

Load holding valves type LHK, LHDV, and LHT

Load-holding valves are pressure valves that always act on the outlet side of double-acting consumers. They block the outlet duct with their set pressure (pressure setting approx. 15% above the max. load pressure), generating a counter force to a pushing (negative) load. Therefore the pump will have to feed the inflow side with residual pressure in order to drop the load.

Type LHK valves are intended for use in applications that are not particularly prone to oscillations.

Load-holding valves of type LHT and type LHDV featuring special damping properties are especially well suited for applications together with prop. directional spool valves ("Load Sensing" directional spool valves) e.g. type PSL/PSV.

Many additional options are available such as shock valves and shuttle valves with or without restrictor check valve (delayed release of hydraulic brakes) etc.

Features and benefits:

- Operating pressures up to 420 bar
- Various adjustment options
- Various configurations

Intended applications:

- Cranes
- Construction machinery
- Lifting devices



Nomenclature:	Load holding valve (over center valve, for one sided or alternating load direction) Single or twin valve
Design:	Individual valve for pipe connection Individual valve Manifold mounting Screw-in valve Version for banjo bolt mounting
p_{max}:	360 ... 450 bar
Q_{max}:	250 lpm

Design and order coding example

LHK44	G	- 11	- 160
			Pressure setting load-holding pressure [bar]
			Design Various housing designs available
			Dampening Without/with, or with restrictor check valve
Basic type, size			Type LHK (valve only, without shock valve), size 2 to 4
			Additional versions:
			■ Some available with release ratio 1 : 2 and 1 : 7
			■ Version available as assembly kit

LHDV33	- 25WD	- B	6	-200/200-240/240
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Pressure setting [bar]

Load-holding pressure/load-holding pressure - shock valve pressure/shock valve pressure

Nozzle

Release ratio may be altered with different orifice combinations in the range between 1 : 1.2 and 1 : 8.9

Flow

Additional elements

- With shock- and suction valves
- With shuttle valves for brakes
- With restrictor check valve

Basic type, size

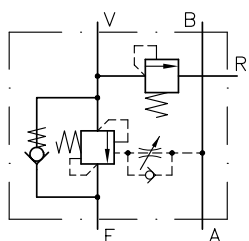
Type LHDV (with tailored dampening characteristics), size 3
Type LHT, size 2, 3 and 5

Additional versions:

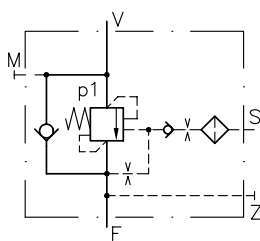
- Cartridge valve versions
- Type LHT
- Type LHTE, with discharge pressure compensation

Function

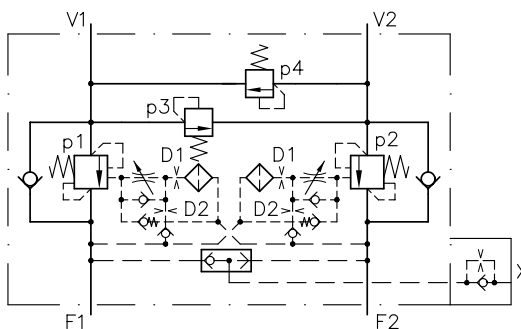
LHK 33 G-15-...



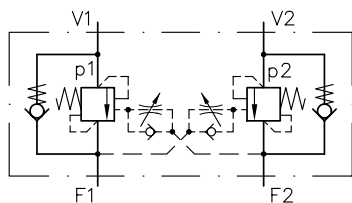
LHT 33 P-11-...



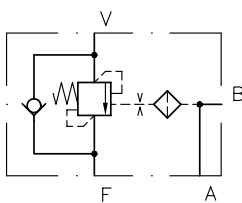
LHDV 33 G-25WD-...



LHK 44 G-21-...

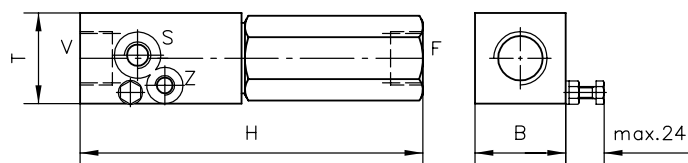


LHT 21 H-14-...

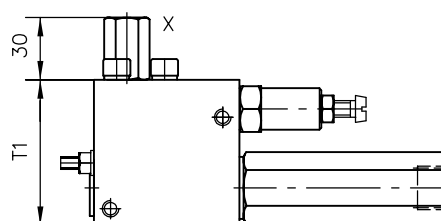


General parameters and dimensions
LHK 44 G - 11 - 160

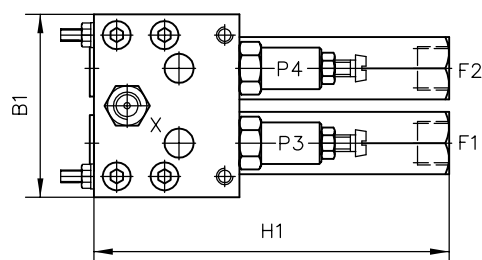
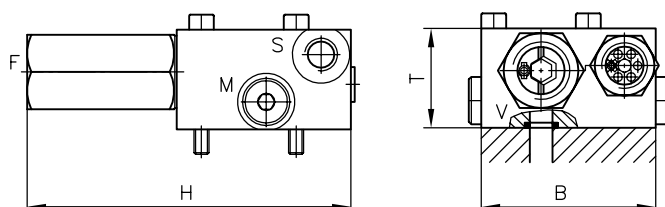
Individual valve


LHDV 33 - 25 WD - B 6 - 200/200 - 240/240

Twin valve


LHT 33 P - 15

Individual valve



	Design	Q _{max} [lpm]	p _{max} [bar]	Release ratio	Ports (BSPP)	Dimensions [mm]			m [kg]
						H/H1	B/B1	T/T1	
LHK 22	Individual valve	20	400	1 : 4.6	G 3/8	97	32	32	0.5
	Twin valve ²⁾					98	60	30	2.7
LHK 33	Individual valve	60	360	1 : 4.4	G 1/2	123	40	40	1.0
	Twin valve ²⁾					125...291	80	40...60	2.7
LHK 44	Individual valve	100	350	1 : 4.4	G 3/4	170	45	45	1.6
	Twin valve ²⁾					170	90	50	3.5
LHDV 33	Individual valve ²⁾	80	420	1 : 8...1 : 1.2 ¹⁾	G 1/2	170	50	40	1.8
	Twin valve					170	88	70	4.7
LHT 2	Individual valve	25	400	1 : 8, 1 : 4	G 1/4	132	40	24.8	1.2
	Twin valve					132	50	24.8	0.8
LHT 3	Individual valve ²⁾	130	450	1 : 7...1 : 0.53 ¹⁾	G 1/2	128	70	40	1.6
LHT 5	Individual valve ²⁾	250	450	1 : 6...1 : 0.79 ¹⁾	G 1	113	50	50	1.0

1) Release ratio can be altered simply by changing the orifice

2) Note: Design may be significantly different to the illustrated version!

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MPN 44-H 13,1-B 55 L20-SKT

-BA 2-NBVP 16 G/R-GM/NZP 16 VP 20/3

-X 84 V-9/250

- Type LHT: [D 7918](#)

- Prop. directional spool valves type PSLF, PSVF: [D 7700-F](#)