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Integrated Circuit Solutions (ICS)

Your **most responsive** partner for **control solutions**

Specializing in custom hydraulic integrated circuits (HICs) allowing customers to use our broad portfolio of cartridge valves to create innovative solutions for optimal machine control and performance.

Leading

the cartridge valve and hydraulic integrated circuit solutions market

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About **Integrated Circuit Solutions (ICS)**

Danfoss Power Solutions (DPS) is a worldwide leader in the design, manufacture, and sale of engineered hydraulic and electronic systems and components. The ICS division within DPS is the most responsive and innovative choice for your cartridge valve and hydraulic integrated circuit (HIC) needs.

This global ICS division is a business unit built on the strength of our experience and established position within the fluid controls industry. Previously known in the market as Comatrol, the product focus within ICS allows us to be the market leader in HIC design and prototype speed. Our comprehensive cartridge portfolio brought together by Danfoss, combines three separate product lines allowing customers access to the best individual components as well as custom HIC solutions.

ICS has built upon our engineering and application expertise to create a balanced offering with over 500 high quality catalog products including configurable cartridge valves and catalog HICs to meet your control solutions needs.

The cartridge valve line consists of a strong portfolio of proportional, solenoid and mechanical valves. ICS provides pre-engineered solutions with catalog HICs, including cross-port reliefs, dual counterbalance, motor mount, fan drives, and our new modular valve solution MVB10.

ICS specializes in custom HICs allowing customers to use our broad portfolio of cartridge valves to create innovative solutions for optimal machine control and performance.

Danfoss ICS represents a long history of experience and an established position within the fluid controls industry. Since 1980, we have built upon the knowledge and expertise within the design, application and manufacturing of cartridge valves and HICs to become the preferred component provider for over 1800 companies and distributors throughout the world. Our leadership and engineering teams have over 300 years combined fluid power experience and in the words of one of our account managers, "This is all we do and we do it well!"

Responsiveness resonates throughout every aspect of our business. Our aim is to link your request to the supplier network in order to compress lead time and improve quality, providing the most valuable control solutions on the market today. Our ISO/TS16949 certified facilities help ensure the delivery of high quality precision products at world class levels.

From **schematic to 3D** in **one click**

EasyManifold is an HIC design software tool that streamlines the development process from the customer to Danfoss - taking custom HIC solutions to the next level.

With a simple, intuitive user interface, EasyManifold allows you to effortlessly create your hydraulic circuit schematic from Danfoss's digital library of cartridge valves and generate a quotation on the customer solution. With detailed information fields and a logical process for project progression, you can accurately document and communicate your application requirements as a project moves from a concept to a functioning product.

Through our Cloud-based software, you no longer need to worry about software program and update installations – everything is ready to go the moment you log in! Using our new Project Management features, schematics and application details are saved in the cloud for instant access by your Danfoss representatives.

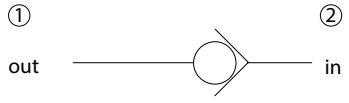
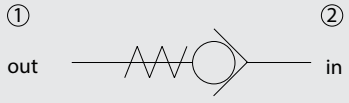
With the new Automatic Design feature, small to medium sized projects are eligible for a computer-generated design. At the click of a button, your project can be submitted in the system for an automatic design, with a 2D drawing and 3D model available for download once completed. In less than an hour, you can take your project from a concept to a design ready for manufacturing.

Features

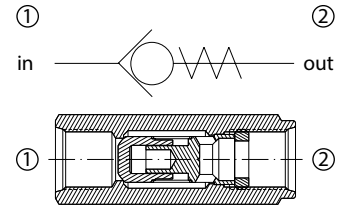
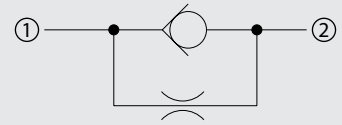
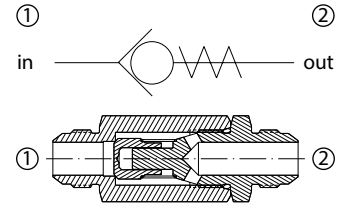
- Quickly select the products and ports you need by navigating the library, or by using the search function - then drag and drop onto your schematic
- Easily configure all your selected items to meet your application needs with the drop-down configuration menu
- Projects are stored on the Cloud which allows users to access their projects from any computer and instantly share schematics with your Danfoss repre sentatives for immediate support
- The Automated Design feature allows for schematics 12 cartridges and less to be automatically designed by the EasyManifold software – resulting in a full 3D model and 2D drawing.
- The project revision process keeps all the project data tied together, allowing you to easily keep track of the project updates.

DWG & PDF schematics | PDF quotes | 2D PDF files | 3D STP files

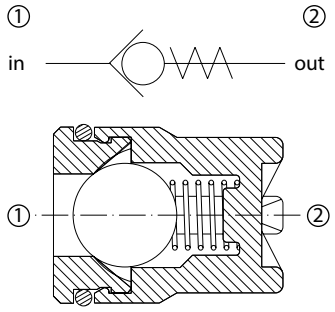
Check Valves - Threaded

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Ball type, normal direction	CV04-NB	207 [3000]	3 [0.8]	CP04-2
	Poppet type, normal direction	CV08-NP	350 [5075]	38 [10]	SDC08-2
		CV10-NP	350 [5075]	80 [21]	SDC10-2
		CP102-1	315 [4570]	210 [55]	SDC16-2
		CP103-1	215 [3120]	330 [87]	SDC20-2
	Reverse direction, no spring	CP104-2	350 [5075]	4.5 [1.2]	CP04-2
	Reverse direction	CP108-2	350 [5075]	20 [5]	SDC08-2
		CP100-2	350 [5075]	50 [13]	SDC10-2
		CP101-2	350 [5075]	75 [20]	CP12-2
		CP102-2	350 [5075]	150 [40]	SDC16-2
		CP103-2	350 [5075]	265 [70]	SDC20-2

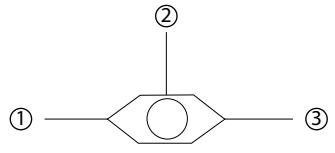
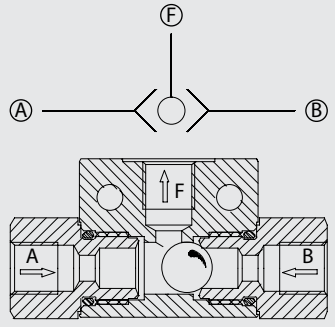
Check Valves - In-line

Schematic / Description		Model	bar [psi]	lpm [gpm]	Ports
	Female port	3C11-01	350 [5075]	20 [5]	SAE #4
		RS 06	350 [5075]	30 [8]	SAE #6, G1/4
		3C12-01	350 [5075]	35 [9]	SAE #6
		RS 10	350 [5075]	60 [16]	G3/8
		3C13-01	350 [5075]	70 [19]	SAE #8
		3C14-01	350 [5075]	95 [25]	SAE #12
		RS 13	315 [4500]	100 [26]	G1/2
		RS 19	280 [4000]	140 [37]	SAE #12, G3/4
		3C15-01	350 [5075]	150 [40]	SAE #16
		RS 25	245 [3500]	200 [53]	SAE#16, G1
		3C16-01	350 [5075]	230 [61]	SAE #20
	Female port, with orifice	2RN11-01	350 [5075]	20 [5]	SAE #4
	Male port	3CM11-01	350 [5075]	20 [5]	SAE #6
		3CM12-01	350 [5075]	35 [9]	SAE #8
		3CM15-01	350 [5075]	150 [40]	SAE #16

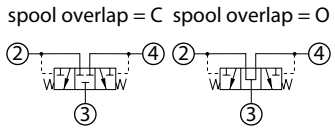
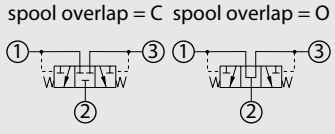
Check Valves - Slip-in

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Normal direction	3C50-01	210 [3045]	70 [19]	FC-144
		3C60-01	140 [2000]	70 [19]	FC-144
		3C80-01	140 [2000]	190 [50]	FC-304
		3C90-01	210 [3045]	190 [50]	FC-304

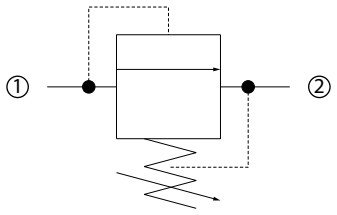
Shuttle Valves - Load Shuttle

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Normal direction	CP124-1	350 [5075]	3.7 [1]	CP04-3
		CP128-1	315 [4570]	22 [5.8]	SDC08-3
		SV 04	315 [4500]	15 [4]	NCS04/3
		CP120-4	330 [4800]	25 [7]	SDC10-3
		SV 06	350 [5075]	48 [12.7]	NCS06/3
	Female port	VS 06	350 [5075]	35 [9]	G1/4
		VS 10	350 [5075]	45 [12]	G3/8

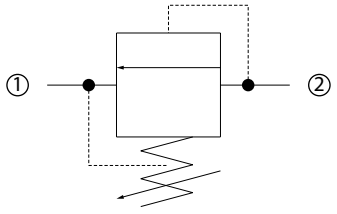
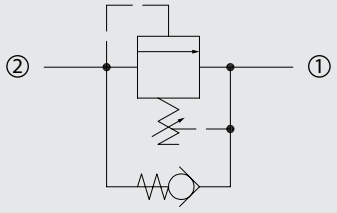
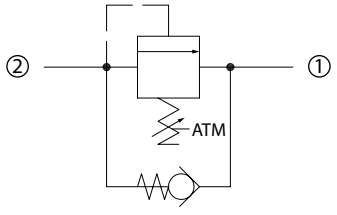
Shuttle Valves - Hot Oil Shuttle

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Hot oil shuttle	CP720-3	350 [5075]	25 [7]	SDC10-4
	Hot oil shuttle	CP721-3	350 [5075]	90 [24]	CP12-3M

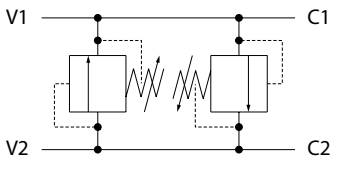
Relief Valves - Direct Acting

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Thermal relief, poppet type	CP208-4	415 [6000]	1.1 [0.3]	SDC08-2
	Poppet type	CP208-3	250 [3625]	30 [8]	SDC08-2
		CP200-3	250 [3625]	40 [11]	SDC10-2
	Damping, poppet type	RV08-DR	250 [3625]	30 [8]	SDC08-2
		VEN 06	250 [3625]	40 [11]	NCS06/2
		VME 06	315 [4500]	40 [11]	VME 06
		VME 07	315 [4500]	50 [13]	VME 07
		VME 08	315 [4500]	80 [21]	VME 08
	Spool type	CP210-1	210 [3045]	45 [12]	SDC10-2
		CP211-1	40 [600]	75 [20]	CP12-2

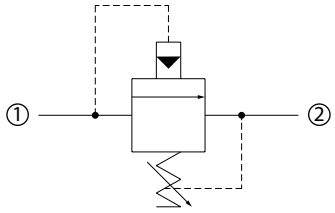
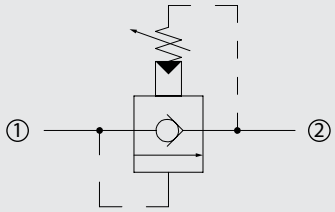
Relief Valves - Differential Area

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Poppet type	CP200-2	350 [5075]	40 [11]	SDC10-2
		CP208-1	250 [3625]	40 [11]	SDC08-2
		CP200-1	250 [3625]	75 [20]	SDC10-2
		CP201-1	250 [3625]	150 [40]	CP12-2
	Poppet type, reverse free flow check	VSB 06-EN	350 [5075]	80 [21]	NCS06/2
		VSB 12-EN	350 [5075]	140 [37]	NCS12/2
	Poppet type, reverse free flow check, atmospheric venting	VSB 06-CN	350 [5075]	80 [21]	NCS06/2
		VSB 12-CN	350 [5075]	140 [37]	NCS12/2

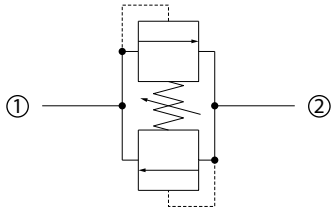
Relief Valves - Cross Over

Schematic / Description		Model	bar [psi]	lpm [gpm]	Ports
	Catalog HIC	VA-E 06	210 [3045]	40 [11]	G3/8
		CP220-1	250 [3625]	75 [20]	G3/8, G1/2, SAE #6 & #8
		CP221-1	250 [3625]	190 [50]	G3/4, G1, SAE #12 & #16

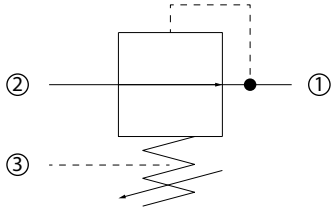
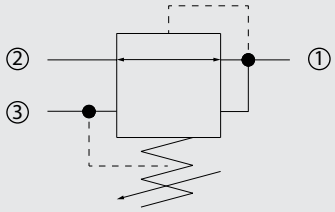
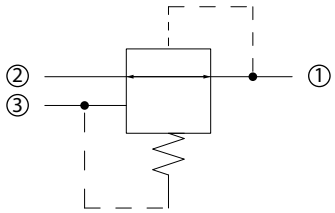
Relief Valves - Pilot Operated

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Spool type	CP210-2	350 [5075]	115 [30]	SDC10-2
		CP211-2	350 [5075]	190 [50]	CP12-2
	Poppet type, reverse free flow	RV10-POP	250 [3625]	120 [32]	SDC10-2

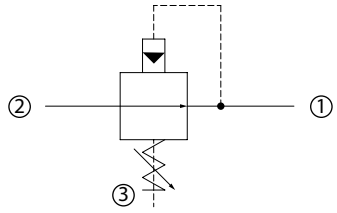
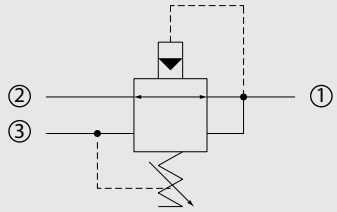
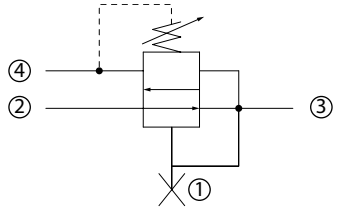
Relief Valves - Bi-Directional

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Bi-directional	CP200-7	250 [3625]	40 [11]	SDC10-2

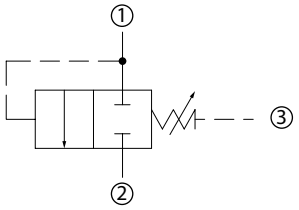
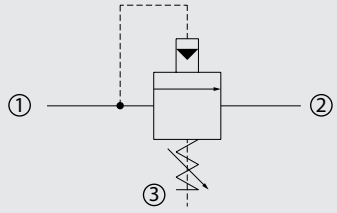
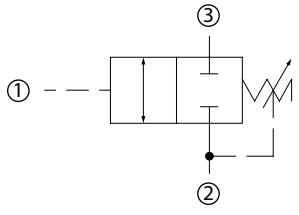
Pressure Reducing Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Non-relieving, direct acting	CP230-2	210 [3045]	40 [11]	SDC10-3
		PRC 06	315 [4500]	40 [11]	NCS06/3
	Relieving, direct acting	CP230-1	210 [3045]	40 [11]	SDC10-3
	Relieving, direct acting, for PVG actuators	PRR10-PVG	210 [3045]	40 [11]	SDC10-3

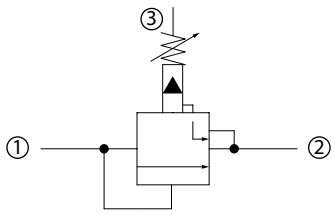
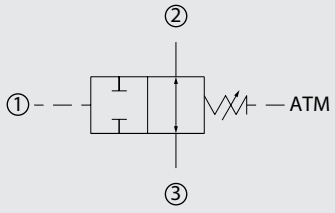
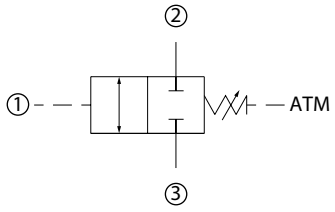
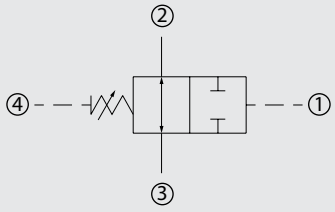
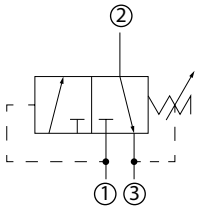
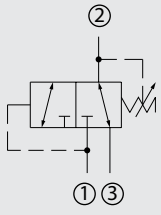
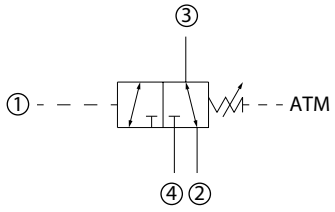
Pressure Reducing Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Non-relieving, pilot operated	CP230-4	350 [5075]	40 [11]	SDC10-3
		PPRC-06	315 [4500]	40 [11]	NCS06/3
	Relieving, pilot operated	PRMP 064	315 [4500]	40 [11]	SDC10-3
		CP231-3	350 [5075]	115 [30]	CP12-3S
	Relieving, direct acting, with damping port	PRR10-DRD	207 [3000]	38 [10]	SDC10-4

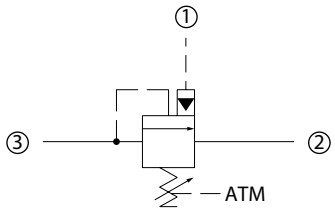
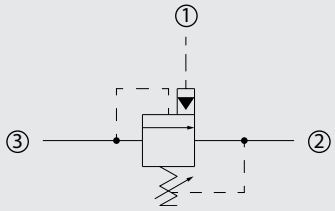
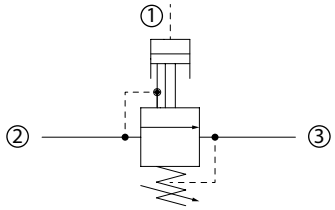
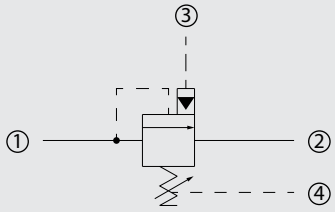
Sequence Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	2-way, normally closed	CP240-8	210 [3045]	55 [14]	SDC10-3
		CP241-8	207 [3000]	150 [39]	CP12-3S
	Pilot operated spool	CP240-21	350 [5075]	45 [12]	SDC10-3
		CP241-21	350 [5075]	75 [20]	CP12-3S
	2-way, normally closed, external pilot, internal drain	CP240-2	210 [3045]	35 [9]	SDC10-3

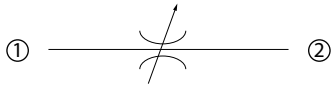
Sequence Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Kick-down type	CP240-22	350 [5075]	45 [12]	SDC10-3
	2-way, normally open atmospheric vent	VDP 06/NA	315 [4500]	25 [7]	NCS06/3
	2-way, normally closed atmospheric vent	VDP 06/NC	315 [4500]	25 [7]	NCS06/3
	2-way, normally open	CP240-5	210 [3045]	25 [7]	SDC10-4
	3-way, pilot operated spool	CP240-1	210 [3045]	25 [7]	SDC10-3
	3-way	CP240-9	210 [3045]	20 [5]	SDC10-3
	3-way, atmospheric vent	VDP 06/4201	315 [4500]	22 [6]	NCS06/4

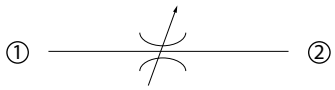
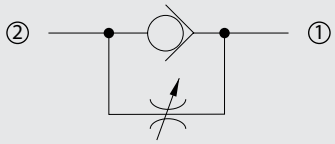
Sequence Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Unloading valve, differential area, pilot operated, atmospheric vent	VDB 06-CN	350 [5075]	80 [21]	NCS06/3
	Unloading valve, differential area, pilot operated	VDB 06-EN	350 [5075]	80 [21]	NCS06/3
		VDB 12-EN	350 [5075]	160 [42]	NCS12/3
	Unloading valve, pilot operated	CP240-30	240 [3500]	4 [1]	SDC10-3
	Unloading valve, pilot operated, spool	AUV 06	250 [3625]	50 [13]	NCS06/4

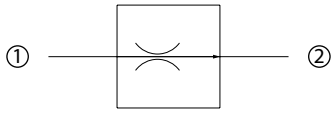
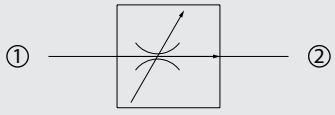
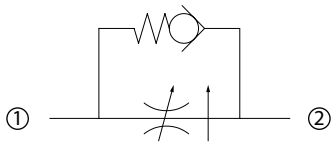
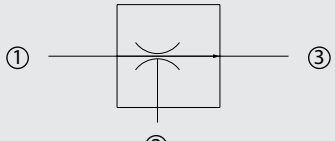
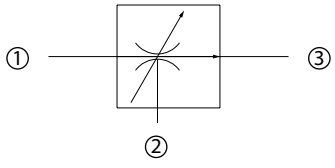
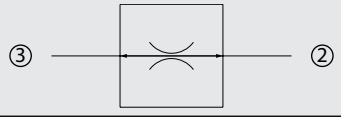
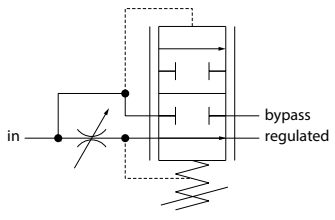
Flow Control Valves - Needle Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Bi-directional	CP618-1	210 [3045]	25 [7]	SDC08-2
		CP618-2	210 [3045]	45 [12]	SDC08-2
		CP610-1	210 [3045]	50 [13]	SDC10-2
		CP610-2	210 [3045]	50 [13]	SDC10-2
		CP611-2	210 [3045]	115 [30]	CP12-2
		CP612-1	210 [3045]	190 [50]	SDC16-2
		CP612-2	210 [3045]	190 [50]	SDC16-2
		CP613-1	210 [3045]	380 [100]	SDC20-2

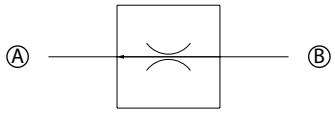
Flow Control Valves - Needle Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Bi-directional, fine metering	CP618-6	310 [4500]	10 [3]	SDC08-2
	Bi-directional, fine metering, reverse free flow	CP610-7	350 [5075]	55 [15]	SDC10-2

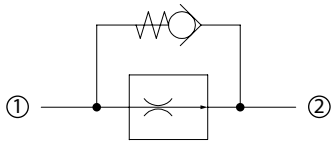
Flow Control Valves - Pressure Compensated

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity/Port
	Fixed setting, restrictive type	CP308-1	210 [3045]	15 [4]	SDC08-2
		CP300-1	210 [3045]	23 [6]	SDC10-2
		CP301-1	210 [3045]	57 [15]	CP12-2
	Adjustable, restrictive type	CP308-2	210 [3045]	15 [4]	SDC08-2
		CP300-2	210 [3045]	23 [6]	SDC10-2
		VR 06	315 [4500]	30 [8]	NCS06/2
		VR 12	315 [4500]	60 [16]	NCS12/2
	Variable orifice, restrictive type, reverse free flow	HFCV10-RT	350 [5075]	11.4 [3]	SDC10-2
	Fixed setting, priority type	CP310-1	210 [3045]	23 [6]	SDC10-3
		VRF 06	315 [4500]	30 [8]	NCS06/3
		CP311-1	210 [3045]	45 [12]	CP12-3
		CP312-1	210 [3045]	65 [17]	SDC16-3
	Adjustable, priority type	CP310-2	210 [3045]	23 [6]	SDC10-3
		VRC 06	315 [4500]	50 [13]	NCS06/3
		VRC 12	315 [4500]	100 [26]	NCS12/3
	Fixed setting, bi-directional	CP300-6	210 [3045]	23 [6]	SDC10-3
		FCH10-BD	350 [5075]	23 [6]	SDC10-3
	Adjustable, priority type, catalog HIC	2F94-01	210 [3045]	30 [8]	SAE #6
		2F95-01	210 [3045]	60 [16]	SAE #8
		2F96-01	210 [3045]	95 [25]	SAE #12
		2F97-01	210 [3045]	190 [50]	SAE #16

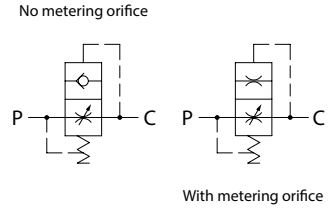
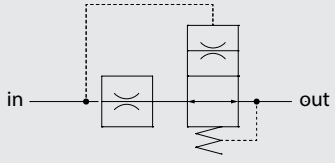
Flow Control Valves - Pressure Compensated

Schematic / Description		Model	bar [psi]	lpm [gpm]	Port
	In-line	SC 10	210 [3045]	16 [4]	Modified G3/8 Port
		SC 13	210 [3045]	47 [12]	Modified G1/2 Port

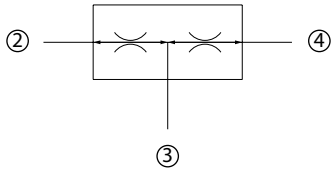
Flow Control Valves - Pressure Compensated, Reverse Check

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity/Port
	Fixed setting, restrictive type	CP9014-1	210 [3045]	113 [30]	Modified SAE #14 Cavity, SAE #10 & 12 Ports

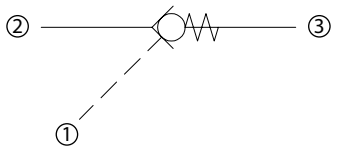
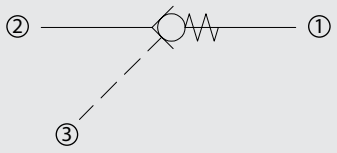
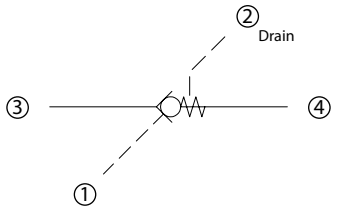
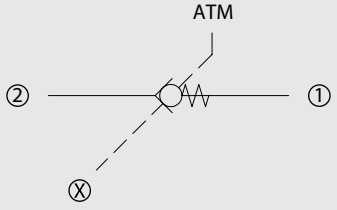
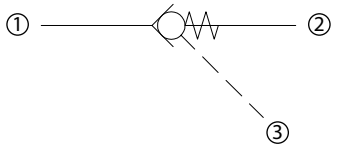
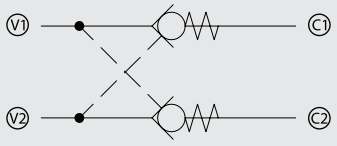
Velocity Fuses

Schematic / Description		Model	bar [psi]	lpm [gpm]	Port
	Velocity fuse	BC 06	210 [3045]	30 [8]	G1/4
		BC 10	210 [3045]	60 [16]	G3/8
		BC 13	210 [3045]	85 [22]	G1/2
	Velocity fuse	CP330-3	207 [3000]	110 [29]	SAE #10

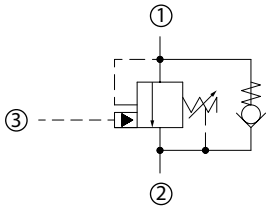
Flow Control Valves - Flow Dividers

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Divider/combiner	CP340-1	210 [3045]	45 [12]	SDC10-4
		VDF 06	210 [3045]	45 [12]	NCS06/4
		CP341-1	210 [3045]	75 [20]	CP12-4
		CP342-1	210 [3045]	150 [40]	CP16-4
		CP342-3	450 [6500]	150 [40]	CP16-4
		CP343-1	210 [3045]	340 [90]	SDC20-4

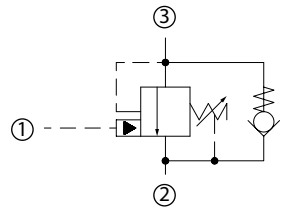
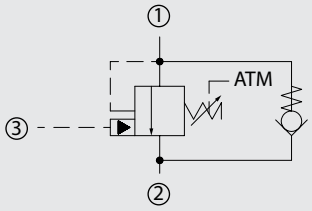
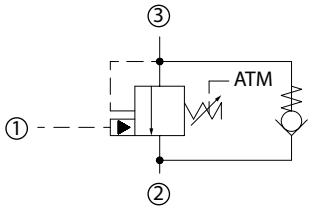
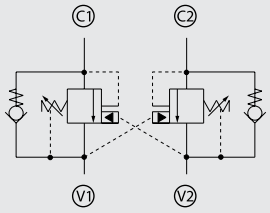
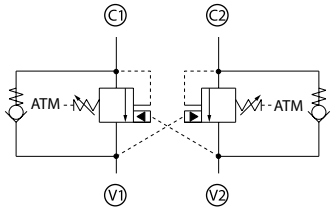
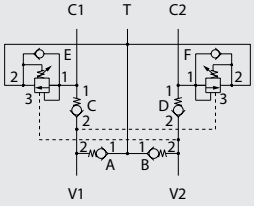
Pilot Operated Check Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Pilot to open	RPC 04	350 [5075]	20.5 [5.4]	NCS04/3
		RPC 06	350 [5075]	35 [9.3]	NCS06/3
		CP450-1	240 [3480]	30 [8]	SDC10-3
		RPC 12	315 [4500]	90 [24]	NCS12/3
	Reverse pilot to open	CP458-2	210 [3045]	20 [5]	SDC08-3
		MC10-RO	210 [3045]	45 [12]	SDC10-3S
		CP451-2	210 [3045]	95 [25]	CP12-3S
		CP452-2	210 [3045]	130 [34]	SDC16-3S
		CP453-2	210 [3045]	230 [61]	CP20-3S
	Pilot to open with drain	RPV 06	315 [4500]	30 [8]	NCS06/4
	Reverse pilot to open with vent	CP453-5	350 [5075]	250 [66]	SDC20-2
	Pilot to close	CP460-1	210 [3045]	45 [12]	SDC10-3
		CP461-1	210 [3045]	115 [30]	CP12-3S
		CP462-1	210 [3045]	190 [50]	SDC16-3S
	HIC, dual pilot operated check	CP410-1	210 [3045]	85 [22]	G3/8 G1/2 SAE #6 SAE #8

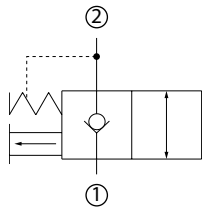
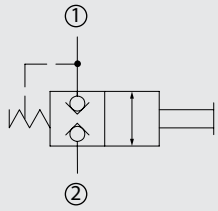
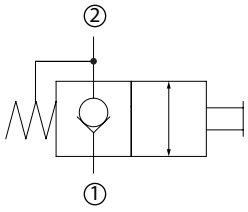
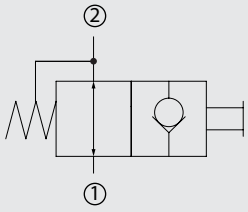
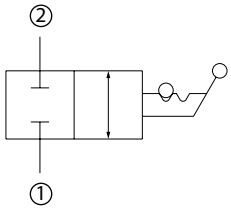
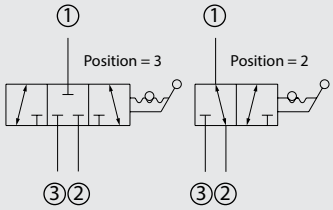
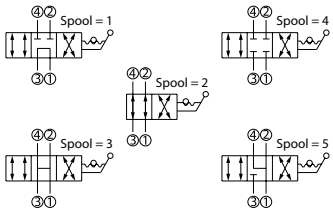
Counterbalance Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Hydraulic vent	CP448-1	350 [5075]	20 [5]	CP08-3L
		CB10-HV	350 [5075]	60 [16]	SDC10-3S
		CP441-1	350 [5075]	115 [30]	CP12-3S
		CB20-HV	345 [5000]	266 [70]	CP20-3S

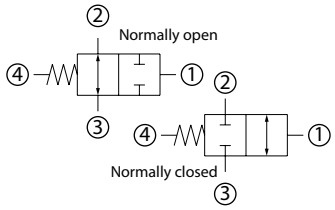
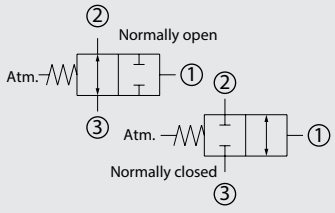
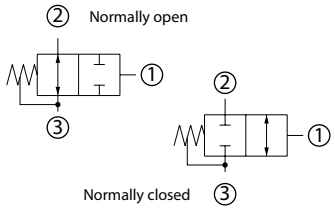
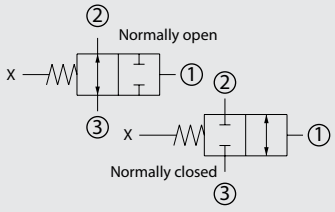
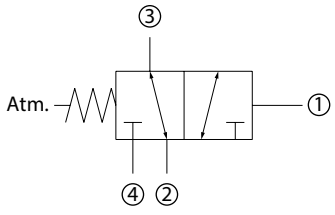
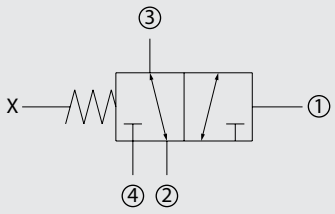
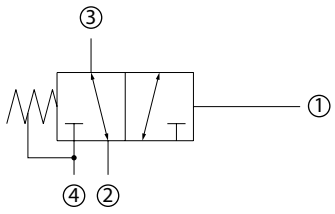
Counterbalance Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Hydraulic vent, pilot port 1	VCB06-EN	350 [5075]	60 [16]	NCS06-3
		VCB 12-EN	350 [5075]	140 [37]	NCS12-3
	Atmospheric vent	CB10-AV	350 [5075]	60 [16]	SDC10-3S
	Atmospheric vent, pilot port 1	VCB06-CN	350 [5075]	60 [16]	NCS06-3
		VCB 12-CN	350 [5075]	140 [37]	NCS12-3
	Dual counterbalance valve, hydraulic vent, catalog HIC	CP448-2	350 [5075]	20 [5]	SAE #4 & 6 G3/8
		VCB06-EN-DL	350 [5075]	60 [16]	SAE #6 & 8 G3/8 & G1/2
		DCB10-HV	350 [5075]	60 [16]	SAE #6 & 8 G3/8 & G1/2
		CP441-2	350 [5075]	115 [30]	SAE #10 & 12 G1/2 & G3/4
		VCB12-EN-DL	350 [5075]	140 [37]	SAE #8 & 12 G1/2 & G3/4
		DCB20-HV	345 [5000]	266 [70]	SAE #16 & 20 G1 & G1-1/4
	Dual counterbalance valve, atmospheric vent, catalog HIC	DCB10-AV	350 [5075]	60 [16]	SAE #6 & 8 G3/8 & G1/2
		VCB06-CN-DL	350 [5075]	60 [16]	SAE #6 & 8 G3/8 & G1/2
		VCB12-CN-DL	350 [5075]	140 [37]	SAE #8 & 12 G1/2 & G3/4
	Dual counterbalance valve, make-up checks, catalog HIC	DCB10-MC	350 [5075]	57 [15]	SAE #6 & 8
		DCB12-MC	350 [5075]	95 [25]	SAE #10 & 12 G3/4

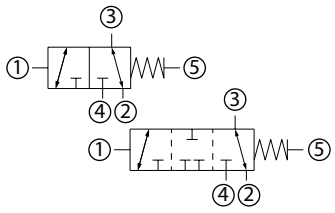
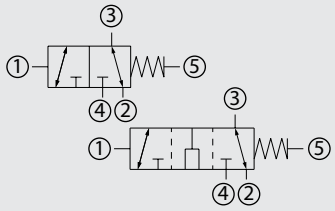
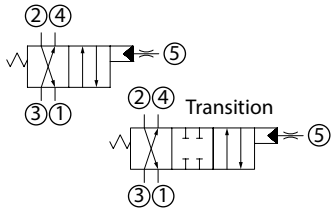
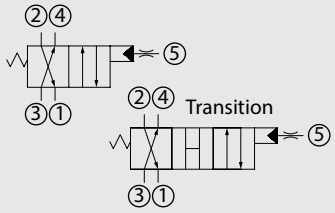
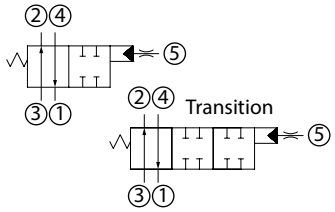
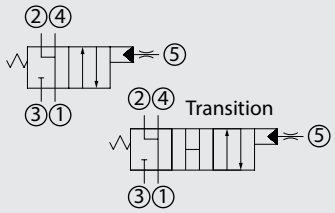
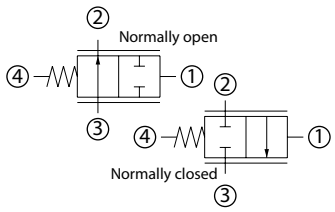
Directional Control Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Mechanical, poppet, pull to open	CP600-1	210 [3045]	68 [18]	SDC10-2
	Mechanical, poppet, push to open	CE 06	210 [3045]	20 [5]	NCS06/2
		CP600-2	210 [3045]	50 [13]	SDC10-2
	Mechanical, poppet, normally closed	DMP08-NC	210 [3045]	38 [10]	SDC08-2
	Mechanical, poppet, normally open	DMP08-NO	210 [3045]	38 [10]	SDC08-2
	Manual, rotary, 2-position, 2-way	CP620-1	210 [3045]	75 [20]	SDC10-2
	Manual, rotary, 2-position, 3-way	CP630-1	210 [3045]	30 [8]	SDC10-3
	Manual, rotary, 2-position, 4-way	CP640-1	210 [3045]	10 [3]	SDC10-4

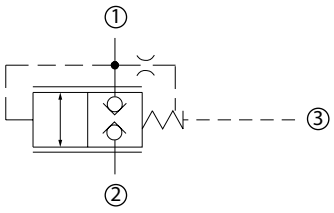
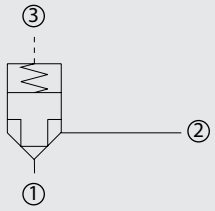
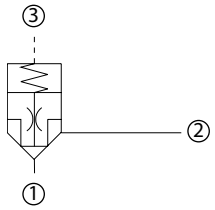
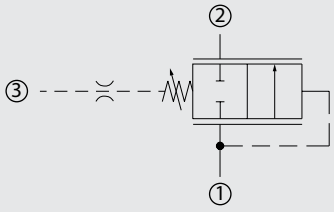
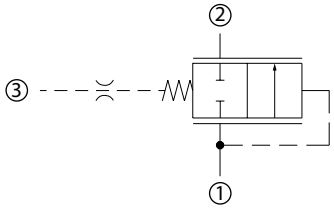
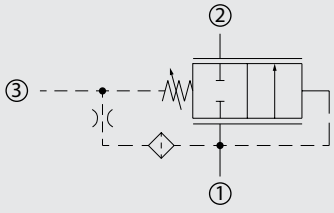
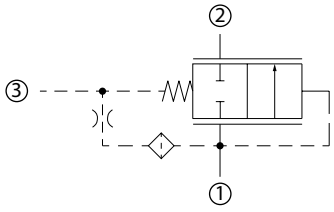
Directional Control Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	2-position, 2-way	CP710-8	210 [3045]	40 [11]	SDC10-4
		CP712-11	450 [6500]	130 [34]	CP16-4
		CP712-8	210 [3045]	130 [34]	CP16-4
	2-position, 2-way, atmospheric vent	CP710-1	210 [3045]	40 [11]	SDC10-3
		CP712-1	210 [3045]	130 [34]	SDC16-3
		CP713-1	210 [3045]	265 [70]	SDC20-3
	2-position, 2-way, hydraulic vent	CP710-3	210 [3045]	40 [11]	SDC10-3
	2-position, 2-way, external pilot	CP710-2	210 [3045]	40 [11]	SDC10-3
		CP712-2	210 [3045]	130 [34]	SDC16-3
		CP713-2	210 [3045]	265 [70]	SDC20-3
	2-position, 3-way, atmospheric vent	CP720-1	210 [3045]	30 [8]	SDC10-4
		CP722-1	210 [3045]	130 [34]	CP16-4
		CP723-1	210 [3045]	265 [70]	SDC20-4
	2-position, 3-way, external pilot	CP720-2	210 [3045]	25 [7]	SDC10-4
		CP722-2	210 [3045]	130 [34]	CP16-4
		CP723-2	210 [3045]	265 [70]	SDC20-4
	2-position, 3-way, hydraulic vent	CP720-5	210 [3045]	40 [11]	SDC10-4
		CP722-11	450 [6500]	125 [33]	CP16-4
		CP722-5	210 [3045]	130 [34]	CP16-4
		CP723-5	210 [3045]	265 [70]	SDC20-4

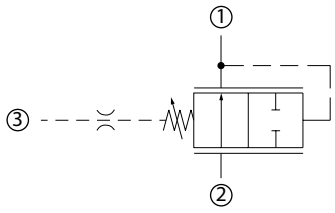
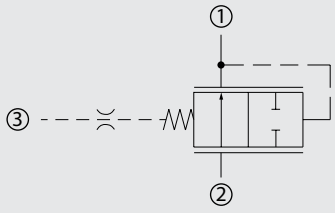
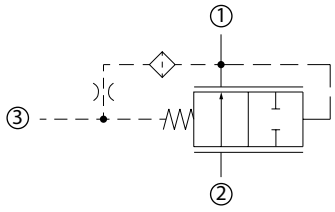
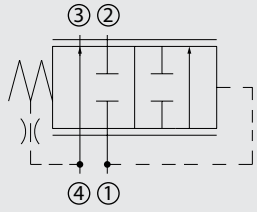
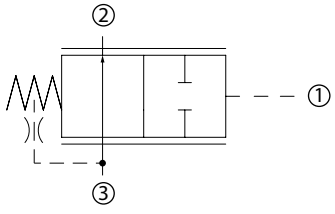
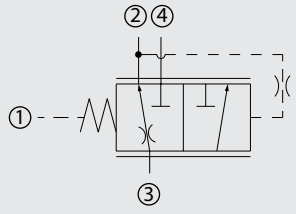
Directional Control Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	2-position, 3-way, pilot port 5, closed transition	DV16-P5-23-01-CT	210 [3045]	130 [34]	SDC16-5S
	2-position, 3-way, pilot port 5, open transition	DV16-P5-23-01-OT	210 [3045]	130 [34]	SDC16-5S
	2-position, 4-way, pilot port 5	DV15-P5-24-01	230 [3335]	70 [18]	NCS 12/5
	2-position, 4-way, fan drive pilot port 5	DV15-P5-24-FD	230 [3335]	70 [18]	NCS 12/5
	2-position, 4-way, pilot port 5	DV15-P5-24-05	230 [3335]	70 [18]	NCS 12/5
	2-position, 4-way, pilot port 5	DV15-P5-24-08	230 [3335]	70 [18]	NCS 12/5
	Normally closed/open, hydraulically piloted, proportional	CP712-7	210 [3045]	220 [58]	CP16-4

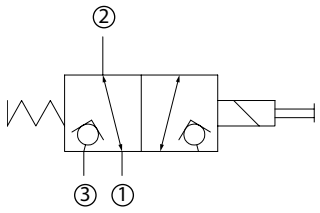
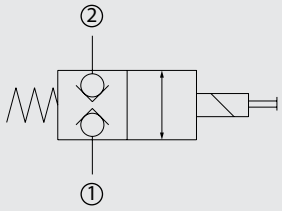
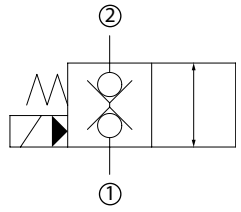
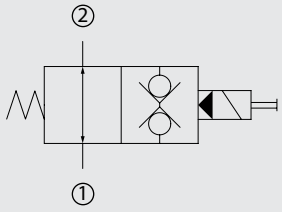
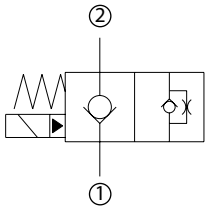
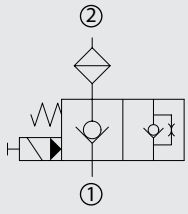
Logic Elements - Differential Sensing Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Poppet type, double blocking, normally closed, vent to open	VLP 12/P2	315 [4500]	160 [42]	NCS12/3
	Poppet type, normally closed, pilot to close	VLP 12/A5	315 [4500]	160 [42]	NCS12/3
	Poppet type, normally closed, vent to open	VLP 12/C2	315 [4500]	160 [42]	NCS12/3
	Adjustable, normally closed, pilot to close	HLEA10-CPC	350 [5075]	80 [21]	SDC10-3S
	Normally closed, pilot to close	CP700-1	210 [3045]	50 [13]	SDC10-3
		HLE10-CPC	350 [5075]	80 [21]	SDC10-3S
		CP701-1	210 [3045]	150 [40]	CP12-3S
		CP702-1	210 [3045]	190 [50]	SDC16-3S
		LE20-CPC	207 [3000]	300 [79]	CP20-3S
	Adjustable, normally closed, vent to open	HLEA10-CVO	350 [5075]	80 [21]	SDC10-3S
	Normally closed, vent to open	CP700-2	210 [3045]	50 [13]	SDC10-3
		HLE10-CVO	350 [5075]	80 [21]	SDC10-3S
		CP701-2	210 [3045]	150 [40]	CP12-3S
		CP702-2	210 [3045]	190 [50]	SDC16-3S
		CP703-2	210 [3045]	320 [85]	CP20-3S

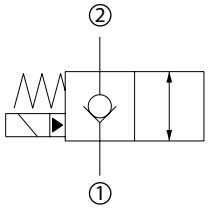
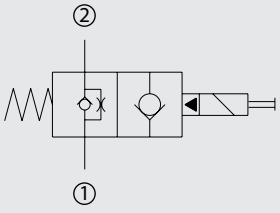
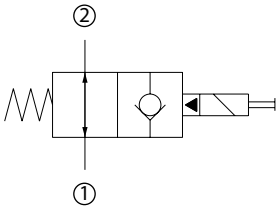
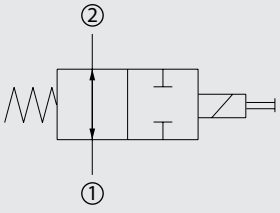
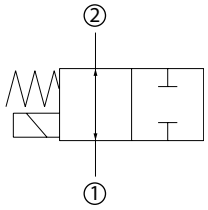
Logic Elements - Differential Sensing Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity
	Adjustable, normally open, pilot to open	HLEA10-OPO	350 [5075]	60 [16]	SDC10-3S
	Normally open, pilot to open	CP700-4	210 [3045]	40 [11]	SDC10-3
		HLE10-OPO	350 [5075]	60 [16]	SDC10-3S
		CP701-4	210 [3045]	75 [20]	CP12-3S
		CP702-4	210 [3045]	114 [30]	SDC16-3S
		CP703-4	210 [3045]	200 [53]	CP20-3S
	Normally open, vent to close	CP700-3	210 [3045]	40 [11]	SDC10-3
		HLE10-OVC	350 [5075]	60 [16]	SDC10-3S
		CP701-3	210 [3045]	80 [21]	CP12-3S
		CP702-3	210 [3045]	115 [30]	SDC16-3S
	Pressure compensator, flow control, priority	CP310-4	210 [3045]	40 [11]	SDC10-4
		CP311-4	210 [3045]	60 [16]	CP12-4
		CP312-4	210 [3045]	130 [34]	CP16-4
		CP313-4	210 [3045]	340 [90]	SDC20-4
	Pressure compensator, flow control, restrictive	CP300-4	210 [3045]	40 [11]	SDC10-3
		CP301-4	210 [3045]	90 [24]	CP12-3
		CP302-4	210 [3045]	130 [34]	SDC16-3
		CP303-4	210 [3045]	284 [75]	SDC20-3
	Pressure compensator, load sense, priority, static	CP310-6	210 [3045]	40 [11]	SDC10-4
		PC12-LPS	210 [3045]	75 [20]	CP12-4
		PC16-LPS	210 [3045]	125 [33]	CP16-4
		CP313-6	210 [3045]	200 [53]	SDC20-4

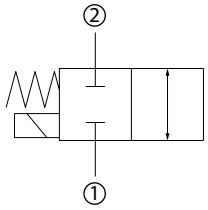
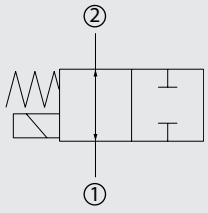
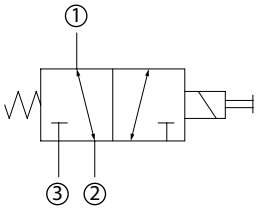
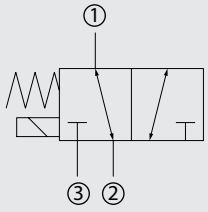
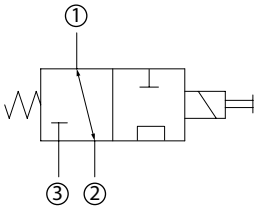
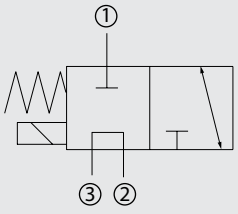
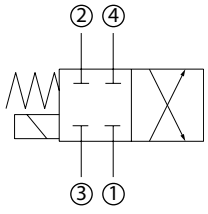
Solenoid Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Poppet type, 3-way, 2-position	EVH 06/D5	230 [3300]	20 [5]	NCS06/3 • M16/R16
	Poppet type, double blocking, normally closed	SVP08-CDB	230 [3300]	16 [4]	SDC08-2 • M13/R13
		EVK 06/C5	210 [3045]	40 [11]	NCS06/2 • M16/R16
	Poppet type, double blocking, normally closed, pilot operated	HSVP10-CDB	350 [5075]	65 [17]	SDC10-2 • H16
	Poppet type, double blocking, normally open, pilot operated	HSVP10-ODB	350 [5075]	65 [17]	SDC10-2 • H16
	Poppet type, normally closed, pilot operated	SVP08-NC	230 [3300]	35 [9]	SDC08-2 • M13/R16
		SVP10-NC	230 [3300]	80 [21]	SDC10-2 • M16/R16
		HSVP10-NC	350 [5075]	65 [17]	SDC10-2 • H16
		SVP12-NC	230 [3300]	114 [30]	CP12-2 • M16/R16
		HSVP12-NC	350 [5075]	114 [30]	CP12-2 • H16
		SVP16-NC	230 [3300]	152 [40]	SDC16-2 • M16/R16
		HSVP16-NC	350 [5075]	152 [40]	SDC16-2 • H16
		SVP20-NC	230 [3300]	227 [60]	SDC20-2 • M16/R16
		HSVP20-NC	350 [5075]	227 [60]	SDC20-2 • H16
	Poppet type, normally closed, pilot operated, flow control	SVP08-NCF	230 [3300]	15 [4]	SDC08-2 • M13/R13

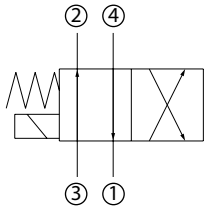
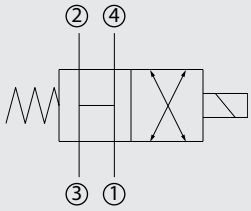
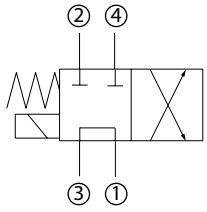
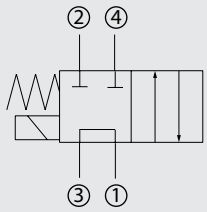
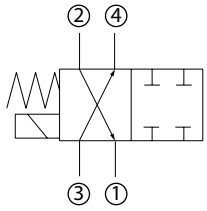
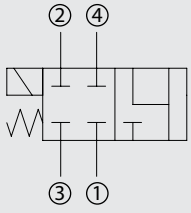
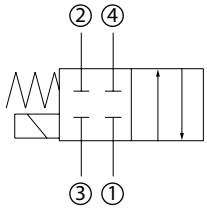
Solenoid Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Poppet type, normally closed, pilot operated, reverse free flow	SVP08-NCR	230 [3300]	35 [9]	SDC08-2 • M13/R13
		SVP10-NCR	230 [3300]	80 [21]	SDC10-2 • M16/R16
		HSVP10-NCR	350 [5075]	65 [17]	SDC10-2 • H16
		SVP12-NCR	230 [3300]	114 [30]	CP12-2 • M16/R16
		HSVP12-NCR	350 [5075]	114 [30]	CP12-2 • H16
		SVP16-NCR	230 [3300]	152 [40]	SDC16-2 • M16/R16
		HSVP16-NCR	350 [5075]	152 [40]	SDC16-2 • H16
		SVP20-NCR	230 [3300]	227 [60]	SDC20-2 • M16/R16
		HSVP20-NCR	350 [5075]	227 [60]	SDC20-2 • H16
	Poppet type, normally open, pilot operated	SVP08-NO	230 [3300]	35 [9]	SDC08-2 • M13/R13
		SVP10-NO	230 [3300]	80 [21]	SDC10-2 • M16/R16
		HSVP10-NO	350 [5075]	65 [17]	SDC10-2 • H16
		SVP12-NO	230 [3300]	114 [30]	CP12-2 • M16/R16
		HSVP12-NO	350 [5075]	114 [30]	CP12-2 • H16
		SVP16-NO	230 [3300]	152 [40]	SDC16-2 • M16/R16
		HSVP16-NO	350 [5075]	152 [40]	SDC16-2 • H16
		SVP20-NO	230 [3300]	265 [70]	SDC20-2 • M16/R16
		HSVP20-NO	350 [5075]	265 [70]	SDC20-2 • H16
	Poppet type, normally open, pilot operated, reverse free flow	SVP08-NOR	230 [3300]	35 [9]	SDC08-2 • M13/R13
		SVP10-NOR	230 [3300]	80 [21]	SDC10-2 • M16/R16
		HSVP10-NOR	350 [5075]	65 [17]	SDC10-2 • H16
		SVP12-NOR	230 [3300]	114 [30]	CP12-2 • M16/R16
		HSVP12-NOR	350 [5075]	114 [30]	CP12-2 • H16
		SVP16-NOR	230 [3300]	152 [40]	SDC16-2 • M16/R16
		HSVP16-NOR	350 [5075]	152 [40]	SDC16-2 • H16
		SVP20-NOR	230 [3300]	265 [70]	SDC20-2 • M16/R16
		HSVP20-NOR	350 [5075]	265 [70]	SDC20-2 • H16
	Spool type, 2-way, 2-position, normally open	SV08-22-01	230 [3300]	16 [4]	SDC08-2 • M13/R13
		HSV10-22-01	350 [5075]	50 [13]	SDC10-2 • H16
	Spool type, 2-way, 2-position, normally open	HSV08-22-01	350 [5075]	12 [3.4]	SDC08-2 • M13/R13
		SV10-22-01	230 [3300]	27 [7]	SDC10-2 • M16/R16
		SV15-22-01	210 [3045]	60 [16]	NCS12/2 • M19

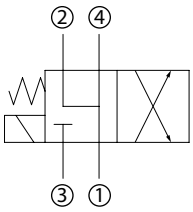
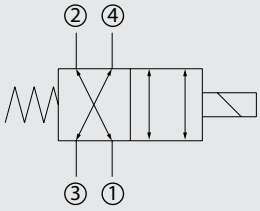
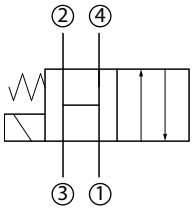
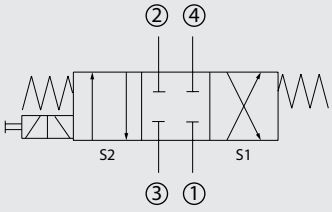
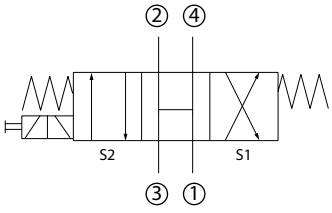
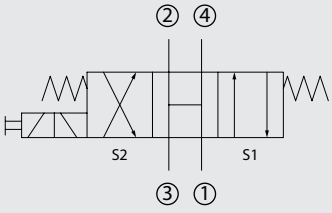
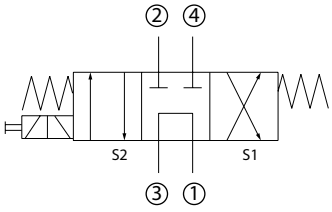
Solenoid Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Spool type, 2-way, 2-position, normally closed	SV08-22-02	230 [3300]	14 [4]	SDC08-2 • M13/R13
		HSV08-22-02	350 [5075]	12 [3]	SDC08-2 • M13/R13
		SV10-22-02	230 [3300]	35 [9]	SDC10-2 • M16/R16
		HSV10-22-02	350 [5075]	50 [13]	SDC10-2 • H16
		SV15-22-02	210 [3045]	60 [16]	NCS12/2 • M19
	Spool type, 2-way, 2-position, normally open	SV08-22-03	230 [3300]	12 [3]	SDC08-2 • M13/R13
	Spool type, 3-way, 2-position	SV08-23-01	230 [3300]	17 [4.5]	SDC08-3 • M13/R13
		HSV08-23-01	350 [5075]	16 [4.2]	SDC08-3 • M13/R13
		SV10-23-01	230 [3300]	28 [7.4]	SDC10-3 • M16/R16
		HSV10-23-01	350 [5075]	30 [8]	SDC10-3 • H16
		CP521-21	240 [3500]	60 [16]	CP12-3 • D14E
	Spool type, 3-way, 2-position	SV08-23-02	230 [3300]	10 [3]	SDC08-3 • M13/R13
		HSV08-23-02	350 [5075]	16 [4.2]	SDC08-3 • M13/R13
		SV09-23-02	100 [1450]	21 [6]	SDC10-3 • M13/R13
		HSV10-23-02	350 [5075]	28 [7.4]	SDC10-3 • H16
		SV10-23-02	230 [3300]	15 [4]	SDC10-3 • M16/R16
	Spool type, 3-way, 2-position	SV08-23-03	230 [3300]	18 [5]	SDC08-3 • M13/R13
	Spool type, 3-way, 2-position	SV08-23-04	230 [3300]	10 [3]	SDC08-3 • M13/R13
		SV10-23-04	230 [3300]	20 [5]	SDC10-3 • M16/R16
		SV15-23-04	210 [3045]	50 [13]	NCS12/3 • M19
	Spool type, 4-way, 2-position	SV08-24-02	230 [3300]	10 [3]	SDC08-4 • M13/R13
		SV10-24-02	230 [3300]	24 [6.3]	SDC10-4 • M16/R16
		SV15-24-02	210 [3045]	60 [16]	NCS12/4 • M19

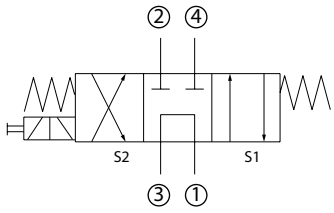
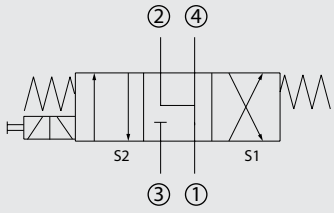
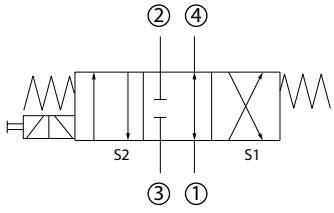
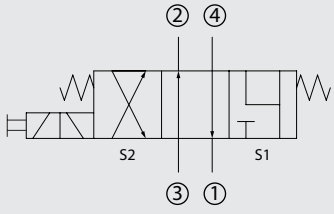
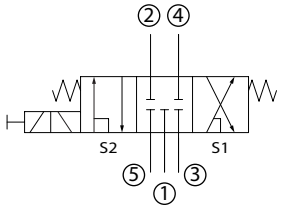
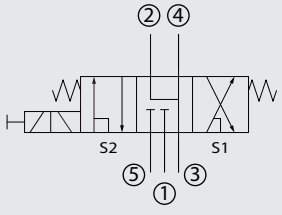
Solenoid Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Spool type, 4-way, 2-position	SV08-24-01	230 [3300]	8 [2]	SDC08-4 • M13/R13
		HSV08-24-01	350 [5075]	11 [2.9]	SDC08-4 • M13/R13
		SV09-24-01	100 [1450]	20 [5]	SDC10-4 • M13/R13
		SV10-24-01	230 [3300]	15 [4]	SDC10-4 • M16/R16
		HSV10-24-01	350 [5075]	25 [6.6]	SDC10-4 • H16
		SV15-24-01	210 [3045]	55 [15]	NCS12/4 • M19
	Spool type, 4-way, 2-position	SV15-24-03	210 [3045]	50 [13]	NCS12/4 • M19
	Spool type, 4-way, 2-position	SV08-24-04	230 [3300]	8 [2]	SDC08-4 • M13/R13
		SV15-24-04	210 [3045]	50 [13]	NCS12/4 • M19
	Spool type, 4-way, 2-position	SV10-24-12	230 [3300]	18 [5]	SDC10-4 • M16/R16
	Spool type, 4-way, 2-position	SV10-24-05	230 [3300]	25 [7]	SDC10-4 • M16/R16
	Spool type, 4-way, 2-position	SV10-24-06	230 [3300]	20 [5]	SDC10-4 • M16/R16
	Spool type, 4-way, 2-position	SV10-24-07	230 [3300]	24 [6]	SDC10-4 • M16/R16

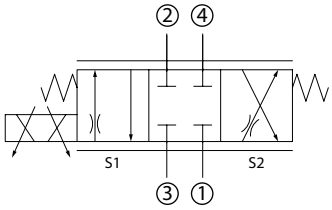
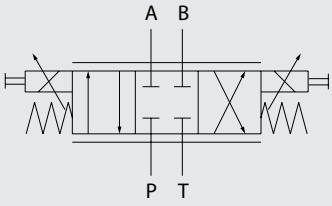
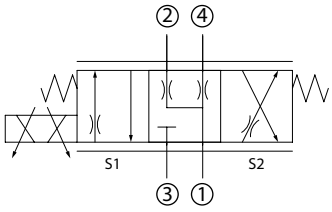
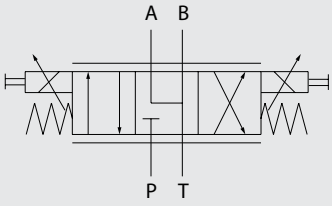
Solenoid Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Spool type, 4-way, 2-position	SV08-24-08	230 [3300]	24 [6]	SDC08-4 • M13/R13
	Spool type, 4-way, 2-position	CP531-21	240 [3500]	32 [8]	CP12-4 • D14E
	Spool type, 4-way, 2-position	SV10-24-13	230 [3300]	21 [6]	SDC10-4 • M16/R16
	Spool type, 4-way, 3-position	SV08-34-02	230 [3300]	10 [2.6]	SDC08-4 • M13/R13
		HSV08-34-02	350 [5075]	11 [2.9]	SDC08-4 • M13/R13
		SV10-34-02	230 [3300]	20 [6]	SDC10-4 • M16/R16
		HSV10-34-02	350 [5075]	25 [6.6]	SDC10-4 • H16
		SV15-34-02	210 [3045]	55 [15]	NCS12/4 • M19
	Spool type, 4-way, 3-position	SV08-34-03	230 [3300]	8 [2]	SDC08-4 • M13/R13
		SV15-34-03	210 [3045]	50 [13]	NCS12/4 • M19
	Spool type, 4-way, 3-position	SV10-34-03	230 [3300]	16 [4]	SDC10-4 • M16/R16
	Spool type, 4-way, 3-position	SV08-34-04	230 [3300]	6 [2]	SDC08-4 • M13/R13
		SV15-34-04	210 [3045]	50 [13]	NCS12/4 • M19

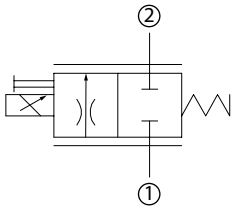
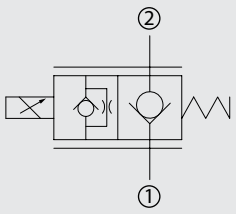
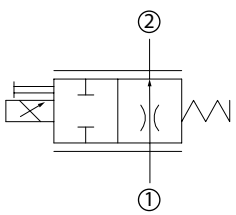
Solenoid Valves

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Spool type, 4-way, 3-position	SV10-34-04	230 [3300]	15 [4]	SDC10-4 • M16/R16
	Spool type, 4-way, 3-position	SV08-34-05	230 [3300]	10 [2.6]	SDC08-4 • M13/R13
		HSV08-34-05	350 [5075]	11 [2.9]	SDC08-4 • M13/R13
		SV10-34-05	230 [3300]	20 [5]	SDC10-4 • M16/R16
		HSV10-34-05	350 [5075]	25 [6.6]	SDC10-4 • H16
		SV15-34-05	210 [3045]	55 [15]	NCS12/4 • M19
	Spool type, 4-way, 3-position	SV10-34-11	230 [3300]	24 [6]	SDC10-4 • M16/R16
	Spool type, 4-way, 3-position	SV10-34-14	230 [3300]	18 [4.8]	SDC10-4 • M16/R16
	Spool type, 5-way, 3-position	SV10-35-02	230 [3300]	18 [4.8]	SDC10-5 • M16/R16
	Spool type, 5-way, 3-position	SV10-35-05	230 [3300]	18 [4.8]	SDC10-5 • M16/R16

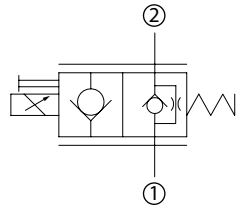
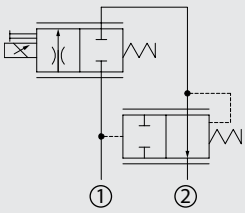
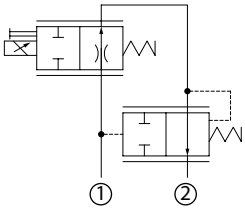
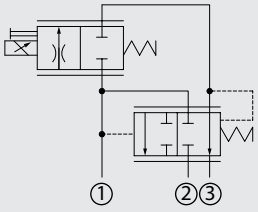
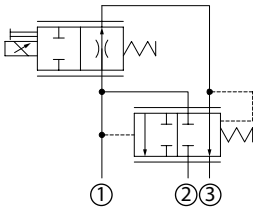
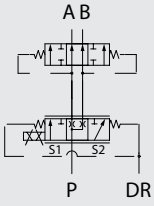
Proportional Valves - Directional

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Closed center	PSV10-34-02	250 [3625]	22 [6]	SDC10-4 • M16/R16
		PSV12-34-02	250 [3625]	50 [13]	CP12-4 • M19
	Cetop	PDCV03-3Z11	350 [5075]	30.3 [8]	ISO D05 • PD03
		PDCV05-3Z11	350 [5075]	60 [16]	ISO D03 • PD03
	Float center	PSV08-34-05	210 [3045]	11 [3]	SDC08-4 • M13/R13
		PSV10-34-05	250 [3625]	22 [6]	SDC10-4 • M16/R16
		PSV12-34-05	250 [3625]	60 [16]	CP12-4 • M19
	Cetop	PDCV03-3Y11	350 [5075]	30.3 [8]	ISO D03 • PD03
		PDCV05-3Y11	350 [5075]	60 [16]	ISO D05 • PD05

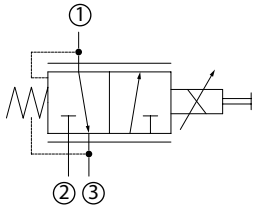
Proportional Valves - Flow Control

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Non-compensated, normally closed	CP518-PNC	210 [3045]	12 [3]	SDC08-2 • M19P
		PSV10-NC	260 [3770]	40 [11]	SDC10-2 • M19P
		PSV12-NC	260 [3770]	80 [21]	SDC12-2 • D14E (35W)
		PSV16-NC	260 [3770]	100 [26]	SDC16-2 • D14E (35W)
	Non-compensated, normally closed, poppet type	PSVP10-NCR	260 [3770]	55 [14]	SDC10-2 • M19P
		PSVP12-NCR	260 [3770]	70 [18]	SDC12-2 • M19P
		PSVP16-NCR	260 [3770]	90 [24]	SDC16-2 • M19P
	Non-compensated, normally open	CP518-PNO	210 [3045]	12 [3]	SDC08-2 • M19P
		PSV10-NO	260 [3770]	45 [12]	SDC10-2 • M19P
		PSV12-NO	260 [3770]	100 [26]	SDC12-2 • D14E (35W)
		PSV16-NO	260 [3770]	110 [29]	SDC16-2 • D14E (35W)

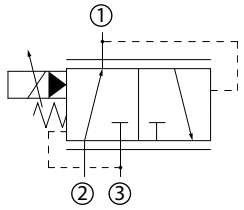
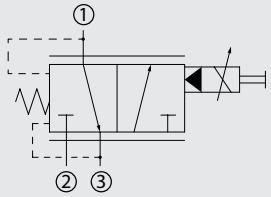
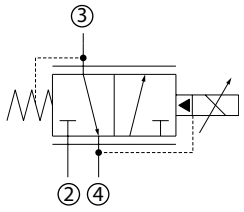
Proportional Valves - Flow Control

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Non-compensated, normally open, poppet type	PSVP10-NOR	260 [3770]	45 [12]	SDC10-2 • M19P
		PSVP12-NOR	260 [3770]	70 [18]	SDC12-2 • M19P
		PSVP16-NOR	260 [3770]	80 [21]	SDC16-2 • M19P
	Pressure compensated, restrictive type, normally closed	PFC10-RC	260 [3770]	30 [8]	SDC10-2 • M19P
		PFC12-RC	260 [3770]	65 [17]	SDC12-2 • D14E (35W)
		PFC16-RC	260 [3770]	90 [24]	SDC16-2 • D14E (35W)
	Pressure compensated, restrictive type, normally open	PFC10-RO	260 [3770]	30 [8]	SDC10-2 • M19P
		PFC12-RO	260 [3770]	60 [16]	SDC12-2 • D14E (35W)
		PFC16-RO	260 [3770]	85 [22]	SDC16-2 • D14E (35W)
	Pressure compensated, priority type, normally closed	PFC10-PC	260 [3770]	40 [11]	SDC10-3 • M19P
		PFC12-PC	260 [3770]	65 [17]	SDC12-3 • D14E (35W)
		PFC16-PC	260 [3770]	85 [22]	SDC16-3 • D14E (35W)
	Pressure compensated, priority type, normally open	PFC10-PO	260 [3770]	35 [9]	SDC10-3 • M19P
		PFC12-PO	260 [3770]	70 [18]	SDC12-3 • D14E (35W)
		PFC16-PO	260 [3770]	90 [24]	SDC16-3 • D14E (35W)
	Proportional flow divider, compensated, catalog HIC	PFD10-OD	230 [3335]	40 [11]	SAE #4 & 6 G3/8 & G1/2 • M16

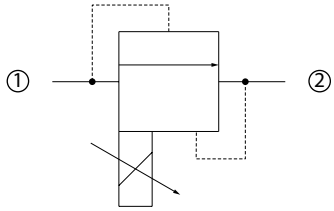
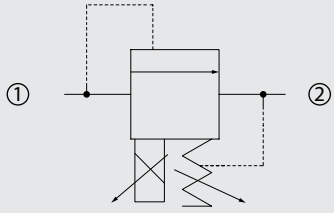
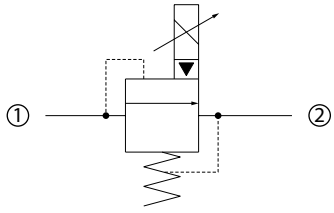
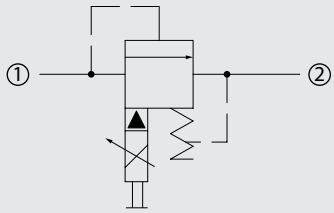
Proportional Valves - Pressure Reducing

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Direct acting, minimum reduced pressure with zero current	CP558-24	34 [500]	4 [1]	SDC08-3 • D08

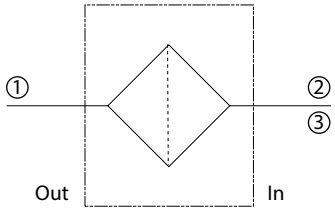
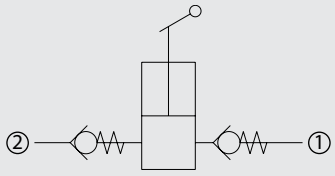
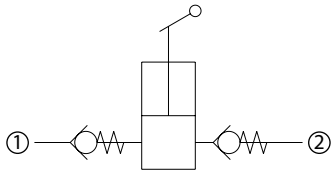
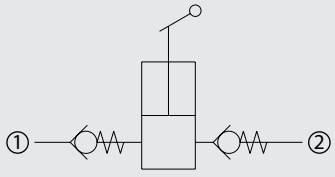
Proportional Valves - Pressure Reducing

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Reducing/relieving valve, piloted, maximum reduced pressure with zero current	PPR10-PAC	250 [3625]	18 [5]	SDC10-3 • M19P
	Reducing/relieving valve, piloted, minimum reduced pressure with zero current	XRP 06	315 [4500]	25 [7]	NCS06/3 • M19P
	Reducing/relieving valve, pilot operated, minimum reduced pressure with zero current	PPR09-POD	50 [700]	25 [7]	SDC10-4 • M13/R13

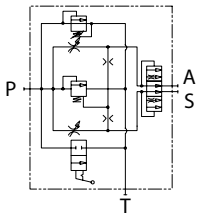
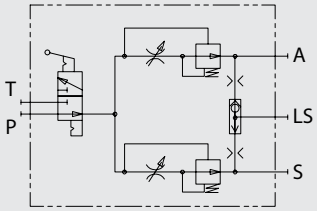
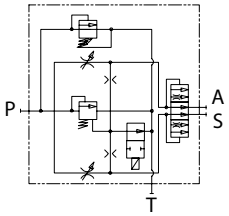
Proportional Valves - Pressure Relieving

Schematic / Description		Model	bar [psi]	lpm [gpm]	Cavity • Coil
	Direct acting, normally open	XMD 04	250 [3625]	5 [1.3]	NCS04/2 • M19P
		CP558-20	210 [3045]	8 [2]	SDC08-2 • D10
	Direct acting, normally closed	PRV08-DAC	210 [3045]	2.1 [0.55]	SDC08-2 • M13/R13
		HPRV08-DAC	350 [5075]	1.2 [0.32]	SDC08-2 • M13/R13
	Pilot operated, normally closed	PRV10-POC	250 [3625]	76 [20]	SDC10-2 • M19P
		PRV12-POC	250 [3625]	180 [48]	SDC12-2 • M19P
	Pilot operated, normally open	XMP 06	315 [4500]	50 [13]	NCS06/2 • M19P

Accessories

Schematic / Description		Model	bar [psi]	Information	Cavity
	Cavity filter	CPF20-3	210 [3045]	20 micron filter (38 lpm flow) & 60 micon filter (114 lpm flow)	SDC20-3
	Hand pump	CP600-5	210 [3045]	1.2 cc / stroke 0.07 ci / stroke	SDC10-2
	Hand pump	CP602-5	210 [3045]	9.2 cc / stroke 0.56 ci / stroke	SDC16-2
	Hand pump	MP 06	210 [3045]	0.94 cc / stroke 0.057 ci / stroke	NCS06/2
		MP 12	315 [4500]	5cc / stroke 0.305 ci /stroke	NCS12/2

Spreader Valves

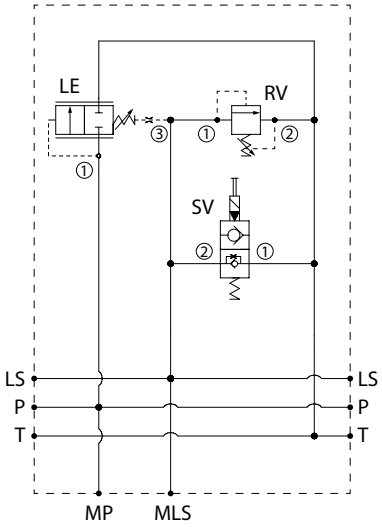
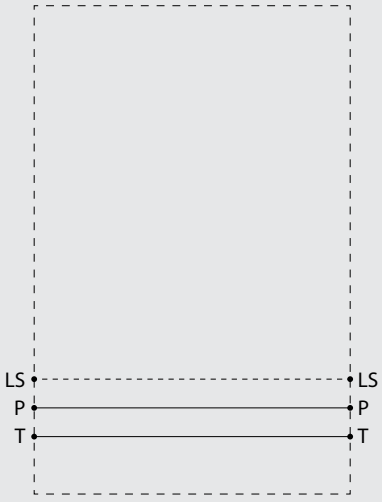
Schematic / Description		Model / Cavity	bar [psi]	lpm [gpm]
	Dual flow regulation, compensated, manual dump, gear pump circuit	SPR-2FFL12	138 [2000]	114 [30]
	Dual flow regulation, compensated, manual dump, piston pump circuit	SPR-2FFLC12	210 [3045]	114 [30]
	Dual flow regulation, compensated, solenoid dump, gear pump circuit	SPR-2FFLW86	138 [2000]	114 [30]

Modular HIC System - MVB10

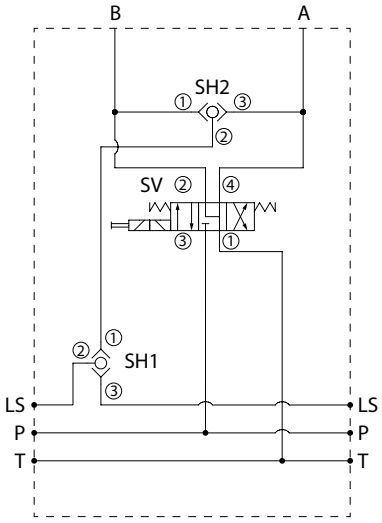
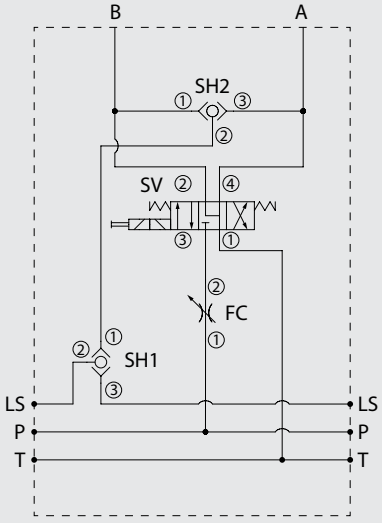
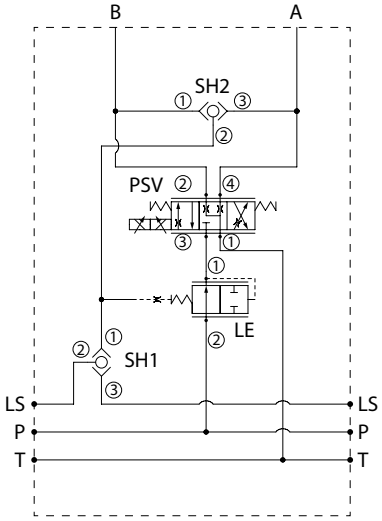
General technical information	
Max input flow *lpm [gpm]*	80 [21.1]
Working section rated flow *lpm [gpm]*	22 [5]
Max operating pressure *bar [psi]*	210 [3045]
Max number of sections*	10
Manifold surface treatment	Black anodized
Cartridge surface treatment	Zinc plated

*For additional sections contact Danfoss ICS

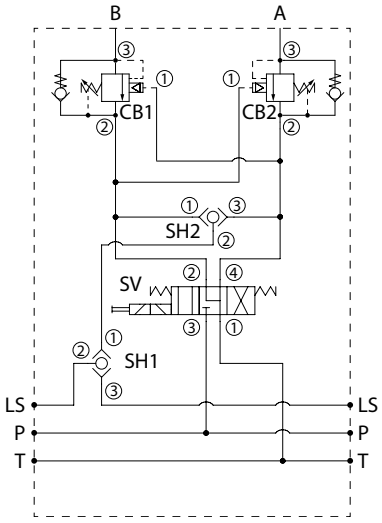
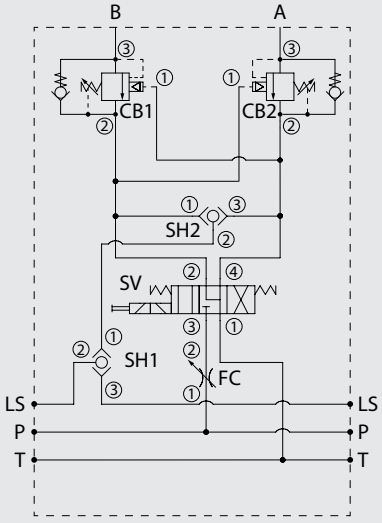
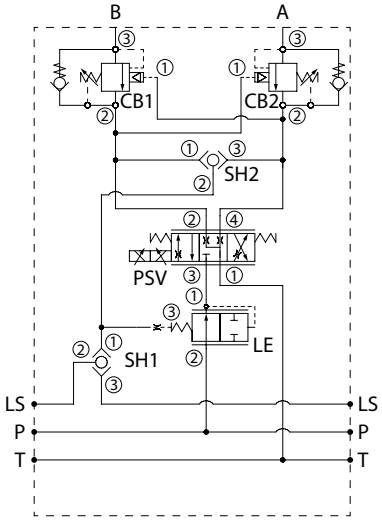
Modular HIC System - MVB10 (inlet sections)

Schematic / Description	Model	Associated Cartridges
	MVB10-I-LS	HLE10-CPC RV08-DR SVP08-NO
	MVB10-I	

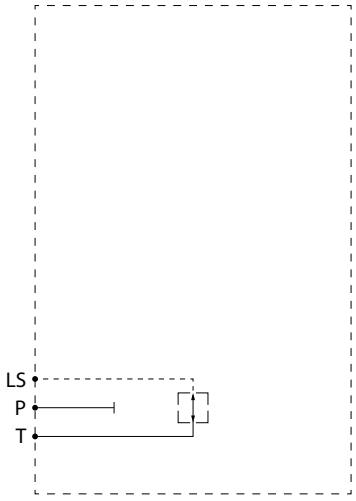
Modular HIC System - MVB10 (working modules)

Schematic / Description	Model	Associated Cartridges
	MVB10-W	SV10-34-05 PSV10-34-05
	MVB10-W-F	SV10-34-05 PSV10-34-05 CP610-2 CP300-1
	MVB10-W-C	SV10-34-05 PSV10-34-05 CP700-4

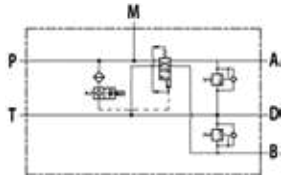
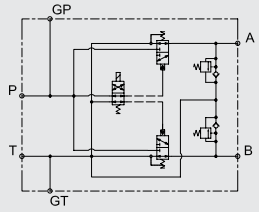
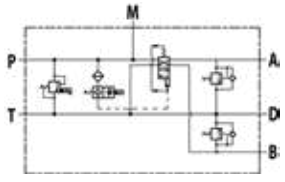
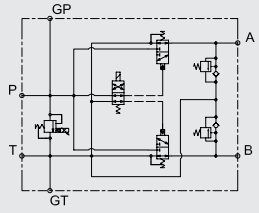
Modular HIC System - MVB10 (working modules)

Schematic / Description	Model	Associated Cartridges
	MVB10-W-LH	SV10-34-05 PSV10-34-05 VCB 06-EN RPC06
	MVB10-W-F-LH	SV10-34-05 PSV10-34-05 CP610-2 CP300-1 VCB 06-EN RPC06
	MVB10-W-C-LH	SV10-34-05 PSV10-34-05 CP700-4 VCB 06-EN RPC06

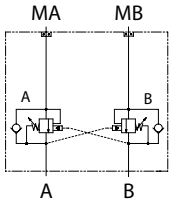
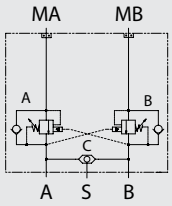
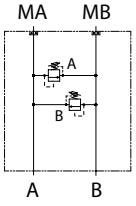
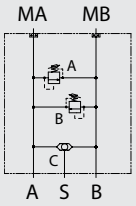
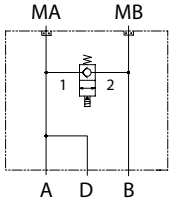
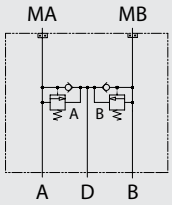
Modular HIC System - MVB10 (end module)

Schematic / Description	Model	Associated Cartridges
	MVB10-E	

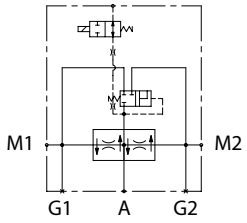
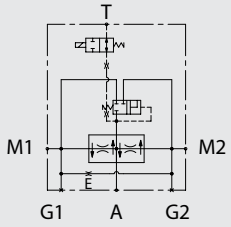
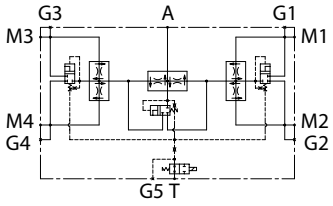
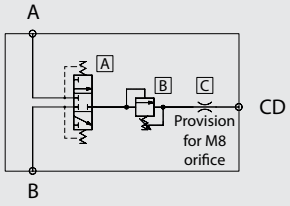
Fan Drive HICs

Schematic / Description		Model	bar [psi]	lpm [gpm]	Port
	Reversing control	RFDE-40-000	210 [3045]	10-40 [2.6-10.5]	SAE #12, G3/4
		RFDE-80-000	210 [3045]	20-80 [5.3-21.1]	SAE #12, G3/4
	Reversing control	RFD-120-000	210 [3045]	120 [31.7]	SAE #12, G3/4
	Proportional and reversing control	RFDE-40-PRV	210 [3045]	10-40 [2.6-10.5]	SAE #12, G3/4
		RFDE-80-PRV	210 [3045]	20-80 [5.3-21.1]	SAE #12, G3/4
	Proportional and reversing control	RFD-120-PRV	210 [3045]	120 [31.7]	SAE #12, G3/4

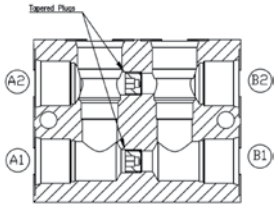
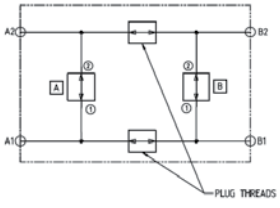
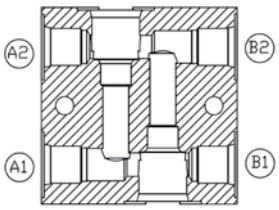
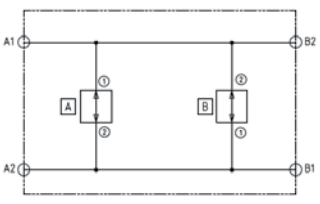
Motor Mount HICs

Schematic / Description		Model	lpm [gpm]	Orbital Motor
	Counterbalance valve (hydraulic vent)	MM-DH-00-DCB10-HV	60 [16]	OMPX w/C1option
		MM-DS-00-DCB10-HV	60 [16]	OMRX w/C1option
		MM-OMP/OMR-00-DCB10-HV	60 [16]	OMPX/OMRX w/A3 option
		MM-OMH-00-DCP441-1	75 [20]	OMH
		MM-OMS-00-DCP441-1	75 [20]	OMS
		MM-OMT-00-DCP441-1	125 [33]	OMT
	Counterbalance valve (hydraulic vent) with shuttle	MM-DH-LS-DCB10-HV	60 [16]	OMPX w/C1option
		MM-DS-LS-DCB10-HV	60 [16]	OMRX w/C1option
		MM-OMP/OMR-LS-DCB10-HV	60 [16]	OMPX/OMRX w/A3 option
		MM-OMH-LS-DCP441-1	75 [20]	OMH
		MM-OMS-LS-DCP441-1	75 [20]	OMS
		MM-OMT-LS-DCP441-1	125 [33]	OMT
	Cross-port relief	MM-DH-00-DVME06	60 [16]	OMPX w/C1option
		MM-DS-00-DVME06	60 [16]	OMRX w/C1option
		MM-OMP/OMR-00-DVME06	60 [16]	OMPX/OMRX w/A3 option
		MM-OMH-00-DCP211-2	75 [20]	OMH
		MM-OMS-00-DCP211-2	75 [20]	OMS
		MM-OMT-00-DCP211-2	125 [33]	OMT
	Cross-port relief with shuttle	MM-DH-LS-DVME06	60 [16]	OMPX w/C1option
		MM-DS-LS-DVME06	60 [16]	OMRX w/C1option
		MM-OMP/OMR-LS-DVME06	60 [16]	OMPX/OMRX w/A3 option
		MM-OMH-LS-DCP211-2	75 [20]	OMH
		MM-OMS-LS-DCP211-2	75 [20]	OMS
		MM-OMT-LS-DCP211-2	125 [33]	OMT
	Bypass solenoid with drain	MM-DH-00-BSVP10-NCR	60 [16]	OMPX w/C1option
		MM-DS-00-BSVP10-NCR	60 [16]	OMRX w/C1option
		MM-OMP/OMR-00-BSVP10-NCR	60 [16]	OMPX/OMRX w/A3 option
		MM-OMH-00-BSVP10-NCR	75 [20]	OMH
		MM-OMS-00-BSVP10-NCR	75 [20]	OMS
		MM-OMT-00-BCP502-3	125 [33]	OMT
	Dual shock valve with anticavitation (PVLP)	MM-DH-00-DPVLP	60 [16]	OMPX w/C1option
		MM-DS-00-DPVLP	60 [16]	OMRX w/C1option
		MM-OMP/OMR-00-DPVLP	60 [16]	OMPX/OMRX w/A3 option
		MM-OMH-00-DPVLP	75 [20]	OMH
		MM-OMS-00-DPVLP	75 [20]	OMS
		MM-OMT-00-DPVLP	125 [33]	OMT

Traction Controls

Schematic / Description		Model	bar [psi]	lpm [gpm]	Ports
	Traction Control - for hydrostatic systems with one pump and two motors in parallel. Designed to prevent wheel spin or motor overspeed	X05-FD10	210 [3045]	45 [12]	SAE #8, SAE #12, G1/2, G3/4
	Traction Control - for hydrostatic systems with one pump and two motors in parallel. Designed to prevent wheel spin or motor overspeed	X05-FD16	350 [5075]	150 [40]	SAE #16, SAE #20, G1, G1-1/4, 1" Code 61
	Traction Control - for hydrostatic systems with one pump and four motors in parallel. Designed to prevent wheel spin or motor overspeed	X05-FD104	230 [3335]	45 [12]	SAE #8, SAE #10
		X05-FD164	350 [5075]	150 [40]	SAE #10, SAE #12, SAE #16
	Remote loop flushing (hot oil shuttle) HIC for hydraulic transmission circuits that require hot oil removal from the circuit. Remote LF is commonly used when motor does not have integral loop flushing, or when multiple motors are used	LFB12	350 [5075]	53 [14]	SAE #8, G1/2

Mix N Match Dual Bodies

Schematic / Description		Model	Cavity	Ports
 Dual parallel body		DPL08-2	SDC08-2	SAE #6, SAE #8, G3/8
		DPL10-2	SDC10-2	SAE #8, SAE #10, G1/2
		DPL12-2	CP12-2	SAE #12, G3/4
		DPL16-2	SDC16-2	SAE #16, G1
 Dual cross-port body		DCP08-2	SDC08-2	SAE #6, SAE #8, G3/8
		DCP10-2	SDC10-2	SAE #8, SAE #10, G1/2
		DCP12-2	CP12-2	SAE #12, G3/4
		DCP16-2	SDC16-2	SAE #16 , G1

Many Danfoss ICS cavities are designed around SAE standard o-ring threaded ports. In many cases, these cavities are interchangeable with cavities used by other manufacturers. The table below is intended as a guide for cartridge valve interchanges. Most manufacturers offer many non-standard cavities and that details are subject to change. Compare cavity details before interchanging cartridges.

Cavity Crossover Table

Danfoss	Thread	Delta Power	Eaton Vickers	HydraForce	Parker	Sterling (Parker)	Command Controls (Bucher)
CP04-2	7/16-20			No	No		No
CP04-3				No	No		No
CP07-3	5/8-18	Yes		Yes	Yes		
SDC08-2	3/4-16	Yes	Yes	Yes	Yes	Yes	Yes
SDC08-3		Yes	Yes	Yes	Yes	Yes	Yes
CP08-3L							
SDC08-4		Yes	Yes	Yes	Yes	Yes	Yes
SDC10-2	7/8-14	Yes	Yes	Yes	Yes	Yes	Yes
SDC10-3		Yes	Yes	Yes	Yes	Yes	Yes
SDC10-3S			Yes	Yes	Yes	Yes	Yes
SDC10-4		Yes	Yes	Yes	Yes	Yes	Yes
CP12-2	1 1/16-12	No	No	Yes*	No		No
SDC12-2		No	No	Yes*	No		No
CP12-3S		No	No	No	No		No
CP12-3		No	No	Yes	No		No
CP12-4		No	No	No	No		No
SDC16-2	1 5/16-12		Yes	Yes	Yes	Yes	Yes
SDC16-3S			Yes	Yes	Yes	Yes	Yes
SDC16-3			Yes	Yes	Yes	Yes	Yes
CP16-4			Yes	Yes	Yes	Yes	Yes
SDC16-4			Yes	Yes	Yes	Yes	Yes
SDC20-2	1 5/8-12		Yes		Yes		
CP20-3S				No			
SDC20-3			Yes				
SDC20-4			Yes				

* Cavities are not 100% compatible, but all Danfoss ICS cartridges will work in HF cavity.

Coils

Model	Valve Tube Outer Dia.	Type	Wattage	Diode	10 VDC	12 VDC	20 VDC	24 VDC	110/220 VAC
D08	1/2 in	Standard	16		X	X	X	X	Internally Rectified
D10	5/8 in	Standard	16 & 30		X	X	X	X	Internally Rectified
M13	13 mm	Standard	20	Unidirectional	X	X	X	X	External Rectifier Needed
M16	16 mm	Standard	26	Unidirectional	X	X	X	X	External Rectifier Needed
M19	19 mm	Standard	33	Unidirectional		X		X	External Rectifier Needed
D14E	7/8 in	Robust	30		X	X	X	X	
D14E (35W)	7/8 in	Robust	35			X		X	
R13	13 mm	Robust	16	Bi-directional	X	X	X	X	
R16	16 mm	Robust	20	Bi-directional	X	X	X	X	
H16	16 mm	Robust	29	Bi-directional		X		X	
M19P	19 mm (proportional)	Robust	22			X		X	

Print and Online Catalogs

Catalog Description	Number	Catalog Description	Number
Binder (includes all sections below)	11141705	FD - Fan Drive HICs Catalog	11141721
IN - Introduction	11143603	MM - Motor Mount HICs Catalog	11141722
CV - Check Valves Catalog	11141707	TC - Traction Control HICs Catalog	11141723
SH - Shuttle Valves Catalog	11141709	SP - Spreader Valves Catalog	11141724
RV - Relief Valves Catalog	11141711	MX - Mix-N-Match HICs Catalog	11141725
PR - Pressure Reducing Valves	11141712	D3 - DCV03 Solenoid Valves Catalog	11141726
SQ - Sequence Valves Catalog	11141713	D5 - DCV05 Solenoid Valves Catalog	11141727
FC - Flow Control Valves Catalog	11141714	AC - Accessories Catalog	11141729
PO - Pilot Operated Check Valves Catalog	11141715	CA - Cavities Catalog	11141730
CB - Counterbalance Valves Catalog	11141716	HS - Housings Catalog	11141731
DV - Directional Control Valves Catalog	11141719	CL - Coils Catalog	11141732
LE - Logic Elements Catalog	11141720	CX - Cross Reference Catalog	11141733
SV - Solenoid Valves Catalog	11141717	ID - Index	11141734
PV - Proportional Valves Catalog	11141718		

Hydraulic & Offshore SUPPLIES

Offshore House, Southwick Industrial Estate, Sunderland, SR5 3TX
hos@hos.co.uk | www.hos.co.uk