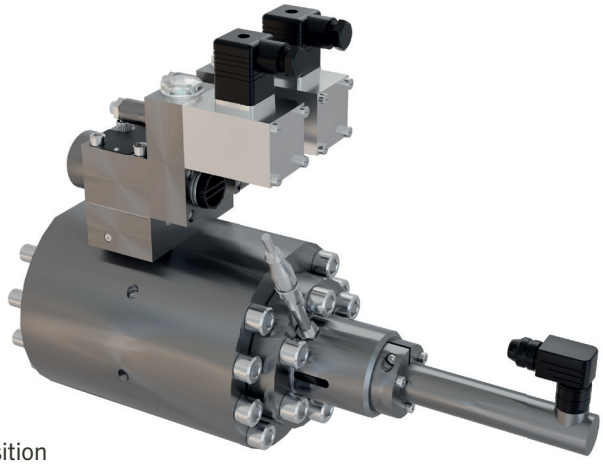
2/2-way control valve C3 proportional actuated

2/2-Wege, DN25 - DN100 PN 500



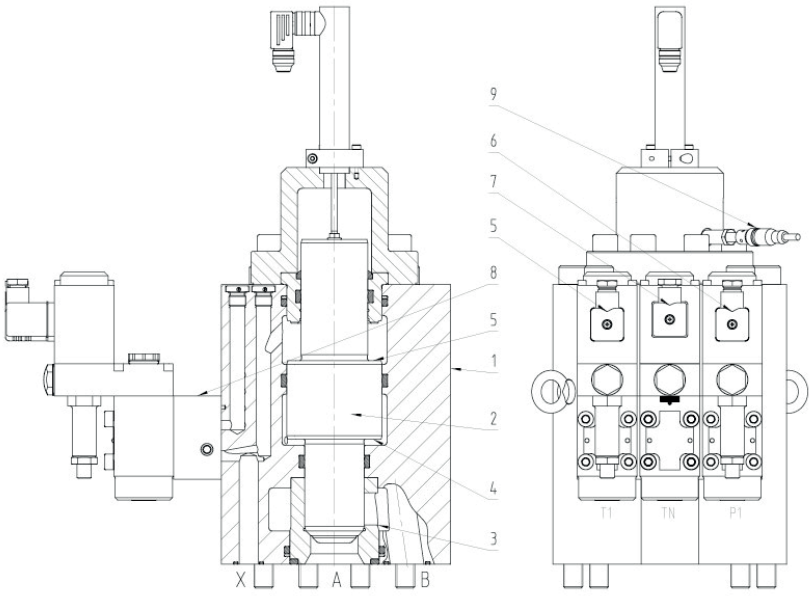
Features

- Hydraulically actuated directional seat valve for liquid media
- Actively controllable 2-way control valve with a position controlled piston position
- The controlled piston position specifies the variably adjustable flow cross-section
- The valve is actuated via proportional 2-way pilot valves
- The pilot valves are activated via the digital Controller RE4
- Valve pistons are sealed via seals within the body, thus no inner leakages develop
- Valve fastening structural plate form with a Hauhinco connection diagram
- Optionally, the valve position can be monitored by a proximity switch

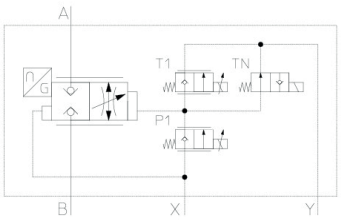
Function

The pilot valves (5, 6) and the control pcb (8) form the pilot control group of the 2-way control valve. The valve piston (2) guided within the valve body (1) is pressed into the valve seat (3) by the hydraulic power generated by the control pressure (X) on the closing area (5), provided the opening area (4) is depressurised by the activated pilot valve (5). Thus, the lines (A, B) are separated. Activated by the pilot valve (6), the opening area (4) is pressurised and the valve piston (2) lifts off the valve seat (3). The pilot valves (5, 6) are activated according to the controller specification, thus, the valve piston (2) moves into the requested position. The flow cross-section is set analogue to the valve‘s piston position. Both proportional pilot valves are 2-way seat valves NC. As soon as the control is switched off, the 2-way control valve remains in the position reached last. If an S/W pilot valve NO (7) is added to the proportional pilot control group, the 2-way control valve is moved into the safe basic position with the control switched off. Pilot valves (5, 6, 7) are fastened to the valve body (1) via the control pcb (8). The basic valve position can also be monitored by a limit switch (9).

Example: 2-way control valve C3



Symbol



Control surfaces, hydraulic forces
A channel: Area A1, open valve passively
B channel: Area A2, open valve passively
Control surface (6): A3, open valve actively
Control surface (5): A4, close valve actively

Technical data

measured with HFA medium 97/3%, at 20°C

General	
Weight	see Order information
Installation position	any
Ambient temperature	-10 to 50°C (hydraulic fluids, heed standard requirements)
Material Valve parts Material Seals	Stainless steel, bronze NBR, PTFE, PUR

Hydraulic	
Hydraulic pressure connector A, B	≤ 500 bar
Hydraulic pressure connector X	≤ 500 bar
Hydraulic pressure connector Y	≤ 10 bar
Hydraulic pressure connector X	≥ 50bar; ≥ Operating pressure at connector A, B
Direction of flow	any, preferred direction of flow B→A
Area ratios	A3 > A4, A4 > A1 + A2
Pressure fluid - Medium - Quality - min filter fineness connector A, B - min filter fineness connector X	Wasser, HFA see Hauhinco media requirement, water, HFA Filter fineness 100µm Filter fineness 25µm
Pressure fluid - Medium - Temperature range - Medium - Quality - Viscosity	Mineral oil HLP 5 to 50°C Cleanliness class -/19/16 according to ISO 4406 0,6 bis 100 mm^2/s
Use of other pressure fluids on request.	

Electric	
Magnet - Voltage - Power consumption - Operating time - Degree of protection acc. to EN60529	 24 VDC see Order information 100% OT IP65
Position feedback encoder (displacement transducer) - Output - Voltage - Current - Electrical connection	 4 - 20 mA 21,5 – 30 VDC max. 0,060 A Three wire, plug connection
Inductive proximity switch - Output - Voltage - Current - Switching distance - Electrical connection	 NO contact, PNP 10 – 30 VDC 0,150 A 2 mm Three wire, plug connection M12x1

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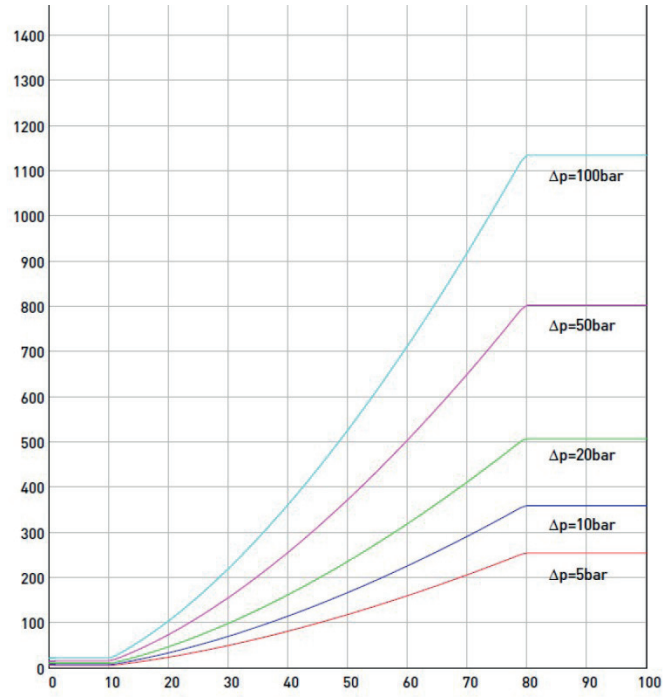
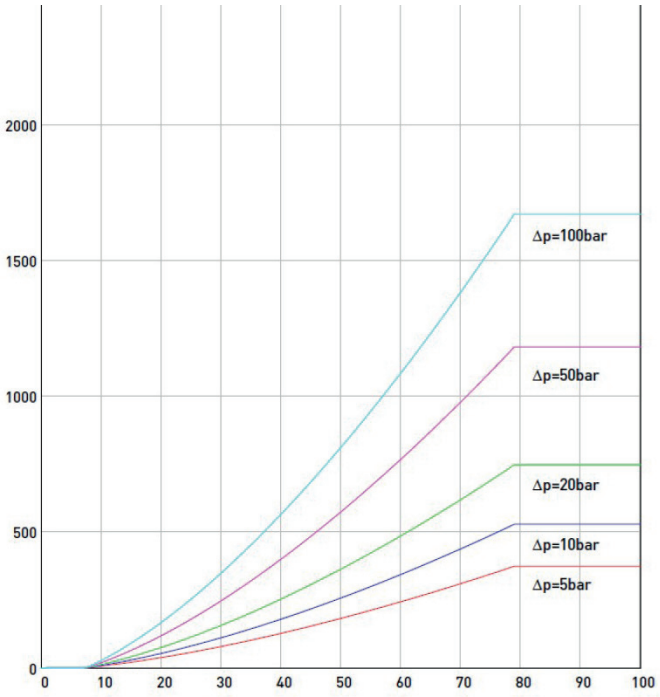
Characteristic curves control valve C3, PN 500 proportionally actuated

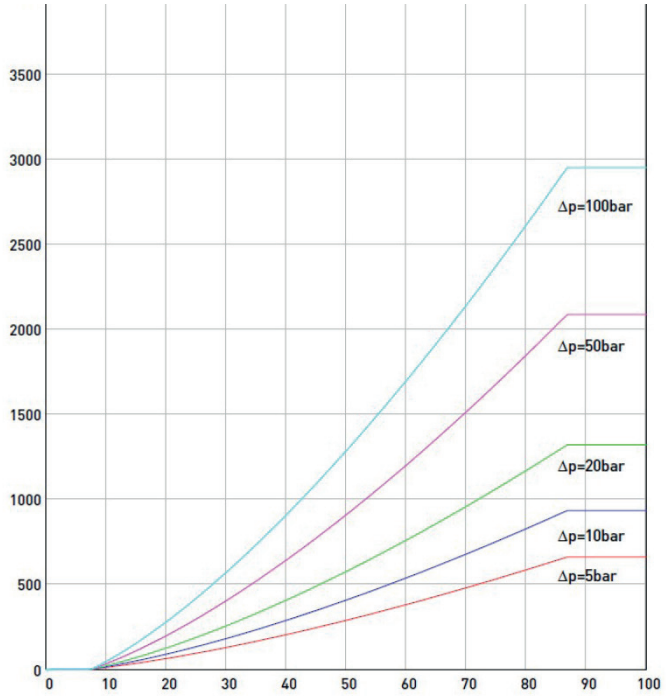
Δp –q_v characteristic curves DN25



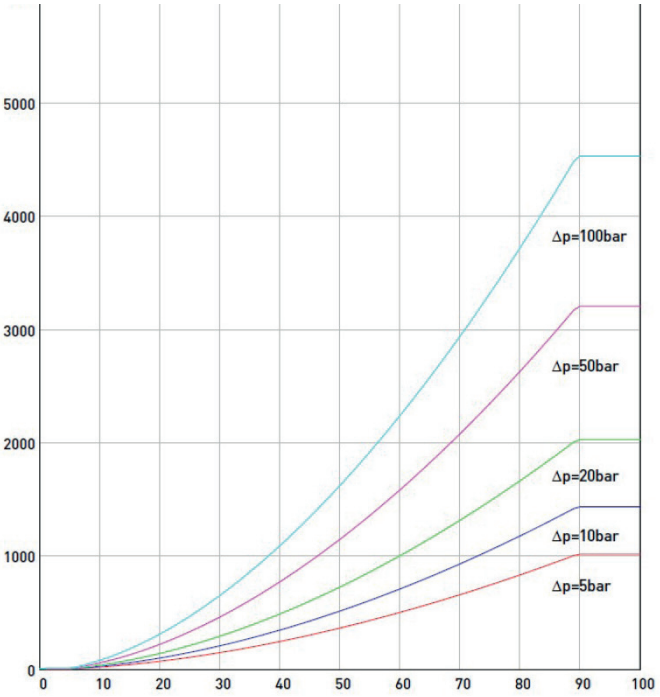
Δp –q_v characteristic curves DN32



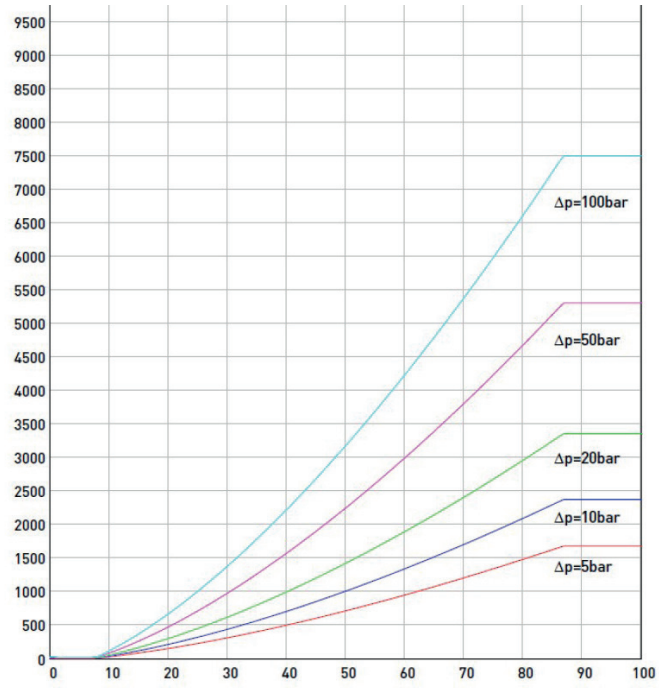
Δp –q_v characteristic curves DN40



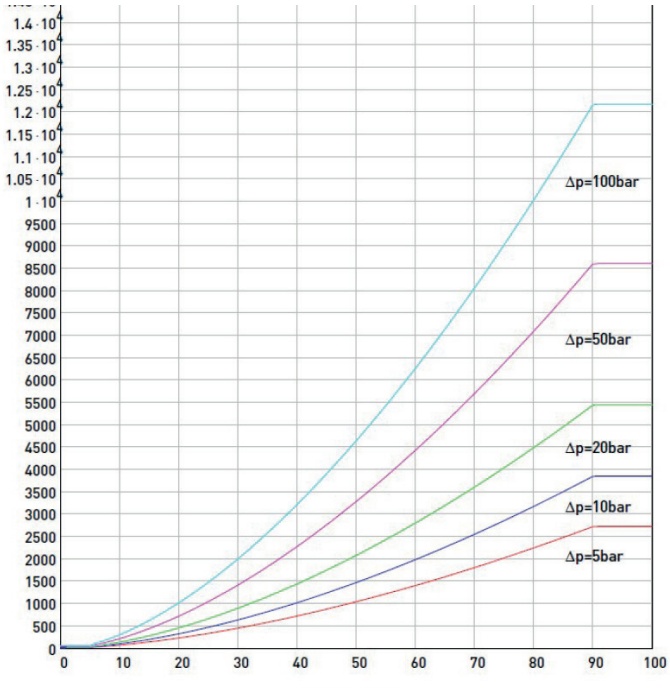
Δp –q_v characteristic curves DN50



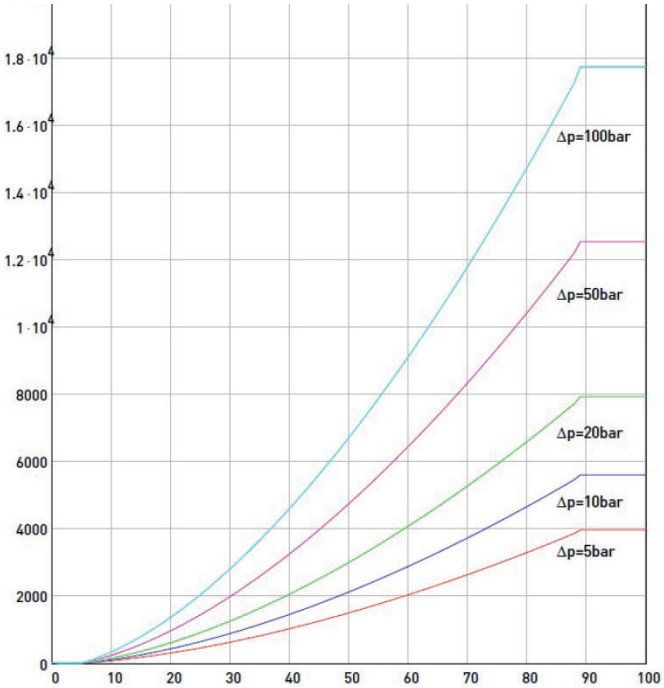
Δp –q_v characteristic curves DN65



Δp –q_v characteristic curves DN80



Δp –q_v characteristic curves DN100



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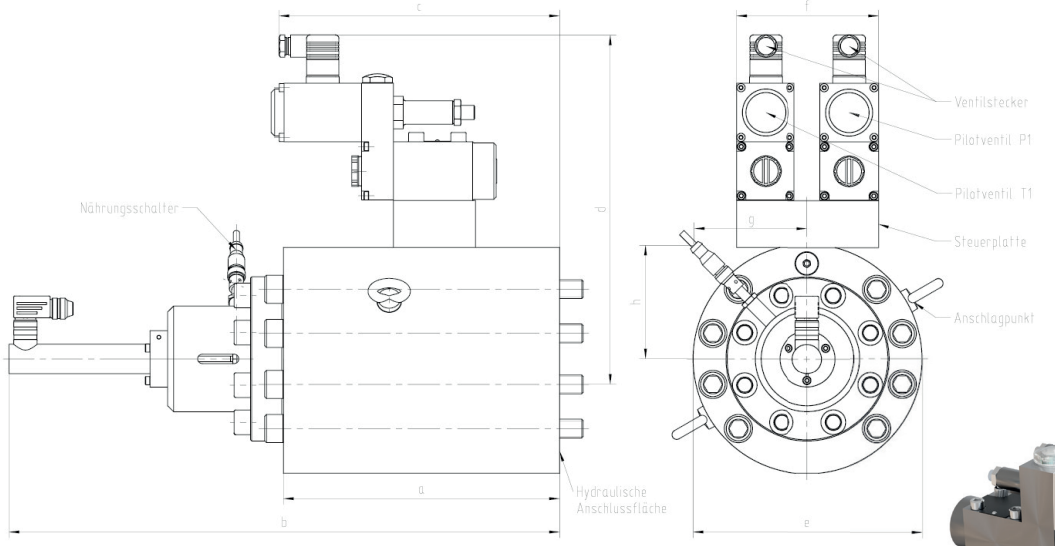
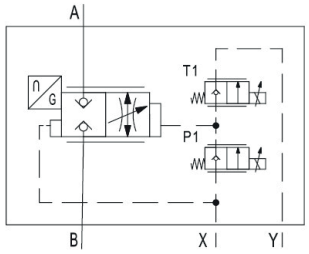
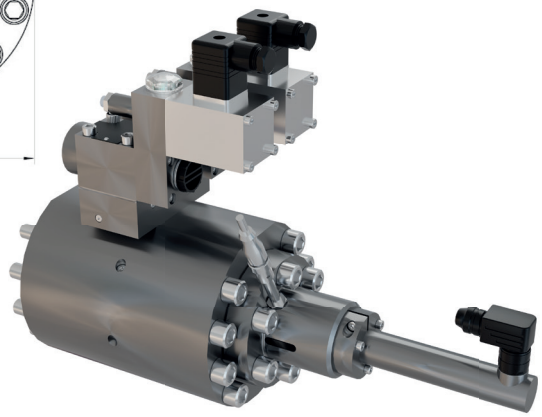
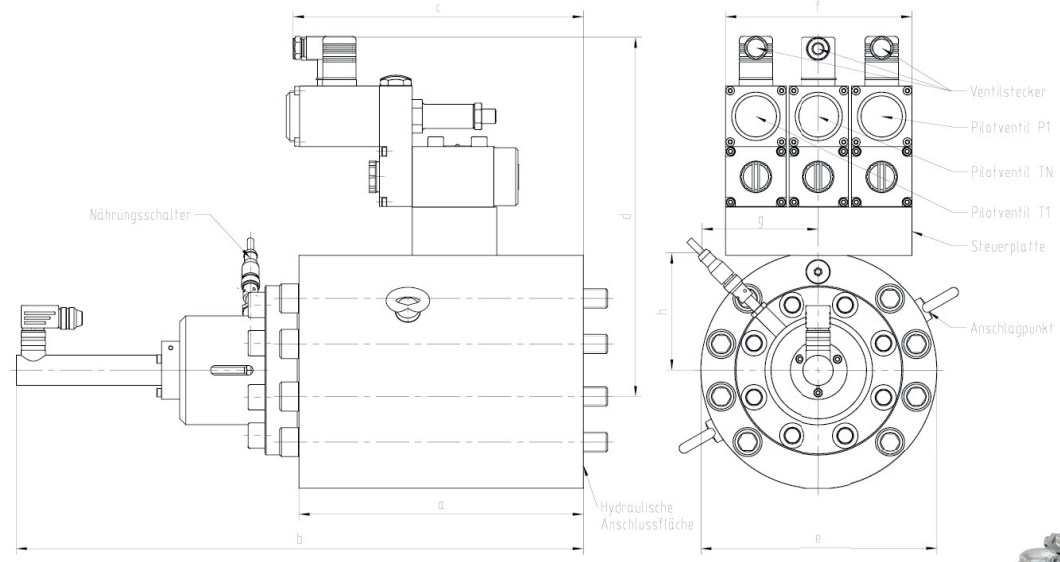
Pilot control with a pair of valves DN25 - DN65, PN 500

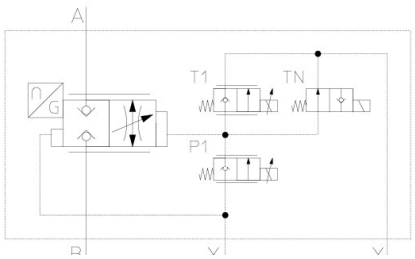


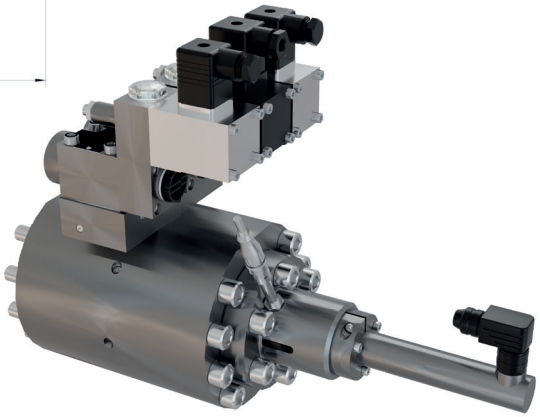




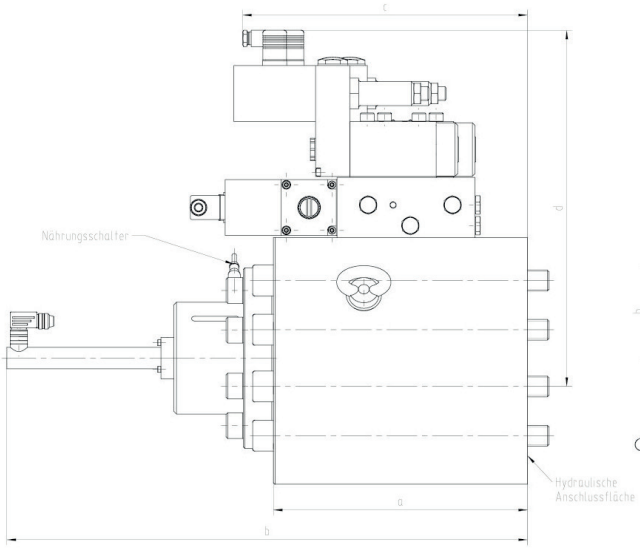
Pilot control with a pair of valves and basic position valve DN25 - DN65, PN 500

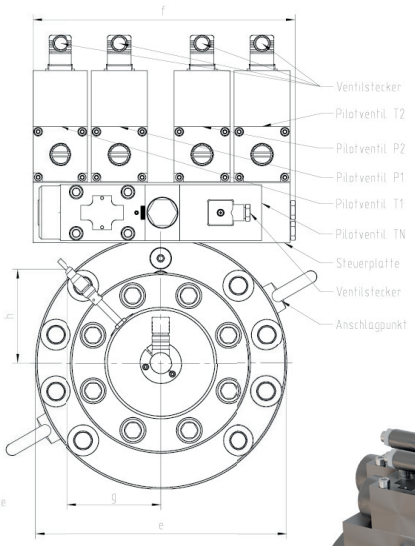


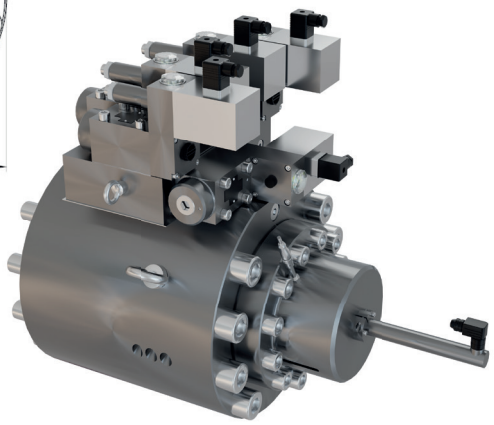


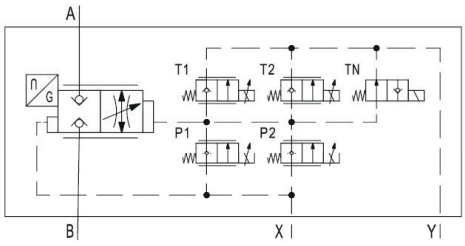


Pilot control with two pairs of valves and basic position valve DN80 - DN100, PN 500

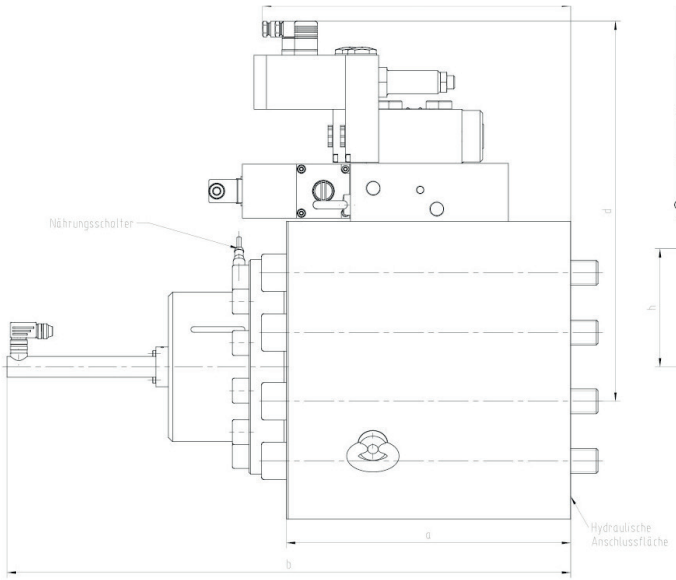


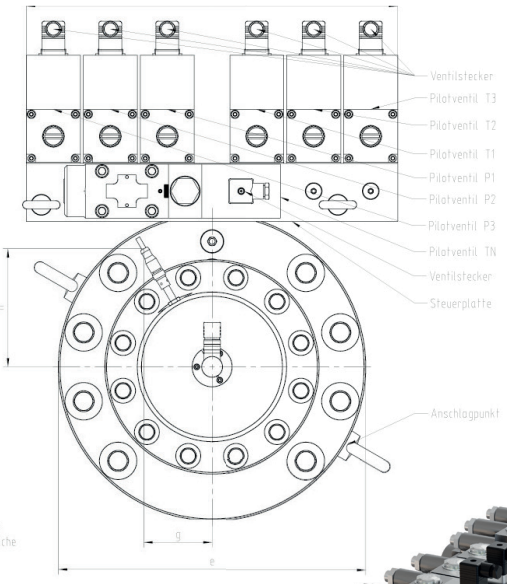


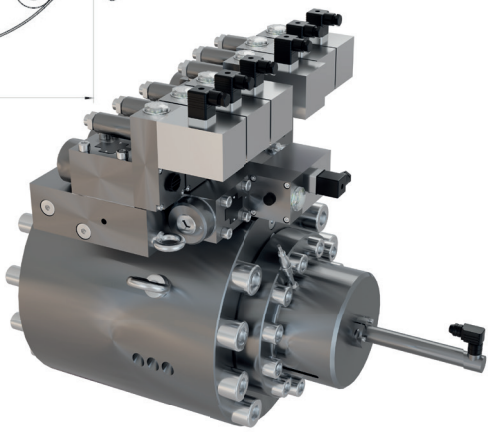


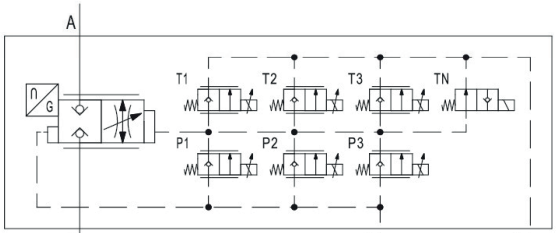


Pilot control with three pairs of valves and basic position valve DN80 - DN100, PN 500









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Order information control valve C3, proportionally actuated, PN500

Included in the scope of supply
Mounting screws for the 2-way control valve
Mounting screws for the pilot valves and the control pcb
Cable sockets for the magnets

Pilot control with a pair of valves

Nominal size	Weight [kg]	max. Pressure [bar]	Dimensions [mm]								Article number valve C3	Article number plate
			a	b	c	d	e	f	g	h		
DN25	24,0	500	147	349	191	216	140	96	108	62	6600303	6383394
DN32	38,0	500	163	372	191	235	176	96	90	90	6166784	6383394
DN40	54,0	500	182	401	213	273	196	122	93	93	6068359	6384277
DN50	98,0	500	235	467	239	296	240	122	97	97	6600299	6384277
DN65	157,0	500	245	487	290	366	294	172	102	102	6153909	6380409

Pilot control with a pair of valves and basic position valve

Nominal size	Weight [kg]	max. Pressure [bar]	Dimensions [mm]								Article number valve C3	Article number plate
			a	b	c	d	e	f	g	h		
DN25	26,5	500	147	349	191	216	140	130	108	62	6600303	6382959
DN32	40,0	500	163	372	191	235	176	130	90	90	6166784	6382959
DN40	58,0	500	182	401	213	273	196	155	93	93	6068359	6383173
DN50	102,0	500	235	467	239	296	240	155	97	97	6600299	6383173
DN65	167,0	500	245	487	290	366	294	217	102	102	6153909	6384285

Pilot control with two pairs of valves and basic position valve

Nominal size	Weight [kg]	max. Pressure [bar]	Dimensions [mm]								Article number valve C3	Article number plate
			a	b	c	d	e	f	g	h		
DN80	315,0	500	295	605	331	416	370	306	109	109	6153895	6380395
DN100	523,0	500	342	678	356	468	466	306	82	142	6077277	6380395

Pilot control with three pairs of valves and basic position valve

Nominal size	Weight [kg]	max. Pressure [bar]	Dimensions [mm]								Article number valve C3	Article number plate
			a	b	c	d	e	f	g	h		
DN80	341,0	500	295	605	331	416	370	452	109	109	6153895	6600165
DN100	550,0	500	342	678	356	468	466	452	82	142	6077277	6600165

Position monitoring

Designation	Article number monitoring
Inductive proximity switch, Output – PNP, NO contact, Voltage 10 – 30 VDC	5127726

Pilot valve

Nominal size	Item	Actuation	Current	Article number valve
DN3	2	Electromagnet, voltage 24V DC	1,0 A	6547273
DN3	2		1,0 A	6547273
DN6	2		1,5 A	6546943
DN6	2		1,5 A	6546943
DN10	2		2,3 A	6553508

Pilot valve

Basic position valve

Nominal size	Item	Actuation	Current	Article number valve	Nominal size	Actuation	Current	Article number valve
DN3	2	Electromagnet, voltage 24V DC	1,0 A	6547273	DN3	Electromagnet, voltage 24V DC	1,0 A	6545750
DN3	2		1,0 A	6547273	DN3		1,0 A	6545750
DN6	2		1,5 A	6546943	DN6		1,5 A	6546854
DN6	2		1,5 A	6546943	DN6		1,5 A	6546854
DN10	2		2,3 A	6553508	DN10		2,3 A	6553494

Pilot valve

Basic position valve

Nominal size	Item	Actuation	Current	Article number valve	Nominal size	Actuation	Current	Article number valve
DN10	4	Electromagnet, voltage 24V DC	2,3 A	6553508	DN10	Electromagnet, voltage 24V DC	2,3 A	6553494
DN10	4		2,3 A	6553508	DN10		2,3 A	6553494

Pilot valve

Basic position valve

Nominal size	Item	Actuation	Current	Article number valve	Nominal size	Actuation	Current	Article number valve
DN10	6	Electromagnet, voltage 24V DC	2,3 A	6553508	DN10	Electromagnet, voltage 24V DC	2,3 A	6553494
DN10	6		2,3 A	6553508	DN10		2,3 A	6553494

Order example

Item	Designation	Article numbern
1	2-way control valve DN65 PN500	6153909
1	Plate	6384285
2	2-way proportional valve DN10 PN500	6553508
1	2/2-way seat valve DN10 PN500	6553494
1	Controller RE4	2336596

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