

Damcos™ LPU-D

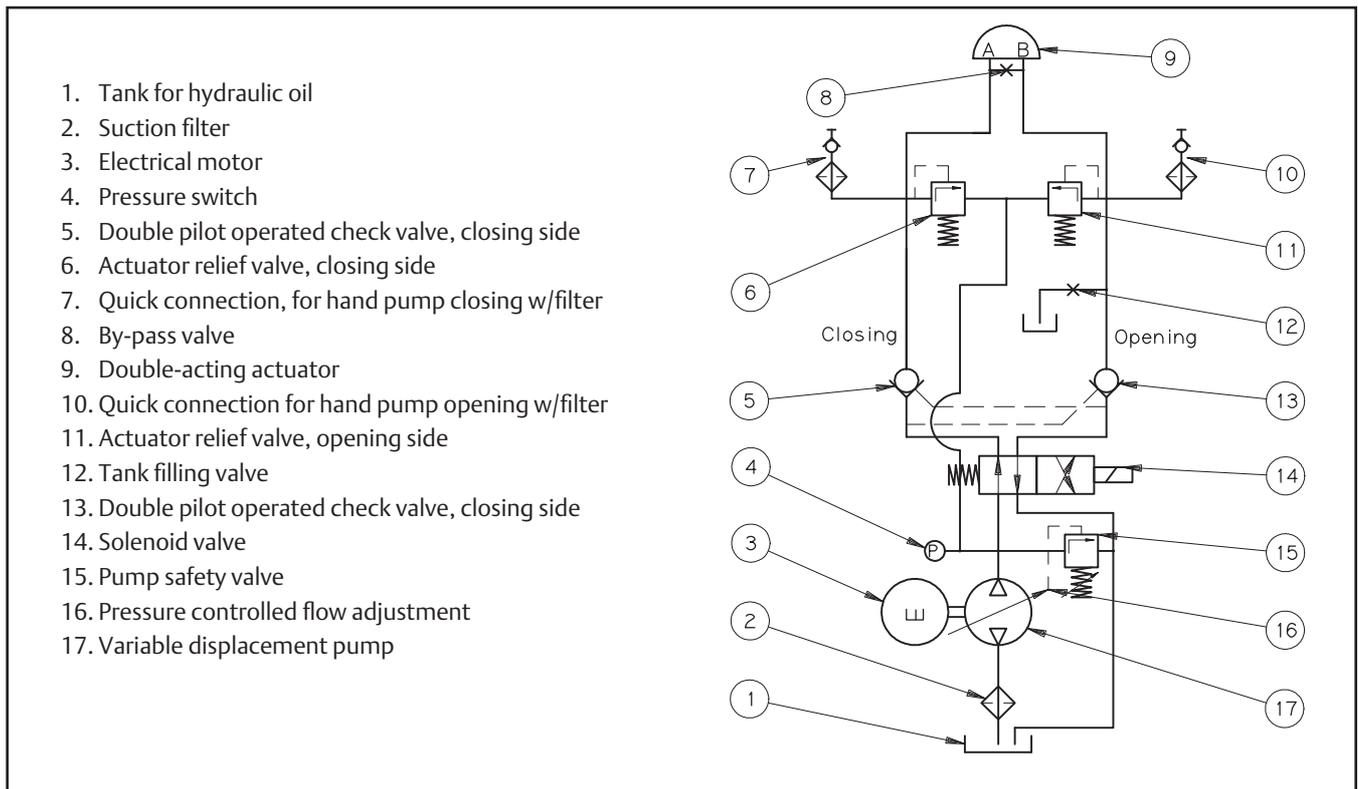
for double-acting actuator



LPU-D

The LPU-D is designed for the control of double-acting actuators requiring hydraulic pressure for operation in open or closed position.

Hydraulic diagram for LPU-D



1. Tank for hydraulic oil
2. Suction filter
3. Electrical motor
4. Pressure switch
5. Double pilot operated check valve, closing side
6. Actuator relief valve, closing side
7. Quick connection, for hand pump closing w/filter
8. By-pass valve
9. Double-acting actuator
10. Quick connection for hand pump opening w/filter
11. Actuator relief valve, opening side
12. Tank filling valve
13. Double pilot operated check valve, closing side
14. Solenoid valve
15. Pump safety valve
16. Pressure controlled flow adjustment
17. Variable displacement pump

Operation LPU-D

When the motor and solenoid valve are activated the oil is sucked from tank through the suction filter to the pump and pumped through the solenoid valve and the pilot operated check valve (13) to the actuator port B. This causes the actuator to open the valve. The oil from actuator port A flows back through the pilot operated check valve (5) (which is opened by the pressure in the B-line) and returns through the solenoid valve to the tank.

When the valve is fully open, the pressure rises to 150 bar, which causes the pump safety valve to open so that the oil flows back to tank. The motor and the solenoid valve are then de-energized.

The actuator is now hydraulically locked in position by the pilot operated check valves.

In case of a major rise in temperature, the pressure may rise. This will not cause any problems because of the actuator relief valve (6) and (11), which will open at approx. 225 bar.

Closing the valve follows exact the same procedure, except that the solenoid valve is not activated which causes the ports A and B to be reversed.

When the motor is running the direction of oil-flow is solely determined by the activation of the solenoid valve.

Emergency operation LPU-D

...with portable hand pump

A portable hand pump is connected to the two quick connections (7) and (10), which are directly connected to the actuators ports A and B. The actuator can be activated in any of the two directions, until the required position is reached. If too high pressure is applied to the LPU, the relief valve let the oil flow to the tank. The hand pump is dismantled. The actuator is hydraulically locked in any position.

...with key (only possible up to BRC 500)

The cross-over valve in the actuator is opened, the key is used to turn the actuator, the cross-over valve is closed. The actuator is hydraulically locked in any position.

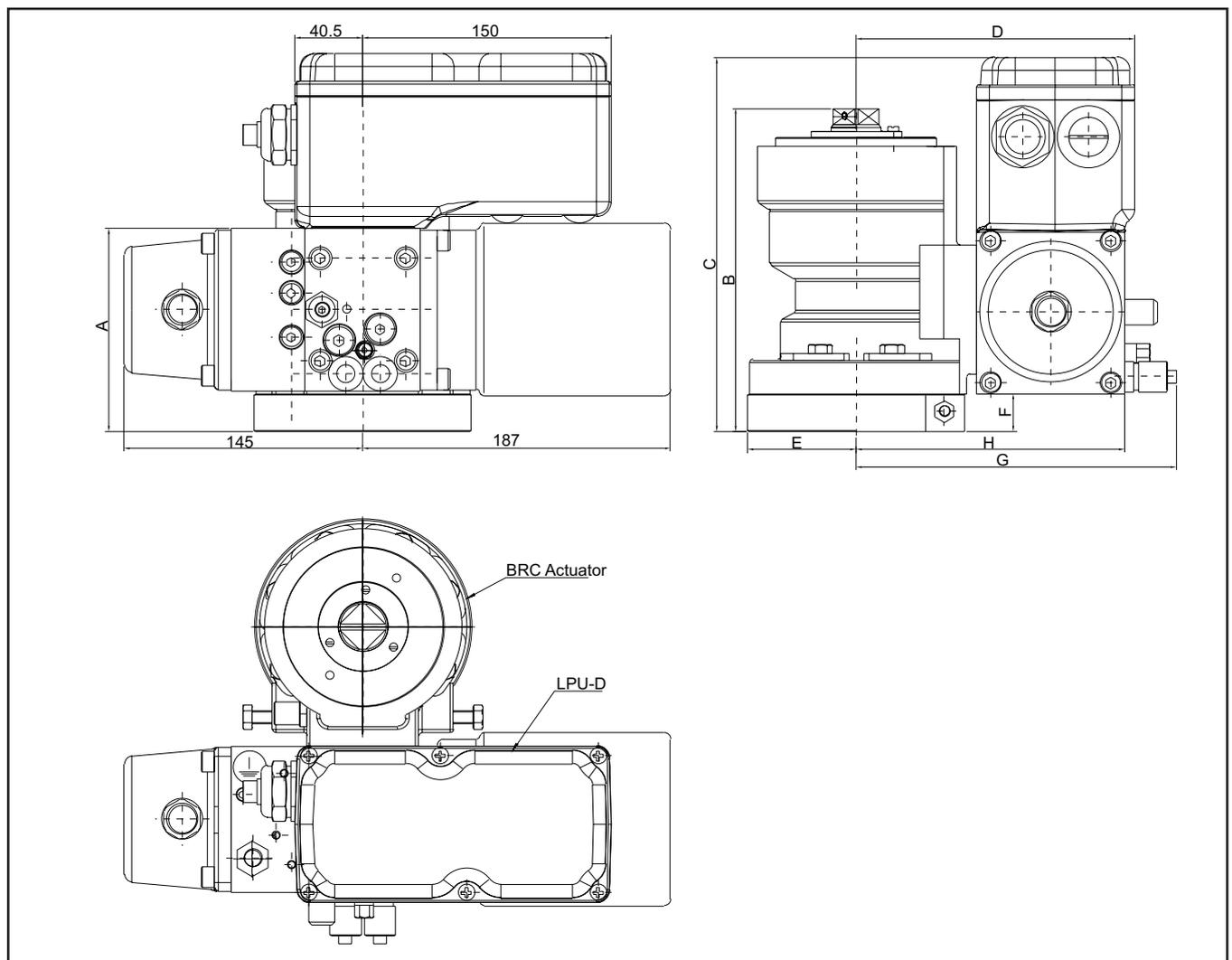
...with permanently connected (bulkhead-mounted) hand pump

Open or close is selected on the hand pump block lever, the hand pump is activated until the required position is reached. The actuator is hydraulically locked in any position.

Note!

After emergency operation, remote control is automatically in charge.

Dimensions LPU-D on BRC actuator



Damcos recommend support of the Actuator/LPU when mounted on small valves (≤ 100 mm).

	A	B	C	D	E	F	G	H
*BRC 125	116.5	149.5	226.5	149	48	16.5	174.5	143
BRC 250	121	174.5	231	156	59	21	181.5	150
BRC 500	124.5	199	234.5	169	66	24.5	194.5	163
BRC 1000	133	229	243	181	80	33	206.5	175
BRC 2000	144	271	254	193	96	44	218.5	187
BRC 4000	153	319	263	221	150	53	246.5	215

All dimensions in mm.

*BRC 125/LPU has to be bulkhead mounted.

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