

## 2/2-way valve C3 X,Y - actuated

**PN 320  
DN12 – 125**

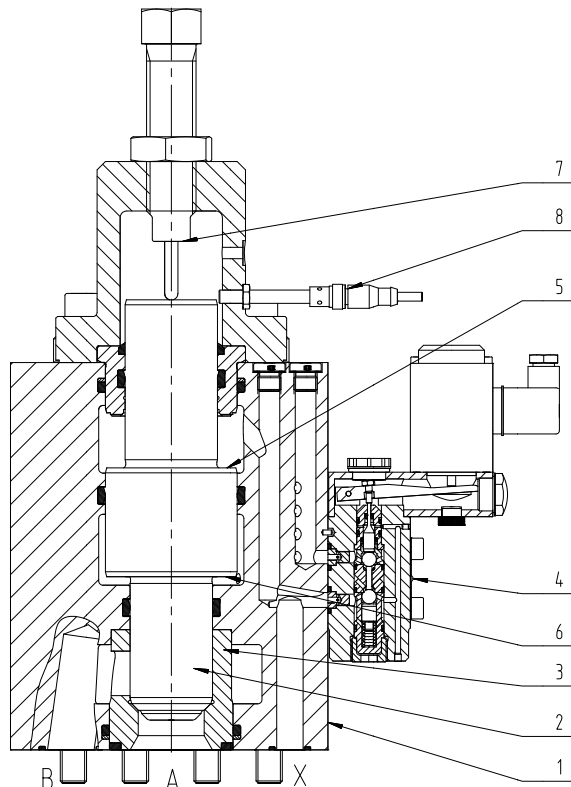
### Features

- Hydraulically actuated directional seat valve controlling liquid media.
- Actively controllable 2/2-way valve with a 3-stage control logic provides safe opening and closing
- The valve is actuated via a 3/2-way pilot valve
- Valve piston and seat are coupled and close hydraulically "leak-free".
- Valve pistons are sealed via seals within the body, thus no inner leakages develop
- Valve fastening structural plate form with a Hauhinco connection diagram
- The valve cross-section can be set via the stroke limitation and be locked mechanically
- Optically and with an optional proximity switch, the valve position can be monitored
- Optionally, a locking device can be selected for the stroke limitation

### Function of 2/2-way valve

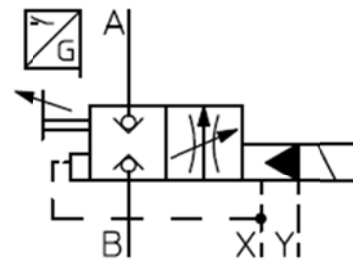
The valve piston (2) guided within the valve body (1) is pressed into the valve seat (3) by the hydraulic power generated by the control pressure (X) on the closing area (5), provided the opening area (6) is depressurised by the pilot valve (4). Thus, the lines (A, B) are separated. By switching the pilot valve (4), also the opening area (6) of the valve piston (2) is pressurised and lifts off the valve seat (3), the valve piston (2) moves into the opened position up to the mechanical end position and to the stroke limitation (7). Thus, the lines (A, B) are connected. The valve can be opened and closed actively by means of control pressure (X, Y), independent of the pressure along the work lines (A, B). The area ratios "opening area/closing area" and "closing area/cable area (A, B)", ensure a safe opening and closing of the valve. Depending on the design of the pilot valve (4), the basic valve position normally closed (NC) or normally open (NO) is provided. The position of the valve piston (2) can be monitored by the proximity switch (8).

### Example 2/2-way valve C3 - X,Y - actuated:



### 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



## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

### Technical data

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

#### general

Weight	see Valve data
Installation position	any
Ambient temperature	-10 to 50°C (hydraulic fluids, heed standard requirements)
Material of the valve parts	Stainless steel, bronze
Sealing material	NBR, PTFE, PUR

#### hydraulic

hydraulic pressure connector <b>A, B</b>	≤ 320 bar
hydraulic pressure connector <b>X</b>	≥ 50 bar ≥ hydraulic pressure at the connector A, B ≤ 320 bar
hydraulic pressure connector <b>Y</b>	≤ 10 bar
Direction of flow	any, preferred direction of flow B→A
Area ratios	A3 > A4, A4 > A1 + A2
Pressure fluid	<b>Water, HFA</b>
- Medium - Quality	see Hauhinco media requirement, water, HFA
- Medium - Temperature range	5 – 40°C
- min filter fineness connector A, B	Filter fineness 100µm
- min filter fineness connector X	Filter fineness 25µm
Pressure fluid	<b>Mineral oil HLP according to DIN51624-2</b>
- Medium - Quality	Cleanliness class -/19/16 according to ISO 4406
- Medium - Temperature range	5 – 50°C
- Viscosity	0.6 to 100 mm <sup>2</sup> /s

Use of other pressure fluids on request.

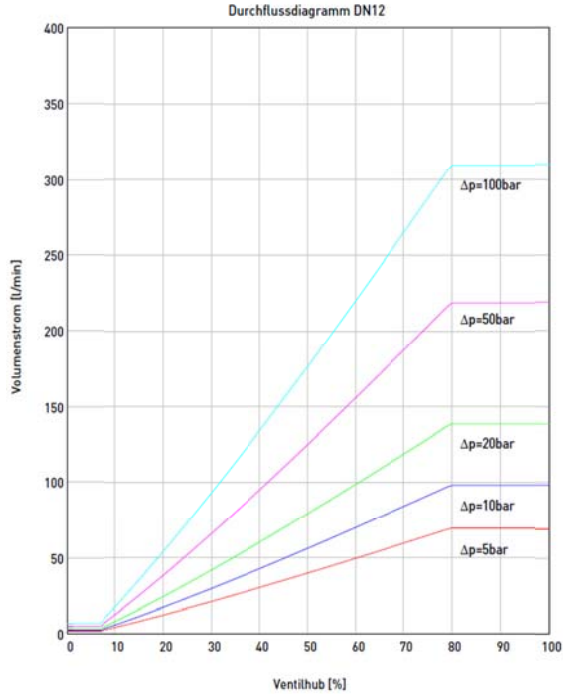
#### electric

<u>Magnet</u>	
Voltage	24 VDC, other voltages on request
Power consumption	see Valve data
Operating time	100% OT
Degree of protection acc. to EN60529	IP65
max. switching rate	1 Hz
<u>Inductive proximity switch</u>	
Output	NO contact, PNP
Voltage	10 – 30 VDC
Current	0.150 A
Switching distance	2 mm
Electrical connection	Three wire, plug connection M12x1

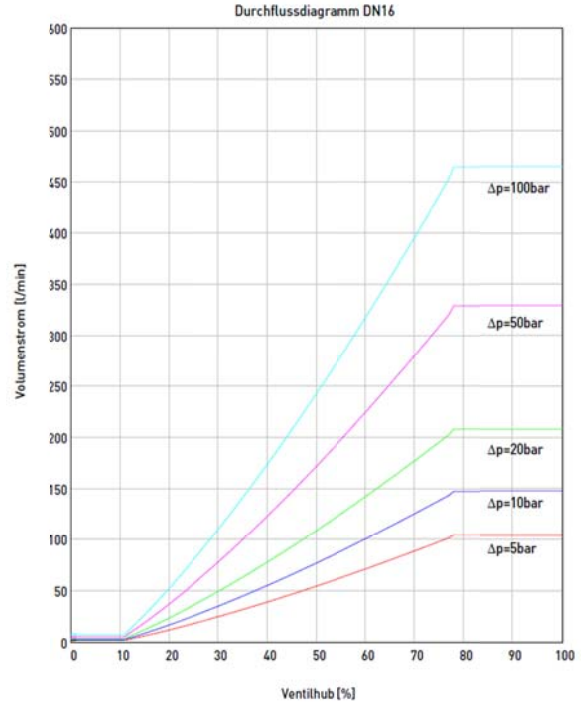
## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

### Valve characteristics

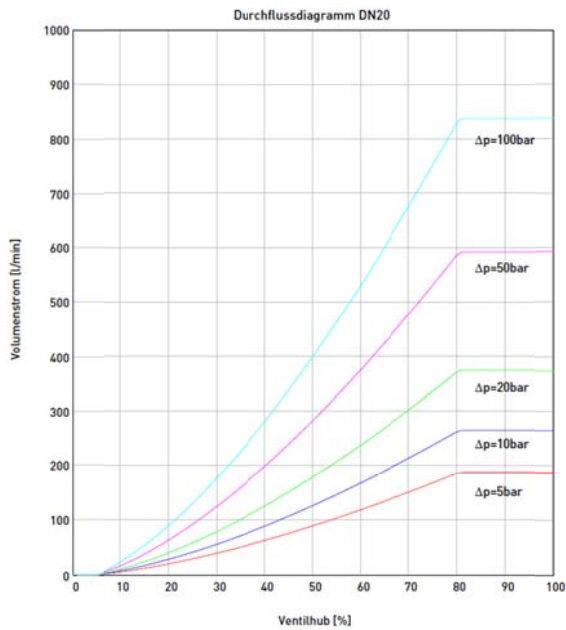
$\Delta p - q_v$  characteristic curves DN 12



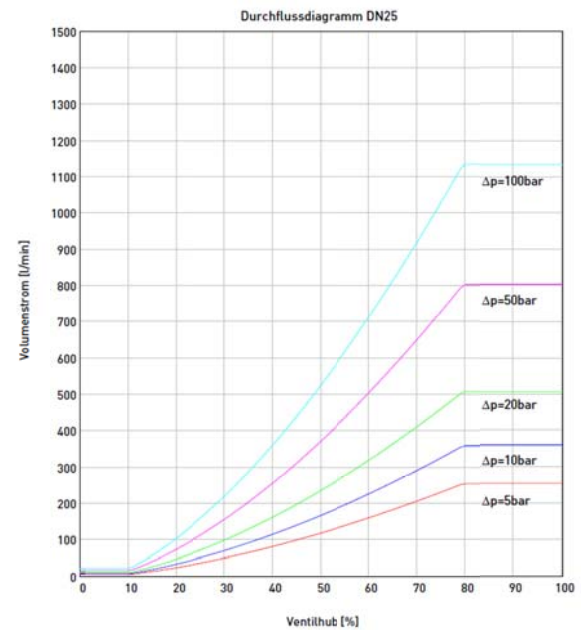
$\Delta p - q_v$  characteristic curves DN 16



$\Delta p - q_v$  characteristic curves DN 20



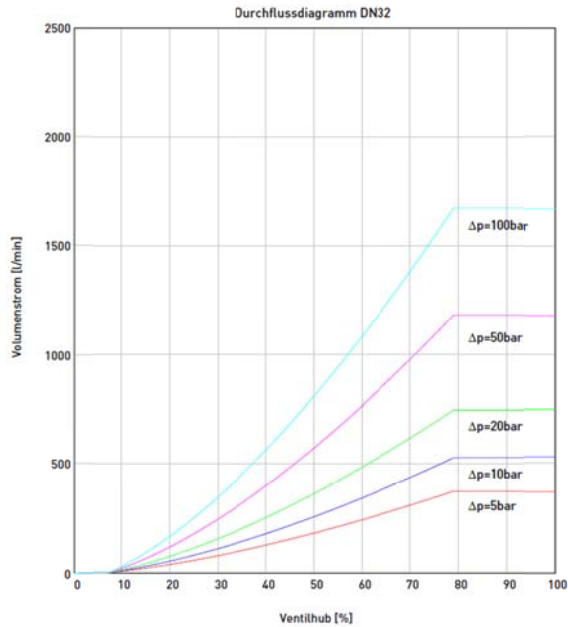
$\Delta p - q_v$  characteristic curves DN 25



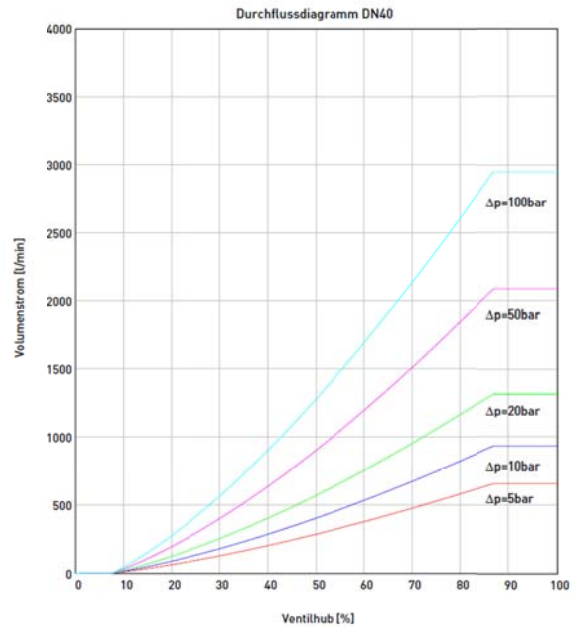
## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

### Valve characteristics

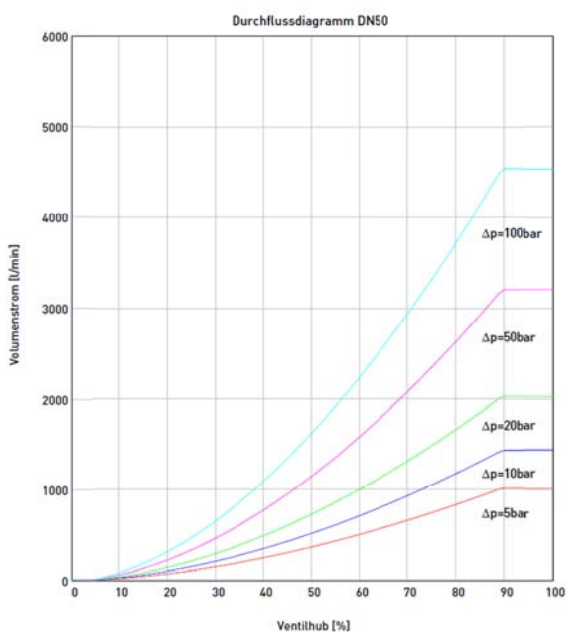
$\Delta p - q_v$  characteristic curves DN 32



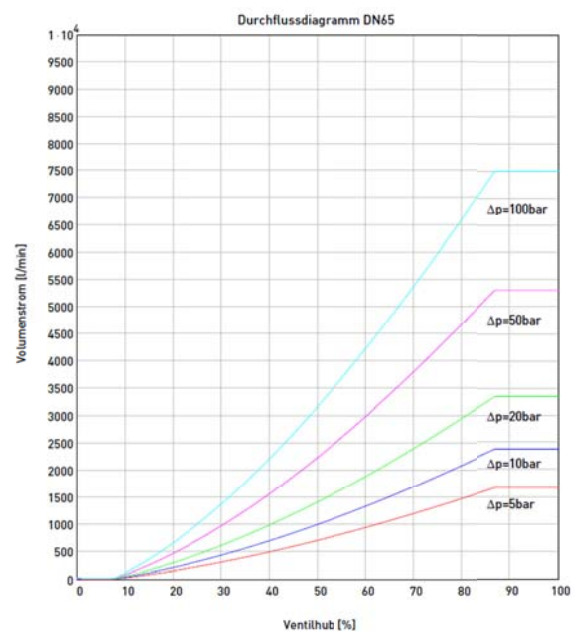
$\Delta p - q_v$  characteristic curves DN 40



$\Delta p - q_v$  characteristic curves DN 50



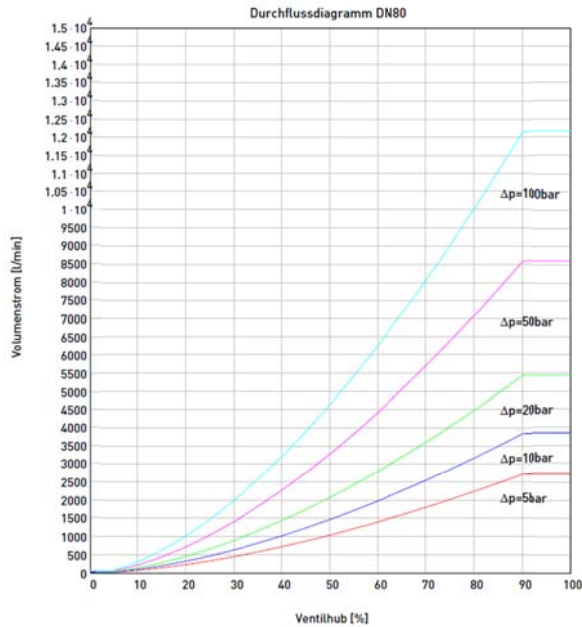
$\Delta p - q_v$  characteristic curves DN 65



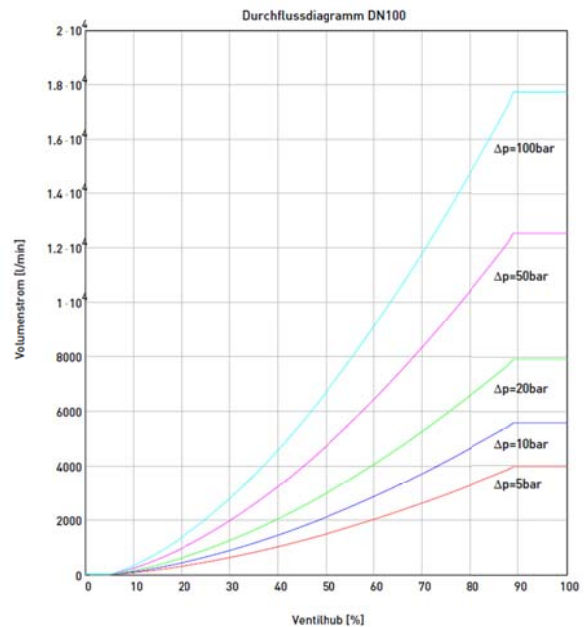
## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

### Valve characteristics

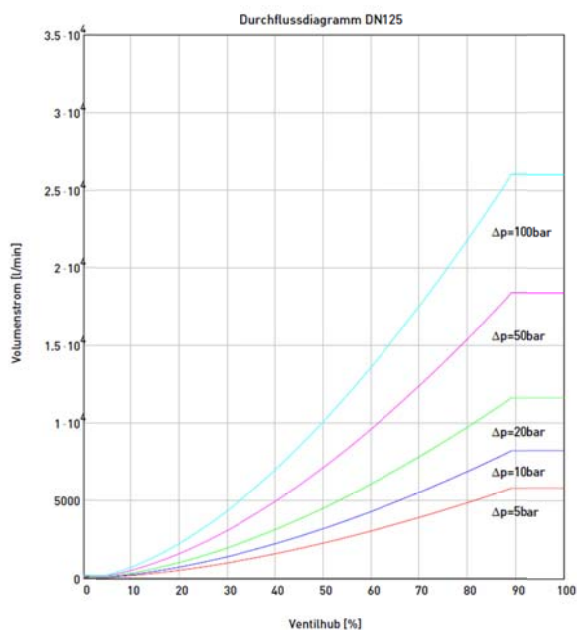
$\Delta p - q_V$  characteristic curves DN 80



$\Delta p - q_V$  characteristic curves DN 100



$\Delta p - q_V$  characteristic curves DN 125



Deutsch	Englisch
Durchflussdiagramm	Flow rate diagram
Volumenstrom	Volume flow
Ventilhub	Valve lift

## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

### Valve data

#### Single-stage pilot control

Nominal value		DN12		DN16		DN20		DN25	
Weight		7 kg		9.5 kg		14.5 kg		17.5 kg	
2/2-way valve	hydraulic	NC	NO	NC	NO	NC	NO	NC	NO
	Art. No.	6251773		6251781		6251935		6251838	
	a	110	110	120	120	140	140	147	147
	b	196	196	212	212	247	247	270	270
	c	186	186	176	176	185	185	186	186
	d	158	158	167	167	179	179	184	184
	e	85	85	100	100	120	120	130	130
	f	40	40	40	40	40	40	40	40
	g	59	59	60	60	61	61	63	63
	h	102	102	103	103	106	106	108	108
j	9,5	9,5	15	15	17	17	19	19	
Connection diagram	Art. No.	6570550		6561403		6570569		6560318	
Pilot valve	DN	3		3		3		3	
	hydraulic	A→T NO	P→A NO	A→T NO	P→A NO	A→T NO	P→A NO	A→T NO	P→A NO
	Art. No.	6545599	6545602	6545599	6545602	6545599	6545602	6545599	6545602
	Actuation	Electromagnet, voltage 24V DC							
		1.0 A		1.0 A		1.0 A		1.0 A	
		Cable socket magnet DIN43650 – form A: max. 100VA, LED display + Z-diode, IP65							
Position monitoring	Art. No.	Inductive proximity switch, Art. No.: 5127726							
	electric	Output PNP, NO contact							
		Voltage 10 – 30 VDC							

#### Single-stage pilot control

Nominal value		DN32		DN40		DN50		DN65	
Weight		22 kg		39 kg		60 kg		98 kg	
2/2-way valve	hydraulic	NC	NO	NC	NO	NC	NO	NC	NO
	Art. No.	6251943		6145159		6042341		6145019	
	a	165	165	182	182	235	235	245	245
	b	303	303	344	344	446	446	494	494
	c	186	186	214	214	240	240	287	287
	d	189	189	222	222	235	235	286	286
	e	140	140	176	176	196	196	240	240
	f	40	40	50	50	50	50	65	65
	g	64	64	93	93	97	97	102	102
	h	110	110	93	93	97	97	102	102
j	22	22	24	24	31,5	31,5	37	37	
Connection diagram	Art. No.	6563821		6563902		6561543		6570585	
Pilot valve	DN	3		6		6		10	
	hydraulic	A→T NO	P→A NO	A→T NO	P→A NO	A→T NO	P→A NO	A→T NO	P→A NO
	Art. No.	6545599	6545602	6546749	6546773	6546749	6546773	6235530	6235549
	Actuation	Electromagnet 24V DC							
		1.0 A		1.5 A		1.5 A		2.5 A	
		Cable socket DIN43650 – form A: max. 100VA, LED display + Z-diode, IP65							
Position monitoring	Art. No.	Inductive proximity switch, Art. No.: 5127726							
	electric	Output PNP, NO contact							
		Voltage 10 – 30 VDC							

## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

### Valve data

#### Single-stage pilot control

Nominal value		DN80							
Weight		168 kg							
2/2-way valve	hydraulic	NC	NO						
	Art. No.	6042260							
	a	295	295						
	b	585	585						
	c	308	308						
	d	310	310						
	e	294	294						
	f	65	65						
	g	109	109						
h	109	109							
j	40	40							
Connection diagram	Art. No.	6565832							
Pilot valve	DN	10							
	hydraulic	A→T NO	P→A NO						
	Art. No.	6235530	6235549						
Actuation	Electromagnet, voltage 24V DC, Current 2.5A Cable socket DIN43650 – form A: max. 100VA, LED display + Z-diode, IP65								
Position monitoring	Art. No.	Inductive proximity switch, Art. No.: 5127726							
	electric	NO contact, Output – PNP Voltage 10 – 30 VDC							

#### Two-stage pilot control

Nominal value		DN65		DN80		DN100		DN125	
Weight		99 kg		170 kg		300 kg		575 kg	
2/2-way valve	hydraulic	NC	NO	NC	NO	NC	NO	NC	NO
	Art. No.	6145019		6042260		6042430		6600013	
	a	245	245	295	295	342	342	393	393
	b	494	494	585	585	705	705	793	793
	c	231	231	252	252	277	277	312	312
	d	321	321	364	364	408	408	478	478
	e	240	240	294	294	370	370	466	466
	f	65	65	65	65	90	90	90	90
	g	102	102	109	109	82	82	90	90
h	102	102	109	109	142	142	155	155	
j	37	37	40	40	55	55	60	60	
Connection diagram	Art. No.	6570585		6565832		6570593		6570690	
Pilot valve 1	DN	12		12		16		16	
	hydraulic	A→T NO	P→A NO	A→T NO	P→A NO	A→T NO	P→A NO	A→T NO	P→A NO
	Art. No.	6266975	6266983	6266975	6266983	6161448	6161405	6161448	6161405
Actuation	Hydraulically actuated, X, Y internally								
Plate		6569641		6569641		6569714		6569714	
Covers		6569927		6569927		6532292		6532292	
Pilot Valve 2	DN	3		3		3		3	
	hydraulic	A→T NO		A→T NO		A→T NO		A→T NO	
	Art. No.	6545599		6545599		6545599		6545599	
Actuation	Electromagnet, voltage 24V DC, current 1.0A Cable socket DIN43650 – form A: max. 100VA, LED display + Z-diode, IP65								
Position monitoring	Art. No.	Inductive proximity switch, Art. No.: 5127726							
	electric	Output PNP, NO contact Voltage 10 – 30 VDC							

## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

Single-stage pilot control, valve with a locking device

Nominal value		DN16		DN25		DN32		DN40	
Weight		10 kg		18 kg		23 kg		40 kg	
2/2-way valve	hydraulic	NC	NO	NC	NO	NC	NO	NC	NO
	Art. No.	6269699		6600221		6269745		6274048	
	a	120	120	147	147	165	165	182	182
	b	221	221	278	278	354	354	456	456
	c	176	176	186	186	186	186	214	214
	d	167	167	184	184	189	189	222	222
	e	100	100	130	130	140	140	176	176
	f	40	40	40	40	40	40	50	50
	g	60	60	63	63	64	64	93	93
	h	103	103	108	108	110	110	93	93
j	15	15	19	19	22	22	24	24	
Connection diagram	Art. No.	6561403		6560318		6563821		6563902	
Pilot valve	DN	3		3		3		6	
	hydraulic	A→T NO	A→T NO	P→A NO	A→T NO	A→T NO	P→A NO	A→T NO	P→A NO
	Art. No.	6545599	6545602	6545599	6545602	6545599	6545602	6546749	6546773
	Actuation	Electromagnet, voltage 24V DC							
	1.0 A		1.0 A		1.0 A		1.5 A		
	Cable socket DIN43650 – form A: max. 100VA, LED display + Z-diode, IP65								
Position monitoring	Art. No.	Inductive proximity switch, Art. No.: 5127726							
	electric	Output PNP, NO contact							
		Voltage 10 – 30 VDC							

Single-stage pilot control, valve with a locking device

Nominal value		DN50		DN65		DN80			
Weight		58 kg		103 kg		171 kg			
2/2-way valve	hydraulic	NC	NC	NO	NO	NC	NO		
	Art. No.	6078028		6165907		6164145			
	a	235	235	245	245	295	295		
	b	456	456	506	506	598	598		
	c	240	240	287	287	252	252		
	d	235	235	286	286	364	364		
	e	196	196	240	240	294	294		
	f	50	50	65	65	65	65		
	g	97	97	102	102	109	109		
	h	97	97	102	102	109	109		
j	31,5	31,5	37	37	40	40			
Connection diagram	Art. No.	6561543		6570585		6565832			
Pilot valve	DN	6		10		10			
	hydraulic	A→T NO	A→T NO	P→A NO	P→A NO	A→T NO	P→A NO		
	Art. No.	6546749	6546773	6235530	6235549	6235530	6235549		
	Actuation	Electromagnet, voltage 24V DC							
	1.5 A		2.5 A		2.5 A				
	Cable socket DIN43650 – form A: max. 100VA, LED display + Z-diode, IP65								
Position monitoring	Art. No.	Inductive proximity switch, Art. No.: 5127726							
	electric	Output – PNP, NO contact							
		Voltage 10 – 30 VDC							



## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

Two-stage pilot control, valve with a locking device

Nominal value		DN65		DN80		DN100		DN125	
Weight		104 kg		172 kg		315 kg		578 kg	
2/2-way valve	hydraulic	NC	NO	NC	NO	NC	NO	NC	NO
	Art. No.	6165907		6164145		6164153		6600220	
	a	245	245	295	295	342	342	393	393
	b	506	506	598	598	725	725	804	804
	c	231	231	252	252	277	277	312	312
	d	321	321	364	364	408	408	478	478
	e	240	240	294	294	370	370	466	466
	f	65	65	65	65	90	90	90	90
	g	102	102	109	109	82	82	90	90
	h	102	102	109	109	142	142	155	155
j	37	37	40	40	55	55	60	60	
Connection diagram	Art. No.	6570585		6565832		6570593		6570690	
Pilot-valve 1	DN	12		12		16		16	
	hydraulic	A→T NO	P→A NC	A→T NO	P→A NC	A→T NO	P→A NC	A→T NO	P→A NC
	Art. No.	6266975	6266983	6266975	6266983	6161448	6161405	6161448	6161405
Hydraulically actuated, X, Y internally									
Plate		6569641		6569641		6569714		6569714	
Covers		6569927		6569927		6532292		6532292	
Pilot-valve 2	DN	3		3		3		3	
	hydraulic	A→T NO		A→T NO		A→T NO		A→T NO	
	Art. No.	6545599		6545599		6545599		6545599	
	Actuation	Electromagnet, voltage 24V DC, current 1.0A Cable socket magnet DIN43650 – form A: max. 100VA, LED display + Z-diode, IP65							
Position monitoring	Art. No.	Inductive proximity switch, Art. No.: 5127726							
	electric	Output – PNP, NO contact							
		Voltage 10 – 30 VDC							

### Included in the scope of supply:

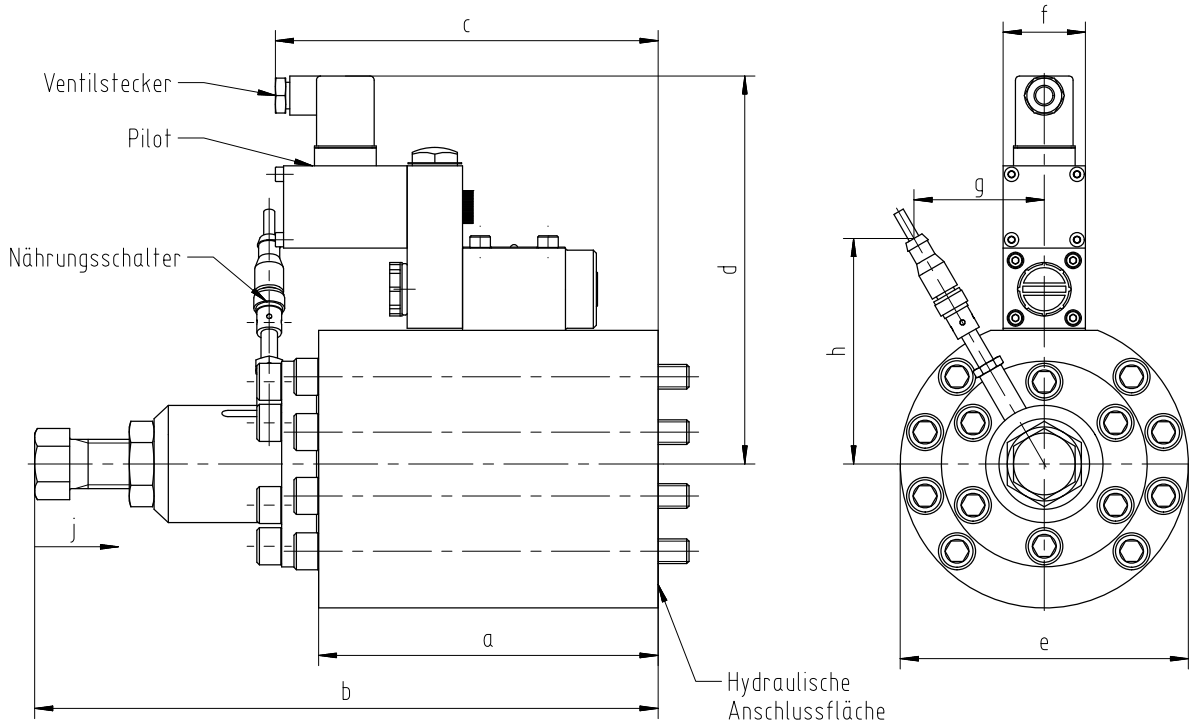
- Mounting screws for the 2/2-way valve assembly
- Mounting screws for the pilot valves 1 and -2
- Cable socket for the magnet

Ordering example 1: 2/2-way valve DN25-PN320-X,Y actuated-24VDC-NO  
Single-stage pilot control  
1 item, 2/2-way valve - assembly, Art. No. 6251838  
1 item, pilot valve, Art. No. 6545602  
1 item proximity switch, Art. No. 5127726

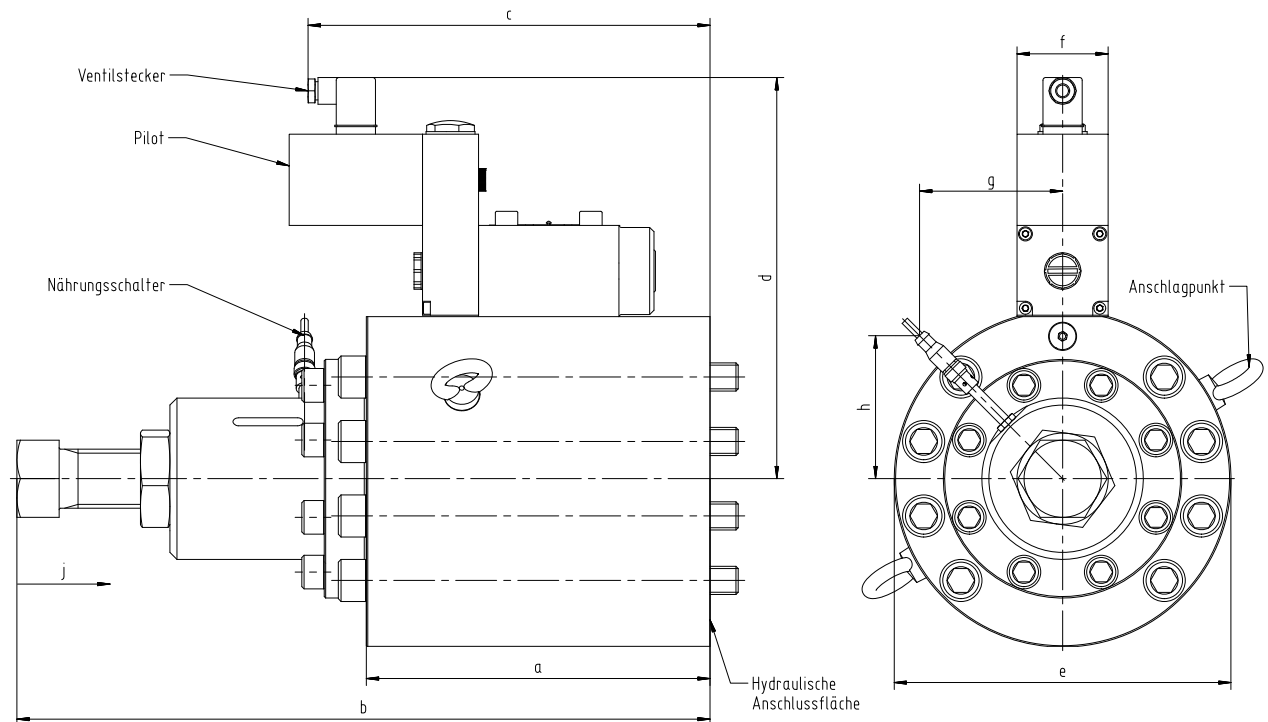
Ordering example 2: 2/2-way valve DN100-PN320-X,Y actuated-24VDC-NC  
Two-stage pilot control  
1 item, 2/2-way valve - assembly, Art. No. 6042430  
1 item, pilot valve 1, Art. No. 6161448  
1 item, plate, Art. No. 6569714  
2 items, covers, Art. No. 6532292  
1 item, pilot valve 2, Art. No. 6545599  
1 item, proximity switch, Art. No. 5127726

## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y Dimension sheet

### Single-stage pilot control, valve DN12 - DN32

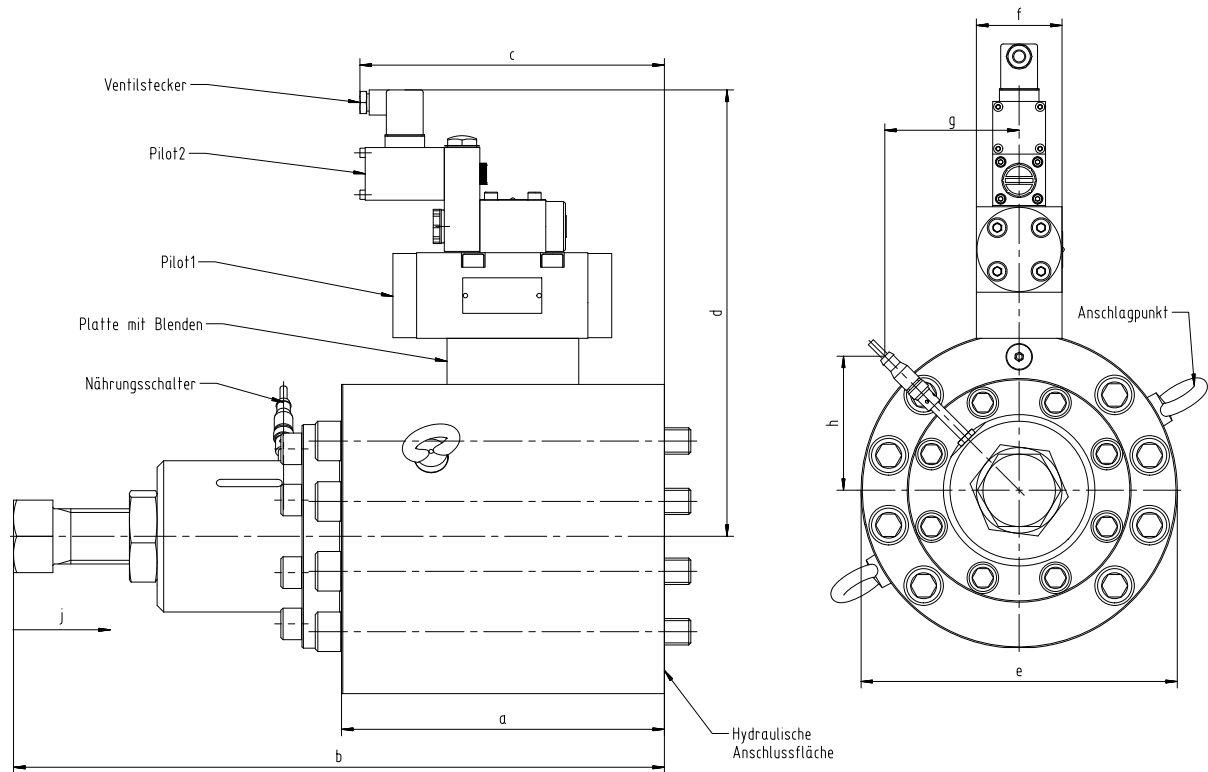


### Single-stage pilot control, valve DN40 – DN80

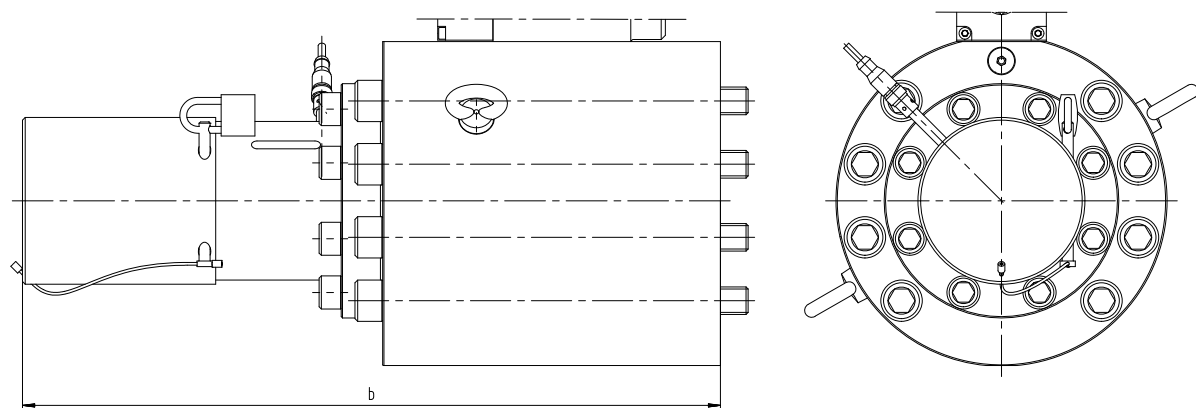


## 2/2-way valve C3, DN12 – 125 | PN320 – X,Y

### Two-stage pilot control, valve DN65 – DN125



### Valve DN16 – DN125 with a locking device



Deutsch	Englisch
Ventilstecker	Valve connector
Pilot	Pilot
Nahrungsschalter	Proximity switch
Hydraulische Anschlussflache	Hydraulic terminal surface
Anschlagpunkt	Attachment point
Platte mit Blenden	Plate with covers