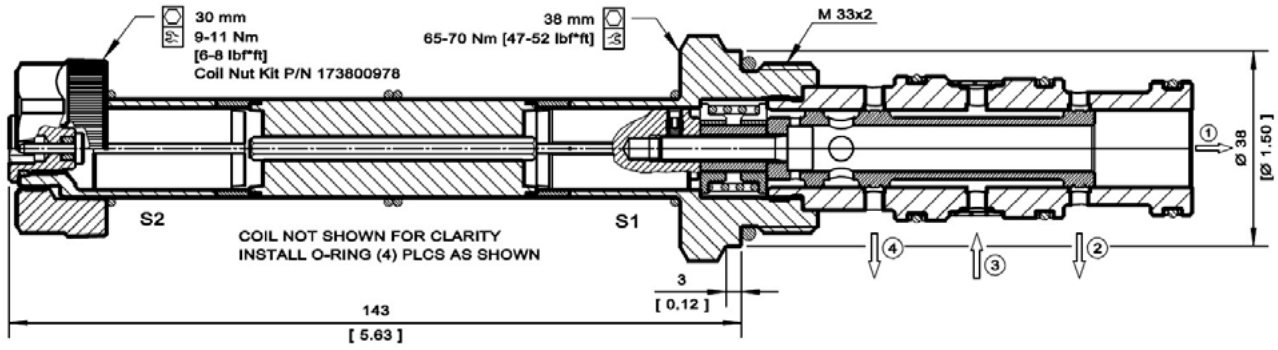
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-02

DIMENSIONS

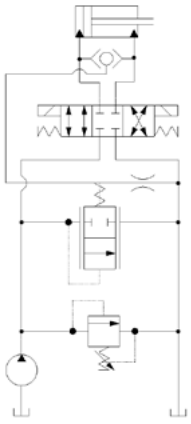
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Double Acting Cylinder with Unloading Valve



ORDERING INFORMATION

SV15 - 34 - 02 - 12D - DE - B - F - 00

Solenoid Valve, Spool Type, 15 Size Cavity

34:
3 Position, 4 Way

02:
Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Filter:
No Filter **Omit**
300 µm **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-03

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, 08-size. When de-energized, the SV08-34-03 is open center, and opens flow between all four ports. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. The SV08-34-03 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2.

Shown with Robust Coils, Deutsch Connectors

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

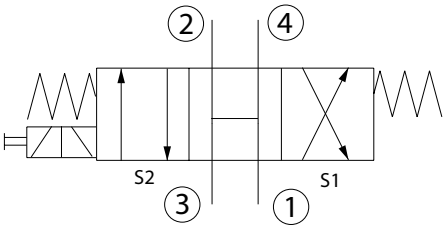
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar 100 psi]	8 l/min [2 US gal/min]
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

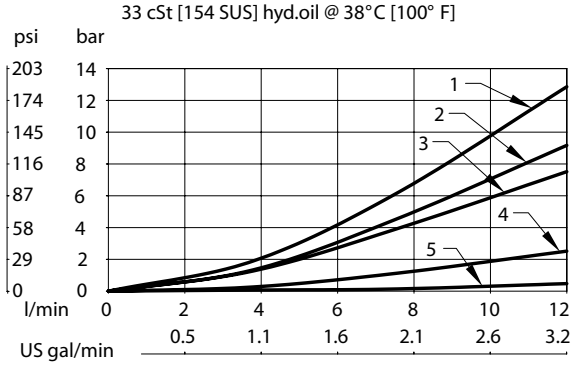
SCHEMATIC



PERFORMANCE CURVES

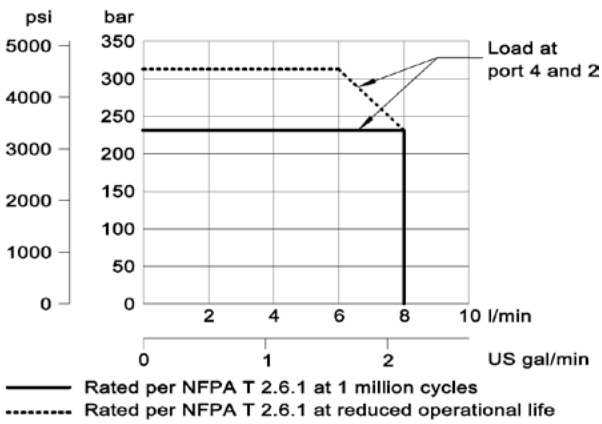
Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



1) 3 to 2 to 4 to 1 S2-Energized
2) 3 to 4 to 2 to 1 S1 Energized
3) 3 to 1 De-Energized
4) 4 to 1 De-Energized
5) 2 to 1 De-Energized

Operating envelope



11141717 • Rev CB • March 2018

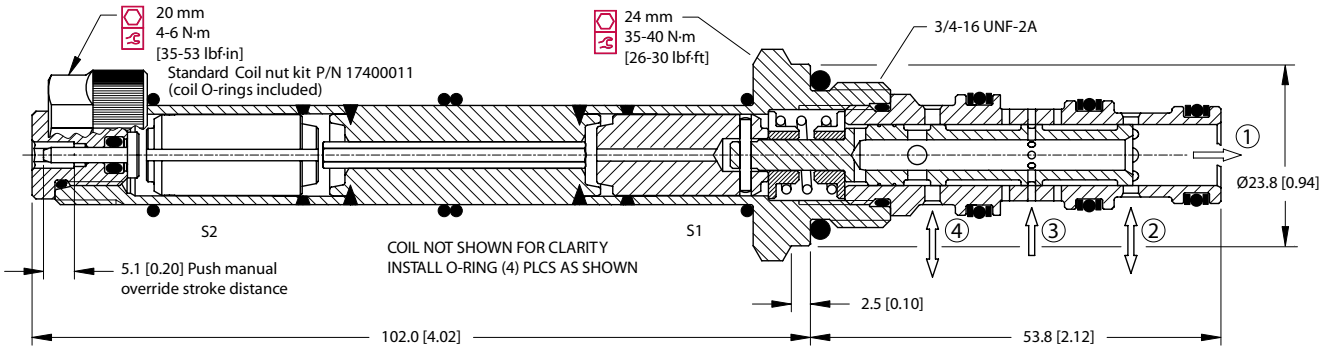
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-03

DIMENSIONS

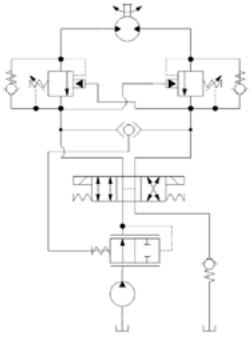
mm [in]

Cross-sectional view

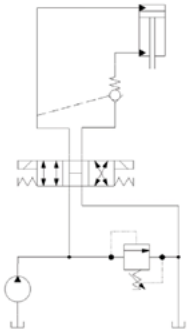


EXAMPLE CIRCUITS

Directional motor control with dual counterbalance and pressure compensation



Double-acting cylinder control with single pilot-operated check.



ORDERING INFORMATION

SV08 - 34 - 03 - 12D - DE - PB - B - 00

Solenoid Valve, 08 Size Cavity

34: 3 Position, 4 Way, Spool Type

03: Schematic: Open Center

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN Only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BPS, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003919

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-03

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-34-03 is open center, and opens flow between all four ports. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/4307 and uses a metric M33x2 cavity (NCS 12/4) for high flow capability. The SV15-34-03 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2.

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

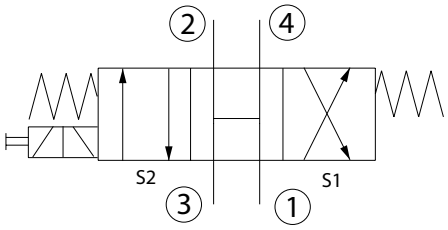
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Weight including coil	1.40 kg [3.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

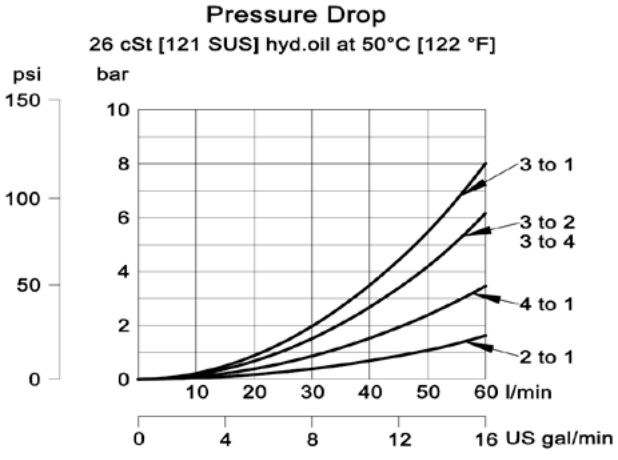
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

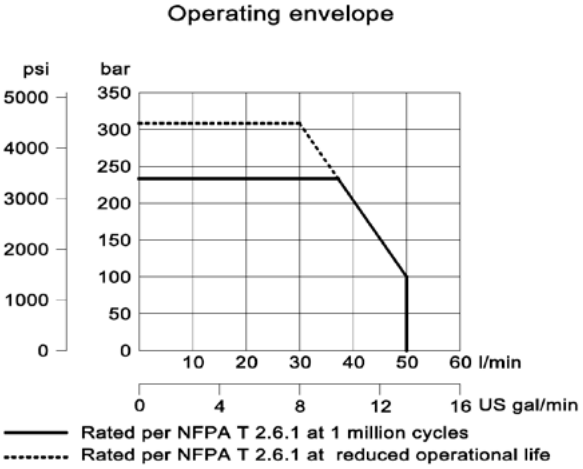
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

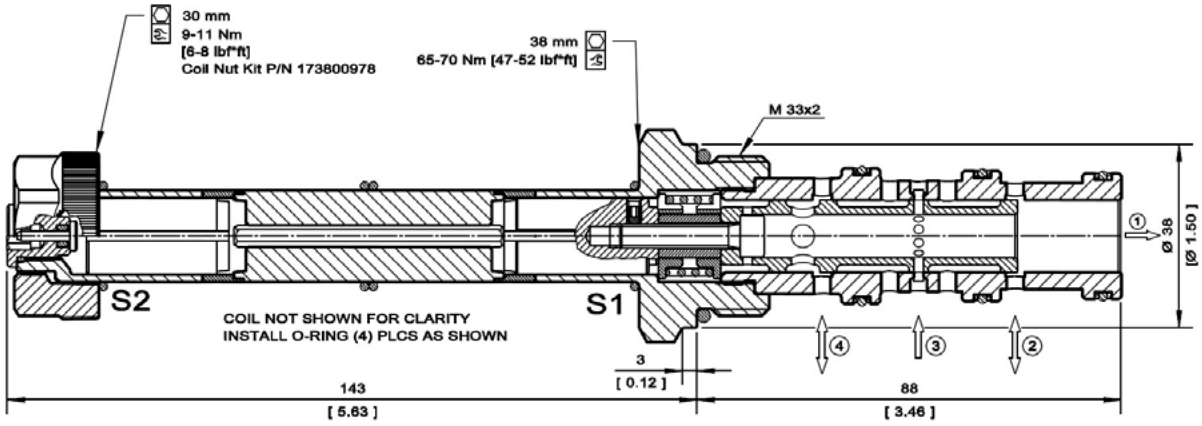
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-03

DIMENSIONS

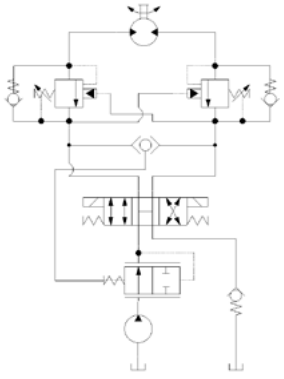
mm [in]

Cross-sectional view

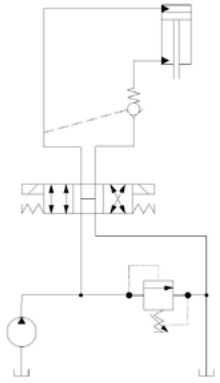


EXAMPLE CIRCUITS

Directional motor control with dual counterbalance and pressure compensation



Double-acting cylinder control with single pilot-operated check.



ORDERING INFORMATION

SV15 - 34 - 03 - 12D - DE - B - 00

Solenoid Valve, Spool Type, 15 Size Cavity

34:
3 Position, 4 Way

03:
Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-03

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, 10-size. When de-energized, the SV10-34-03 is open center, and opens flow between all four ports. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Standard Coils, Deutsch Connectors

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

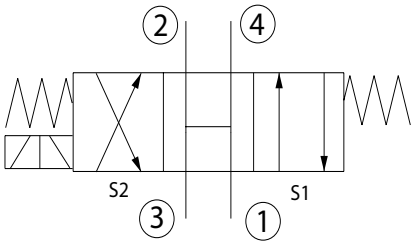
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	25 l/min [6.6 US gal/min]
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

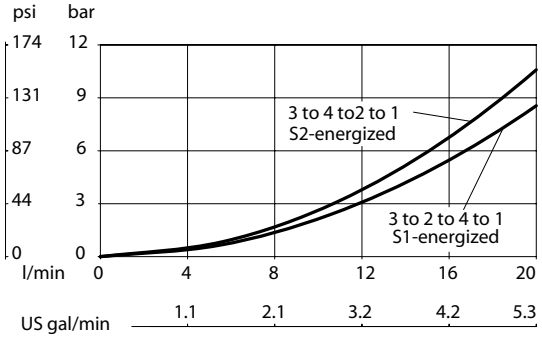
SCHEMATIC



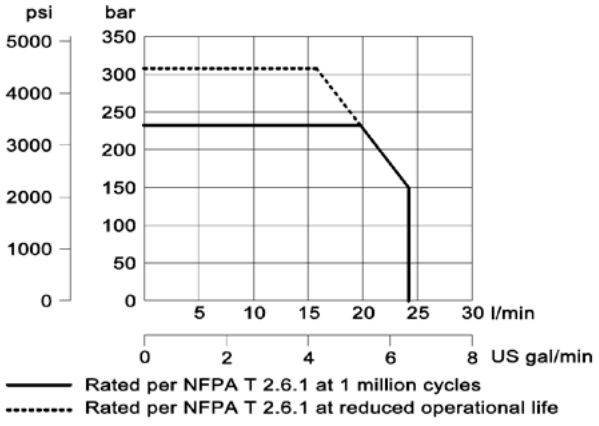
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

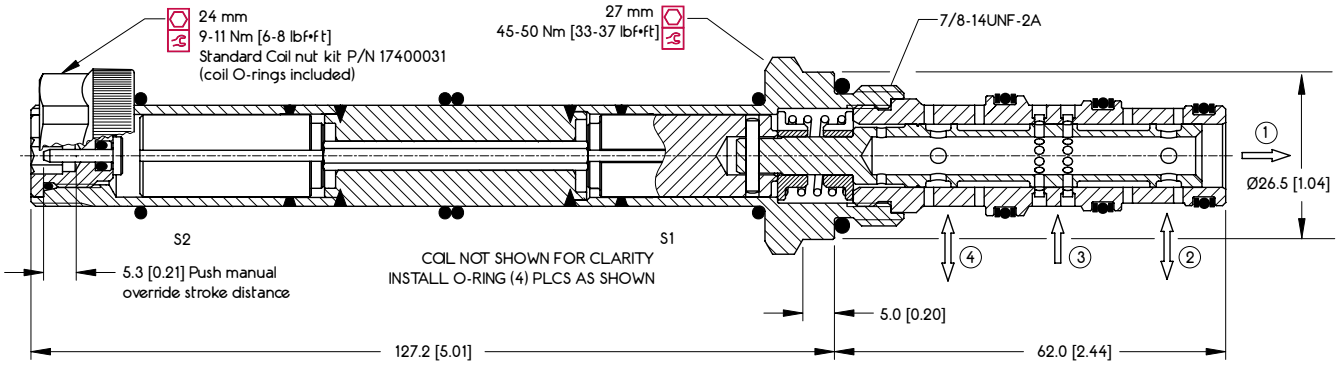
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-03

DIMENSIONS

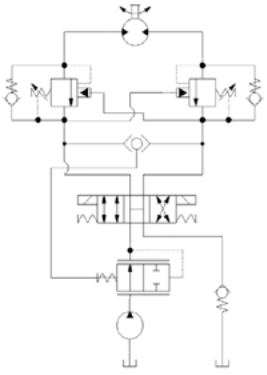
mm [in]

Cross-sectional view

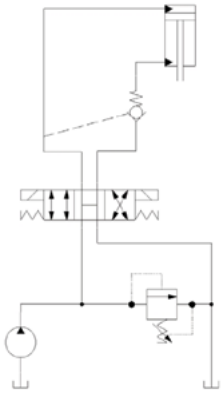


EXAMPLE CIRCUITS

Directional motor control with dual counterbalance and pressure compensation



Double-acting cylinder control with single pilot-operated check.



ORDERING INFORMATION

SV10 - 34 - 03 - 12D - DE - PB - B - 00

Solenoid Valve, 10 Size Cavity

34:
3 Position, 4 Way, Spool Type

03:
Schematic: Open Center

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173804910 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

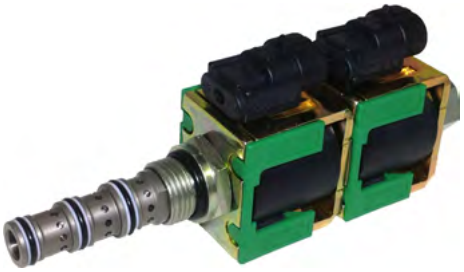
Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-04

OPERATION
Solenoid Valve, Spool Type, 3-Position, 4-Way, 08-size. When de-energized, the SV08-34-04 allows flow from port 3 to port 1, while ports 2 and 4 are blocked. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.



Shown with Robust Coils, Metri-Pack Type 2 Connectors

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

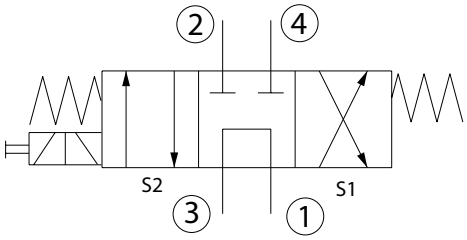
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	6 l/min [2 US gal/min]
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

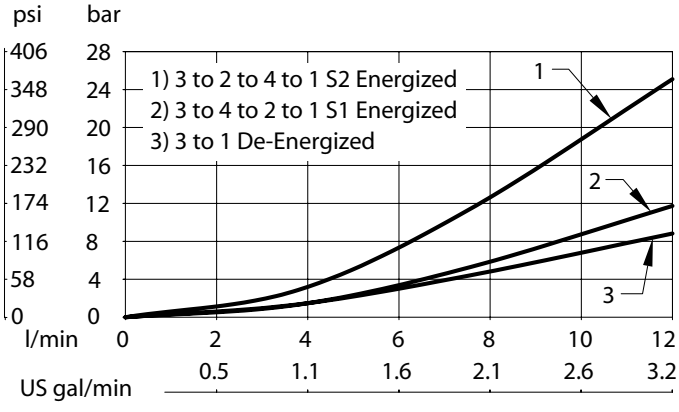
SCHEMATIC



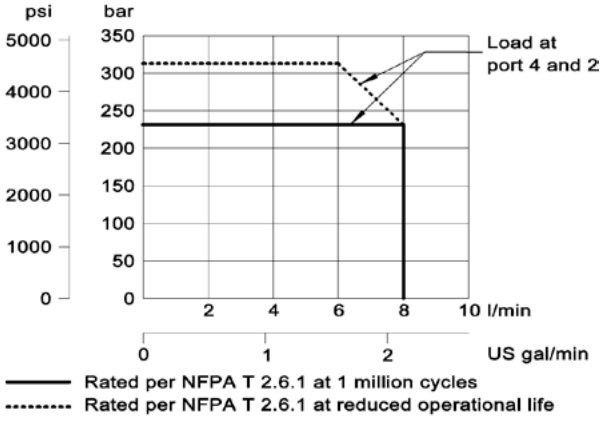
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

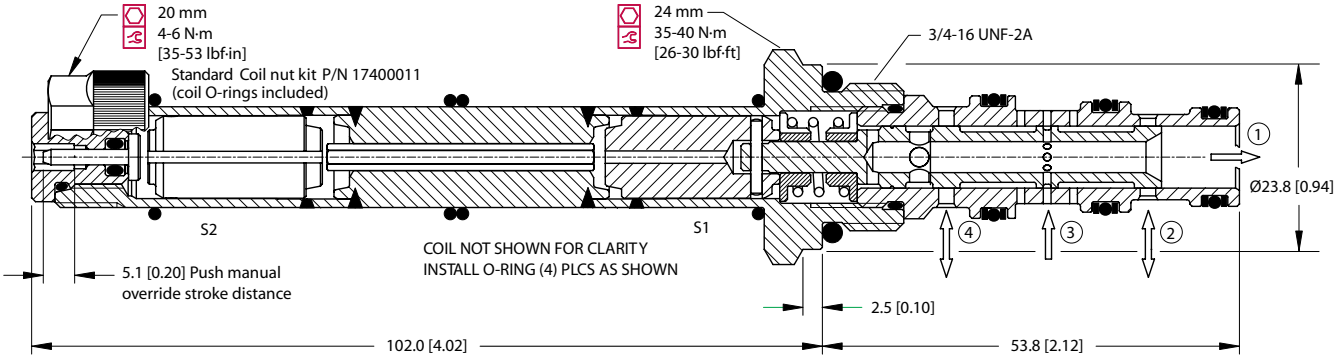
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-04

DIMENSIONS

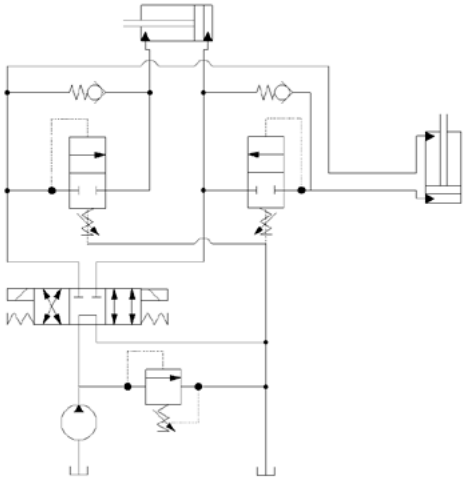
mm [in]

Cross-sectional view

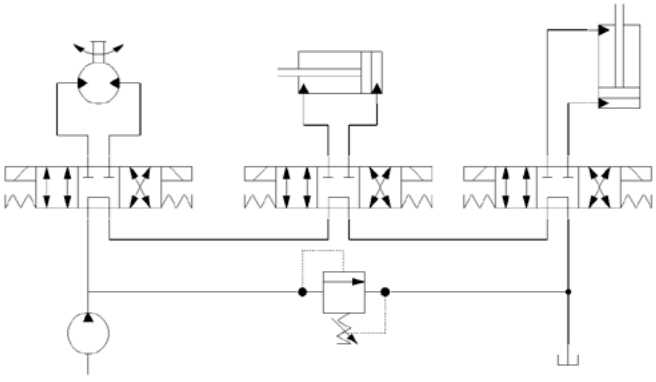


EXAMPLE CIRCUITS

Sequencing Circuit



Series Circuit - Open Center



ORDERING INFORMATION

SV08 - 34 - 04 - 12D - DE - PB - B - 00

Solenoid Valve, 08 Size Cavity

34: 3 Position, 4 Way, Spool Type

04: Schematic: Closed Center Work Ports

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 173800539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150, Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BPS, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003919

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-04

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-34-04 allows flow from port 3 to port 1, while ports 2 and 4 are blocked. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/4308. The SV15-34-04 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2.

APPLICATIONS

These valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

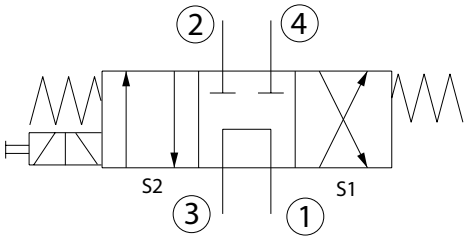
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Weight including coil	1.400 kg [3.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

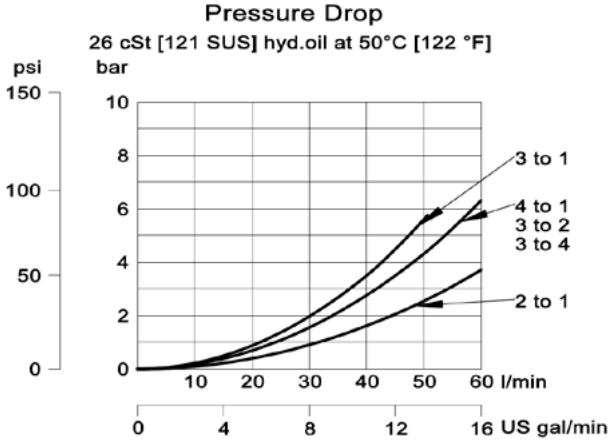
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

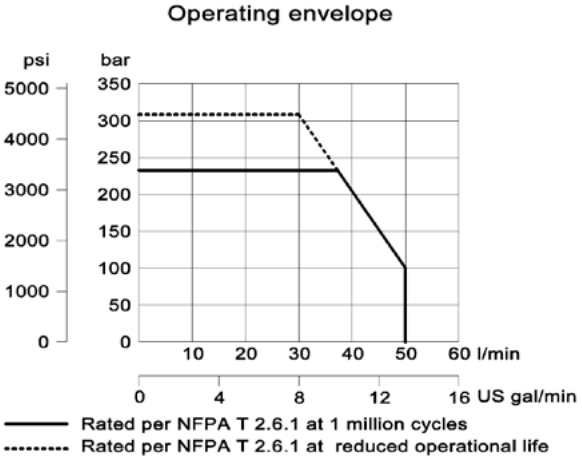
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

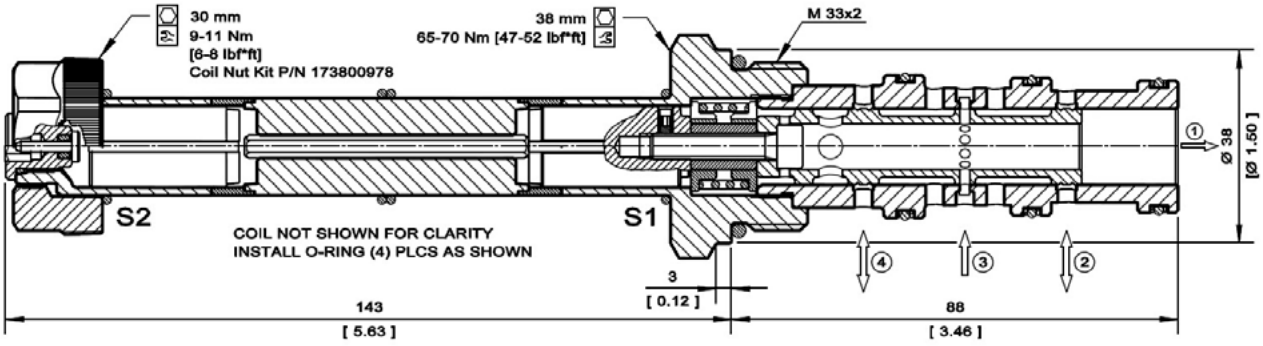
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-04

DIMENSIONS

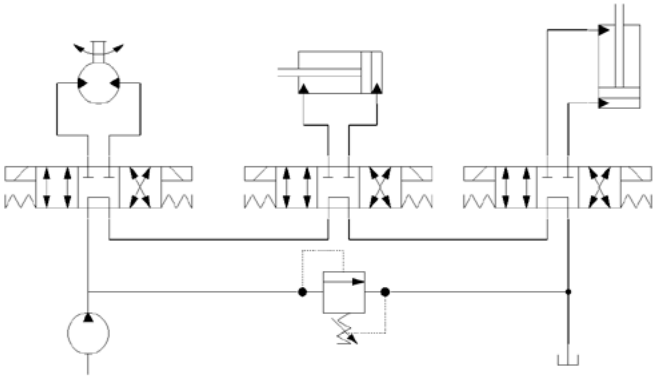
mm [in]

Cross-sectional view

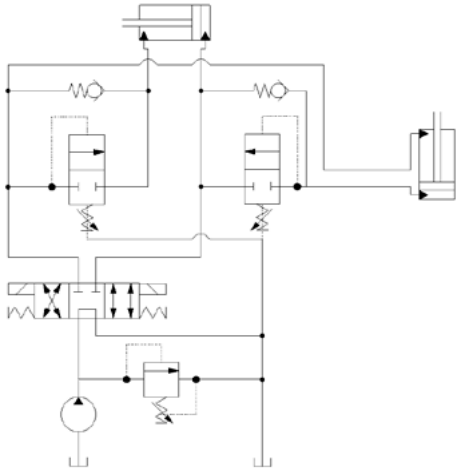


EXAMPLE CIRCUITS

Series Circuit - Open Center



Sequencing Circuit



ORDERING INFORMATION

SV15 - 34 - 04 - 12D - DE - B - 00

Solenoid Valve, Spool Type, 15 Size Cavity

34: 3 Position, 4 Way

04: Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	00
10 VDC	10D
12 VDC	12D
20 VDC	20D
24 VDC	24D
110 VAC**	110A
220 VAC**	220A

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Coil Termination	Standard Coil Code	IP Rating
No Coil	00	-
Amp Junior	AJ	IP67
Amp Junior with Diode	AJD	IP67
Deutsch	DE	IP67
Deutsch with Diode	DED	IP67
Flying Leads	FL	IP65
DIN 46650	DN	IP65

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-04

OPERATION
Solenoid Valve, Spool Type, 3-Position, 4-Way, 10- size. When de-energized, the SV10-34-04 allows flow from port 3 to port 1, while ports 2 and 4 are blocked. When energized, the SV10-34-03 is open center, and opens flow between all four ports. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coils.
Deutsch Connectors

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

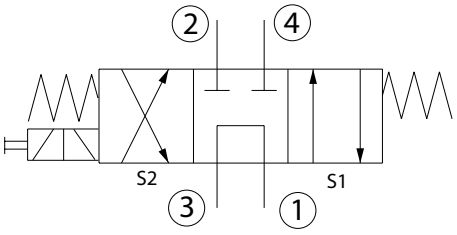
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	15 l/min [4 US gal/min]
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

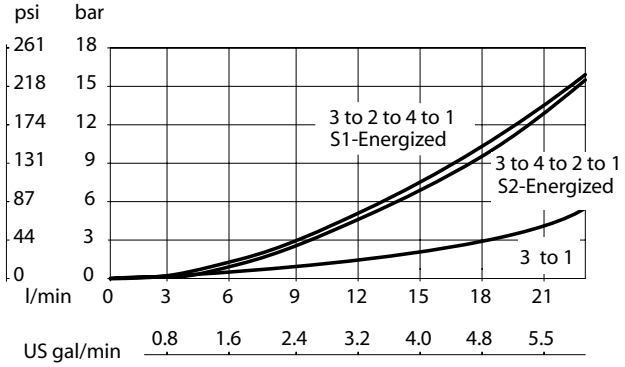
SCHEMATIC



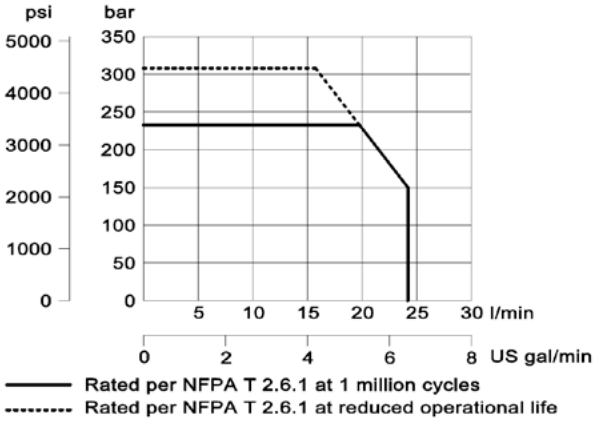
PERFORMANCE CURVES

Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



Operating envelope



11141717 • Rev CB • March 2018

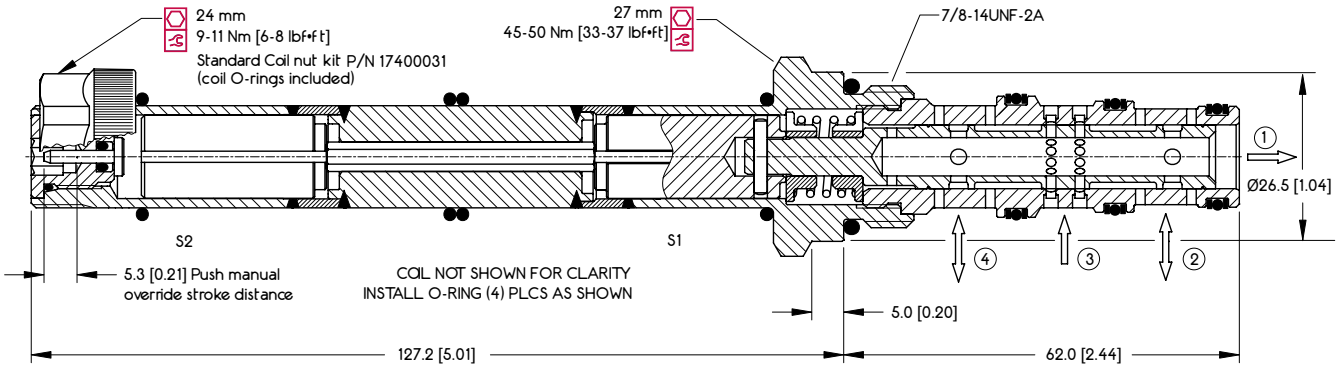
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-04

DIMENSIONS

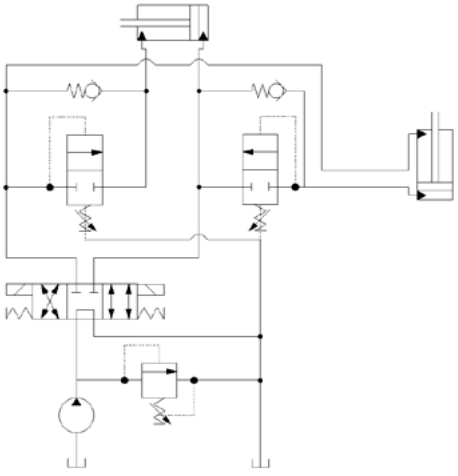
mm [in]

Cross-sectional view

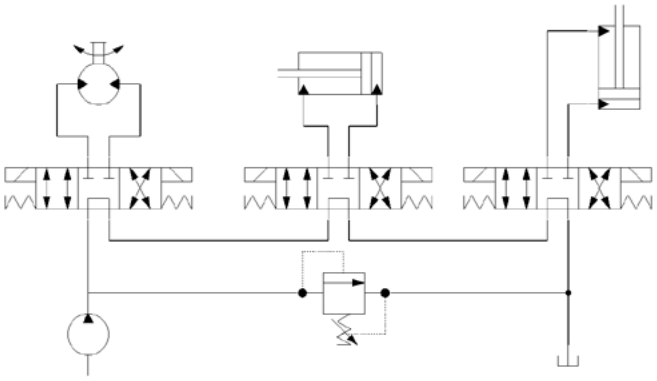


EXAMPLE CIRCUITS

Sequencing Circuit



Series Circuit - Open Center



ORDERING INFORMATION

SV10 - 34 - 04 - 12D - DE - PB - B - 00

Solenoid Valve, 10 Size Cavity

34:
3 Position, 4 Way, Spool Type

04:
Schematic: Closed Center Work Ports

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173804910 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

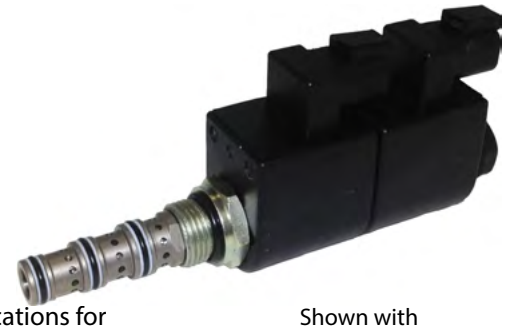
Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-05

OPERATION
Solenoid Valve, Spool Type, 3-Position, 4-Way, 08-size. When de-energized, the SV08-34-05 is float-center, allowing flow between ports 1, 2 and 4, while port 3 is blocked. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.



Shown with Standard Coils, Deutsch Connectors

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Use the optional screen to help protect the actuator from large particles. This valve can operate with an inlet pressure of 315 bar on port 3 for 500,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended for use as inlet (Tank only).

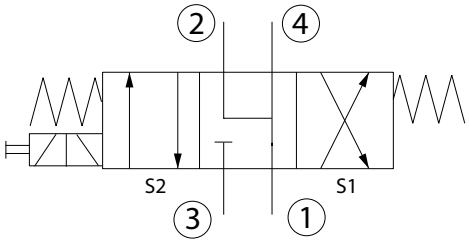
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	10 l/min [3 US gal/min]
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4
Standard Coil	M13 20 Watt
Robust Coil	R13 16 Watt Robust Nut P/N **173800539** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

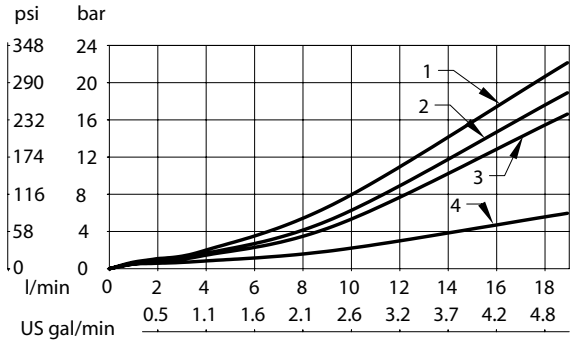
SCHEMATIC



PERFORMANCE CURVES

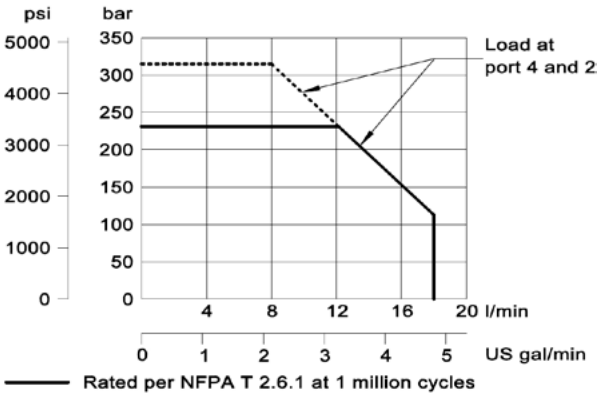
Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



1) 3 to 2 to 4 to 1 S2-Energized
2) 3 to 4 to 2 to 1 S1 Energized
3) 4 to 1 De-Energized
4) 2 to 1 De-Energized

Operating envelope



Rated per NFPA T 2.6.1 at 1 million cycles
Rated per NFPA T 2.6.1 at reduced operational life

11141717 • Rev CB • March 2018

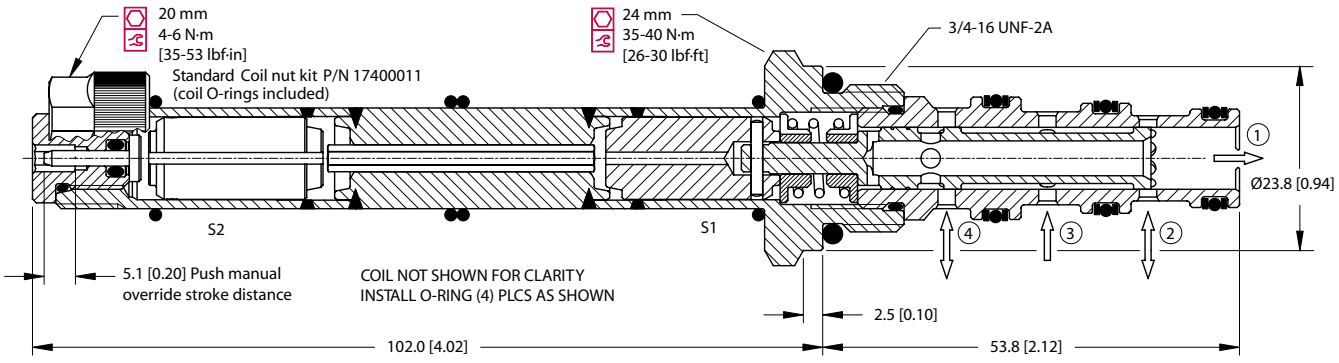
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV08-34-05

DIMENSIONS

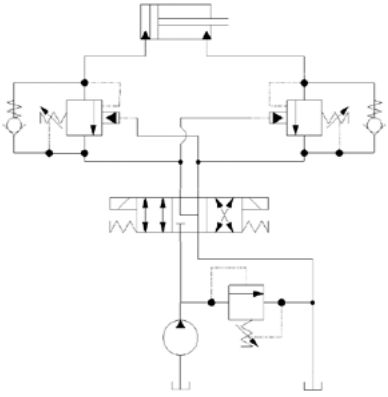
mm [in]

Cross-sectional view

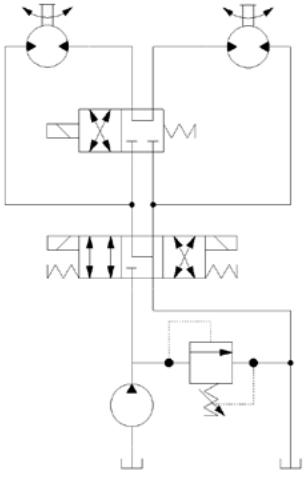


EXAMPLE CIRCUITS

Double-acting cylinder control with dual counterbalance



2 Speed Circuit



ORDERING INFORMATION

SV08 - 34 - 05 - 12D - DE - PB - B - 00

Solenoid Valve, 08 Size Cavity

34: 3 Position, 4 Way, Spool Type

05: Schematic: Float Center

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings
R-coil – steel nut P/N 17380539
(no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	**-**	-
Amp Junior with Diode	**AJD**	IP67	**-**	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	**-**	-
Metri-Pack 150 Type 2	**-**	-	**M3**	IP69K
Metri-Pack 150 with Diode	**-**	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BPS, Steel	CP08-4-S3B

Seal Code	Material	Seal Kits
B	Buna-N	354003319
V	Viton	354003919

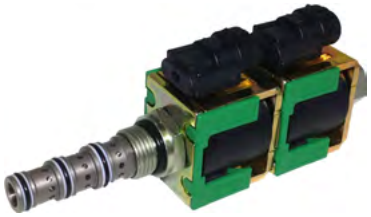
Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-05

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, 10-size. When de-energized, the SV10-34-05 is float-center, allowing flow between ports 1, 2 and 4, while port 3 is blocked. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. The SV10-34-05 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.



APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

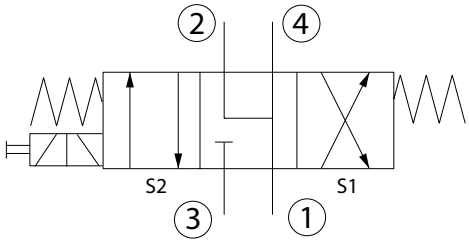
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

** See 315 bar pressure rating note on page 10.

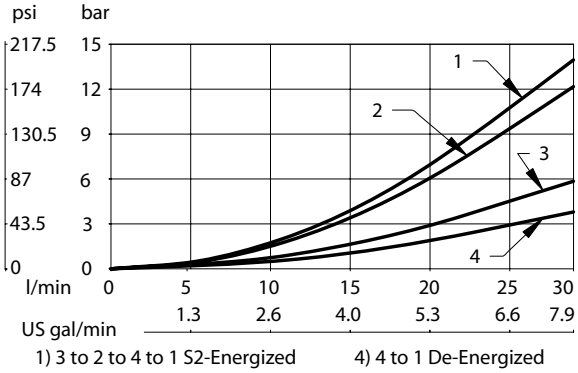
SCHEMATIC



PERFORMANCE CURVES

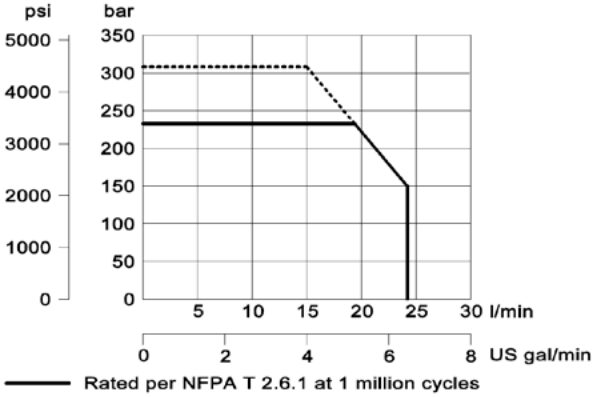
Pressure drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



1) 3 to 2 to 4 to 1 S2-Energized
2) 3 to 4 to 2 to 1 S1 Energized
3) 2 to 1 De-Energized
4) 4 to 1 De-Energized

Operating envelope



11141717 • Rev CB • March 2018

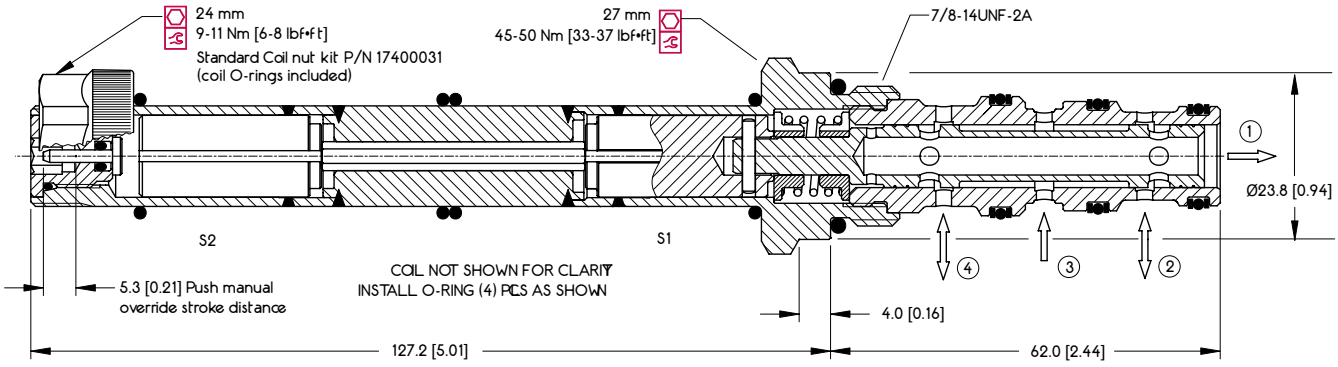
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-05

DIMENSIONS

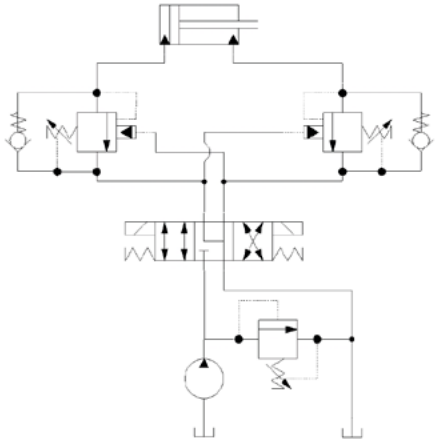
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Double-acting cylinder control with dual counterbalance



ORDERING INFORMATION

SV10 - 34 - 05 - 12D - DE - PB - B - 00

Solenoid Valve, 10 Size Cavity

34:
3 Position, 4 Way, Spool Type

05:
Schematic: Float Center

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173804910 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
HSV10-34-05

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, 10-size. When de-energized, the SV10-34-05 is float-center, allowing flow between ports 1, 2 and 4, while port 3 is blocked. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. The HSV10-34-05 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with High Pressure Coils, Deutsch Connectors

APPLICATIONS

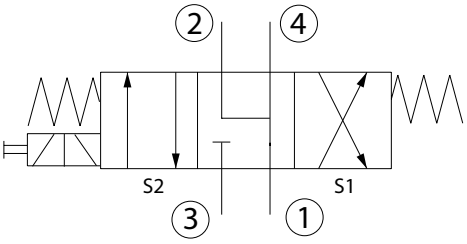
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

SPECIFICATIONS

Rated pressure*	350 bar [5075 psi]*
Rated flow at 7 bar [100 psi]	25 l/min [6.6 US gal/min]
Weight	0.85 kg [1.85 lb]
Cavity	SDC10-4
Standard Coil	H16 29Watt

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

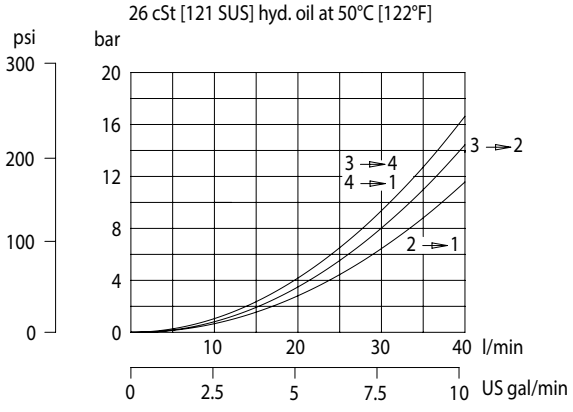
SCHEMATIC



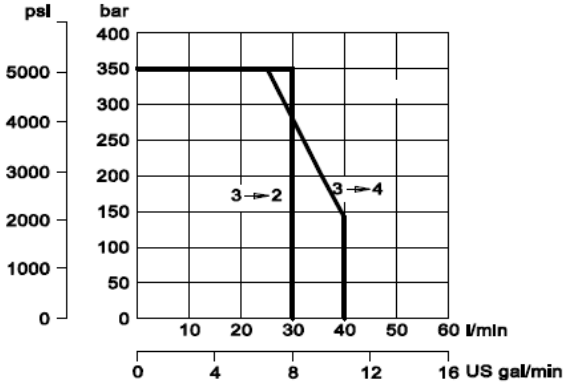
PERFORMANCE CURVES

Pressure drop

26 cSt [121 SUS] hyd. oil at 50°C [122°F]



Operating envelope



11141717 • Rev CB • March 2018

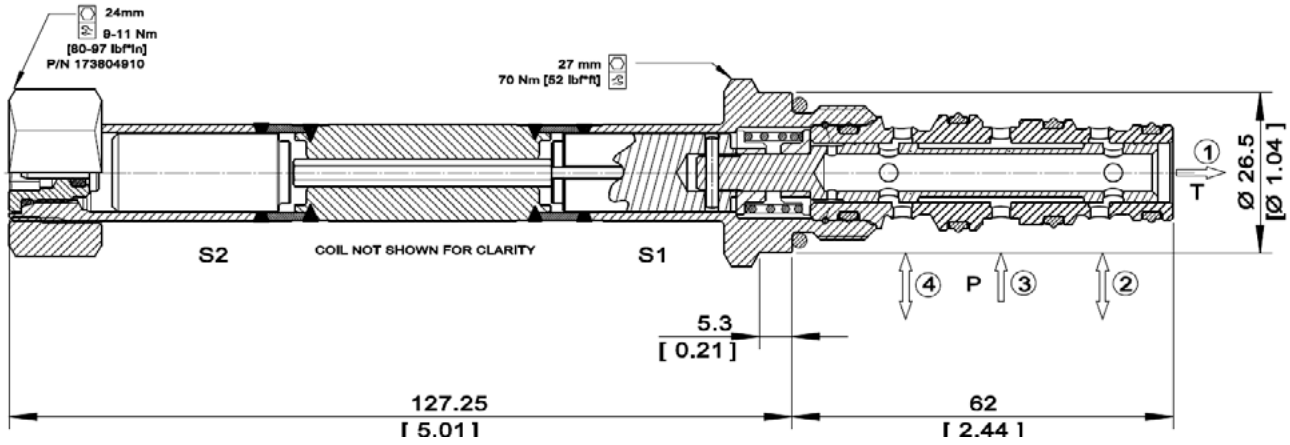
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
HSV10-34-05

DIMENSIONS

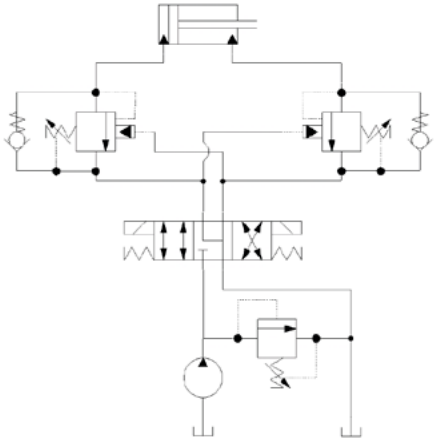
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Double-acting cylinder control with dual counterbalance



ORDERING INFORMATION

HSV10 - 34 - 05 - H12D - DE - PN - P - 00

High Pressure Solenoid Valve,
This is a direct-acting, 2-position,
4-way, spool-type solenoid valve.

Coil Voltage

Code	Description
H00	No Coil
H12D	12 VDC
H24D	24 VDC

Coil Termination

Code	Description	IP Rating
00	No Coil	-
FL	Flying Lead	IP 69k
DE	Deutsch	IP 69k
AS	AMP SuperSeal 1.5 and Metri-Pack 150 type 1	IP 69k
ASDB	AMP Super Seal with Diode Bidirectional	IP 69k
DEDB	Deutsch with Diode Bidirectional	IP 69k
FLDB	Flying Lead with Diode Bidirectional	IP 69k

Bodies

Code	Port & Material	Body Nomenclature
00	Cartridge only	No Body
S3B	3/8 BSP, Ductile	SDC10-4-S3B
S4B	1/2 BSP, Ductile	SDC10-4-S4B
S6S	#6 SAE, Ductile	SDC10-4-S6S
S8S	#8 SAE, Ductile	SDC10-4-S8S

*** Aluminum bodies available for lower pressure application. Please consult factory for details.

Seal Option

Code	Seal Material	Seal kit
P	Polyurethane Single Seal	11143824

Manual Override

Code	Description
PN	Push Pin
OPS	Push Pin M/O Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-05

OPERATION
Solenoid Valve, Spool Type, 3-Position, 4-Way, High Flow (15-Size). When de-energized, the SV15-34-05 is float-center, allowing flow between ports 1, 2 and 4, while port 3 is blocked. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation. This valve is a direct replacement for EDH 12/4309 and uses a metric M33x2 cavity (NCS 12/4) for high flow capability. The SV15-34-05 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2.

APPLICATIONS
These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. Use the optional screen to help protect the actuator from large particles. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

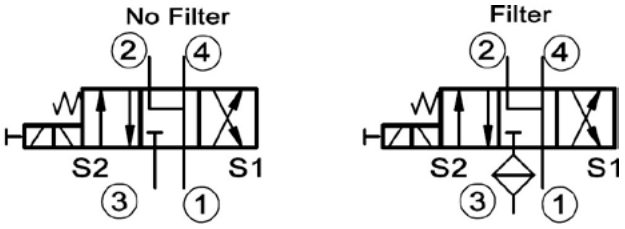
SPECIFICATIONS

Rated Pressure*	210 bar [3045 psi]**
Maximum Rated Flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight including coil	1.400 kg [3.09 lbs]
Cavity	NCS 12/4
Coil	M19-33W
Diode (Optional)	Unidirectional

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

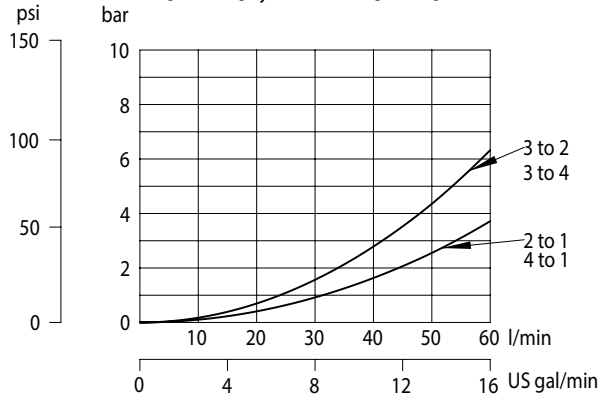
** See 315 bar pressure rating note on page 10.

SCHEMATIC

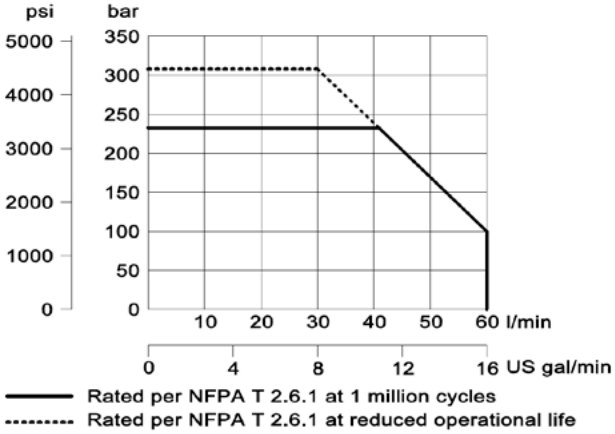


PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



11141717 • Rev CB • March 2018

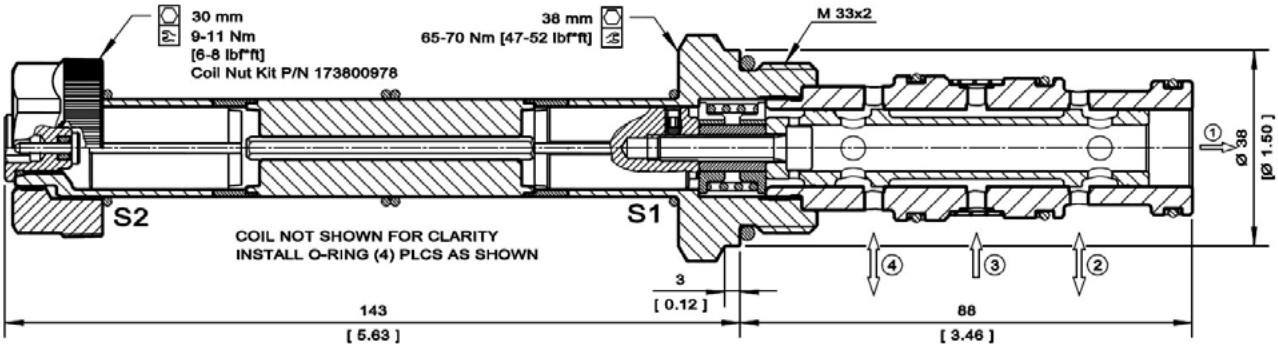
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV15-34-05

DIMENSIONS

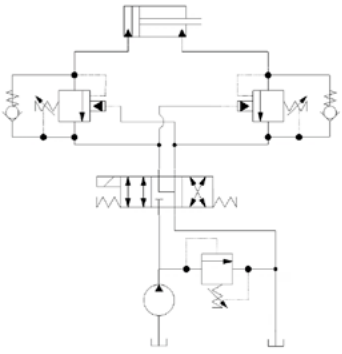
mm [in]

Cross-sectional view

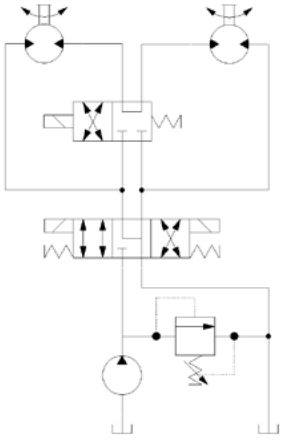


EXAMPLE CIRCUITS

Double-acting cylinder control with dual counterbalance



2 Speed Circuit



ORDERING INFORMATION

SV15 - 34 - 05 - 12D - DE - V - F - 00

Solenoid Valve, Spool Type, 15 Size Cavity

34:
3 Position, 4 Way

05:
Schematic type

Coil Voltage	Standard Coil Code
No Coil, with nut*	**00**
10 VDC	**10D**
12 VDC	**12D**
20 VDC	**20D**
24 VDC	**24D**
110 VAC**	**110A**
220 VAC**	**220A**

* Standard coil – plastic nut and O-rings
** External Rectifier Needed – DN termination only

Coil Termination	Standard Coil Code	IP Rating
No Coil	**00**	-
Amp Junior	**AJ**	IP67
Amp Junior with Diode	**AJD**	IP67
Deutsch	**DE**	IP67
Deutsch with Diode	**DED**	IP67
Flying Leads	**FL**	IP65
DIN 46650	**DN**	IP65

Seal Code	Material	Seal Kits
B	Buna-N	11115884
V	Viton	11115885

Filter:
No Filter **Omit**
300 µm **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
8S	#8 SAE, AL	NCS 12/4-L-8S
12S	#12 SAE, AL	NCS 12/4-L-12S
4B	1/2 BSP, AL	NCS 12/4-L-1/2
6B	3/4 BSP, AL	NCS 12/4-L-3/4

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-11

OPERATION

Solenoid Valve, Spool Type, 3-Position, 4-Way, 10-size. When de-energized, the SV10-34-11 allows flow from port 4 to 1, blocking port 2 and 3. When coil S1 is energized, the spool shifts to allow flow from port 3 to port 4, and from port 2 to 1. When coil S2 is energized, the spool shifts to allow flow from port 3 to port 2, and from port 4 to port 1. This valve comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2. Follow the "Operating Envelope" limits to ensure shifting of the valve during operation.

Shown with Robust Coils.
Deutsch Connectors

APPLICATIONS

These spool-type valves are primarily used in mobile and industrial applications for controlling the direction of the flow in a circuit. Solenoid spool-type valves are direct acting and respond quickly to coil voltage input. Spool valves will have some leakage due to spool clearance, so if your application requires no leakage at the working port(s), apply a low leakage poppet valve(s), like PO check valve, counterbalance valve, etc., in addition to this solenoid valve. This valve can operate with an inlet pressure of 315 bar on port 3 for 400,000 cycles. Port 1 may be pressurized to 210 bar, but is not intended as inlet (Tank only).

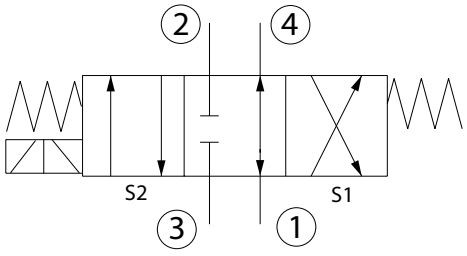
SPECIFICATIONS

Rated pressure*	230 bar [3300 psi]**
Rated flow at 7 bar [100 psi]	24 l/min 6 US gal/min]
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

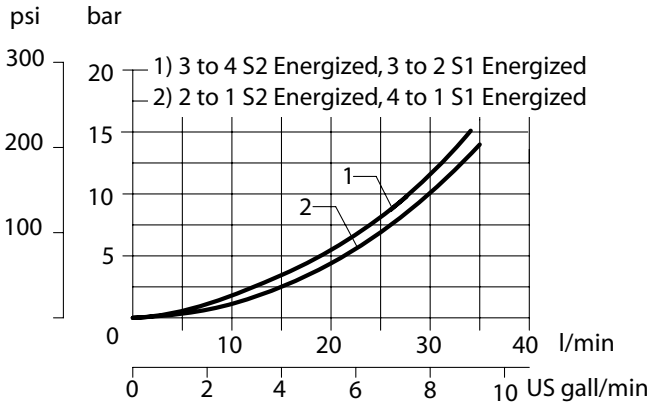
** See 315 bar pressure rating note on page 10.

SCHEMATIC

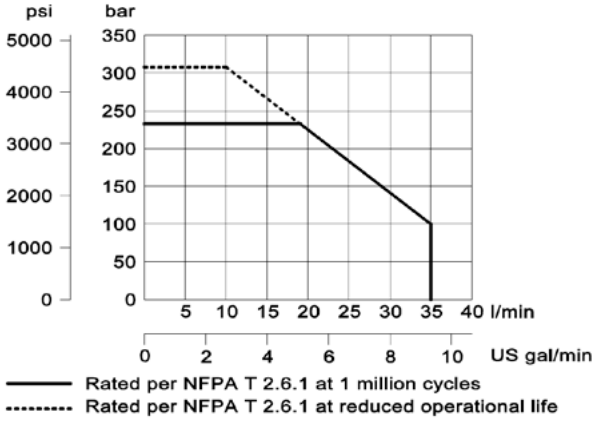


PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



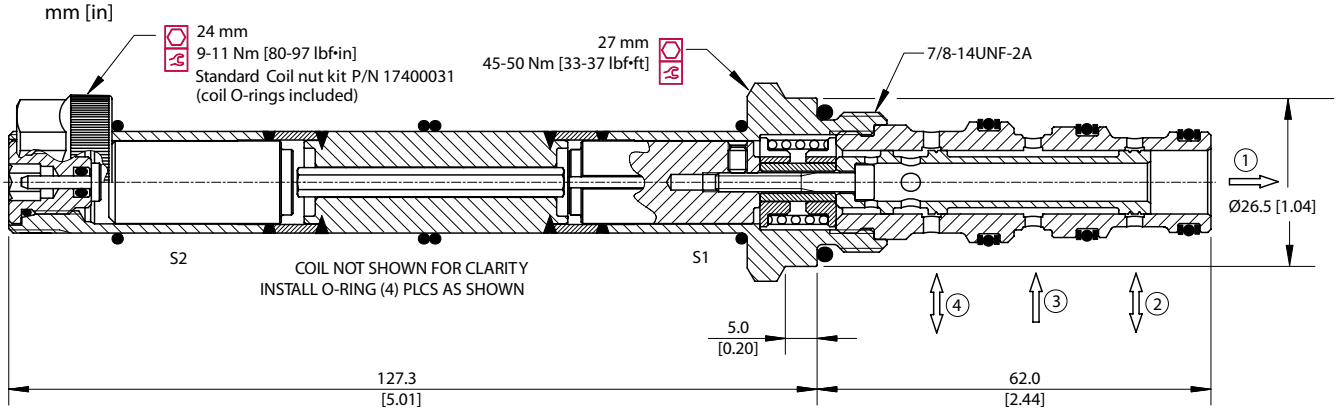
11141717 • Rev CB • March 2018

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4-Way, 3-Position Spool
SV10-34-11

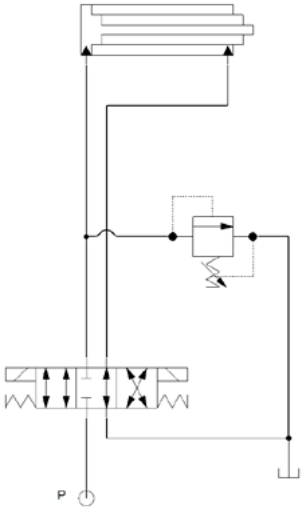
DIMENSIONS

mm [in]



EXAMPLE CIRCUITS

Cushion Relief in Cylinder Application



ORDERING INFORMATION

SV10 - 34 - 11 - 12D - DE - PB - B - 00

Solenoid Valve, 10 Size Cavity

34:
3 Position, 4 Way, Spool Type

11:
Schematic: 3P4W

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173804910 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist

Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV10-34-14

Shown with Standard Coils, Deutsch Connectors

OPERATION

This is a direct acting, 3-position, 4-way spool type solenoid valve. When de-energized, the SV10-34-14 allows flow from port 3 to 2 and from port 4 to 1. When coil S1 is energized, the spool shifts to the float position, allowing flow from port 2 and 4 to port 1, while blocking flow to port 3. When coil S2 is energized, the spool shifts to allow flow from port 2 to 1, and from port 4 to 3. The SV10-34-14 comes standard with a one-direction, push-pin manual override. When the manual override is pushed, the spool shifts following the logic of energizing S2. The SV10 uses a 10 size cavity and an optional 500 micron filter is available.

APPLICATIONS

These valves are typically used for directional control for motor or cylinder functions, to run forward, reverse, or float free. Applications for this schematic include street sweepers (broom height control) and windrower header height. Use a pressure reducing valve before the "P" port to manage the force. This valve can also be applied to a reversing fan drive with a pressure regulated variable pump. The schematic allows the fan to shift smoothly from forward to reverse. Additionally, if the fan drive loses power, the spool shifts to the center position and the fan turns in the forward direction. This valve can operate with an inlet pressure of 315 bar on port 3 for 300,000 cycles. Port 1 may be pressurized to 150 bar, but is not intended for use as inlet (Tank only).

Shown with Robust Coils, Deutsch Connectors

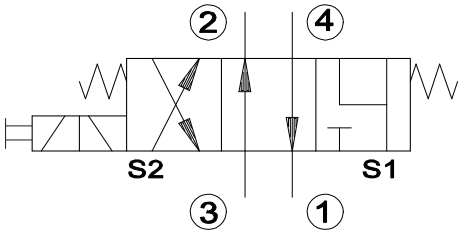
SPECIFICATIONS

Rated Pressure*	230 bar [3330 psi]
Maximum Rated Flow at 7 bar [100 psi]	17 l/min [4.5 US gal/min]
Weight including coil	0.81 kg [1.79 lbs]
Cavity	SDC10-4
Standard Coil	M16 26 Watt
Robust Coil	R16 20 Watt Robust Nut P/N **173804910** (no coil O-rings needed)

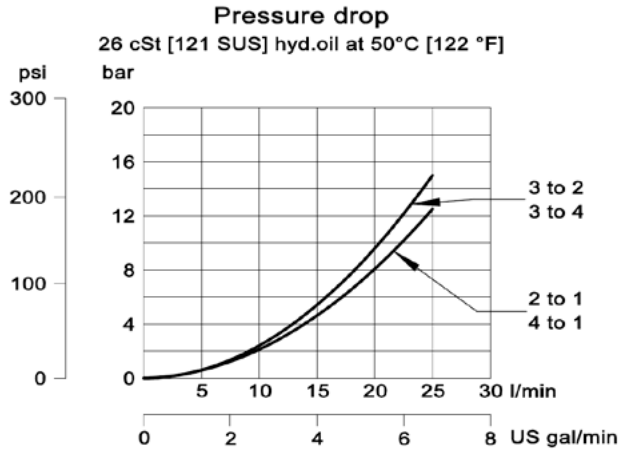
* Rated Pressure based on NFPA fatigue test standards (at 1 Million Cycles).

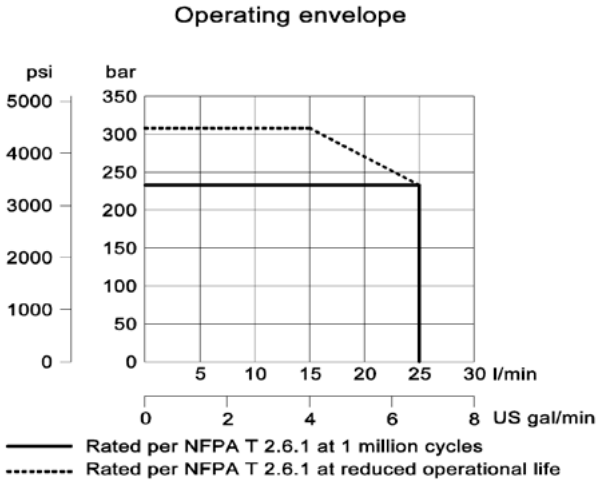
** See 315 bar pressure rating note on page 10.

SCHEMATIC



PERFORMANCE CURVES





11141717 • Rev CB • March 2018

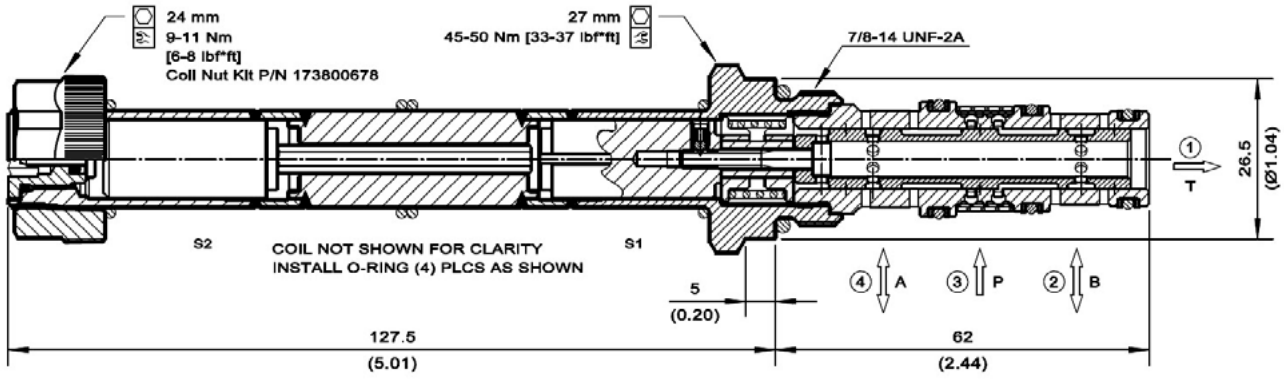
Comatrol
RESPONSIVENESS IN MOTION
Member of the Danfoss Group

Solenoid Valves Catalog
4 Way, 3 Position Spool
SV10-34-14

DIMENSIONS

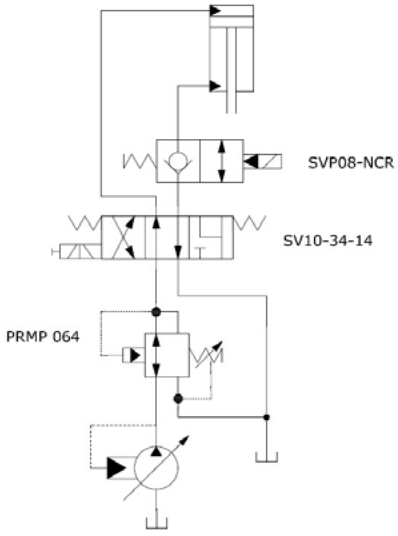
mm [in]

Cross-sectional view



EXAMPLE CIRCUITS

Height Control with Float Option



ORDERING INFORMATION

SV10 - 34 - 14 - 12D - DE - PB - B - F - 00

Solenoid Valve, 10 Size Cavity

34:
3 Position, 4 Way, Spool Type

14:
Schematic: Raise, Lower, Float

Coil Voltage	Standard Coil Code	Robust Coil Code
No Coil, with nut*	**00**	**R00**
10 VDC	**10D**	**R10D**
12 VDC	**12D**	**R12D**
20 VDC	**20D**	**R20D**
24 VDC	**24D**	**R24D**
110 VAC**	**110A**	-
220 VAC**	**220A**	-

* Standard coil – plastic nut and O-rings; R-coil – steel nut P/N 173804910 (no coil O-rings needed)
** DIN only - external rectifier needed

Coil Termination	Standard Coil Code	IP Rating	Robust Coil Code	IP Rating
No Coil	**00**	-	**00**	-
Amp Junior	**AJ**	IP67	-	-
Amp Junior with Diode	**AJD**	IP67	-	-
AMP SuperSeal 1.5	**AS**	IP67	**AS**	IP69K
AMP SuperSeal with Diode	**ASD**	IP67	**ASDB**	IP69K
Deutsch	**DE**	IP67	**DE**	IP69K
Deutsch with Diode	**DED**	IP67	**DEDB**	IP69K
Flying Leads	**FL**	IP65	**FL**	IP69K
Flying Leads with Diode	**FLD**	IP65	**FLDB**	IP69K
DIN 43650	**DN**	IP65	-	-
Metri-Pack 150 Type 2	-	-	**M3**	IP69K
Metri-Pack 150 with Diode	-	-	**M3DB**	IP69K

No Filter — **Omit**
Filter 500 mμ — **F**

Code	Body and Ports	Body Nomenclature
00	Cartridge Only	No Body
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

Seal Code	Material	Seal Kits
B	Buna-N	354001919
V	Viton	354002019

Code	Manual Override
Omit	Push Pin (Standard)
PB	Push Button
SPS	Screw Style (Push-Type Valve)
OPS	Push Pin Nut for Protection & Actuation
PAT	Push and Twist