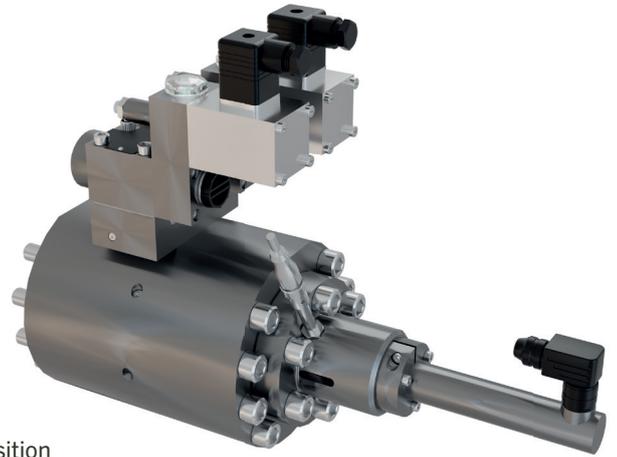


2/2-way control valve C3 proportional actuated

2/2-ways, DN12 - DN125 PN 320

Features

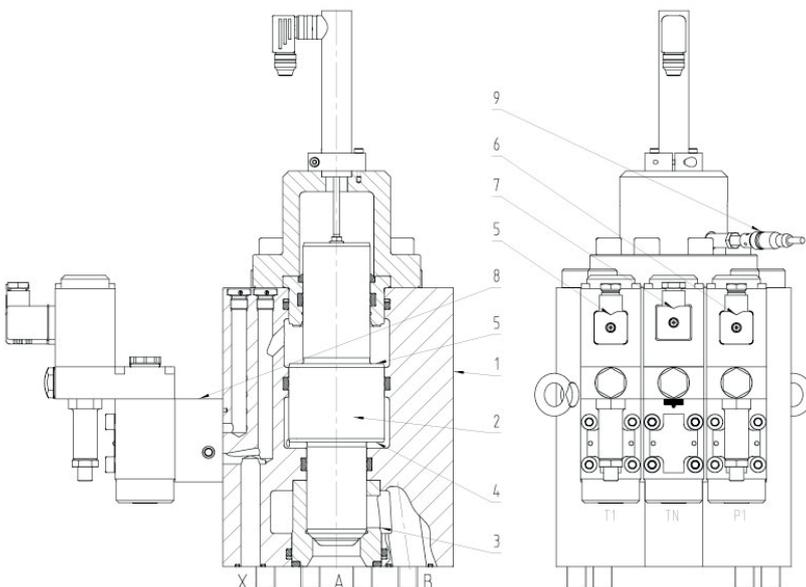
- Hydraulically actuated directional seat valve for liquid media
- Actively controllable 2-way control valve with a position controlled piston position
- The controlled piston position specifies the variably adjustable flow cross-section
- The valve is actuated via proportional 2-way pilot valves
- The 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 Hauhincó Connection diagram
- Optionally, the valve position can be monitored by a proximity switch



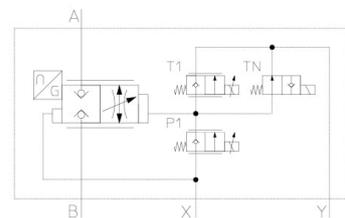
Function

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.

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

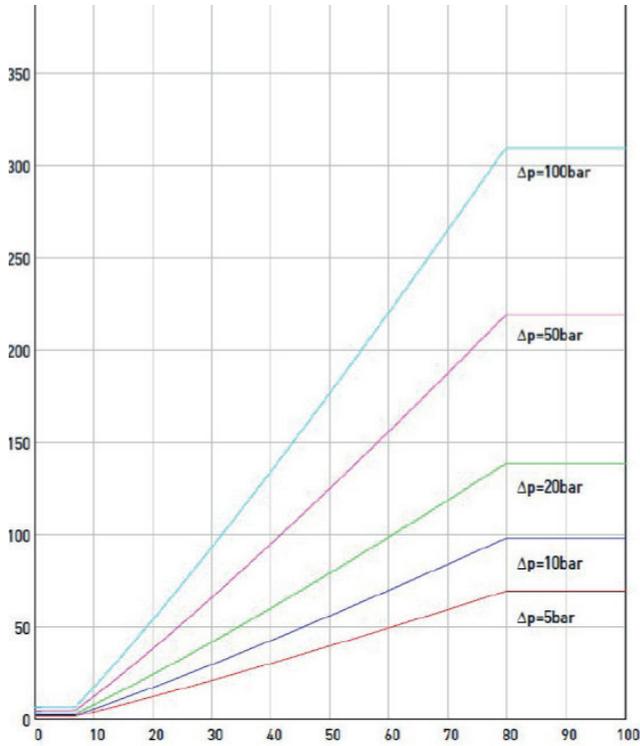
Technical data

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

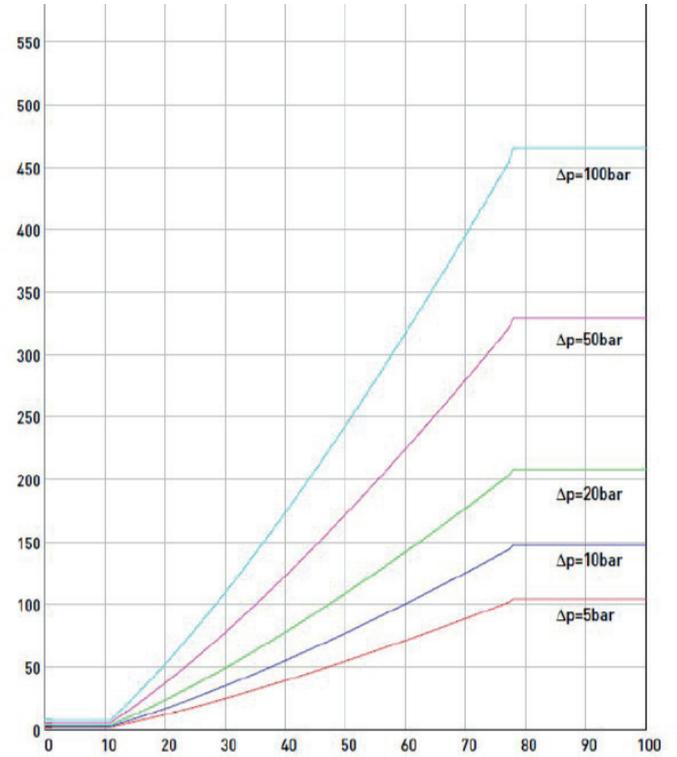
General	
Weight	see Order information
Installation position	any
Ambient temperature	-10 bis 50°C (hydraulic fluids, heed standard requirements)
Material Valve parts	Stainless steel, bronze
Material Seals	NBR, PTFE, PUR
Hydraulic	
Hydraulic pressure connector A, B	≤ 320 bar
Hydraulic pressure connector X	≤ 320 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	Water, HFA
- Medium - Quality	see Hauhinco media requirement, water, HFA
- min filter fineness connector A, B	Filter fineness 100µm
- min filter fineness connector X	Filter fineness 25µm
Pressure fluid	Mineral oil HLP
- Medium - Temperature range	5 bis 50°C
- Medium - Quality	Cleanliness class -/19/16 according to ISO 4406
- Viscosity	0,6 bis 100 mm ² /s
Use of other pressure fluids on request.	
Electric	
Magnet	
- Voltage	24 VDC
- Power consumption	see Order information
- Operating time	100% OT
- Degree of protection acc. to EN60529	IP65
Position feedback encoder (displacement transducer)	
- Output	4 - 20 mA
- Voltage	21,5 – 30 VDC
- Current	max. 0,060 A
- Electrical connection	Three wire, plug connection
Inductive proximity switch	
- Output	NO contact, PNP
- Voltage	10 – 30 VDC
- Current	0,150 A
- Switching distance	2 mm
- Electrical connection	Three wire, plug connection M12x1

Characteristic curves control valve C3, PN320 proportionally actuated

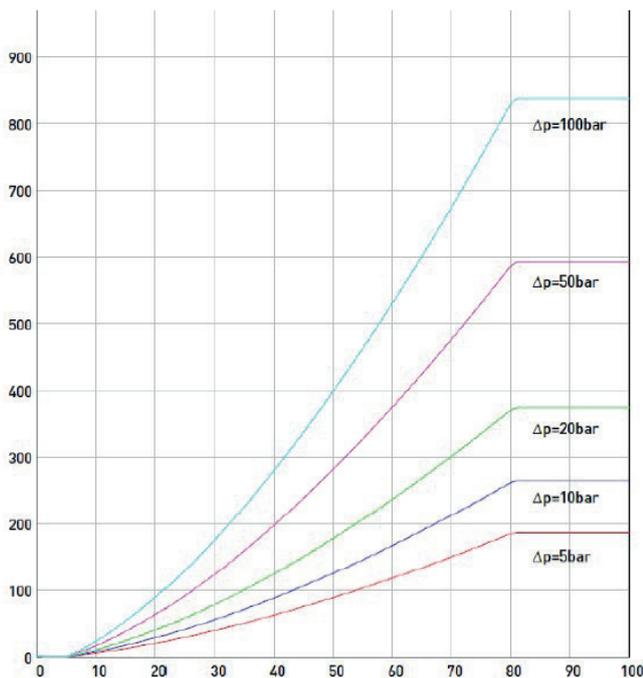
$\Delta p - q_v$ characteristic curves DN12



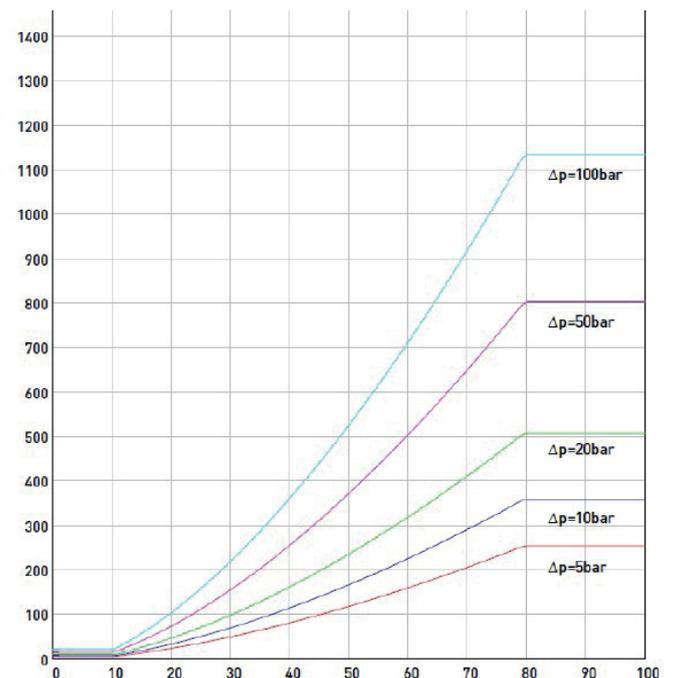
$\Delta p - q_v$ characteristic curves DN16



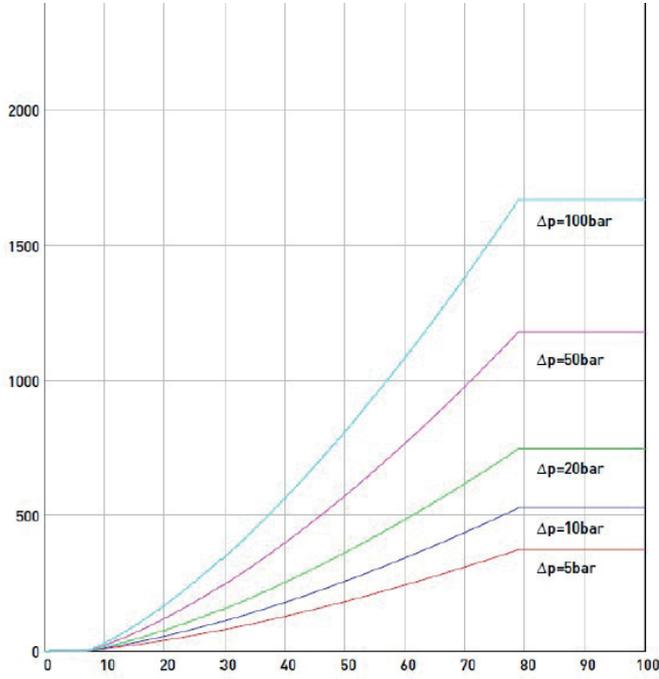
$\Delta p - q_v$ characteristic curves DN20



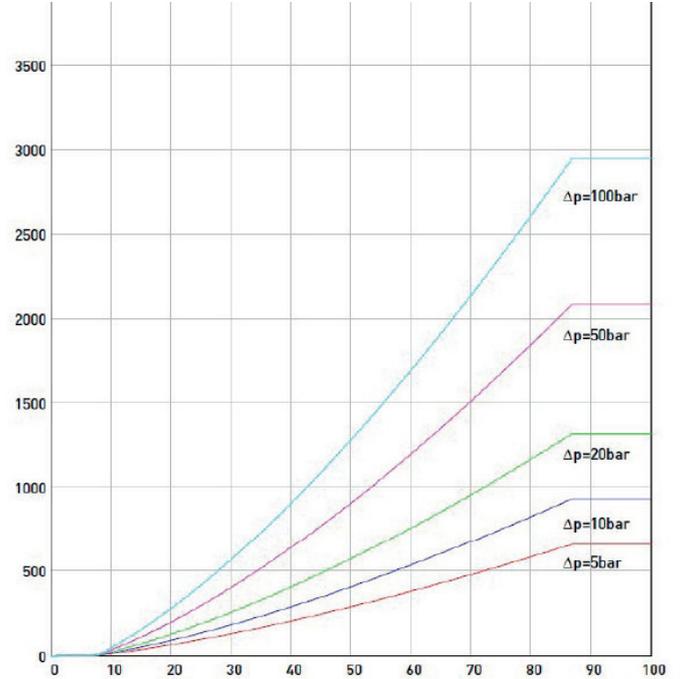
$\Delta p - q_v$ characteristic curves DN25



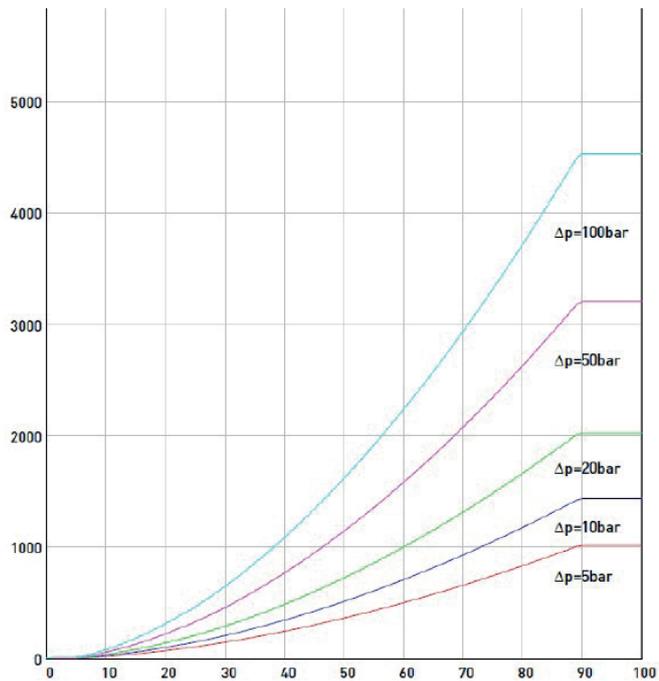
$\Delta p - q_v$ characteristic curves DN32



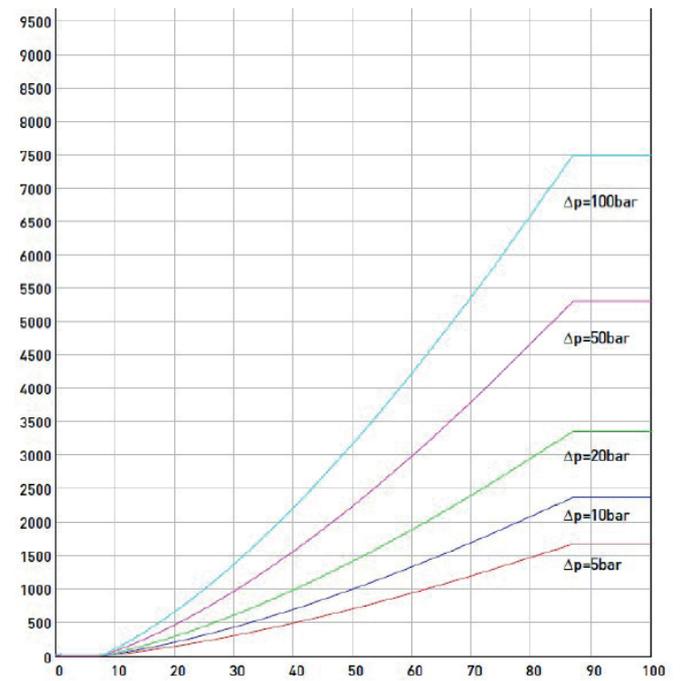
$\Delta p - q_v$ characteristic curves DN40



$\Delta p - q_v$ characteristic curves DN50

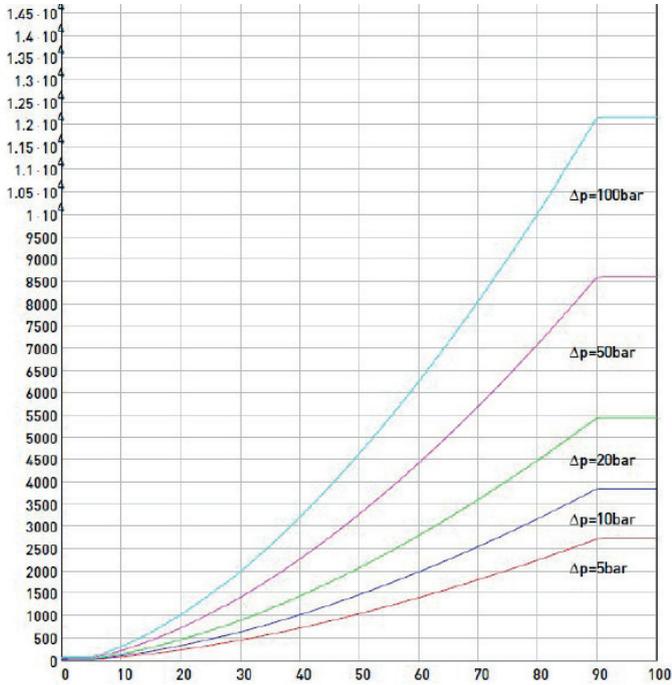


$\Delta p - q_v$ characteristic curves DN65

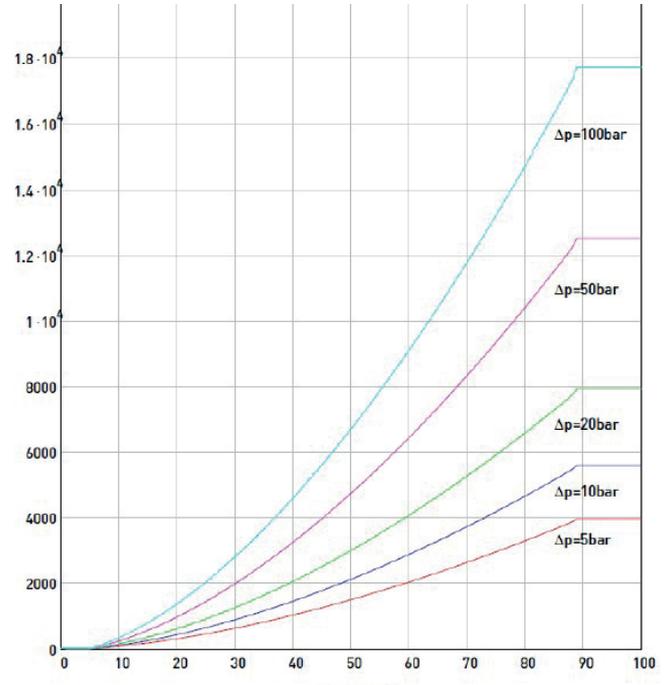


Characteristic curves control valve C3, PN320 proportionally actuated

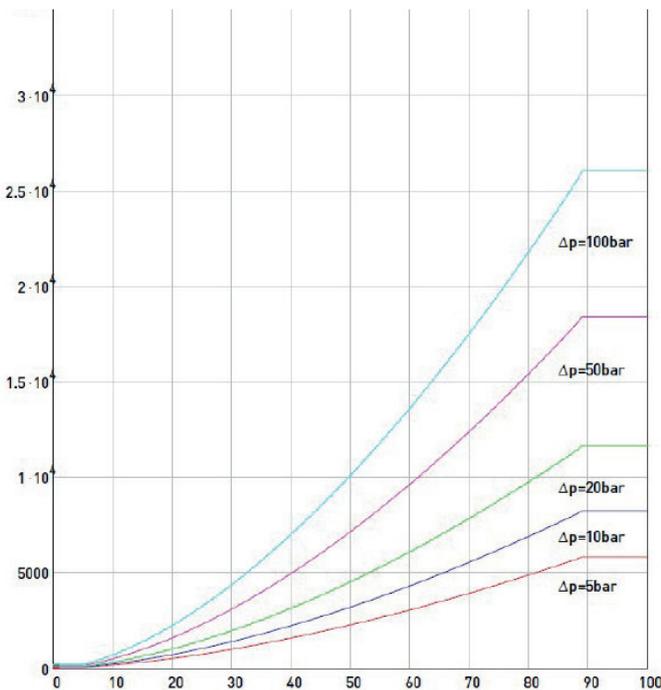
$\Delta p - q_v$ characteristic curves DN80



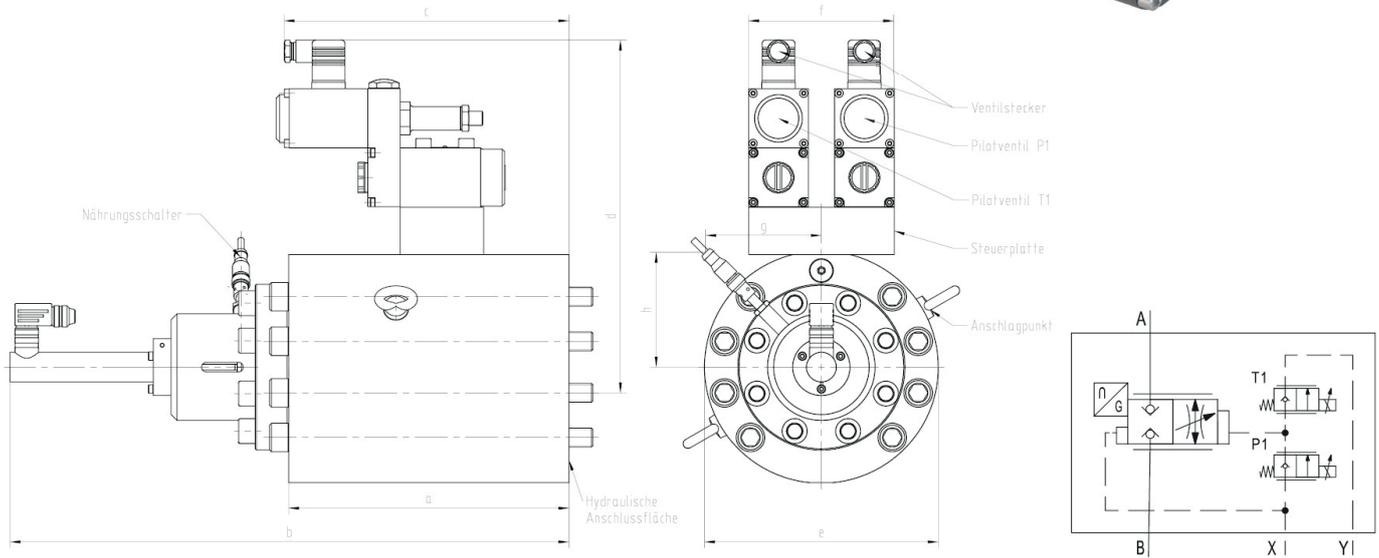
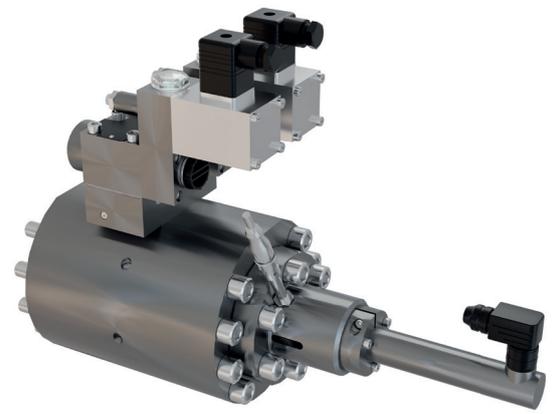
$\Delta p - q_v$ characteristic curves DN100



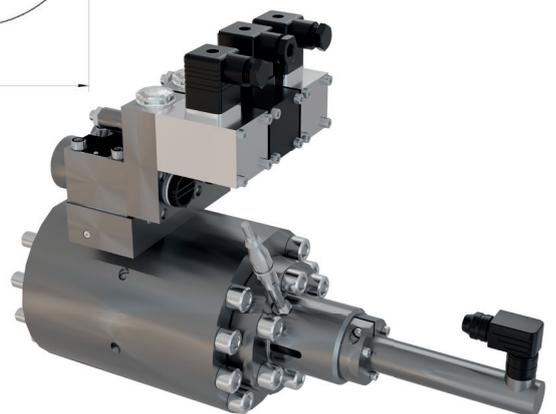
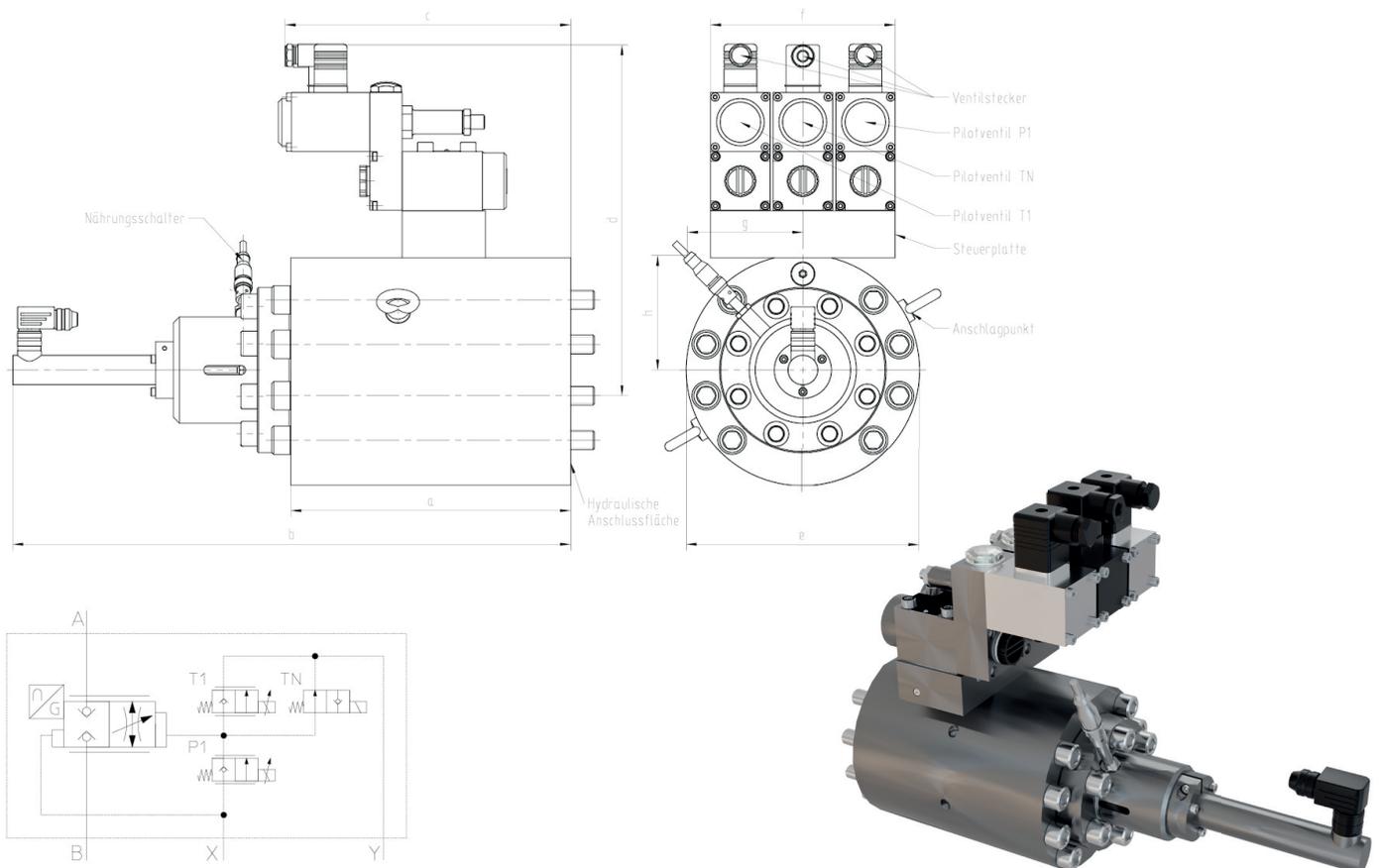
$\Delta p - q_v$ characteristic curves DN125



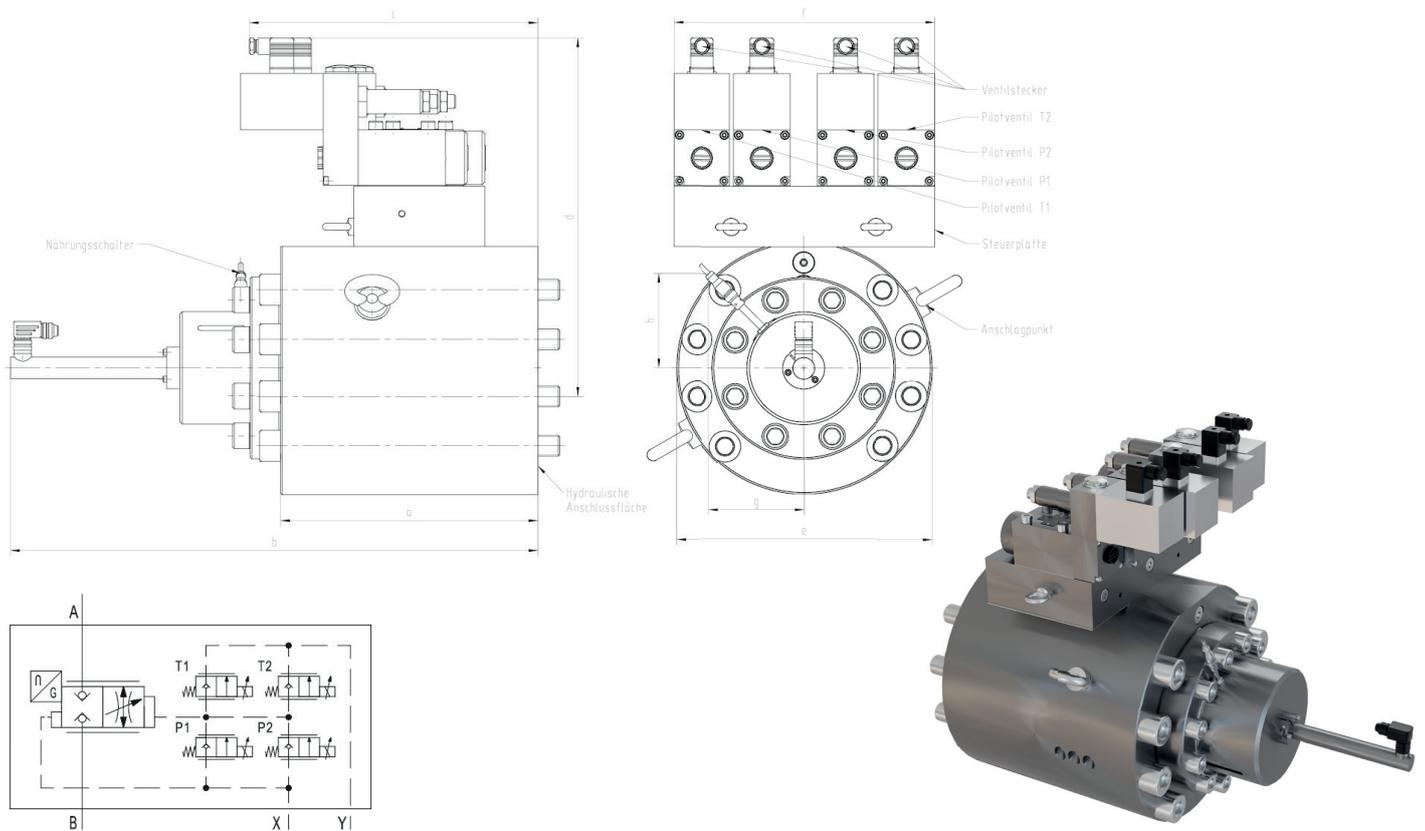
Pilot control with a pair of valves DN12 - DN65, PN320



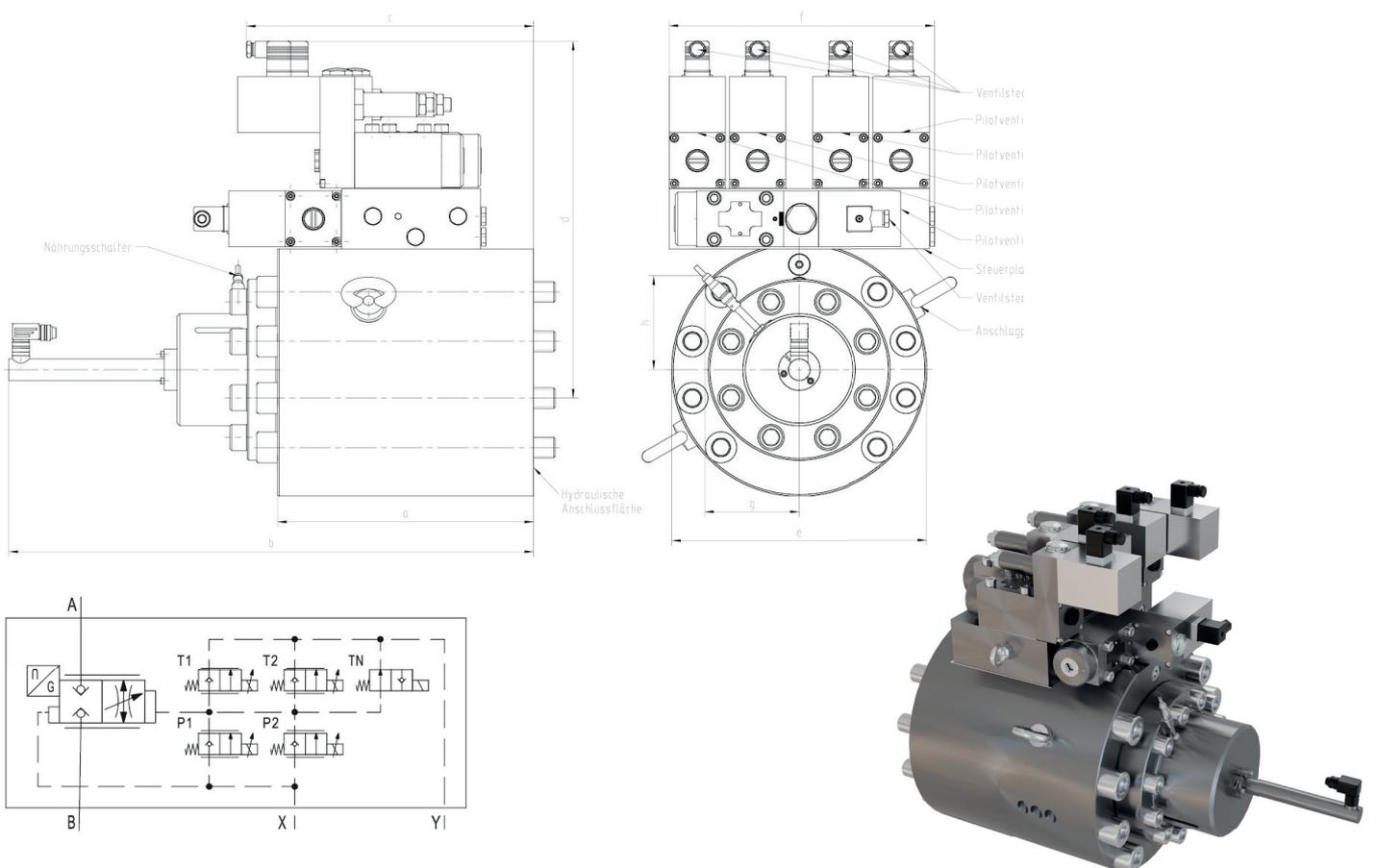
Pilot control with a pair of valves and basic position valve DN12 - DN65, PN320



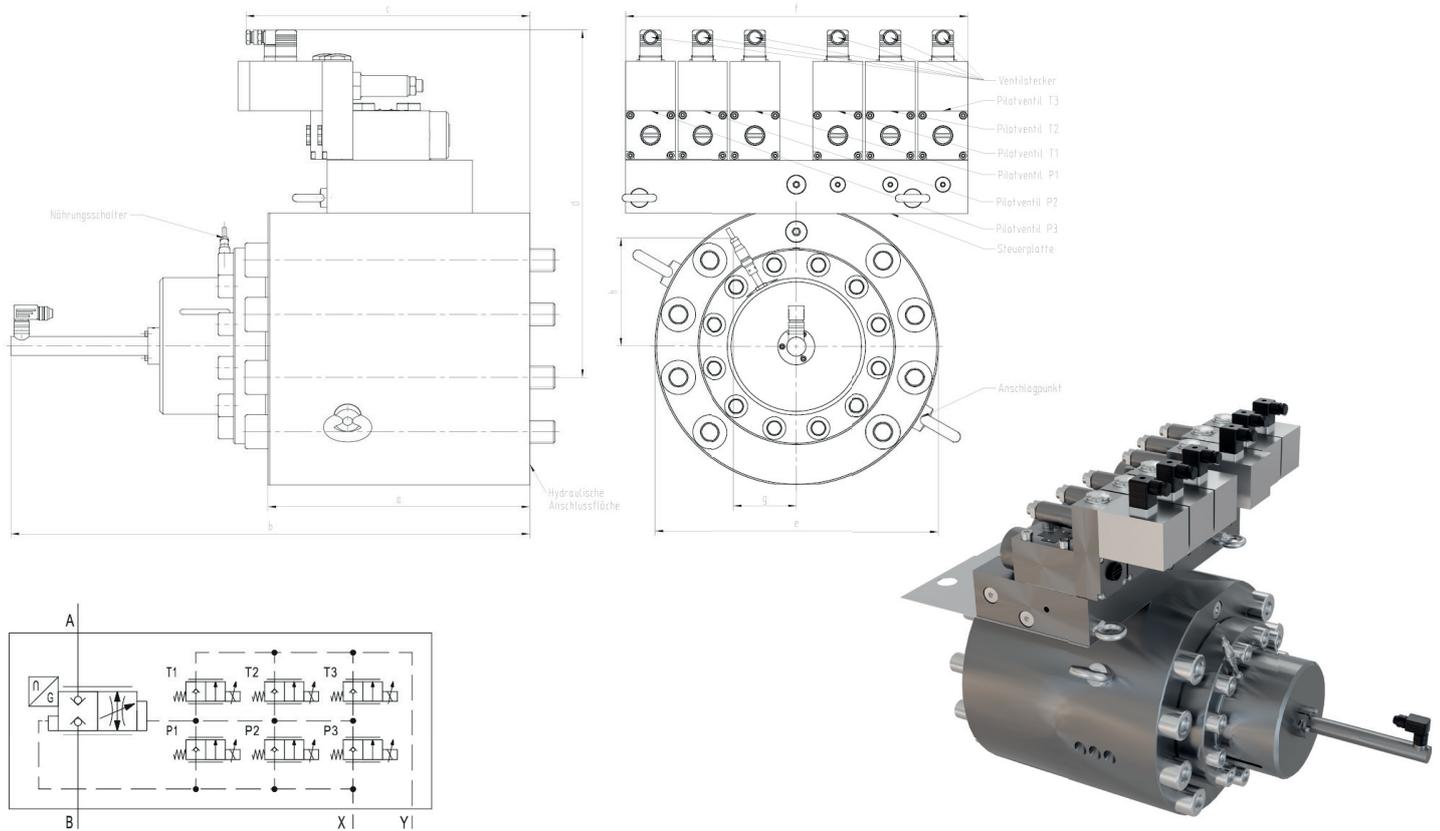
Pilot control with two pairs of valves DN80 - DN125, PN320



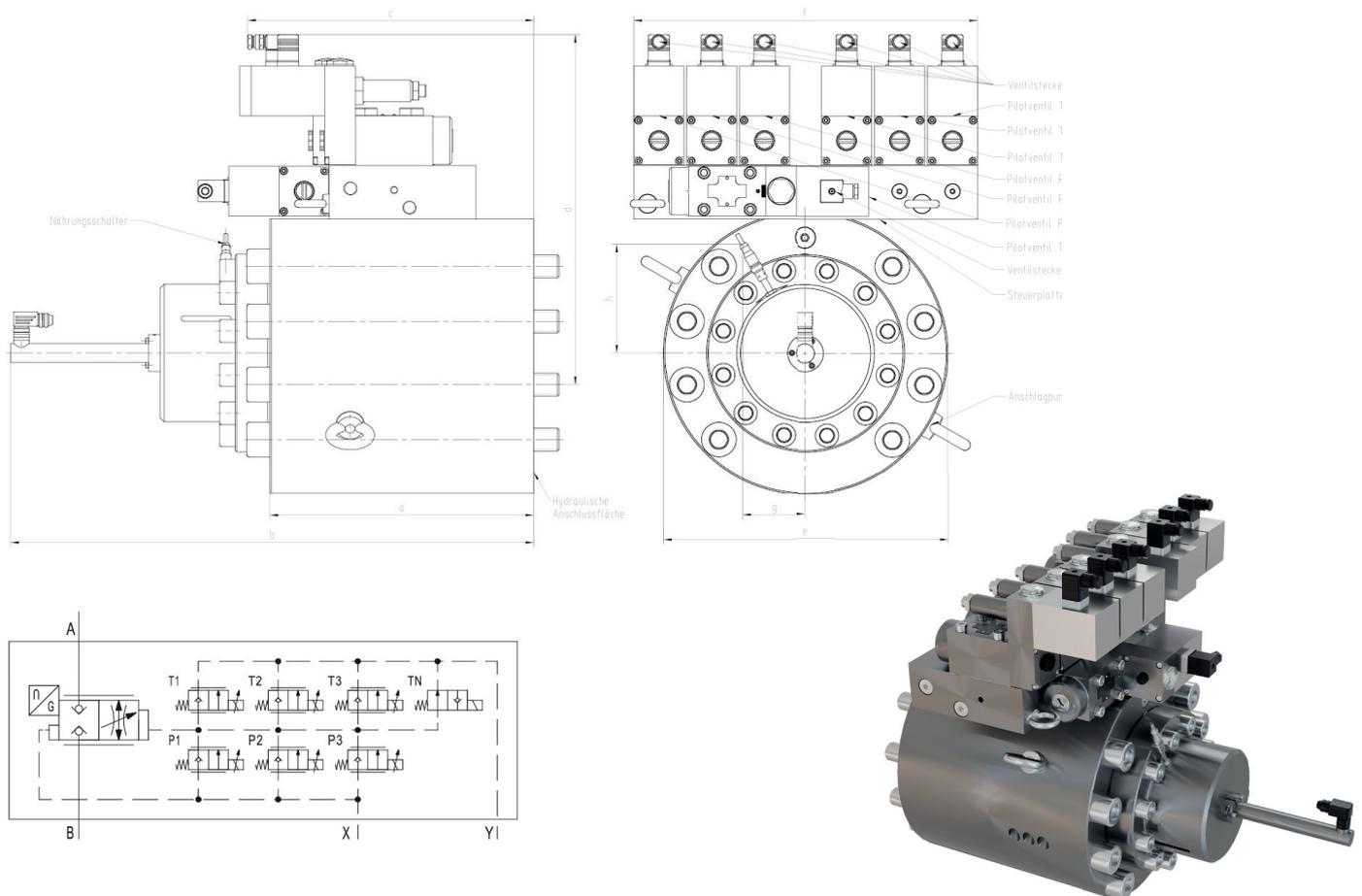
Pilot control with two pairs of valves and basic position valve DN80 - DN125, PN320



Pilot control with three pairs of valves DN100 - DN125, PN320



Pilot control with three pairs of valves and basic position valve DN100 - DN125, PN320



Order information control valve C3, proportionally actuated, PN 320

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		
DN12	11,0	320	110	271	191	185	85	96	114	66	6259294	6383394
DN16	14,0	320	120	286	181	194	100	96	115	66	6259308	6383394
DN20	18,0	320	140	309	189	206	120	96	40	61	6257682	6383394
DN25	21,0	320	147	349	191	151	130	96	63	108	6257674	6383394
DN32	25,5	320	165	382	191	216	140	96	64	110	6257631	6383394
DN40	46,0	320	182	401	213	263	176	122	93	93	6052061	6384277
DN50	67,0	320	235	469	239	276	196	122	97	97	6052088	6384277
DN65	114,0	320	245	487	290	342	240	172	102	102	6151396	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		
DN12	14,0	320	110	271	191	185	85	130	114	66	6259294	6382959
DN16	16,5	320	120	286	181	194	100	130	115	66	6259308	6382959
DN20	21,0	320	140	309	189	206	120	130	40	61	6257682	6382959
DN25	23,5	320	147	349	191	151	130	130	63	108	6257674	6382959
DN32	28,0	320	165	382	191	216	140	130	64	110	6257631	6382959
DN40	50,0	320	182	401	213	263	176	155	93	93	6052061	6383173
DN50	71,0	320	235	469	239	276	196	155	97	97	6052088	6383173
DN65	124,0	320	245	487	290	342	240	217	102	102	6151396	6384285

Order example

Item	Designation	Article number	Item	Designation	Article number
1	2/2-way control valve DN16 PN320	6259308	1	2/2-way seat valve DN3 PN320	6545580
1	Plate	6382959	1	Controller RE4	2336596
2	2-way proportional valve DN3 PN320	6545718			

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 pilot valve
DN3	2	Electromagnet, voltage 24V DC	1,0 A	6545718
DN3	2		1,0 A	6545718
DN3	2		1,0 A	6545718
DN3	2		1,0 A	6545718
DN3	2		1,0 A	6545718
DN6	2		1,5 A	6546382
DN6	2		1,5 A	6546382
DN10	2		2,3 A	6244270

Pilot valve

Nominal size	Item	Actuation	Current	Article number pilot valve
DN3	2	Electromagnet, voltage 24V DC	1,0 A	6545718
DN3	2		1,0 A	6545718
DN3	2		1,0 A	6545718
DN3	2		1,0 A	6545718
DN3	2		1,0 A	6545718
DN6	2		1,5 A	6546382
DN6	2		1,5 A	6546382
DN10	2		2,3 A	6244270

Basic position valve

Nominal size	Actuation	Current	Article number pilot valve
DN3		1,0 A	6545580
DN3		1,0 A	6545580
DN3		1,0 A	6545580
DN3	Electromagnet, voltage 24V DC	1,0 A	6545580
DN3	Electromagnet, voltage 24V DC	1,0 A	6545580
DN6		1,5 A	6546714
DN6		1,5 A	6546714
DN10		2,3 A	6235565

Order information control valve C3, proportionally actuated, PN 320

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 two pairs 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		
DN80	213,0	320	295	605	331	381	294	300	109	109	6152236	6378498
DN100	347,0	320	342	678	371	416	370	314	82	142	6152295	6378501
DN125	596,0	320	393	753	406	468	466	314	90	155	6152376	6378501

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	223,0	320	295	605	331	381	294	306	109	109	6152236	6380395
DN100	353,0	320	342	678	356	416	370	310	82	142	6152295	6392652
DN125	603,0	320	393	753	391	468	466	310	90	155	6152376	6392652

Pilot control with three pairs 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		
DN100	378,0	320	342	678	371	416	370	447	82	142	6152295	6383319
DN125	628,0	320	393	753	406	468	466	447	90	155	6152376	6570690

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		
DN100	378,0	320	342	678	371	416	370	447	82	142	6152295	6383319
DN125	628,0	320	393	753	406	468	466	447	90	155	6152376	6570690

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 pilot valve
DN10	4		2,3 A	6244270
DN10	4	Electromagnet, voltage 24V DC	2,3 A	6244270
DN10	4		2,3 A	6244270

Pilot valve

Nominal size	Item	Actuation	Current	Article number pilot valve
DN10	4		2,3 A	6244270
DN10	4	Electromagnet, voltage 24V DC	2,3 A	6244270
DN10	4		2,3 A	6244270

Basic position valve

Nominal size	Actuation	Current	Article number pilot valve
DN10		2,3 A	6235565
DN10	Electromagnet, voltage 24V DC	2,3 A	6235565
DN10		2,3 A	6235565

Pilot valve

Nominal size	Item	Actuation	Current	Article number pilot valve
DN10	6	Electromagnet, voltage 24V DC	2,3 A	6244270
DN10	6		2,3 A	6244270

Pilot valve

Nominal size	Item	Actuation	Current	Article number pilot valve
DN10	6	Electromagnet, voltage 24V DC	2,3 A	6244270
DN10	6		2,3 A	6244270

Basic position valve

Nominal size	Actuation	Current	Article number pilot valve
DN10	Electromagnet, voltage 24V DC	1,0 A	
DN10		1,0 A	