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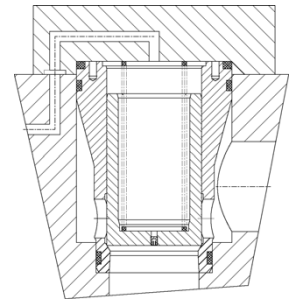
1 General Description

Cartridge cover and 2/2 way cartridge valve type CEE or CHF together establish the control function in an integrated block system. In many cases the cover also set up the connection from the pilot surface of the cartridge to the pilot valves, which are directly mounted on the cover or also can be installed anywhere in the hydraulic block or can be connected by external pilot lines to the cartridge valve (remote control).

By use of different pilot valves the cartridge valve can perform directional control, pressure relief or throttle valve functionality or a combination of these functions.

Depending on the specified function the cover contains control lines and optionally a stroke limiter, check or shuttle valves.

The WESSEL program provides covers for the nominal sizes 16, 25, 32, 40, 50, 63, 80 and 100 according to DIN 24342 (ISO 7368) and Hydroment Standard NG15-100. The available functions are described on the following pages.



1.1 Applications

1.2 Function

Schematic	Type	Use with Cartridge	Function	Pilot ports
	REE	CEE, CHF	check valve	none
	1D	CEE, CHF	Check valve: X connected with B: B to A locked: A to B open Directional valve in connection with stepped cone: X without pressure: Flow from A to B or B to A	keiner
	1H	CEE, CHF	Directional valve with stroke limiter -> throttle: The adjustable stroke limitation throttles the flow in both directions	none
	2D	CEE, CHF	Directional valve function with shuttle valve for pilot pressure: x and y to the tank: Flow from A to B or B to A, X or Y pressurized: Flow locked in both directions	none
	RV	CEE, CHF	Pilot operated check valve function: Y to tank, Z2 is connected to B, free flow A to B, B to A is locked With pressure at X (min. 20% of B) cone is unlocked	none
	1W	CEE, CHF	Using cover 1W together with a switching cartridge and a directional valve 4/2 (NG6) a directional control function can be realized. With the ports Z1 and Z2, a second cartridge can be operated in parallel.	Cetop 3/5
	2W	CEE, CHF	Using the 2W cover and a 4/2 way directional valve a check valve is realized: B to A is always locked, A to B is open, in switched position and closed in neutral position.	Cetop 3/5
	2WR	CEE, CHF	Similar to cover 2W. In addition another cartridge can be operated through ports Z1 and Z2.	Cetop 3/5
	DB	CEE	Pressure relief function: With a flanged-on pressure relief valve the pressure at the cartridge port A is limited to the relief pressure (cartridge valve equipped with A-piston with nozzle). In this case port B has to be connected to the tank.	Cetop 3/5

2 Technical Data

Criteria	Unit	Value
Porting pattern		DIN ISO 7368
Maximum inlet pressure port A, B, X	bar	350
Hydraulic fluid		Mineral oil (HL, HLP) conforming with DIN 51524, other fluids upon request
NBR		<ul style="list-style-type: none"> ▪ hydraulic fluids based on mineral oils ▪ HFD- hydraulic fluids
FKM		<ul style="list-style-type: none"> ▪ hydraulic fluids based on mineral oils ▪ HFB-, HFC- hydraulic fluids
Hydraulic fluid temperature range		
NBR	°C	temperature range -25 bis +80
FKM	°C	temperature range -20 bis +120
Ambient temperature:		
NBR	°C	temperature range -25 bis +80
FKM	°C	temperature range -20 bis +120
Viscosity range	mm ² /s	2,8 – 500
Contamination grade		Filtering conforming with NAS 1638, class 9, with minimum retention rate $\beta_{10} \geq 75$

weight in kg

Typ	NG16	NG25	NG32	NG40	NG50	NG63
1D	1,2	2,0	3,7	7,3	9,2	20,3
1H	1,1	1,8	3,2	6,5	9,2	18,2
2D	1,2	2,0	3,7	7,3	9,2	20,3
RV	2,1	2,8	4,9	7,3	8,2	22,3
1W	1,5	2,0	3,6	7,3	9,2	20,3
2W	2,1	2,8	4,9	7,3	9,2	20,3
2WR	2,1	2,8	4,9	7,3	9,2	20,3
DB	1,5	2,0	3,6	7,3	9,2	20,3

thread sizes

	NG16	NG25	NG32	NG40	NG50	NG63
P, A, B, T	M5	M5	M6	M8	M8	M10
X, Y, C, Z1, Z2	M5	M5	M6	M8	M8	M10

3 Ordering Information

3.1 Type Code

CCE						99
00	01	02	03	04	05	06
00	Product Group	cover				CCE
01	Nominal size	DIN 24342	16, 25, 32, 40, 50, 63			
		Hydroment-standard	15, 30, 40, 50, 63			
02	DIN 24342					B6
	Hydroment-standard	Hydroment standard allows a more compact design with the same performance.				C1
03	Cover type	RE, 1D, 1H, 2D, RV, 1W, 2W, 2WR, DB				
05	Seal	NBR	temperature range -25°C to +80°C			N
		FKM / Viton	temperature range -20°C to +120°C			V
06	Nozzle	standard version without nozzle				99

XXX – fixed features XXX – customer selectable features ■ available ○ not available

Some theoretical configurations might be not feasible for technical reasons. For relating questions please ask for our advice.

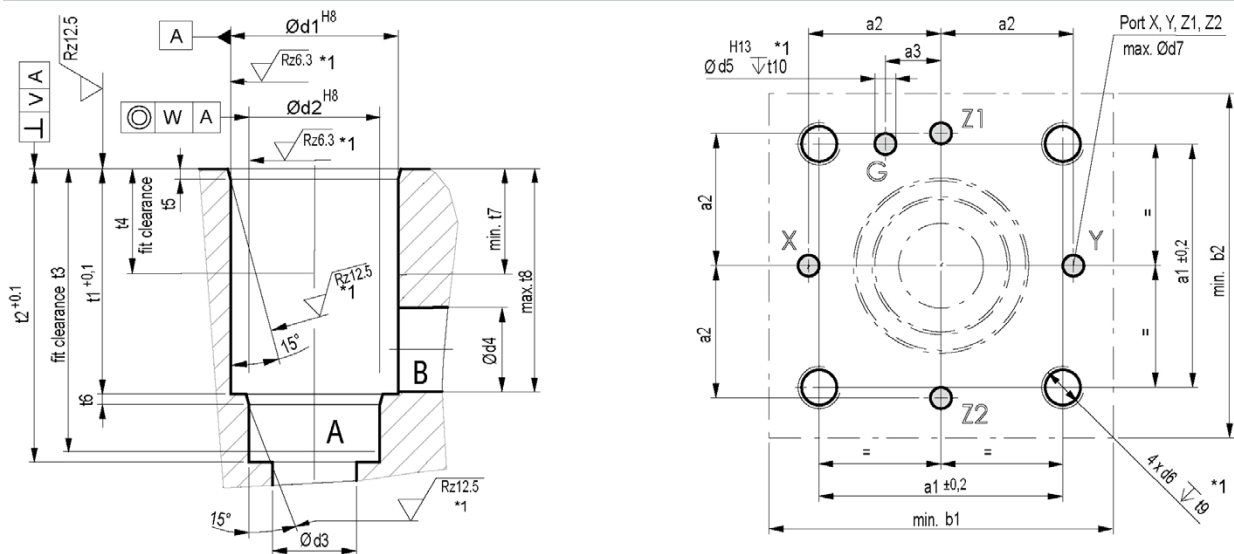
4 Installation

4.1 General Instructions

- Observe all installation and safety information of the machine manufacturer.
- Only technically permitted changes may be made on the machine.
- The user has to ensure that the device is suitable for the respective application.
- Use exclusively for the range of application specified by the manufacturer.
- Depressurize the hydraulic system prior to installation or dismantling.
- May only be adjusted by technical staff.
- May only be opened with the approval of the manufacturer, otherwise the warranty is invalidated.
- The enclosed connection recommendation is without guarantee. The functionality and the technical specifications of the machine require checking.

4.2 Stepped bore

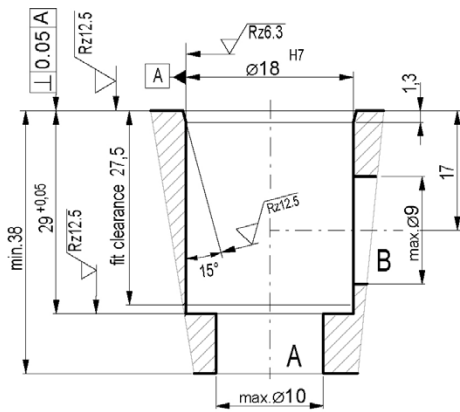
4.2.1 stepped bore DIN ISO 7368



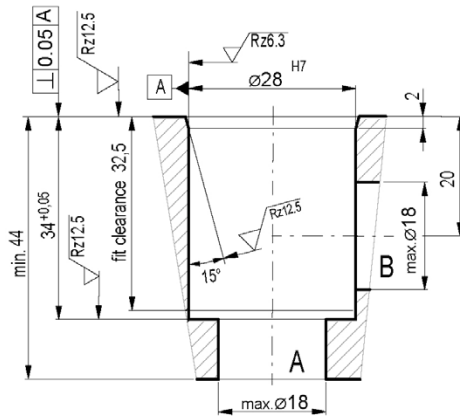
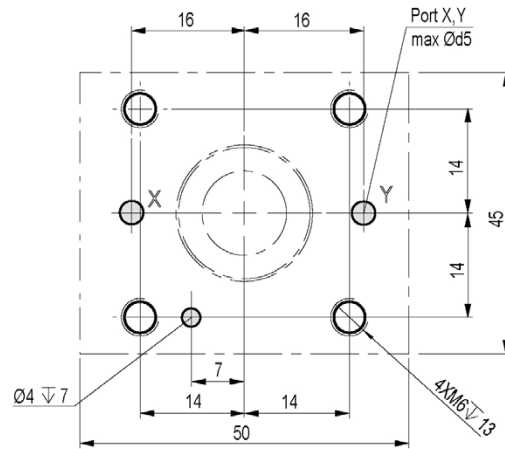
*1 Recommendation deviating from the norm

	NG16	NG25	NG32	NG40	NG50	NG63
d1	32	45	60	75	90	120
d2	25	34	45	55	68	90
d3	16	25	32	40	50	63
d4	16	25	31,5	40	50	63
d5	4	6	6	6	8	8
d6	M8	M12	M16	M20	M20	M30
d7	4	6	8	10	10	12
t1	43 ^{+0,2}	58	70	87	100	130
t2	56	72	85	105	122	155
t3	54	70	83	102	117	150
t4	20	30	30	30	35	40
t5	2	2,5	2,5	3	4	4
t6	2	2,5	2,5	3	3	4
t7	20	30	30	30	35	40
t8	42,5	57	68,5	84,5	97,5	127
t9*	14	20	26	32	32	50
t10*	10	10	10	10	10	10
a1	46	58	70	85	100	125
a2	25	33	41	50	58	75
a3	10,5	16	17	23	30	38
b1	65	85	102	125	140	180
b2	65	85	102	125	140	180
V	0,05	0,05	0,1	0,1	0,1	0,2
W	0,03	0,03	0,03	0,05	0,05	0,05

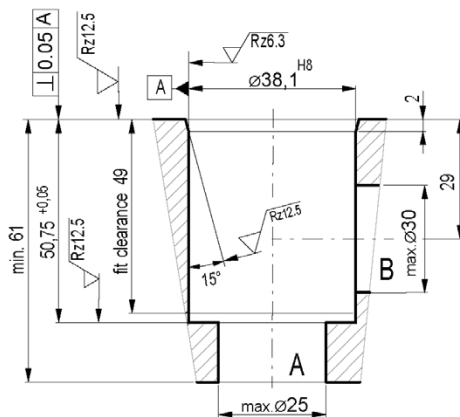
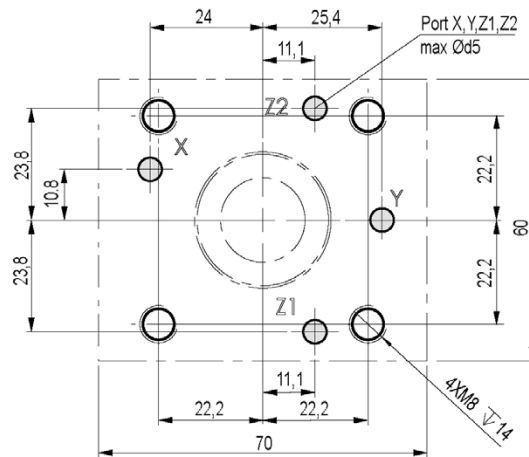
4.2.2 stepped bore Hydroment-standard



NG10

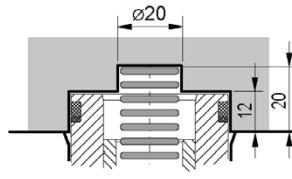
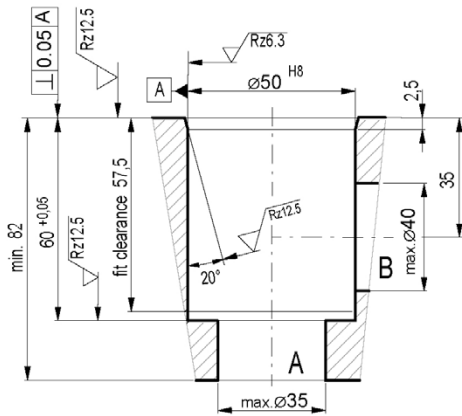


NG15

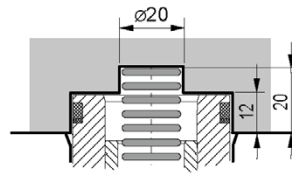
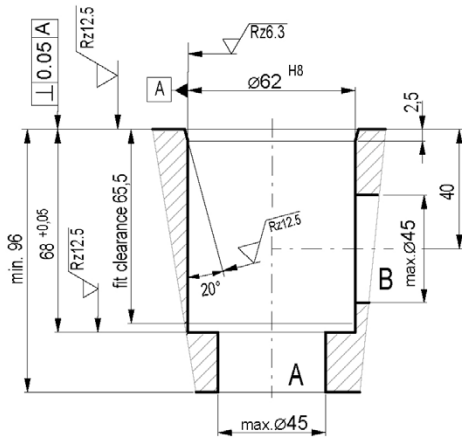
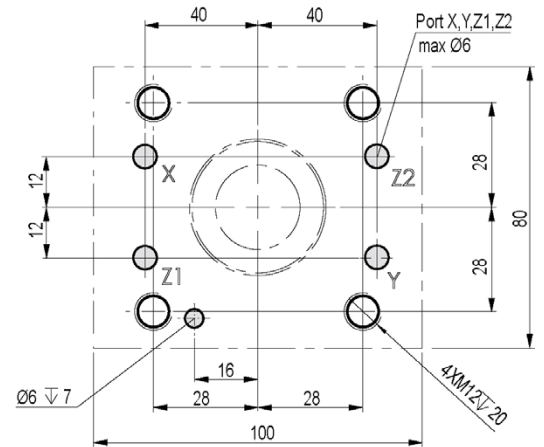


NG30

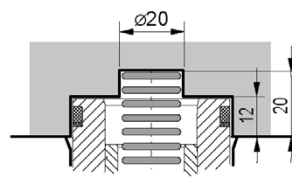
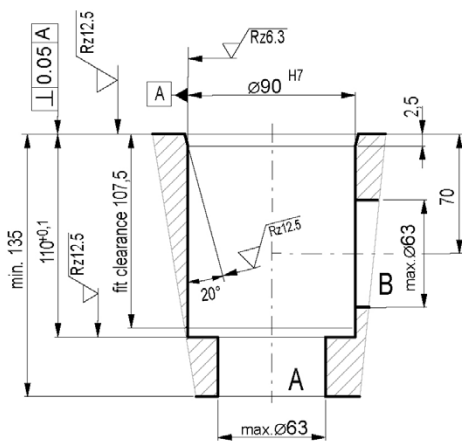
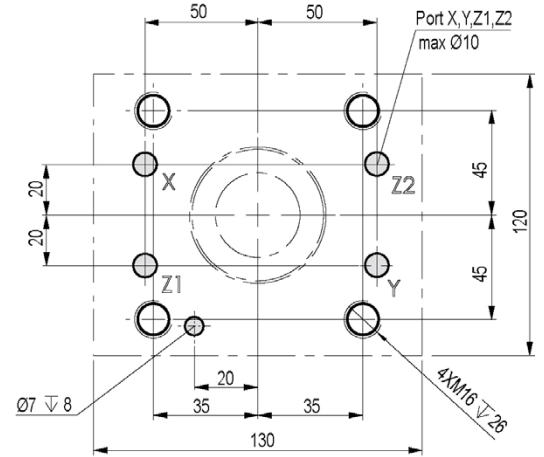
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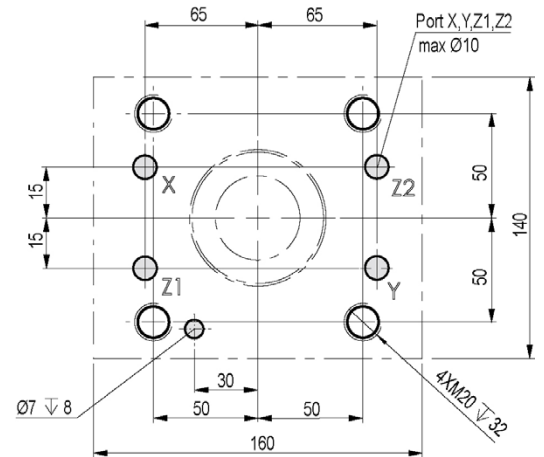
NG40



NG50

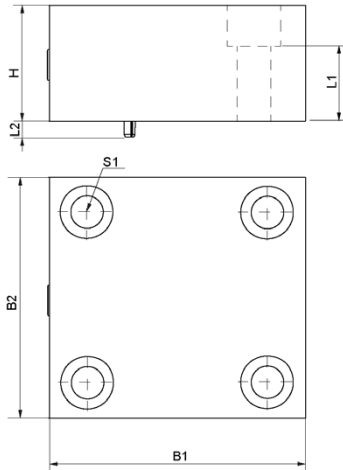


NG63



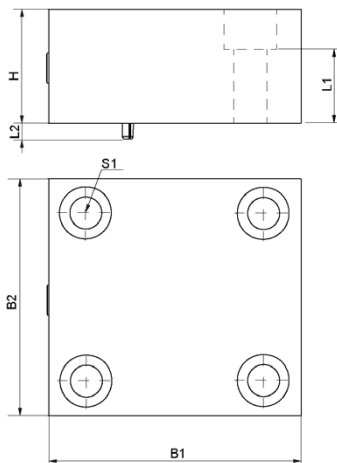
5 Dimensions, DIN ISO 7368

5.1 RE, DIN ISO 7368



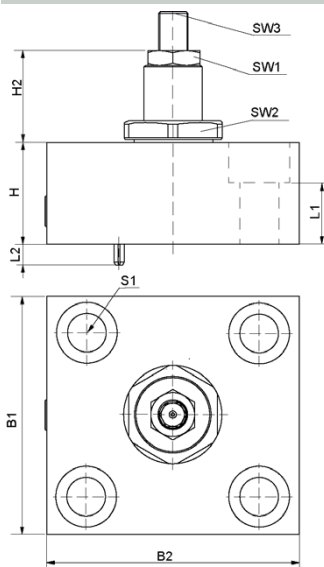
Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	65	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	35	35	45	60	60	80
L1 [mm]	24	22	27	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

5.2 1D, DIN ISO 7368



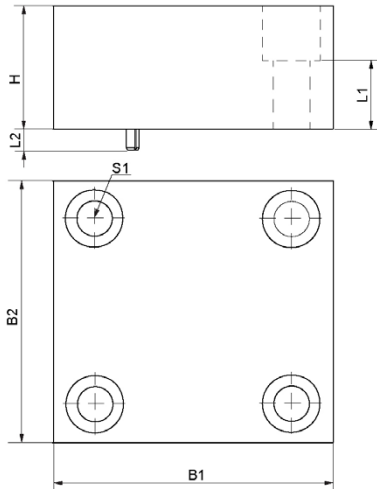
Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	65	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	35	35	45	60	60	80
L1 [mm]	24	22	27	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

5.3 1H, DIN ISO 7368



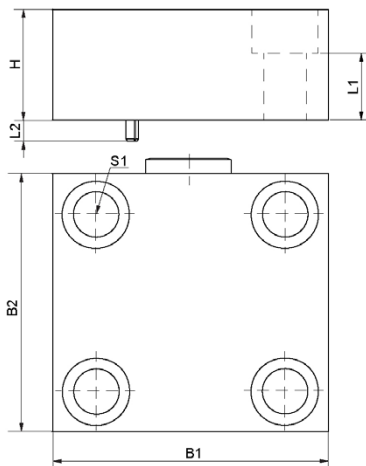
Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	65	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	35	35	45	60	60	80
H2 [mm]	39	39	39	39	65	65
L1 [mm]	24	22	27	39	39	50
L2 [mm]	5	8	8	8	8	8
SW1	36	36	36	36	65	65
SW2	18	18	18	18	46	46
SW3	6	6	6	6	17	17
S1 DIN EN ISO 4762 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

5.4 2D, DIN ISO 7368



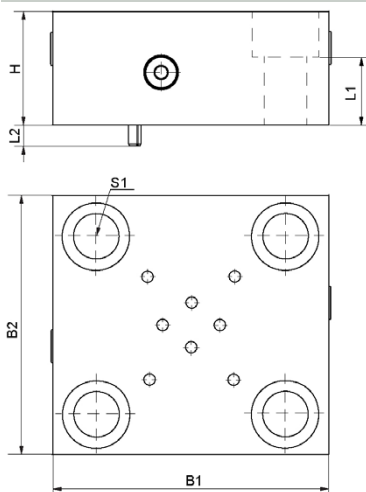
Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	65	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	35	35	45	60	60	80
L1 [mm]	24	22	27	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

5.5 RV, DIN ISO 7368



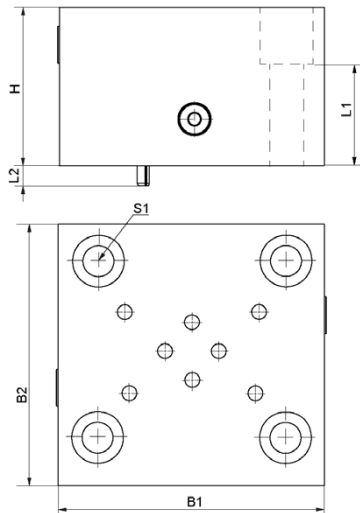
Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	85	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	60	50	45	60	60	80
L1 [mm]	49	27	27	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x60	4x M12x45	4x M16x50	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

5.6 1W, DIN ISO 7368



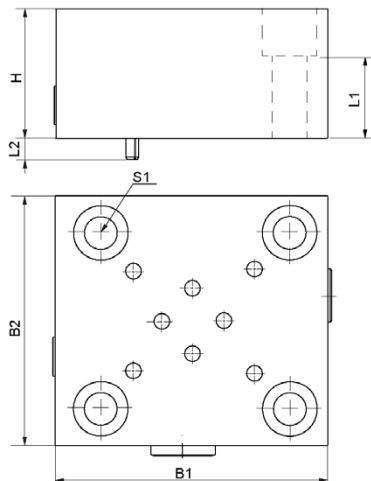
Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	85	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	35	35	45	60	60	80
L1 [mm]	24	22	27	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

5.7 2W, DIN ISO 7368



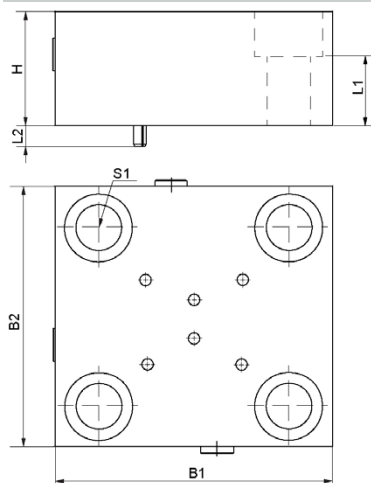
Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	85	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	50	50	60	60	60	80
L1 [mm]	29	27	37	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x40	4x M12x45	4x M16x60	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

5.8 2WR, DIN ISO 7368



Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	85	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	50	40	60	60	60	80
L1 [mm]	29	22	37	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x40	4x M12x40	4x M16x60	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

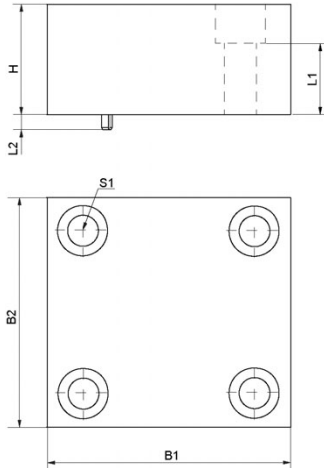
5.9 DB, DIN ISO 7368



Maß	NG16	NG25	NG32	NG40	NG50	NG63
B1 [mm]	65	85	102	125	140	180
B2 [mm]	65	85	102	125	140	180
H [mm]	35	35	45	60	60	80
L1 [mm]	24	22	27	39	39	50
L2 [mm]	5	8	8	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90
Tightening torque [Nm]	42,2	144	354	692	692	2380

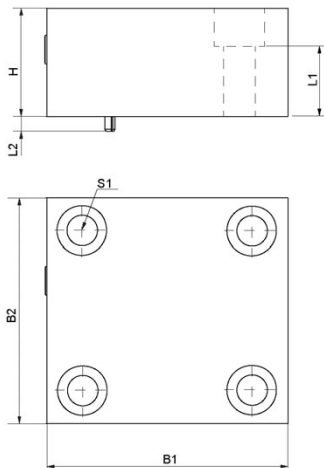
6 Dimensions, C1 Hydroment Standard

6.1 RE, Hydroment Standard



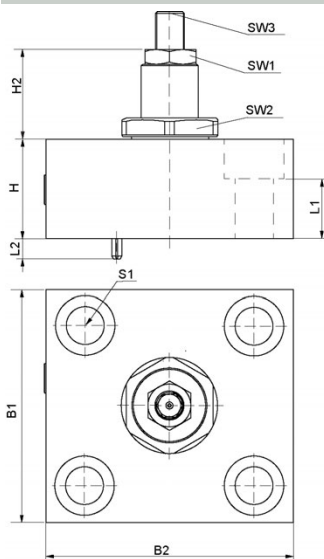
Maß	NG15	NG40	NG50	NG63
B1 [mm]	70	100	130	160
B2 [mm]	60	80	120	140
H [mm]	29	40	45	40
L1 [mm]	20,5	25	25	19
L2 [mm]	5	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M12x40	4x M16x50	4x M20x50
Tightening torque [Nm]	42,2	144	354	692

6.2 1D, Hydroment Standard



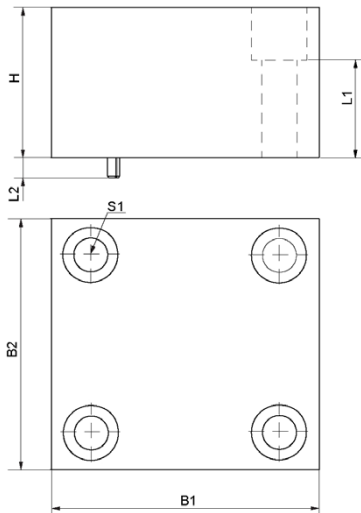
Maß	NG15	NG40	NG50	NG63
B1 [mm]	70	100	130	160
B2 [mm]	60	80	120	140
H [mm]	29	40	45	40
L1 [mm]	20,5	25	25	19
L2 [mm]	5	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M12x40	4x M16x50	4x M20x50
Tightening torque [Nm]	42,2	144	354	692

6.3 1H, Hydroment Standard



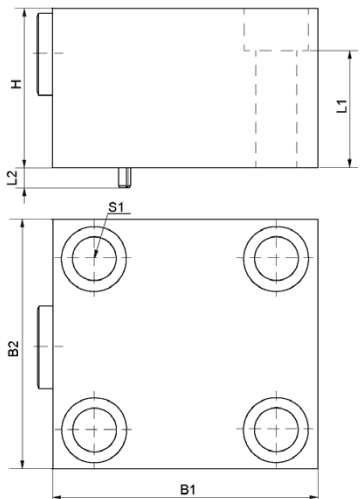
Maß	NG15	NG30	NG40	NG50
B1 [mm]	60	70	100	130
B2 [mm]	70	60	80	120
H [mm]	35	35	60	60
H2 [mm]	39	39	39	65
L1 [mm]	20,5	45,5	45	45
L2 [mm]	5	8	8	8
SW1	36	36	36	36
SW2	18	18	18	18
SW3	6	6	6	6
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M8x55	4x M12x70	4x M16x70
Tightening torque [Nm]	42,2	42,2	144	354

6.4 2D, Hydroment Standard



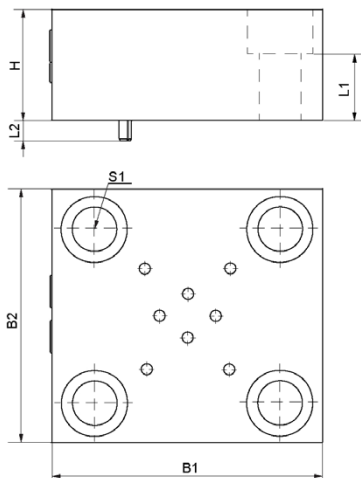
Maß	NG15	NG40	NG50	NG63
B1 [mm]	70	100	130	160
B2 [mm]	60	80	120	140
H [mm]	29	60	60	60
L1 [mm]	20,5	45	35	39
L2 [mm]	5	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M12x60	4x M16x60	4x M20x70
Tightening torque [Nm]	42,2	144	354	692

6.5 RV, Hydroment Standard



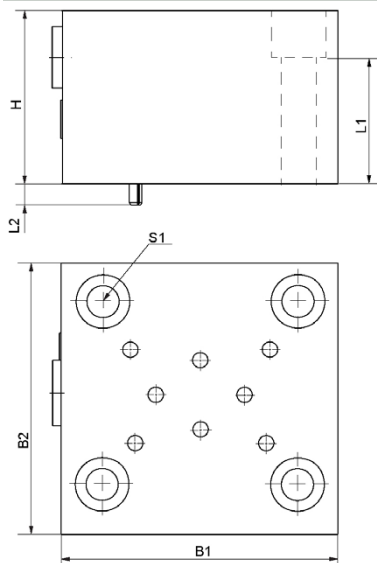
Maß	NG15	NG40	NG50	NG63
B1 [mm]	84	100	130	160
B2 [mm]	60	80	120	140
H [mm]	60	60	68	70
L1 [mm]	45,5	45	45	49
L2 [mm]	5	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x55	4x M12x60	4x M16x70	4x M20x80
Tightening torque [Nm]	42,2	144	354	692

6.6 1W, Hydroment Standard



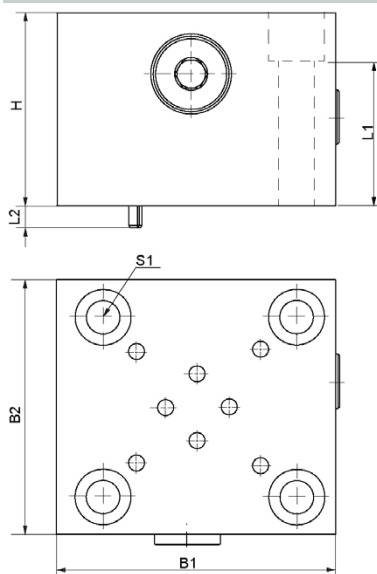
Maß	NG15	NG40	NG50	NG63
B1 [mm]	84	100	130	160
B2 [mm]	60	80	120	140
H [mm]	29	40	68	70
L1 [mm]	20,5	25	45	49
L2 [mm]	5	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M12x40	4x M16x70	4x M20x80
Tightening torque [Nm]	42,2	144	354	692

6.7 2W, Hydroment Standard



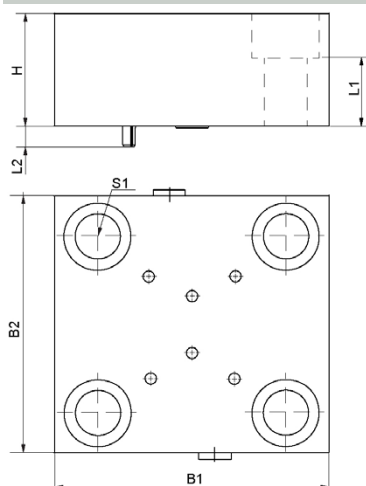
Maß	NG15	NG40	NG50	NG63
B1 [mm]	84	100	130	160
B2 [mm]	60	80	120	140
H [mm]	35	60	68	70
L1 [mm]	20,5	45	45	49
L2 [mm]	5	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M12x60	4x M16x70	4x M20x80
Tightening torque [Nm]	42,2	144	354	692

6.8 2WR, Hydroment Standard



Maß	NG15	NG40	NG50	NG63
B1 [mm]	84	100	130	160
B2 [mm]	60	80	120	140
H [mm]	35	60	68	70
L1 [mm]	20,5	45	45	49
L2 [mm]	5	8	8	8
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M12x60	4x M16x70	4x M20x80
Tightening torque [Nm]	42,2	144	354	692

6.9 DB, Hydroment Standard

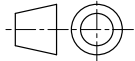


Maß	NG15	NG50	NG63
B1 [mm]	84	130	160
B2 [mm]	60	120	140
H [mm]	29	60	60
L1 [mm]	20,5	45	39
L2 [mm]	5	8	8
S1 DIN EN ISO 4762 12.9	4x M8x30	4x M16x60	4x M20x70
Tightening torque [Nm]	42,2	354	692

7 Notes, Standards and Safety Instructions

7.1 General Instructions

- The views in drawings are shown in accordance with the European normal projection variant



- A comma (,) is used as a decimal point in drawings
- All dimensions are given in mm

7.2 Standards

The following standards must be observed when installing and operating the valve:

- DIN EN ISO 13732-1:2008-12, Temperatures on accessible surfaces

8 Accessories