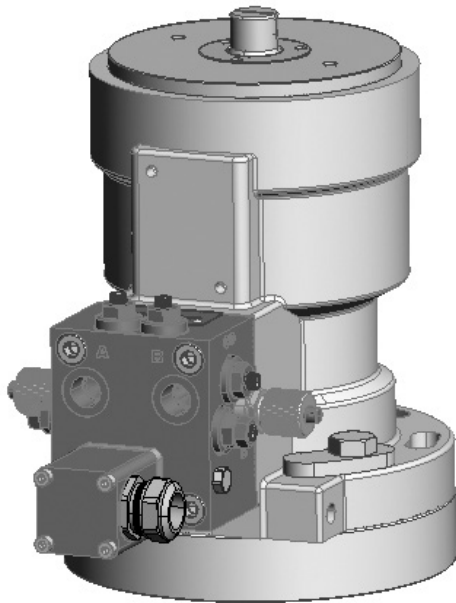


Damcos™ Block System

Cartridge based control block system for Damcos actuators



Description

The control block is designed for mounting on, or close to the Damcos actuator. For use in submerged applications or placed in hazardous area the block can be connected to the pilot line by means of the B-block.

The control block system consist of 5 standard houses (brass/ stainless steel). Each standard house is divided in two separate parts. The top part has all the hydraulic functions and it is also divided in two parts - one for open- and one for close- function, (A port: hydraulic closing and B port: hydraulic opening). The bottom part has the connection for direct position indication - either electrical (on/off or potentiometer) or hydraulic (on/off).

Furthermore each standard block has several combination possibilities.

Hydraulic functions:

- Pilot line connection
- Flush system
- Last chance filter
- Throttle/stop valve
- Pilot-operated check valve
- Relief valve
- Quick connections
- By-pass hydraulic on/off indication

All hydraulic functions/connections can be used or plugged of.

Operation

The pilot-operated check valve is to, hydraulically lock the piston on the actuator and prevent the actuator from moving when it is required to be held stationary.

Double pilot check valves are tested to ensure zero leakage, but care must be taken to ensure that the hydraulic oil in the system is free from any foreign particles that may cause damage to the seats or the hydraulic sealing ring in the pilot piston (see oil and flushing data for more information).

The relief valve secures that the oil pressure do not rise above the DPCV open pressure.

The throttle valve controls the speed of the actuator. It allows regulation of flow in both directions. The throttle/stop valve is used to isolate the actuator if emergency operation is required.

The throttle valve and the throttle/stop valve are not compensated for pressure or temperature variations.

The quick connections are used for emergency operation by means of the Damcos portable hand pump.

The quick connections can be replaced with an adaptor (max. 19 AF) if operation is to be elsewhere than on the actuator.

The CETOP 3 block interface is according to ISO 4401/NG6 DIN 24340 except that the oil canals is $\varnothing 7$ instead of maximum $\varnothing 6.3$.

By-pass indication - DPI-B: please see separate data sheet.

Main Materials

| | Brass version: | Stainless steel version: |
|-------------|-------------------------------------|-------------------------------------|
| Block | Brass - CuZn39Pb3 | SS - 316 |
| Valve parts | Brass - CuZn39Pb3/ acid proof steel | Brass - CuZn39Pb3/ acid proof steel |
| Screws | Acid proof steel | Acid proof steel |
| Seals | NBR/teflon | NBR/teflon |

Note!

Not all Control Block combinations can be delivered in stainless steel material!

Type Codes

- CB: Control Block
- 2: 2-line actuator (Double acting)
- 1: 1-line actuator (Single acting - fail close)
- 1A: 1-line actuator (Single acting - fail open)
- Q: High flow Control Block
- S: Throttle/Stop valve
- PCV: Pilot operated Check valve
- R: Relief valve
- T: Throttle valve
- H: Quick connection for hand pump
- E: Interface for EL on/off or potentiometer, 0 - 100%
- B: By-pass hydraulic on/off indication
- NG6: Interface for CETOP 3 valves
- CBF: CB + Flush system
- KF: Used with KF/KFR actuator

Example:

| | | | | |
|---------------|------------------------------|---------------------|---------------------------|---|
| CB | NG6 | S | H | E |
| | | | | |
| Control block | Interface for CETOP 3 valves | Throttle stop valve | Quick conn. for hand pump | Interface for El. On/Off or potentiometer |

Note!

In special applications some single acting actuators may require a CB2 block. Please contact Damcos for more information.

Main Specification

| | | | |
|---|--|---------------------------|-------------------------------------|
| Working pressure | 135 bar | | |
| Test pressure | 210 bar | | |
| Burst pressure | 600 bar | | |
| Relief crack pressure | 150-250 bar | | |
| Check valve ratio | 3:1 | | |
| Maximum flow | 6 l/minute ¹ | | |
| Minimum flow with use of throttle valve | 120-180 ml/minute | | |
| Temperature range | -20° C to +80° C | | |
| Hydraulic media | Acid free hydraulic oil (See oil list) | | |
| Viscosity range | 15-200 cSt | | |
| Filtration (ISO) | 18/16/13 (See Flushing Instruction) | | |
| Maximum weight for each standard block | Type: | Weight (kg) Brass: | Weight (kg) Stainless steel: |
| | CB | 1.75 | 1.65 |
| | CB-E | 2.75 | 2.65 |
| | CB-B | 2.3 | — |
| | CB-NG6 | 2.8 | — |
| | CBF | 2.8 | — |
| | E-block | 1.5 | — |
| | B-block | 2.0 | — |
| Adaptor | 1.75 | — | |

1) CBQ: 15 l/minute

Note!

All H: Quick connection for portable hand pump. Can also be remotely installed.

For continuous or on/off indication - (DPI-C, DPI-E or DPI-B) please see separate data sheets.

Further information about each standard block please see separate data sheets.

For further information please contact Damcos.

©2014 Emerson Process Management. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Damcos and the Damcos logotype are trademarks of Damcos A/S, Rosemount and the Rosemount logotype are registered trademarks of Rosemount Inc. Damcos A/S and Rosemount Tank Radar AB are members of the Emerson Process Management family of companies. All other marks are the property of their respective owners.

The contents of this publication are presented for information purposes only, and while effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, expressed or implied, regarding the products or services described herein or their use or applicability. Standard Terms and Conditions of Sale can be issued by contacting Damcos A/S. We reserve the right to modify or improve the designs and specifications of our products at any time without notice.

Damcos A/S and Rosemount Tank Radar AB accepts no responsibility for any errors that may appear in this publication.

Emerson Process Management

Damcos A/S
Aaderupvej 41
DK-4700 Naestved
T +45 5578 7200
F +45 5578 7272

www.EmersonProcess.com/mtm