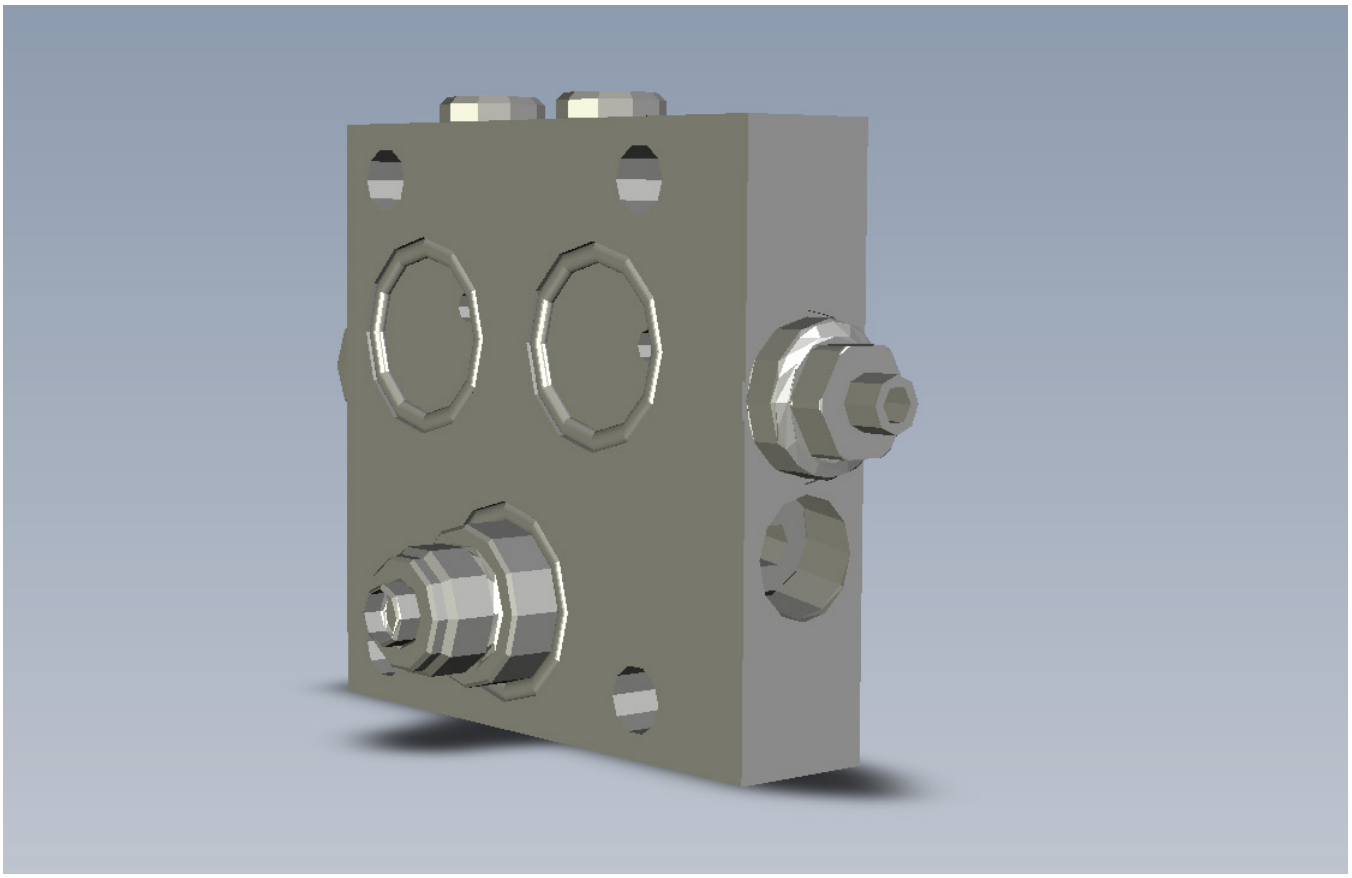
Product Data Sheet
February 2017
SD 3011-2E03

Damcos™ QC-Block

LPU-S Quick Closing Block



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Description

The LPU-S QCB is a special block that is mounted between actuator and LPU for the purpose to block flow back to LPU-tank during closing and to control oil flow directly back to actuators A-port. This pressure controlled block reacts when pressure in LPU B-port falls and sends a return flow back to actuator without entering the LPU. In this way a closing flow of more than 10 l/min will be possible.

The QC-block can be used on both LPU-S and LPU-S-Ex, but only on fail-close actuators. When using this block LPU-S will be placed 20 mm from actuator mounting face. For LPU-S-Ex this will not be the case as QC-Block will replace the existing intermediate block and thus installation dimensions will be identical.

Limitations

For LPUM the QC-Block will not be used as the actuators are small and closing times will then be to short.

Closing speed

Actuator closing speed can be adjusted by means of a throttle valve placed on the QC-block. It will however be a more coarse adjustment due to the large flow. The throttle valve on front of LPU will then have no function, but due to valve function in LPU it should not be adjusted to large flow (1 – 3 revs open).

Intermediate positions

The QC-block will usually be used for on/off usages, but intermediate positions will be possible as well. If intermediate position during opening is requested the LPU-motor is simply stopped when the correct position is reached, exactly as when not using the QC-block. If intermediate position during closing is requested the quick closing process starts, but when actuator passes the requested position the LPU must start in opening direction to stop closing movement and go to requested position. For LPU-Power this must be controlled by control system while LPU-P-NET controls this if auto-correction is enabled. In both versions the actuator will close more than requested before going to the correct position.

Background

For opening/closing time of BRC/KC and opening time of BRCF/KF the pump capacity is the limitation, while for closing time of BRCF/KF it is max flow and pressure of return oil with limitation of opening pressure of bleed valve. For some usages long opening time will be no problem, but a fast closing is demanded in case of power loss or ESD.

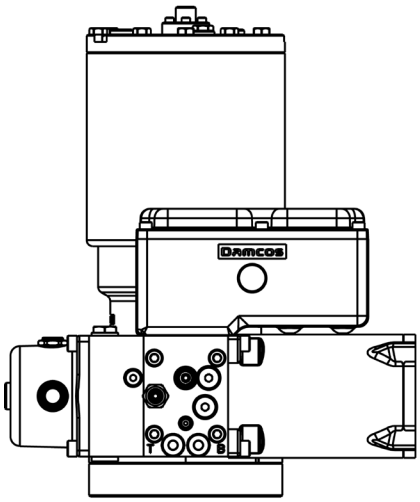
Minimum closing time for fail close actautor equipped with LPU-S and Quick Closing Block			
Actuator	Oil displacement (ml)	Minimum closing time with QCB (seconds)	Standard minimum closing time without QCB (seconds)*
BRCF 125	26	N/A	1
BRCF 250	50	N/A	2
BRCF 500	102	N/A	4
BRCF 1000	209	1	8
BRCF 2000	400	2	16
BRCF 4000	800	5	32
BRCF 8000	1600	10	64
BRCF 16000**	3100	19	248
KF/R 65	21	N/A	1
KF/R 125	82	N/A	3
KF/R 250/150	265	2	10
KF/R 250	428	3	17

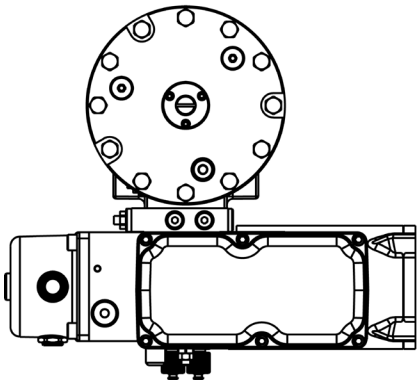
** The Standard minimum closing time is listed without QCB and based on an ordinary tank design, except for the BRCF 16000 which only operates with a pressure tank. In case of LPU-S equipped with Pipes to actuator and/or Pressure Tank an extensively increased closing time should be expected, please ask for guidance's.*

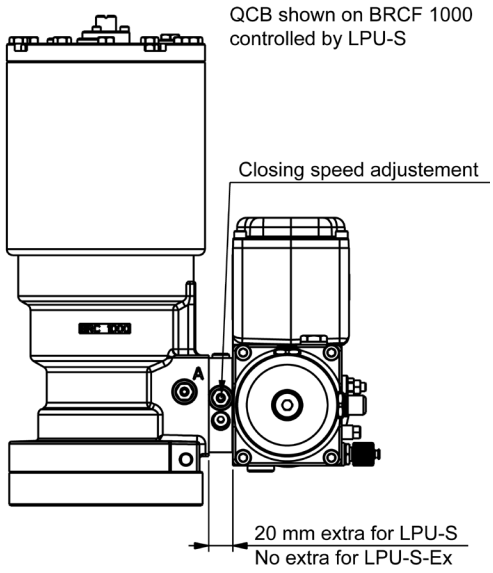
*** BRCF 16000 should always be equipped with a Pressure tank.*

Technical Data	
Opening Flow	As of LPU; adjustable at LPU but usually full flow on fail-close actuators
Closing Flow	0.1 - 10 l/min, adjustable on throttle valve placed on QC-block
Test Pressure	225 bar
Material	MS58 or Brass
Weight	1 kg
Installation Dimensions	+20 mm for LPU-S, identical for LPU-S-Ex
Limitations	Can only be used for Fail-Close actuators
Emergency Operation	No changes

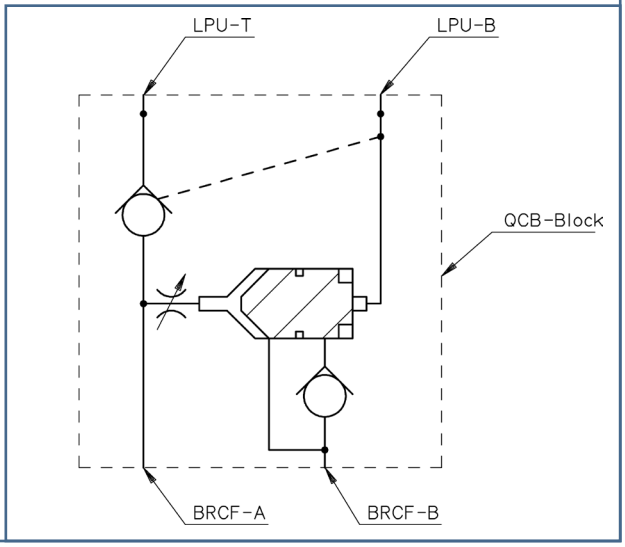
Dimensions







Additional weight: 1 kg for LPU-S, 0 kg for LPU-S-Ex



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