

ENGINEERING
TOMORROW

Danfoss

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.

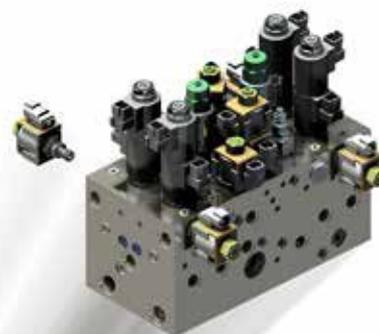
With a simple, intuitive user interface, EasyManifold allows you to effortlessly create your hydraulic circuit schematic from Danfoss's digital library of cartridge valves and generate a quotation on the customer solution. With detailed information fields and a logical process for project progression, 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 representatives 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 |
|--------------------------------------|---------|------------|-----------|---------|
| <p>Ball type, normal direction</p> | CV04-NB | 207 [3000] | 3 [0.8] | CP04-2 |
| <p>Poppet type, normal direction</p> | 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 |
| <p>Reverse direction, no spring</p> | CP104-2 | 350 [5075] | 4.5 [1.2] | CP04-2 |
| <p>Reverse direction</p> | 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 |
|----------------------------------|------------|------------|-----------|---------------|
| <p>Female port</p> | 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 | |
| <p>Female port, with orifice</p> | 2RN11-01 | 350 [5075] | 20 [5] | SAE #4 |
| <p>Male port</p> | 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 |
|-------------------------|---------|------------|-----------|--------|
| | 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 |
|-------------------------|---------|------------|-----------|---------|
| | 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 |
| | 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 |
|--|---------|------------|-----------|---------|
| <p>spool overlap = C spool overlap = O</p> | CP720-3 | 350 [5075] | 25 [7] | SDC10-4 |
| <p>spool overlap = C spool overlap = O</p> | 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 |
| | Spool type | VME 08 | 315 [4500] | 80 [21] | VME 08 |
| | | 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 | |
|-------------------------|---|------------|------------|---------|---------|
| | 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 |
|-------------------------|---------|------------|-----------|-------------------------|
| | 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 |
|-------------------------|----------|------------|-----------|---------|
| | CP210-2 | 350 [5075] | 115 [30] | SDC10-2 |
| | CP211-2 | 350 [5075] | 190 [50] | CP12-2 |
| | RV10-POP | 250 [3625] | 120 [32] | SDC10-2 |

Relief Valves - Bi-Directional

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

Pressure Reducing Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|-----------|------------|-----------|---------|
| | CP230-2 | 210 [3045] | 40 [11] | SDC10-3 |
| | PRC 06 | 315 [4500] | 40 [11] | NCS06/3 |
| | CP230-1 | 210 [3045] | 40 [11] | SDC10-3 |
| | PRR10-PVG | 210 [3045] | 40 [11] | SDC10-3 |

Pressure Reducing Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|-----------|------------|-----------|---------|
| | CP230-4 | 350 [5075] | 40 [11] | SDC10-3 |
| | PPRC-06 | 315 [4500] | 40 [11] | NCS06/3 |
| | PRMP 064 | 315 [4500] | 40 [11] | SDC10-3 |
| | CP231-3 | 350 [5075] | 115 [30] | CP12-3S |
| | PRR10-DRD | 207 [3000] | 38 [10] | SDC10-4 |

Sequence Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|----------|------------|-----------|---------|
| | CP240-8 | 210 [3045] | 55 [14] | SDC10-3 |
| | CP241-8 | 207 [3000] | 150 [39] | CP12-3S |
| | CP240-21 | 350 [5075] | 45 [12] | SDC10-3 |
| | CP241-21 | 350 [5075] | 75 [20] | CP12-3S |
| | CP240-2 | 210 [3045] | 35 [9] | SDC10-3 |

Sequence Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|-------------|------------|-----------|---------|
| | CP240-22 | 350 [5075] | 45 [12] | SDC10-3 |
| | VDP 06/NA | 315 [4500] | 25 [7] | NCS06/3 |
| | VDP 06/NC | 315 [4500] | 25 [7] | NCS06/3 |
| | CP240-5 | 210 [3045] | 25 [7] | SDC10-4 |
| | CP240-1 | 210 [3045] | 25 [7] | SDC10-3 |
| | CP240-9 | 210 [3045] | 20 [5] | SDC10-3 |
| | VDP 06/4201 | 315 [4500] | 22 [6] | NCS06/4 |

Sequence Valves

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

Flow Control Valves - Needle Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|---------|------------|-----------|---------|
| <p>Bi-directional</p> | 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 |
|-------------------------|---------|------------|-----------|---------|
| | CP618-6 | 310 [4500] | 10 [3] | SDC08-2 |
| | CP610-7 | 350 [5075] | 55 [15] | SDC10-2 |

Flow Control Valves - Pressure Compensated

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity/Port |
|-------------------------|-----------|------------|-----------|-------------|
| | CP308-1 | 210 [3045] | 15 [4] | SDC08-2 |
| | CP300-1 | 210 [3045] | 23 [6] | SDC10-2 |
| | CP301-1 | 210 [3045] | 57 [15] | CP12-2 |
| | 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 |
| | HFCV10-RT | 350 [5075] | 11.4 [3] | SDC10-2 |
| | 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 |
| | CP310-2 | 210 [3045] | 23 [6] | SDC10-3 |
| | VRC 06 | 315 [4500] | 50 [13] | NCS06/3 |
| | VRC 12 | 315 [4500] | 100 [26] | NCS12/3 |
| | CP300-6 | 210 [3045] | 23 [6] | SDC10-3 |
| | FCH10-BD | 350 [5075] | 23 [6] | SDC10-3 |
| | 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 |
|-------------------------|-------|------------|-----------|--------------------|
| | 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 |
|-------------------------|----------|------------|-----------|---|
| | CP9014-1 | 210 [3045] | 113 [30] | Modified SAE #14 Cavity, SAE #10 & 12 Ports |

Velocity Fuses

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

Flow Control Valves - Flow Dividers

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|---------|------------|-----------|---------|
| | 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 |
|-------------------------|---------|------------|------------|----------------------------------|
| | 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 |
| | 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 |
| | RPV 06 | 315 [4500] | 30 [8] | NCS06/4 |
| | CP453-5 | 350 [5075] | 250 [66] | SDC20-2 |
| | CP460-1 | 210 [3045] | 45 [12] | SDC10-3 |
| | CP461-1 | 210 [3045] | 115 [30] | CP12-3S |
| | CP462-1 | 210 [3045] | 190 [50] | SDC16-3S |
| | CP410-1 | 210 [3045] | 85 [22] | G3/8 G1/2 SAE #6 SAE #8 |

Counterbalance Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|---------|------------|-----------|----------|
| | 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 |
|-------------------------|-------------|------------|-----------|-----------------------------|
| | VCB06-EN | 350 [5075] | 60 [16] | NCS06-3 |
| | VCB 12-EN | 350 [5075] | 140 [37] | NCS12-3 |
| | CB10-AV | 350 [5075] | 60 [16] | SDC10-3S |
| | VCB06-CN | 350 [5075] | 60 [16] | NCS06-3 |
| | VCB 12-CN | 350 [5075] | 140 [37] | NCS12-3 |
| | 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 |
| | 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 |
| | 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 |
|-------------------------|----------|------------|-----------|---------|
| | CP600-1 | 210 [3045] | 68 [18] | SDC10-2 |
| | CE 06 | 210 [3045] | 20 [5] | NCS06/2 |
| | CP600-2 | 210 [3045] | 50 [13] | SDC10-2 |
| | DMP08-NC | 210 [3045] | 38 [10] | SDC08-2 |
| | DMP08-NO | 210 [3045] | 38 [10] | SDC08-2 |
| | CP620-1 | 210 [3045] | 75 [20] | SDC10-2 |
| | CP630-1 | 210 [3045] | 30 [8] | SDC10-3 |
| | CP640-1 | 210 [3045] | 10 [3] | SDC10-4 |

Directional Control Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|--|----------|------------|-----------|---------|
| <p>2-position, 2-way</p> | CP710-8 | 210 [3045] | 40 [11] | SDC10-4 |
| | CP712-11 | 450 [6500] | 130 [34] | CP16-4 |
| | CP712-8 | 210 [3045] | 130 [34] | CP16-4 |
| <p>2-position, 2-way, atmospheric vent</p> | CP710-1 | 210 [3045] | 40 [11] | SDC10-3 |
| | CP712-1 | 210 [3045] | 130 [34] | SDC16-3 |
| | CP713-1 | 210 [3045] | 265 [70] | SDC20-3 |
| <p>2-position, 2-way, hydraulic vent</p> | CP710-3 | 210 [3045] | 40 [11] | SDC10-3 |
| <p>2-position, 2-way, external pilot</p> | CP710-2 | 210 [3045] | 40 [11] | SDC10-3 |
| | CP712-2 | 210 [3045] | 130 [34] | SDC16-3 |
| | CP713-2 | 210 [3045] | 265 [70] | SDC20-3 |
| <p>2-position, 3-way, atmospheric vent</p> | CP720-1 | 210 [3045] | 30 [8] | SDC10-4 |
| | CP722-1 | 210 [3045] | 130 [34] | CP16-4 |
| | CP723-1 | 210 [3045] | 265 [70] | SDC20-4 |
| <p>2-position, 3-way, external pilot</p> | CP720-2 | 210 [3045] | 25 [7] | SDC10-4 |
| | CP722-2 | 210 [3045] | 130 [34] | CP16-4 |
| | CP723-2 | 210 [3045] | 265 [70] | SDC20-4 |
| <p>2-position, 3-way, hydraulic vent</p> | 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 |
|-------------------------|------------------|------------|-----------|----------|
| | DV16-P5-23-01-CT | 210 [3045] | 130 [34] | SDC16-5S |
| | DV16-P5-23-01-OT | 210 [3045] | 130 [34] | SDC16-5S |
| | DV15-P5-24-01 | 230 [3335] | 70 [18] | NCS 12/5 |
| | DV15-P5-24-FD | 230 [3335] | 70 [18] | NCS 12/5 |
| | DV15-P5-24-05 | 230 [3335] | 70 [18] | NCS 12/5 |
| | DV15-P5-24-08 | 230 [3335] | 70 [18] | NCS 12/5 |
| | CP712-7 | 210 [3045] | 220 [58] | CP16-4 |

Logic Elements - Differential Sensing Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity |
|-------------------------|------------|------------|-----------|----------|
| | VLP 12/P2 | 315 [4500] | 160 [42] | NCS12/3 |
| | VLP 12/A5 | 315 [4500] | 160 [42] | NCS12/3 |
| | VLP 12/C2 | 315 [4500] | 160 [42] | NCS12/3 |
| | HLEA10-CPC | 350 [5075] | 80 [21] | SDC10-3S |
| | 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 |
| | HLEA10-CVO | 350 [5075] | 80 [21] | SDC10-3S |
| | 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 |
|-------------------------|------------|------------|-----------|----------|
| | HLEA10-OPO | 350 [5075] | 60 [16] | SDC10-3S |
| | 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 |
| | 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 |
| | 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 |
| | 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 |
| | 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 |

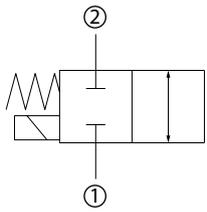
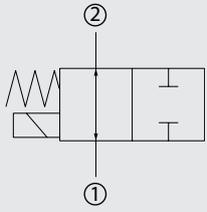
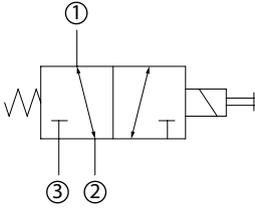
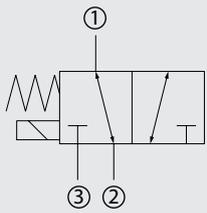
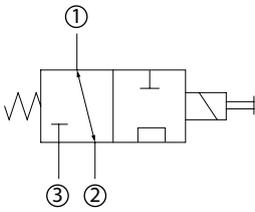
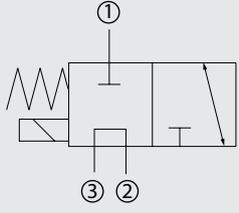
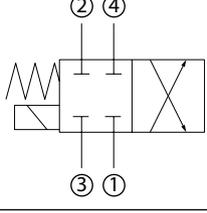
Solenoid Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity • Coil |
|-------------------------|------------|------------|---------------|-------------------|
| | EVH 06/D5 | 230 [3300] | 20 [5] | NCS06/3 • M16/R16 |
| | SVP08-CDB | 230 [3300] | 16 [4] | SDC08-2 • M13/R13 |
| | EVK 06/C5 | 210 [3045] | 40 [11] | NCS06/2 • M16/R16 |
| | HSVP10-CDB | 350 [5075] | 65 [17] | SDC10-2 • H16 |
| | HSVP10-ODB | 350 [5075] | 65 [17] | SDC10-2 • H16 |
| | 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 | |
| | SVP08-NCF | 230 [3300] | 15 [4] | SDC08-2 • M13/R13 |

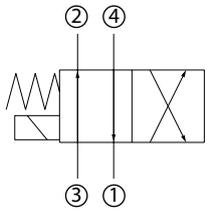
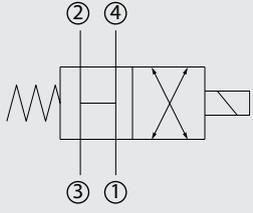
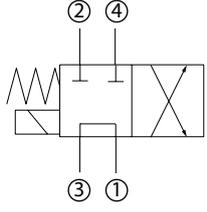
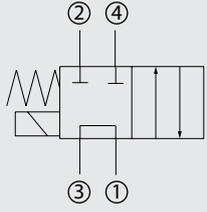
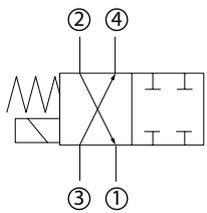
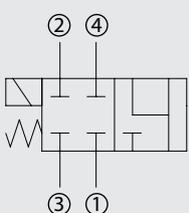
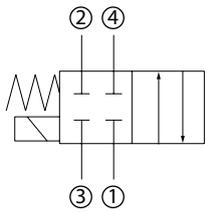
Solenoid Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity • Coil |
|--|-------------|------------|---------------|-------------------|
| <p>Poppet type, normally closed, pilot operated, reverse free flow</p> | 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 |
| <p>Poppet type, normally open, pilot operated</p> | 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 | |
| <p>Poppet type, normally open, pilot operated, reverse free flow</p> | 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 | |
| <p>Spool type, 2-way, 2-position, normally open</p> | SV08-22-01 | 230 [3300] | 16 [4] | SDC08-2 • M13/R13 |
| | HSV10-22-01 | 350 [5075] | 50 [13] | SDC10-2 • H16 |
| <p>Spool type, 2-way, 2-position, normally open</p> | 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 |
|---|-------------|------------|-----------|-------------------|
|  <p>Spool type, 2-way, 2-position, normally closed</p> | 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 |
|  <p>Spool type, 2-way, 2-position, normally open</p> | SV08-22-03 | 230 [3300] | 12 [3] | SDC08-2 • M13/R13 |
|  <p>Spool type, 3-way, 2-position</p> | 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 |
|  <p>Spool type, 3-way, 2-position</p> | 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 |
|  <p>Spool type, 3-way, 2-position</p> | SV08-23-03 | 230 [3300] | 18 [5] | SDC08-3 • M13/R13 |
|  <p>Spool type, 3-way, 2-position</p> | 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 |
|  <p>Spool type, 4-way, 2-position</p> | 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 |
|--|-------------|------------|-----------|-------------------|
|  <p data-bbox="496 400 699 463">Spool type, 4-way, 2-position</p> | 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 |
|  <p data-bbox="496 676 699 740">Spool type, 4-way, 2-position</p> | SV15-24-03 | 210 [3045] | 50 [13] | NCS12/4 • M19 |
|  <p data-bbox="496 906 699 970">Spool type, 4-way, 2-position</p> | SV08-24-04 | 230 [3300] | 8 [2] | SDC08-4 • M13/R13 |
| | SV15-24-04 | 210 [3045] | 50 [13] | NCS12/4 • M19 |
|  <p data-bbox="496 1136 699 1200">Spool type, 4-way, 2-position</p> | SV10-24-12 | 230 [3300] | 18 [5] | SDC10-4 • M16/R16 |
|  <p data-bbox="496 1366 699 1430">Spool type, 4-way, 2-position</p> | SV10-24-05 | 230 [3300] | 25 [7] | SDC10-4 • M16/R16 |
|  <p data-bbox="496 1596 699 1659">Spool type, 4-way, 2-position</p> | SV10-24-06 | 230 [3300] | 20 [5] | SDC10-4 • M16/R16 |
|  <p data-bbox="496 1838 699 1902">Spool type, 4-way, 2-position</p> | SV10-24-07 | 230 [3300] | 24 [6] | SDC10-4 • M16/R16 |

Solenoid Valves

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity • Coil |
|-------------------------|-------------|------------|-----------|-------------------|
| | SV08-24-08 | 230 [3300] | 24 [6] | SDC08-4 • M13/R13 |
| | CP531-21 | 240 [3500] | 32 [8] | CP12-4 • D14E |
| | SV10-24-13 | 230 [3300] | 21 [6] | SDC10-4 • M16/R16 |
| | 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 |
| | SV08-34-03 | 230 [3300] | 8 [2] | SDC08-4 • M13/R13 |
| | SV15-34-03 | 210 [3045] | 50 [13] | NCS12/4 • M19 |
| | SV10-34-03 | 230 [3300] | 16 [4] | SDC10-4 • M16/R16 |
| | 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 |
|-------------------------|-------------|------------|-----------|-------------------|
| | SV10-34-04 | 230 [3300] | 15 [4] | SDC10-4 • M16/R16 |
| | 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 |
| | SV10-34-11 | 230 [3300] | 24 [6] | SDC10-4 • M16/R16 |
| | SV10-34-14 | 230 [3300] | 18 [4.8] | SDC10-4 • M16/R16 |
| | SV10-35-02 | 230 [3300] | 18 [4.8] | SDC10-5 • M16/R16 |
| | SV10-35-05 | 230 [3300] | 18 [4.8] | SDC10-5 • M16/R16 |

Proportional Valves - Directional

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity • Coil |
|-------------------------|-------------|------------|-----------|-------------------|
| | PSV10-34-02 | 250 [3625] | 22 [6] | SDC10-4 • M16/R16 |
| | PSV12-34-02 | 250 [3625] | 50 [13] | CP12-4 • M19 |
| | PDCV03-3Z11 | 350 [5075] | 30.3 [8] | ISO D05 • PD03 |
| | PDCV05-3Z11 | 350 [5075] | 60 [16] | ISO D03 • PD03 |
| | 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 |
| | 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 |
|-------------------------|------------|------------|-----------|----------------------|
| | 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) |
| | 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 |
| | 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 |
|--|------------|------------|-----------|------------------------------------|
| <p>Non-compensated, normally open, poppet type</p> | 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 |
| <p>Pressure compensated, restrictive type, normally closed</p> | 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) |
| <p>Pressure compensated, restrictive type, normally open</p> | 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) |
| <p>Pressure compensated, priority type, normally closed</p> | 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) |
| <p>Pressure compensated, priority type, normally open</p> | 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) |
| <p>Proportional flow divider, compensated, catalog HIC</p> | 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 |
|--|----------|-----------|-----------|---------------|
| <p>Direct acting, minimum reduced pressure with zero current</p> | CP558-24 | 34 [500] | 4 [1] | SDC08-3 • D08 |

Proportional Valves - Pressure Reducing

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity • Coil |
|-------------------------|-----------|------------|-----------|-------------------|
| | PPR10-PAC | 250 [3625] | 18 [5] | SDC10-3 • M19P |
| | XRP 06 | 315 [4500] | 25 [7] | NCS06/3 • M19P |
| | PPR09-POD | 50 [700] | 25 [7] | SDC10-4 • M13/R13 |

Proportional Valves - Pressure Relieving

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Cavity • Coil |
|-------------------------|------------|------------|------------|-------------------|
| | XMD 04 | 250 [3625] | 5 [1.3] | NCS04/2 • M19P |
| | CP558-20 | 210 [3045] | 8 [2] | SDC08-2 • D10 |
| | PRV08-DAC | 210 [3045] | 2.1 [0.55] | SDC08-2 • M13/R13 |
| | HPRV08-DAC | 350 [5075] | 1.2 [0.32] | SDC08-2 • M13/R13 |
| | PRV10-POC | 250 [3625] | 76 [20] | SDC10-2 • M19P |
| | PRV12-POC | 250 [3625] | 180 [48] | SDC12-2 • M19P |
| | 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 micron 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 <i>lpm [gpm]</i> | 80 [21.1] |
| Working section rated flow <i>lpm [gpm]</i> | 22 [5] |
| Max operating pressure <i>bar [psi]</i> | 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 | |

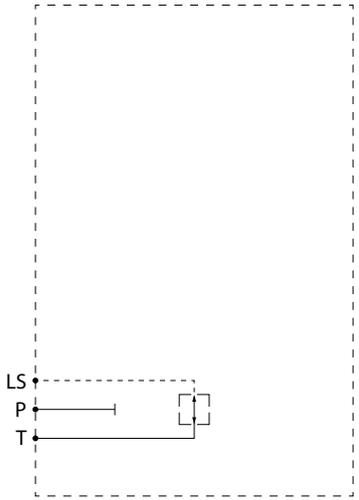
Modular HIC System - MVB10 (working modules)

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

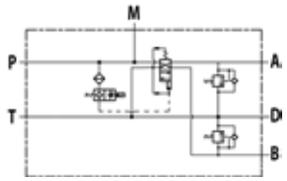
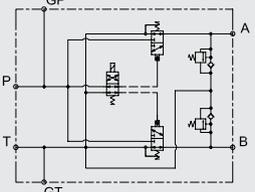
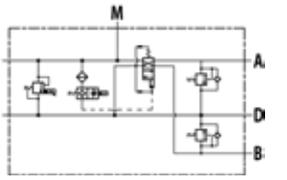
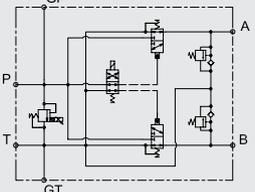
Modular HIC System - MVB10 (working modules)

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

Modular HIC System - MVB10 (end module)

| Schematic / Description | Model | Associated Cartridges |
|---|---------|-----------------------|
|  | MVB10-E | |

Fan Drive HICs

| Schematic / Description | Model | bar [psi] | lpm [gpm] | Port |
|---|-------------|------------|---------------------|---------------|
|  | 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 |
|  | RFD-120-000 | 210 [3045] | 120 [31.7] | SAE #12, G3/4 |
|  | 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 |
|  | RFD-120-PRV | 210 [3045] | 120 [31.7] | SAE #12, G3/4 |

Motor Mount HICs

| Schematic / Description | Model | lpm [gpm] | Orbital Motor |
|-------------------------|--------------------------|-----------|-----------------------|
| | MM-DH-00-DCB10-HV | 60 [16] | OMPX w/C1 option |
| | MM-DS-00-DCB10-HV | 60 [16] | OMRX w/C1 option |
| | 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 |
| | MM-DH-LS-DCB10-HV | 60 [16] | OMPX w/C1 option |
| | MM-DS-LS-DCB10-HV | 60 [16] | OMRX w/C1 option |
| | 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 |
| | MM-DH-00-DVME06 | 60 [16] | OMPX w/C1 option |
| | MM-DS-00-DVME06 | 60 [16] | OMRX w/C1 option |
| | 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 |
| | MM-DH-LS-DVME06 | 60 [16] | OMPX w/C1 option |
| | MM-DS-LS-DVME06 | 60 [16] | OMRX w/C1 option |
| | 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 |
| | MM-DH-00-BSVP10-NCR | 60 [16] | OMPX w/C1 option |
| | MM-DS-00-BSVP10-NCR | 60 [16] | OMRX w/C1 option |
| | 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 |
| | MM-DH-00-DPVLP | 60 [16] | OMPX w/C1 option |
| | MM-DS-00-DPVLP | 60 [16] | OMRX w/C1 option |
| | 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 |
|-------------------------|-----------|------------|-----------|--|
| | X05-FD10 | 210 [3045] | 45 [12] | SAE #8, SAE #12, G1/2, G3/4 |
| | X05-FD16 | 350 [5075] | 150 [40] | SAE #16, SAE #20, G1, G1-1/4, 1" Code 61 |
| | X05-FD104 | 230 [3335] | 45 [12] | SAE #8, SAE #10 |
| | X05-FD164 | 350 [5075] | 150 [40] | SAE #10, SAE #12, SAE #16 |
| | LFB12 | 350 [5075] | 53 [14] | SAE #8, G1/2 |

Mix N Match Dual Bodies

| Schematic / Description | Model | Cavity | Ports |
|-----------------------------|---------|---------|-----------------------|
| <p>Dual parallel body</p> | 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 |
| <p>Dual cross-port body</p> | 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 | | |

About Danfoss Power Solutions

Danfoss Power Solutions is a global manufacturer and supplier of high-quality hydraulic and electric components. We specialize in providing state-of-the-art technology and solutions that excel in the harsh operating conditions of the mobile off-highway market as well as the marine sector. Building on our extensive applications expertise, we work closely with you to ensure exceptional performance for a broad range of applications. We help you and other customers around the world speed up system development, reduce costs and bring vehicles and vessels to market faster.

We offer you expert worldwide support for ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide you with comprehensive global service for all of our components.

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- Electric machines
- Electric motors
- Hydrostatic pumps and motors
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- PLUS+1® joysticks and pedals
- PLUS+1® operator interfaces
- PLUS+1® sensors
- PLUS+1® software services, support and training
- PLUS+1® software
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- PVG proportional valves
- Steering components and systems
- Telematics

Go to www.danfoss.com for further product information.

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