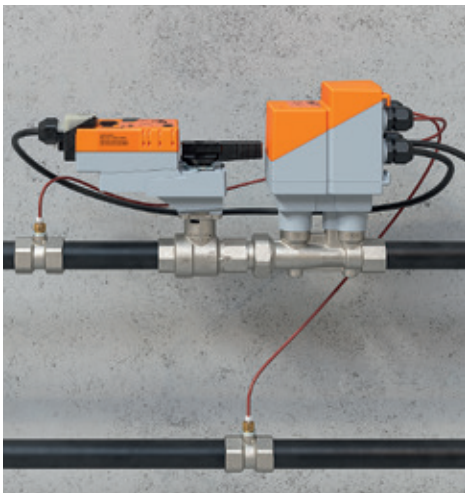

Efficiency and reliability in versatile applications.

The complete product range of water applications

Edition 2023

BELIMO

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Zone valves

Maximum comfort, minimum consumption

Characterised control valve (QCV)	Internal thread	2-way	PN 25	DN 15...25	6
Changeover ball valve (QCV)		3-way			7
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Pressure-independent characterised control valve (PIQCV)	Internal thread	2-way	PN 25	DN 15...25	10
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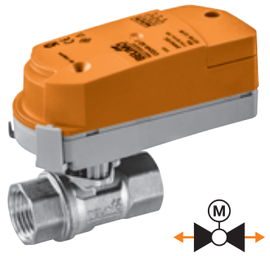
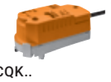
Please refer to the data sheets or notes for project planning for further technical data to be observed.

DN 15...25

Field of use	Closed water circuit (pH >7)
Fluid temperature	2...90°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Equal percentage
Close-off pressure	Δp_s: 520 kPa
Max. differential pressure	Δp_{max}: 280 kPa
Permissible operating pressure	p_s: 1600 kPa

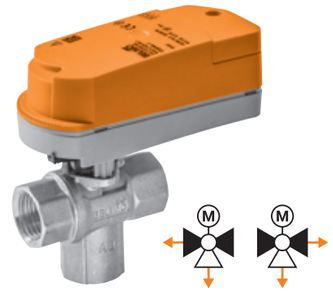


Suitable actuators	Nominal torque	Open/close	3-point	Modulating (2...10 V)	Modulating (0.5...10 V)	MP-Bus communication	BACnet communication	Modbus communication	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Actuator type	PN 25 DN 15 k_{vs} [m³/h]	DN 15 Valve type	DN 20 k_{vs} [m³/h]	DN 20 Valve type	DN 25 k_{vs} [m³/h]	DN 25 Valve type
													0.09...1.2	C215Q-F	0.5...8	C220Q-K	0.5...7	C225Q-K
													0.4...4.8	C215Q-J				
													Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																		
CQ..	1 Nm	■	■							24 V	75 s	CQ24A	520	280	520	280	520	280
				■								CQ24A-SR	520	280	520	280	520	280
					■							CQ24A-SZ	520	280	520	280	520	280
						■						CQ24A-MPL	520	280	520	280	520	280
							■	■				CQ24A-BAC	520	280	520	280	520	280
		■	■							230 V		CQ230A	520	280	520	280	520	280
Standard actuators with connecting terminals																		
 CQ..-T	1 Nm	■	■							24 V	75 s	CQ24A-T	520	280	520	280	520	280
				■								CQ24A-SR-T	520	280	520	280	520	280
					■							CQ24A-SZ-T	520	280	520	280	520	280
						■						CQ24A-MPL-T	520	280	520	280	520	280
		■	■							230 V		CQ230A-T	520	280	520	280	520	280
Fast running actuators																		
	1 Nm	■	■							230 V	35 s	CQC230A	520	280	520	280	520	280
		■	■								15 s	CQD230A	520	280				
		■	■									CQD230A-20			520	280	520	280
Fail-safe actuators NC/NO [1]																		
 CQK..	1 Nm	■							■	24 V	75 s	CQK24A	520	280	520	280	520	280
			■						■			CQK24A-SR	520	280	520	280	520	280
				■					■			CQK24A-MPL	520	280	520	280	520	280
		■							■	230 V		CQK230A	520	280	520	280	520	280
Fail-safe actuators NC/NO [1] and connecting terminals																		
 CQK..-T	1 Nm	■							■	24 V	75 s	CQK24A-T	520	280	520	280	520	280
			■						■			CQK24A-SR-T	520	280	520	280	520	280
				■					■			CQK24A-MPL-T	520	280	520	280	520	280
		■							■	230 V		CQK230A-T	520	280	520	280	520	280

[1] Fail-safe actuators NO available (e.g. CQK24A-O)

DN 15...25

Field of use	Closed water circuit (pH >7)
Fluid temperature	2...90°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Close-off pressure	Δp_s: 280 kPa
Max. differential pressure	Δp_{max}: 280 kPa
Permissible operating pressure	p_s: 1600 kPa



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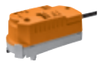
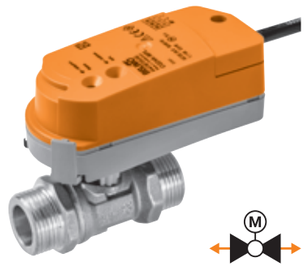
Suitable Actuators	Nominal torque	Open/close	3-point	MP-Bus communication	BACnet communication	Modbus communication	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Actuator type	PN 25 DN 15 k_{vs} [m³/h]	DN 15 Valve type	DN 20 k_{vs} [m³/h]	DN 20 Valve type	DN 25 k_{vs} [m³/h]	DN 25 Valve type
											2.5	C315Q-H	4	C320Q-J	4	C325Q-J
											Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																
 CQ..	1 Nm	■	■					24 V	75 s	CQ24A	280	280	280	280	280	280
				■						CQ24A-MPL	280	280	280	280	280	280
					■	■				CQ24A-BAC	280	280	280	280	280	280
		■	■					230 V		CQ230A	280	280	280	280	280	280
Standard actuators with connecting terminals																
 CQ..-T	1 Nm	■	■					24 V	75 s	CQ24A-T	280	280	280	280	280	280
				■						CQ24A-MPL-T	280	280	280	280	280	280
		■	■					230 V		CQ230A-T	280	280	280	280	280	280
Fast running actuators																
	1 Nm	■	■					230 V	35 s	CQC230A	280	280	280	280	280	280
		■	■						15 s	CQD230A	280	280				
		■	■							CQD230A-20			280	280	280	280
Fail-safe actuators NC/NO [1]																
 CQK..	1 Nm	■					■	24 V	75 s	CQK24A	280	280	280	280	280	280
			■				■			CQK24A-MPL	280	280	280	280	280	280
		■					■	230 V		CQK230A	280	280	280	280	280	280
Fail-safe actuators NC/NO [1] and connecting terminals																
 CQK..-T	1 Nm	■					■	24 V	75 s	CQK24A-T	280	280	280	280	280	280
			■				■			CQK24A-MPL-T	280	280	280	280	280	280
		■					■	230 V		CQK230A-T	280	280	280	280	280	280

[1] Fail-safe actuators NO available (e.g. CQK24A-O)

DN 15/20

Field of use	Closed water circuit (pH >7)
Fluid temperature	2…90°C
Pipe connection	External thread G (ISO 228-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Equal percentage
Close-off pressure	Δp_s: 520 kPa
Max. differential pressure	Δp_{max}: 280 kPa
Permissible operating pressure	p_s: 1600 kPa



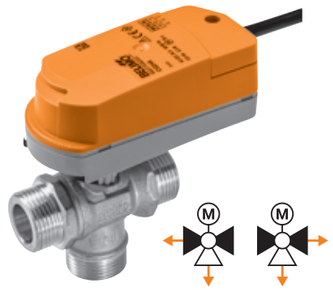
Suitable actuators

Nominal torque	Open/close	3-point	Modulating (2…10 V)	Modulating (0.5…10 V)	MP-Bus communication	BACnet communication	Modbus communication	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Actuator type	PN 25 DN 15 k_{vs} [m³/h]	DN 15 Valve type	DN 20 k_{vs} [m³/h]	DN 20 Valve type
												0.4…4.5	C415Q-J	0.5…7.8	C420Q-K
												Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators															
CQ.. 1 Nm	■	■							24 V	75 s	CQ24A	520	280	520	280
			■								CQ24A-SR	520	280	520	280
				■							CQ24A-SZ	520	280	520	280
					■						CQ24A-MPL	520	280	520	280
						■	■				CQ24A-BAC	520	280	520	280
	■	■							230 V		CQ230A	520	280	520	280
Standard actuators with connecting terminals															
CQ..-T 1 Nm	■	■							24 V	75 s	CQ24A-T	520	280	520	280
			■								CQ24A-SR-T	520	280	520	280
				■							CQ24A-SZ-T	520	280	520	280
					■						CQ24A-MPL-T	520	280	520	280
	■	■							230 V		CQ230A-T	520	280	520	280
Fast running actuators															
1 Nm	■	■							230 V	35 s	CQC230A	520	280	520	280
	■	■								15 s	CQD230A	520	280		
	■	■									CQD230A-20			520	280
Fail-safe actuators NC/NO [1]															
CQK.. 1 Nm	■							■	24 V	75 s	CQK24A	520	280	520	280
			■					■			CQK24A-SR	520	280	520	280
				■				■			CQK24A-MPL	520	280	520	280
	■							■	230 V		CQK230A	520	280	520	280
Fail-safe actuators NC/NO [1] and connecting terminals															
CQK..-T 1 Nm	■							■	24 V	75 s	CQK24A-T	520	280	520	280
			■					■			CQK24A-SR-T	520	280	520	280
				■				■			CQK24A-MPL-T	520	280	520	280
	■							■	230 V		CQK230A-T	520	280	520	280

[1] Fail-safe actuators NO available (e.g. CQK24A-O)

DN 15/20

Field of use	Closed water circuit (pH >7)
Fluid temperature	2…90°C
Pipe connection	External thread G (ISO 228-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Close-off pressure	Δp_s: 280 kPa
Max. differential pressure	Δp_{max}: 280 kPa
Permissible operating pressure	p_s: 1600 kPa



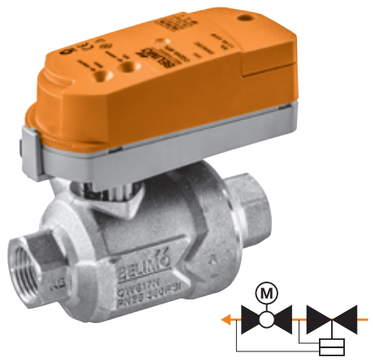
Suitable actuators

Nominal torque	Open/close	3-point	MP-Bus communication	BACnet communication	Modbus communication	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Actuator type	PN 25 DN 15 k_{vs} [m³/h]	DN 15 Valve type	DN 20 k_{vs} [m³/h]	DN 20 Valve type
										2.3	C515Q-H	3.6	C520Q-J
										Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators													
CQ.. 1 Nm	■	■					24 V	75 s	CQ24A	280	280	280	280
			■						CQ24A-MPL	280	280	280	280
				■	■				CQ24A-BAC	280	280	280	280
	■	■					230 V		CQ230A	280	280	280	280
Standard actuators with connecting terminals													
CQ..-T 1 Nm	■	■					24 V	75 s	CQ24A-T	280	280	280	280
			■						CQ24A-MPL-T	280	280	280	280
	■	■					230 V		CQ230A-T	280	280	280	280
Fast running actuators													
1 Nm	■	■					230 V	35 s	CQC230A	280	280	280	280
	■	■						15 s	CQD230A	280	280		
	■	■							CQD230A-20			280	280
Fail-safe actuators NC/NO [1]													
CQK.. 1 Nm	■					■	24 V	75 s	CQK24A	280	280	280	280
			■						CQK24A-MPL	280	280	280	280
	■					■	230 V		CQK230A	280	280	280	280
Fail-safe actuators NC/NO [1] and connecting terminals													
CQK..-T 1 Nm	■					■	24 V	75 s	CQK24A-T	280	280	280	280
			■						CQK24A-MPL-T	280	280	280	280
	■					■	230 V		CQK230A-T	280	280	280	280

[1] Fail-safe actuators NO available (e.g. CQK24A-O)

DN 15...25

Field of use	Closed water circuit (pH >7)
Fluid temperature	2...90°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Equal percentage
Close-off pressure	Δp_s: 1400 kPa
Max. differential pressure	Δp_{max}: 350 kPa
Permissible operating pressure	p_s: 1600 kPa



Suitable actuators	Nominal torque	Open/close	3-point	Modulating (2...10 V)	Modulating (0.5...10 V)	MP-Bus communication	BACnet communication	Modbus communication	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Actuator type	PN 25 DN 15 V'nom [l/h]	DN 15 Valve type	DN 20 V'nom [l/h]	DN 20 Valve type	DN 25 V'nom [l/h]	DN 25 Valve type
													210	C215QP-B, C215QPT-B	980	C220QP-F, C220QPT-F	2100	C225QPT-G
													420	C215QP-D, C215QPT-D				
													Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																		
CQ..	1 Nm	■	■							24 V	75 s	CQ24A	1400	350	1400	350	1400	350
				■								CQ24A-SR	1400	350	1400	350	1400	350
					■							CQ24A-SZ	1400	350	1400	350	1400	350
						■						CQ24A-MPL	1400	350	1400	350	1400	350
							■	■				CQ24A-BAC	1400	350	1400	350	1400	350
		■	■							230 V		CQ230A	1400	350	1400	350	1400	350
Standard actuators with connecting terminals																		
CQ..-T	1 Nm	■	■							24 V	75 s	CQ24A-T	1400	350	1400	350	1400	350
				■								CQ24A-SR-T	1400	350	1400	350	1400	350
					■							CQ24A-SZ-T	1400	350	1400	350	1400	350
						■						CQ24A-MPL-T	1400	350	1400	350	1400	350
		■	■							230 V		CQ230A-T	1400	350	1400	350	1400	350
Fast running actuators																		
	1 Nm	■	■							230 V	35 s	CQC230A	1400	350	1400	350	1400	350
		■	■								15 s	CQD230A	1400	350	1400	350	1400	350
Fail-safe actuators NC/NO [1]																		
CQK..	1 Nm	■							■	24 V	75 s	CQK24A	1400	350	1400	350	1400	350
				■					■			CQK24A-SR	1400	350	1400	350	1400	350
					■				■			CQK24A-MPL	1400	350	1400	350	1400	350
		■							■	230 V		CQK230A	1400	350	1400	350	1400	350
Fail-safe actuators NC/NO [1] and connecting terminals																		
CQK..-T	1 Nm	■							■	24 V	75 s	CQK24A-T	1400	350	1400	350	1400	350
				■					■			CQK24A-SR-T	1400	350	1400	350	1400	350
					■				■			CQK24A-MPL-T	1400	350	1400	350	1400	350
		■							■	230 V		CQK230A-T	1400	350	1400	350	1400	350

[1] Fail-safe actuators NO available (e.g. CQK24A-O)

DN 15...25

Field of use	Closed water circuit (pH >7)
Fluid temperature	2...60°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Close-off pressure	Δp_s: 520 kPa
Max. differential pressure	Δp_{max}: 280 kPa
Permissible operating pressure	p_s: 1600 kPa

C220QFL-G / CQ24A

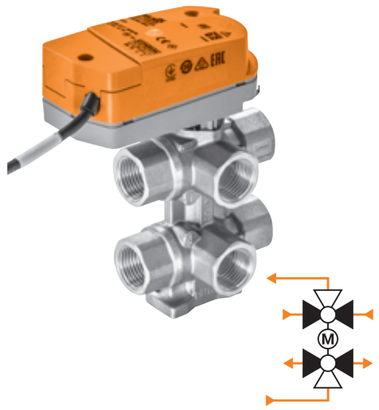
R225FL-J + LR24A

Suitable actuators	Nominal torque	Open/close	3-point	MP-Bus communication	BACnet communication	Modbus communication	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Actuator type	PN 25 DN 15 V'nom [l/h]	DN 15 Valve type	DN 20 V'nom [l/h]	DN 20 Valve type	DN 25 V'nom [l/h]	DN 25 Valve type
											290	C215QFL-C	1200	C220QFL-F6		
											470	C215QFL-D	1500	C220QFL-G0		
											650	C215QFL-E	1900	C220QFL-G		
											940	C215QFL-F0	2350	C220QFL-H0		
											1300	C215QFL-F	2900	C220QFL-H	3600	R225FL-J
											Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																
CQ..	1 Nm	■	■							24 V	75 s	CQ24A	520	280	520	280		
				■								CQ24A-MPL	520	280	520	280		
					■	■						CQ24A-BAC	520	280	520	280		
		■	■							230 V		CQ230A	520	280	520	280		
	5 Nm	■	■							24 V	90 s	LR24A					520	280
		■	■							230 V		LR230A					520	280
Standard actuators with connecting terminals																
LR..	1 Nm	■	■							24 V	75 s	CQ24A-T	520	280	520	280		
				■								CQ24A-MPL-T	520	280	520	280		
		■	■							230 V		CQ230A-T	520	280	520	280		
	5 Nm	■	■							24 V	90 s	LR24A-TP					520	280
		■	■							230 V		LR230A-TP					520	280
Fast running actuators																
	1 Nm	■	■							230 V	35 s	CQC230A	520	280	520	280		
		■	■								15 s	CQD230A	520	280		
		■	■									CQD230A-20			520	280		
Fail-safe actuators NC/NO [1]																
CQK..	1 Nm	■						■		24 V	75 s	CQK24A	520	280	520	280		
				■				■				CQK24A-MPL	520	280	520	280		
		■						■		230 V		CQK230A	520	280	520	280		
	4 Nm	■						■		24 V	75 s	LRF24					520	280
		■						■		230 V		LRF230					520	280
Fail-safe actuators NC/NO [1] and connecting terminals																
CQK..-T	1 Nm	■						■		24 V	75 s	CQK24A-T	520	280	520	280		
				■				■				CQK24A-MPL-T	520	280	520	280		
		■						■		230 V		CQK230A-T	520	280	520	280		

[1] Fail-safe actuators NO available (e.g. CQK24A-O)

DN 15

Field of use	Closed water circuit (pH >7)
Fluid temperature	6…80°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Linear: Sequence I: 0…30° Dead zone: 30…60° Sequence II: 60…90°
Close-off pressure	Δp_s: 350 kPa
Max. differential pressure	Δp_{max}: 100 kPa
Permissible operating pressure	p_s: 1600 kPa



PN 16

DN 15

k_{vs} [m³/h] Sequence I	k_{vs} [m³/h] Sequence II	Valve type
0.25	0.25	R3015-P25-P25-B1
	0.4	R3015-P25-P4-B1
	0.63	R3015-P25-P63-B1
0.4	0.25	R3015-P4-P25-B1
	0.4	R3015-P4-P4-B1
	0.63	R3015-P4-P63-B1
0.63	0.25	R3015-P63-P25-B1
	0.4	R3015-P63-P4-B1
	0.63	R3015-P63-P63-B1

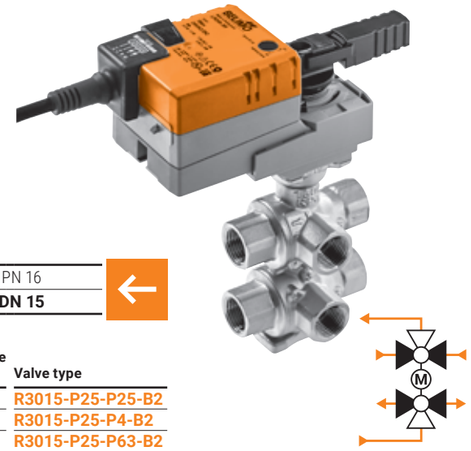
Suitable actuators

	Nominal torque	Modulating (2…10 V)	Modulating (0.5…10 V)	MP-Bus communication	Modbus communication	BACnet communication	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Actuator type	Δp_s kPa	Δp_{max} kPa
Standard actuators											
CQ..	1 Nm	■					24 V	75 s	CQ24A-SR	350	100
			■						CQ24A-SZ	350	100
				■					CQ24A-MPL	350	100
					■	■			CQ24A-BAC	350	100
Standard actuators with connecting terminals											
CQ..-T	1 Nm	■					24 V	75 s	CQ24A-SR-T	350	100
			■						CQ24A-SZ-T	350	100
				■					CQ24A-MPL-T	350	100

Subject to technical modifications

DN 15...25

Field of use	Closed water circuit (pH >7)
Fluid temperature	6…80°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Linear: Sequence I: 0…30° Dead zone: 30…60° Sequence II: 60…90°
Close-off pressure	Δp_s: 350 kPa
Max. differential pressure	Δp_{max}: 100 kPa
Permissible operating pressure	p_s: 1600 kPa



4

PN 16

DN 15

k_{vs} [m³/h] Sequence I	k_{vs} [m³/h] Sequence II	Valve type
0.25	0.25	R3015-P25-P25-B2
	0.4	R3015-P25-P4-B2
	0.63	R3015-P25-P63-B2
	1	R3015-P25-1-B2
	1.3	R3015-P25-1P3-B2
	1.8	R3015-P25-1P8-B2
0.4	0.25	R3015-P4-P25-B2
	0.4	R3015-P4-P4-B2
	0.63	R3015-P4-P63-B2
	1	R3015-P4-1-B2
	1.3	R3015-P4-1P3-B2
	1.8	R3015-P4-1P8-B2
0.63	0.25	R3015-P63-P25-B2
	0.4	R3015-P63-P4-B2
	0.63	R3015-P63-P63-B2
	1	R3015-P63-1-B2
	1.3	R3015-P63-1P3-B2
	1.8	R3015-P63-1P8-B2
1	0.25	R3015-1-P25-B2
	0.4	R3015-1-P4-B2
	0.63	R3015-1-P63-B2
	1	R3015-1-1-B2
	1.3	R3015-1-1P3-B2
	1.8	R3015-1-1P8-B2
1.3	0.25	R3015-1P3-P25-B2
	0.4	R3015-1P3-P4-B2
	0.63	R3015-1P3-P63-B2
	1	R3015-1P3-1-B2
	1.3	R3015-1P3-1P3-B2
	1.8	R3015-1P3-1P8-B2
1.8	0.25	R3015-1P8-P25-B2
	0.4	R3015-1P8-P4-B2
	0.63	R3015-1P8-P63-B2
	1	R3015-1P8-1-B2
	1.3	R3015-1P8-1P3-B2
	1.8	R3015-1P8-1P8-B2

PN 16

DN 20

k_{vs} [m³/h] Sequence I	k_{vs} [m³/h] Sequence II	Valve type
0.63	1.6	R3020-P63-1P6-B2
	2.5	R3020-P63-2P5-B2
	4	R3020-P63-4-B2
1	1.6	R3020-1-1P6-B2
	2.5	R3020-1-2P5-B2
	4	R3020-1-4-B2
1.6	0.63	R3020-1P6-P63-B2
	1	R3020-1P6-1-B2
	1.6	R3020-1P6-1P6-B2
	2.5	R3020-1P6-2P5-B2
	4	R3020-1P6-4-B2
2.5	0.63	R3020-2P5-P63-B2
	1	R3020-2P5-1-B2
	1.6	R3020-2P5-1P6-B2
	2.5	R3020-2P5-2P5-B2
	4	R3020-2P5-4-B2
4	0.63	R3020-4-P63-B2
	1	R3020-4-1-B2
	1.6	R3020-4-1P6-B2
	2.5	R3020-4-2P5-B2
	4	R3020-4-4-B2

Suitable actuators

	Nominal torque	Modulating (2…10 V)	Modulating (2…10 V, variable) [1]	MP-Bus communication [2]	Nominal voltage AC/DC 24 V	Running time motor 90°	Actuator type	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators											
LR..	5 Nm	■			24 V	90 s	LR24A-SR	350	100	350	100
			■	■			LR24A-MP	350	100	350	100

PN 16

DN 25

k_{vs} [m³/h] Sequence I	k_{vs} [m³/h] Sequence II	Valve type
6.3	6.3	R3025-6P3-6P3-B3

	Nominal torque	Modulating (2…10 V)	Modulating (2…10 V, variable) [1]	MP-Bus communication [2]	Nominal voltage AC/DC 24 V	Running time motor 90°	Actuator type	Δp_s kPa	Δp_{max} kPa
Standard actuators									
NR..	10 Nm	■			24 V	90 s	NR24A-SR	350	100
			■	■			NR24A-MP	350	100

[1] Control, operating range, position feedback, running time and further functions are adjustable on MP types using PC-Tool

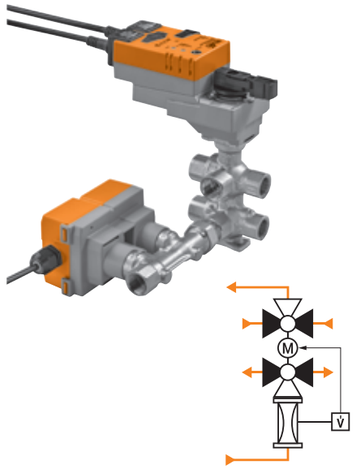
[2] Other modulating and communicative actuator solutions for operating range 0.5…10 V and bus and system integration available (e.g. Modbus, BACnet, KNX)

Subject to technical modifications

DN 15/20

Field of use	Closed water circuit (pH >7)
Fluid temperature	6…80°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Linear
Close-off pressure	Δp_s: 350 kPa
Max. differential pressure	Δp_{max}: 110 kPa
Permissible operating pressure	p_s: 1600 kPa
V'_{max}	Freely adjustable 5…100% of V'_{nom}

Control, operating range, position feedback, running time and further functions are parametrisable with the Belimo Assistant App (NFC) and ZTH EU



PN	DN	V'_{nom} [l/h]	V'_{max} low-noise [l/h]	Nominal voltage AC/DC 24 V	Modulating (2…10 V, variable)	MP-Bus communication	BACnet communication	Modbus communication	Valve type with actuator	Δp_s kPa	Δp_{max} kPa
16	**15**	1260	840	24 V	■	■	■	■	**EP015R-R6+BAC**	350	110
	20	2340	1620		■	■	■	■	**EP020R-R6+BAC**	350	110

2...12 zones

Material	Stainless steel
Operating pressure	6 bar
Flow	0...5 l/min
Connection	G 1" (ISO 228) G 3/4" Euro cone

Manifold type			EM-ECQ-02F	EM-ECQ-03F	EM-ECQ-04F	EM-ECQ-05F	EM-ECQ-06F	EM-ECQ-07F	EM-ECQ-08F	EM-ECQ-09F	EM-ECQ-10F	EM-ECQ-11F	EM-ECQ-12F
Suitable actuators	**Nominal torque**	**Open/close**	**3-point**	**Modulating (2...10 V)**	**MP-Bus communication**	**Modbus communication**	**BACnet communication**	**Fail-safe**	**Nominal voltage AC/DC 24 V AC 230 V**	**Running time motor 90°**	**Actuator type**										
Standard actuators																					
CQ..	1 Nm	■	■						24 V	75 s	CQ24A	■	■	■	■	■	■	■	■	■	■
				■							CQ24A-SR	■	■	■	■	■	■	■	■	■	■
		■	■						230 V		CQ230A	■	■	■	■	■	■	■	■	■	■
CQ..-MPL				■					24 V		CQ24A-MPL	■	■	■	■	■	■	■	■	■	■
					■	■					CQ24A-BAC	■	■	■	■	■	■	■	■	■	■
Fail-safe actuators NC/NO																					
CQK..	1 Nm	■	■					■	24 V	75 s	CQK24A	■	■	■	■	■	■	■	■	■	■
				■				■			CQK24A-SR	■	■	■	■	■	■	■	■	■	■
		■	■					■	230 V		CQK230A	■	■	■	■	■	■	■	■	■	■
				■				■	24 V		CQK24A-MPL	■	■	■	■	■	■	■	■	■	■

5

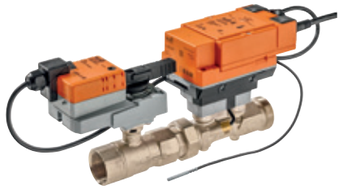
Pressure-independent characterised control valves

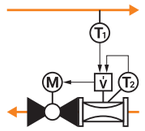
Complete transparency and highest efficiency

Belimo Energy ValveTM					
	Internal and external thread	2-way	PN 25	**DN 15...50**	20
				DN 15...50 (MID)	21
		3-way		**DN 15...50**	22
	Flange	2-way	PN 16	**DN 65...150**	23
Electronic pressure-independent characterised control valve (EPIV)	Internal and external thread	2-way	PN 25	**DN 15...50**	24
	Flange		PN 16	**DN 65...150**	25

Please refer to the data sheets or notes for project planning for further technical data to be observed.

DN 15...50





Field of use	Closed water circuit (pH >7)
Fluid temperature	−10…120°C
Pipe connection	Internal thread Rp (ISO 7-1) and External thread G (ISO 228-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_s: 1600 kPa
V'_{max}	Freely adjustable 25…100% of V'_{nom}

Completely parametrisable by means of integrated web server or Belimo Assistant App (NFC)

Optional connection to the Belimo Cloud

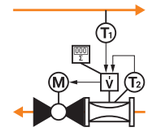
Sensor-operated flow or power control

Delta-T manager for optimal differential temperatures

PN	DN	G	Rp	V'_{nom} [l/s]	V'_{nom} [l/min]	V'_{nom} [m³/h]	Nominal voltage AC/DC 24 V	Modulating (2...10 V, variable)	MP-Bus communication	Modbus communication	BACnet communication	Glycol monitoring [1]	Valve type with actuator	Δp_s kPa	Δp_{max} kPa
With standard actuator															
25	**15**	3/4"	1/2"	0.42	25	1.5	24 V	■	■	■	■	■	**EV015R2+BAC**	1400	350
	20	1"	3/4"	0.69	41.7	2.5		■	■	■	■	■	**EV020R2+BAC**	1400	350
	25	1 1/4"	1"	0.97	58.3	3.5		■	■	■	■	■	**EV025R2+BAC**	1400	350
	32	1 1/2"	1 1/4"	1.67	100	6		■	■	■	■	■	**EV032R2+BAC**	1400	350
	40	2"	1 1/2"	2.78	166.7	10		■	■	■	■	■	**EV040R2+BAC**	1400	350
	50	2 1/2"	2"	4.17	250	15		■	■	■	■	■	**EV050R2+BAC**	1400	350
Fail-safe															
25	**15**	3/4"	1/2"	0.42	25	1.5	24 V	■	■	■	■	■	**EV015R2+KBAC**	1400	350
	20	1"	3/4"	0.69	41.7	2.5		■	■	■	■	■	**EV020R2+KBAC**	1400	350
	25	1 1/4"	1"	0.97	58.3	3.5		■	■	■	■	■	**EV025R2+KBAC**	1400	350
	32	1 1/2"	1 1/4"	1.67	100	6		■	■	■	■	■	**EV032R2+KBAC**	1400	350
	40	2"	1 1/2"	2.78	166.7	10		■	■	■	■	■	**EV040R2+KBAC**	1400	350
	50	2 1/2"	2"	4.17	250	15		■	■	■	■	■	**EV050R2+KBAC**	1400	350

[1] Optimum heat transfer can be ensured by glycol content monitoring.

DN 15...50 (MID)



Field of use	Closed water circuit (pH >7)
Fluid temperature	−10…120°C
Medium temperature note	MID certified 15...120°C
Pipe connection	Internal thread Rp (ISO 7-1) and External thread G (ISO 228-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_s: 1600 kPa
V'_{max}	Freely adjustable 25…100% of V'_{nom}

The thermal energy meters meet the requirements of EN 1434 and have type approval according to the European Measuring Instruments Directive 2014/32/EU (MI-004) as a heat meter.

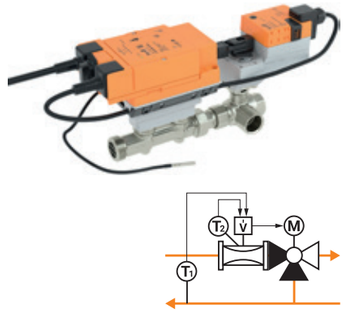
Completely parametrisable by means of integrated web server or Belimo Assistant App (NFC)

Optional connection to the Belimo Cloud

Sensor-operated flow or power control

PN	DN	G	Rp	V'_{nom} [l/s]	V'_{nom} [l/min]	V'_{nom} [m³/h]	Nominal voltage AC/DC 24 V	Modulating (2...10 V, variable)	MP-Bus communication	Modbus communication	BACnet communication	Valve type with actuator	Δp_s kPa	Δp_{max} kPa
With standard actuator														
25	**15**	3/4"	1/2"	0.42	25	1.5	24 V	■	■	■	■	**EV015R2+MID**	1400	350
	20	1"	3/4"	0.69	41.7	2.5		■	■	■	■	**EV020R2+MID**	1400	350
	25	1 1/4"	1"	0.97	58.3	3.5		■	■	■	■	**EV025R2+MID**	1400	350
	32	1 1/2"	1 1/4"	1.67	100	6		■	■	■	■	**EV032R2+MID**	1400	350
	40	2"	1 1/2"	2.78	166.7	10		■	■	■	■	**EV040R2+MID**	1400	350
	50	2 1/2"	2"	4.17	250	15		■	■	■	■	**EV050R2+MID**	1400	350

DN 15...50



Field of use	Closed water circuit (pH >7)
Fluid temperature	−10…120°C
Pipe connection	Internal thread Rp (ISO 7-1) and External thread G (ISO 228-1)
Leakage rate	Control path A – AB: air-bubble tight, Leakage rate A (EN12266-1) / Bypass B – AB: leakage class I
Permissible operating pressure	p_s: 1600 kPa
V'_{max}	Freely adjustable 25…100% of V'_{nom}

Completely parametrisable by means of integrated web server or Belimo Assistant App (NFC)

Optional connection to the Belimo Cloud

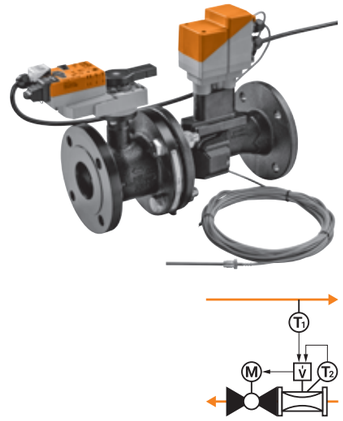
Sensor-operated flow or power control

PN	DN	G	Rp	V'_{nom} [l/s]	V'_{nom} [l/min]	V'_{nom} [m³/h]	Nominal voltage AC/DC 24 V	Modulating (2...10 V, variable)	MP-Bus communication	Modbus communication	BACnet communication	Glycol monitoring [1]	Valve type with actuator	Δp_s kPa	Δp_{max} kPa
With standard actuator															
25	**15**	3/4"	1/2"	0.42	25	1.5	24 V	■	■	■	■	■	**EV015R3+BAC**	1400	350
	20	1"	3/4"	0.69	41.7	2.5		■	■	■	■	■	**EV020R3+BAC**	1400	350
	25	1 1/4"	1"	0.97	58.3	3.5		■	■	■	■	■	**EV025R3+BAC**	1400	350
	32	1 1/2"	1 1/4"	1.67	100	6		■	■	■	■	■	**EV032R3+BAC**	1400	350
	40	2"	1 1/2"	2.78	166.7	10		■	■	■	■	■	**EV040R3+BAC**	1400	350
	50	2 1/2"	2"	4.17	250	15		■	■	■	■	■	**EV050R3+BAC**	1400	350

[1] Optimum heat transfer can be ensured by glycol content monitoring.

Note: 3-way Belimo Energy Valve™ with MID on request

DN 65...150



Field of use	Closed water circuit (pH >7)
Fluid temperature	−10…120°C
Pipe connection	Flange PN 16 (EN 1092-2)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_s: 1600 kPa
V'_{max}	Freely adjustable 30…100% of V'_{nom}

Completely parametrisable by means of integrated web server

Optional connection to the Belimo Cloud

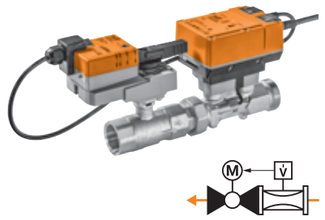
Sensor-operated flow or power control

Delta-T manager for optimal differential temperatures

PN	DN	V'_{nom} [l/s]	V'_{nom} [l/min]	V'_{nom} [m³/h]	Nominal voltage AC/DC 24 V	Modulating (2...10 V, variable)	MP-Bus communication	Modbus communication	BACnet communication	Glycol monitoring [1]	Valve type with actuator	Δp_s kPa	Δp_{max} kPa
With standard actuator													
16	**65**	8	480	28.8	24 V	■	■	■	■	■	**EV065F+BAC**	690	340
	80	11	660	39.6		■	■	■	■	■	**EV080F+BAC**	690	340
	100	20	1200	72		■	■	■	■	■	**EV100F+BAC**	690	340
	125	31	1860	111.6		■	■	■	■	■	**EV125F+BAC**	690	340
	150	45	2700	162		■	■	■	■	■	**EV150F+BAC**	690	340
Fail-safe													
16	**65**	8	480	28.8	24 V	■	■	■	■	■	**EV065F+KBAC**	690	340
	80	11	660	39.6		■	■	■	■	■	**EV080F+KBAC**	690	340
	100	20	1200	72		■	■	■	■	■	**EV100F+KBAC**	690	340
	125	31	1860	111.6		■	■	■	■	■	**EV125F+KBAC**	690	340
	150	45	2700	162		■	■	■	■	■	**EV150F+KBAC**	690	340

[1] Optimum heat transfer can be ensured by glycol content monitoring.

DN 15...50



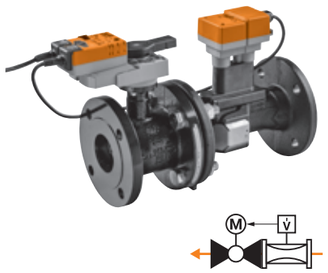
Field of use	Closed water circuit (pH >7)
Fluid temperature	−10...120°C
Pipe connection	Internal thread Rp (ISO 7-1) and External thread G (ISO 228-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_s: 1600 kPa
V'_{max}	Freely adjustable 25...100% of V'_{nom}

Control, operating range, feedback and other functions parametrisable with Belimo Assistant App

PN	DN	G	Rp	V'_{nom} [l/s]	V'_{nom} [l/min]	V'_{nom} [m³/h]	Nominal voltage AC/DC 24 V	Modulating (2...10 V, variable)	MP-Bus communication	Modbus communication	BACnet communication	Glycol monitoring [1]	Valve type with actuator		Δp_s kPa	Δp_{max} kPa
With standard actuator																
25	**15**	3/4"	1/2"	0.42	25	1.5	24 V	■	■	■	■	■	EP015R2+BAC		1400	350
	20	1"	3/4"	0.69	41.7	2.5		■	■	■	■	■	EP020R2+BAC		1400	350
	25	1 1/4"	1"	0.97	58.3	3.5		■	■	■	■	■	EP025R2+BAC		1400	350
	32	1 1/2"	1 1/4"	1.67	100	6		■	■	■	■	■	EP032R2+BAC		1400	350
	40	2"	1 1/2"	2.78	166.7	10		■	■	■	■	■	EP040R2+BAC		1400	350
	50	2 1/2"	2"	4.17	250	15		■	■	■	■	■	EP050R2+BAC		1400	350
Fail-safe																
25	**15**	3/4"	1/2"	0.42	25	1.5	24 V	■	■	■	■	■	EP015R2+KBAC		1400	350
	20	1"	3/4"	0.69	41.7	2.5		■	■	■	■	■	EP020R2+KBAC		1400	350
	25	1 1/4"	1"	0.97	58.3	3.5		■	■	■	■	■	EP025R2+KBAC		1400	350
	32	1 1/2"	1 1/4"	1.67	100	6		■	■	■	■	■	EP032R2+KBAC		1400	350
	40	2"	1 1/2"	2.78	166.7	10		■	■	■	■	■	EP040R2+KBAC		1400	350
	50	2 1/2"	2"	4.17	250	15		■	■	■	■	■	EP050R2+KBAC		1400	350

[1] By monitoring the glycol content, optimum system function can be ensured.

DN 65...150



Field of use	Closed water circuit (pH >7)
Fluid temperature	−10...120°C
Pipe connection	Flange PN 16 (EN 1092-2)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_s: 1600 kPa
V'_{max}	Freely adjustable 30...100% of V'_{nom}

Control, operating range, position feedback, running time and further functions are parametrisable with PC-Tool

PN	DN	V'_{nom} [l/s]	V'_{nom} [l/min]	V'_{nom} [m³/h]	Nominal voltage AC/DC 24 V	Modulating (2...10 V, variable)	MP-Bus communication	Modbus communication	BACnet communication	Valve type with actuator		Δp_s kPa	Δp_{max} kPa
With standard actuator													
16	**65**	8	480	28.8	24 V	■	■			EP065F+MP		690	340
	80	11	660	39.6		■	■			EP080F+MP		690	340
	100	20	1200	72		■	■			EP100F+MP		690	340
	125	31	1860	111.6		■	■			EP125F+MP		690	340
	150	45	2700	162		■	■			EP150F+MP		690	340
Fail-safe													
16	**65**	8	480	28.8	24 V	■	■			EP065F+KMP		690	340
	80	11	660	39.6		■	■			EP080F+KMP		690	340
	100	20	1200	72		■	■			EP100F+KMP		690	340
	125	31	1860	111.6		■	■			EP125F+KMP		690	340
	150	45	2700	162		■	■			EP150F+KMP		690	340
With Modbus/BACnet actuator													
16	**65**	8	480	28.8	24 V	■	■	■	■	EP065F+MOD		690	340
	80	11	660	39.6		■	■	■	■	EP080F+MOD		690	340
	100	20	1200	72		■	■	■	■	EP100F+MOD		690	340
	125	31	1860	111.6		■	■	■	■	EP125F+MOD		690	340
	150	45	2700	162		■	■	■	■	EP150F+MOD		690	340

6

Characterised control valves (CCV)

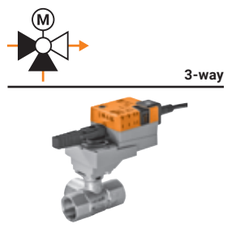
Reliable control of heating and cooling circuits

Internal thread	2-way – 3-way	PN 25	**DN 32...50**	28
		PN 40	**DN 15...25**	
External thread	2-way – 3-way	PN 25	**DN 32...50**	30
		PN 40	**DN 15...25**	
Flange	2-way – 3-way	PN 6	**DN 15...50**	32
	2-way	PN 16	**DN 65...150**	34
External thread	2-way	PN 40	**DN 10...20 (130°C)**	36

Please refer to the data sheets or notes for project planning for further technical data to be observed.

DN 15...50

Field of use	2-way: closed and open water circuit (pH >7) 3-way: closed water circuit (pH >7)
Fluid temperature	–10...120°C [1]
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	2-way: air-bubble tight, leakage rate A (EN 12266-1) 3-way: control path A – AB: air-bubble tight, leakage rate A (EN 12266-1) / bypass B – AB: leakage class I
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: equal percentage / bypass B – AB: linear (flow 70% of the k_{VS} value)
Permissible operating pressure	p_S: 1600 kPa



PN 40

DN 15		DN 20		DN 25		DN 32		DN 40		DN 50	
2-way											
k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
0.25	R2015-P25-S1										
0.4	R2015-P4-S1										
0.63	R2015-P63-S1										
1	R2015-1-S1										
1.6	R2015-1P6-S1										
2.5	R2015-2P5-S1										
4	R2015-4-S1	4	R2020-4-S2	6.3	R2025-6P3-S2					25	R2050-25-S4
6.3	R2015-6P3-S1	6.3	R2020-6P3-S2	10	R2025-10-S2	16	R2032-16-S3	16	R2040-16-S3	40	R2050-40-S4
		8.6	R2020-8P6-S2	16	R2025-16-S2			25	R2040-25-S3		
3-way											
k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
0.25	R3015-P25-S1										
0.4	R3015-P4-S1										
0.63	R3015-P63-S1										
1	R3015-1-S1										
1.6	R3015-1P6-S1										
2.5	R3015-2P5-S1										
4	R3015-4-S1	4	R3020-4-S2	6.3	R3025-6P3-S2					25	R3050-25-S4
6.3	R3015-6P3-S1	6.3	R3020-6P3-S2	10	R3025-10-S2	16	R3032-16-S3	16	R3040-16-S3	40	R3050-40-S4
								25	R3040-25-S4	58	R3050-58-S4

Suitable actuators

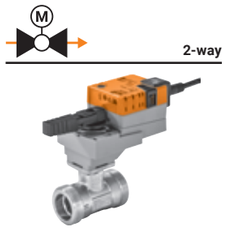
	Nominal torque	Open/close	3-point	Modulating (2...10 V)	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Running time fail-safe	Actuator type	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa
Compact actuators																							
TR.. TRY..	2 Nm	■	■			24 V	100 s		TR24 [3]														
			■			230 V	105 s		TR230-3 [3]														
		■				24 V	90 s		TR24-SR [3]														
			■				35 s		TRY24-SR [3]														
										Without auxiliary switch		With auxiliary switch											
Standard actuators																							
LR.. NR.. SR..	5 Nm	■	■			24 V	90 s		LR24A	..-S													
		■	■			230 V			LR230A	..-S													
				■		24 V			LR24A-SR														
	10 Nm	■	■			24 V	90 s		NR24A	..-S													
		■	■			230 V			NR230A	..-S													
				■		24 V			NR24A-SR														
TRC.. LRC.. NRC.. SRC..	20 Nm	■	■			24 V	90 s		SR24A	..-S													
		■	■			230 V			SR230A	..-S													
				■		24 V			SR24A-SR														
Fast running actuators																							
TRF..	2 Nm			■		24 V	15 s		TRC24A-SR														
	5 Nm			■		24 V	35 s		LRC24A-SR														
	10 Nm			■		24 V	35 s		NRC24A-SR														
	20 Nm			■		24 V	35 s		SRC24A-SR														
										Actuator type NC				Actuator type NO									
										Without auxiliary switch	With 2 auxiliary switches			Without auxiliary switch	With 2 auxiliary switches								
Fail-safe actuators NC/NO																							
LRF..	2.5 Nm			■	■	24 V	90 s	<25 s	TRF24-SR					..-O									
	4 Nm			■	■	24 V	150 s	<20 s	LRF24-SR														
NRF.. SRF..	10 Nm			■	■	24 V	90 s	<20 s	NRF24A-SR	..-S2				..-O		..-S2-O							
	20 Nm			■	■	24 V	90 s	<20 s	SRF24A-SR	..-S2				..-O		..-S2-O							

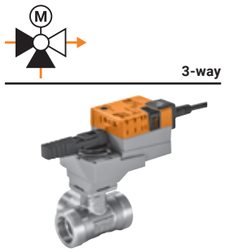
[1] Compact actuators TR.../TRY.. only up to 100°C
[2] Low-noise operation Δp_{max} = 200 kPa
[3] If fluid temperature ≥100°C, then pipeline and valve must be insulated.

Subject to technical modifications

DN 10...50

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	–10...100°C
Pipe connection	External thread G (ISO 228-1)
Leakage rate	2-way: air-bubble tight, leakage rate A (EN 12266-1) 3-way: control path A – AB: air-bubble tight, leakage rate A (EN 12266-1) / bypass B – AB: leakage class I
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: equal percentage / bypass B – AB: linear (flow 70% of the k_{vs} value)
Permissible operating pressure	p_S: 1600 kPa





	PN 40	PN 40					PN 25					
	DN 10	DN 15		DN 20		DN 25	DN 32		DN 40		DN 50	
2-way	k_{vs} [m³/h]	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type
	0.25	0.63	R409										
	0.4	1	R410										
	0.63	1.6	R411	4	R417	6.3	R422						
	1	2.5	R412	6.3	R418	10	R423	16	R431	16	R438	25	R448
	1.6	4	R413	8.6	R419	16	R424	25	R439	40	R449		
	2.5	6.3	R414										
3-way	k_{vs} [m³/h]	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type	k_{vs} [m³/h]	Valve type
	0.25	0.63	R509										
	0.4	1	R510										
	0.63	1.6	R511	4	R517	6.3	R522						
	1	2.5	R512	6.3	R518	10	R523	16	R531	16	R538	25	R548
	2.5	4	R513										

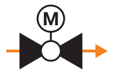
Suitable actuators	Nominal torque	Open/close	3-point	Modulating (2...10 V)	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Running time fail-safe	Actuator type	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Compact actuators																							
TR.. TRY..	2 Nm	■	■			24 V	100 s		TR24			1400	200	1400	200								
			■			230 V	105 s		TR230-3			1400	200	1400	200								
				■		24 V	90 s		TR24-SR			1400	200	1400	200								
				■			35 s		TRY24-SR			1400	200	1400	200								
										Without auxiliary switch	With auxiliary switch												
Standard actuators																							
LR.. NR.. SR..	5 Nm	■	■			24 V	90 s		LR24A	..-S		1400	200	1400	200	1400	200						
		■	■			230 V			LR230A	..-S		1400	200	1400	200	1400	200						
				■		24 V			LR24A-SR			1400	200	1400	200	1400	200						
	10 Nm	■	■			24 V	90 s		NR24A	..-S		1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
		■	■			230 V			NR230A	..-S		1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
				■		24 V			NR24A-SR			1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
TRC.. LRC.. NRC.. SRC..	20 Nm	■	■			24 V	90 s		SR24A	..-S		1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
		■	■			230 V			SR230A	..-S		1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
				■		24 V			SR24A-SR			1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
Fast running actuators																							
TRF..	2 Nm			■		24 V	15 s		TRC24A-SR			1400	200	1400	200								
	5 Nm			■		24 V	35 s		LRC24A-SR			1400	200	1400	200	1400	200						
	10 Nm			■		24 V	35 s		NRC24A-SR			1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
	20 Nm			■		24 V	35 s		SRC24A-SR			1400	200	1400	200	1400	200	1400	200	1400	200	1400	200
										Actuator type NC		Actuator type NO											
LRF..	**Fail-safe actuators NC/NO**									Without auxiliary switch	With 2 auxiliary switches	Without auxiliary switch	With 2 auxiliary switches										
NRF.. SRF..	2.5 Nm			■	■	24 V	90 s	<25 s	TRF24-SR			..-O		1400	200	1400	200						
	4 Nm			■	■	24 V	150 s	<20 s	LRF24-SR					1400	200	1400	200	1400	200				
	10 Nm			■	■	24 V	90 s	<20 s	NRF24A-SR	..-S2		..-O	..-S2-O	1400	200	1400	200	1400	200	1400	200	1400	200
	20 Nm			■	■	24 V	90 s	<20 s	SRF24A-SR	..-S2		..-O	..-S2-O	1400	200	1400	200	1400	200	1400	200	1400	200

Subject to technical modifications

Subject to technical modifications

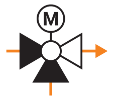
DN 15...50

Field of use	2-way: closed and open water circuit (pH >7) 3-way: closed water circuit (pH >7)
Fluid temperature	–10...100°C
Pipe connection	Flange PN 6 (EN 1092-1/4)
Leakage rate	2-way: air-bubble tight, leakage rate A (EN 12266-1) 3-way: control path A – AB: air-bubble right, leakage rate A (EN 12266-1) / bypass B – AB: leakage class I
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: equal percentage/ bypass B – AB: linear (Flow rate 70% of k_{VS} value)
Permissible operating pressure	p_S: 600 kPa



2-way

	PN 6 DN 15		PN 6 DN 20		DN 25		DN 32		DN 40		DN 50	
	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
2-way	0.63	R6015RP63-B1										
	1	R6015R1-B1										
	1.6	R6015R1P6-B1										
	2.5	R6015R2P5-B1										
	4	R6015R4-B1	6.3	R6020R6P3-B1	10	R6025R10-B2	16	R6032R16-B3	25	R6040R25-B3	40	R6050R40-B3

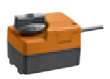


3-way

	PN 6 DN 15		PN 6 DN 20		DN 25		DN 32		DN 40		DN 50	
	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
3-way	0.63	R7015RP63-B1										
	1.6	R7015R1P6-B1										
	4	R7015R4-B1	6.3	R7020R6P3-B1	10	R7025R10-B2	16	R7032R16-B3	16	R7040R16-B3	25	R7050R25-B3

Suitable actuators

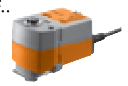
TR..
TRY..



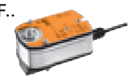
LR..
NR..
SR..

TRC..
LRC..
NRC..
SRC..

TRF..



LRF..



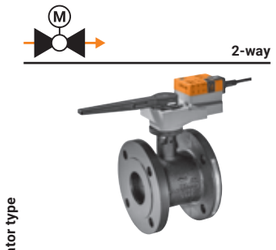
NRF..
SRF..

Nominal torque	Open/close	3-point	Modulating (2...10 V)	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Running time fail-safe	Actuator type				DN 15 Δp_s kPa	DN 15 Δp_{max} kPa	DN 20 Δp_s kPa	DN 20 Δp_{max} kPa	DN 25 Δp_s kPa	DN 25 Δp_{max} kPa	DN 32 Δp_s kPa	DN 32 Δp_{max} kPa	DN 40 Δp_s kPa	DN 40 Δp_{max} kPa	DN 50 Δp_s kPa	DN 50 Δp_{max} kPa
Compact actuators																							
2 Nm	■	■			24 V	100 s		TR24				600	100	600	100								
		■			230 V	105 s		TR230-3				600	100	600	100								
			■		24 V	90 s		TR24-SR				600	100	600	100								
			■			35 s		TRY24-SR				600	100	600	100								
								Without auxiliary switch		**With auxiliary switch**													
Standard actuators																							
5 Nm	■	■			24 V	90 s		LR24A		..-S		600	100	600	100	600	100						
	■	■			230 V			LR230A		..-S		600	100	600	100	600	100						
			■		24 V			LR24A-SR				600	100	600	100	600	100						
10 Nm	■	■			24 V	90 s		NR24A		..-S		600	100	600	100	600	100	600	100	600	100	600	100
	■	■			230 V			NR230A		..-S		600	100	600	100	600	100	600	100	600	100	600	100
			■		24 V			NR24A-SR				600	100	600	100	600	100	600	100	600	100	600	100
20 Nm	■	■			24 V	90 s		SR24A		..-S		600	100	600	100	600	100	600	100	600	100	600	100
	■	■			230 V			SR230A		..-S		600	100	600	100	600	100	600	100	600	100	600	100
			■		24 V			SR24A-SR				600	100	600	100	600	100	600	100	600	100	600	100
Fast running actuators																							
2 Nm			■		24 V	15 s		TRC24A-SR				600	100	600	100								
5 Nm			■		24 V	35 s		LRC24A-SR				600	100	600	100	600	100						
10 Nm			■		24 V	35 s		NRC24A-SR				600	100	600	100	600	100	600	100	600	100	600	100
20 Nm			■		24 V	35 s		SRC24A-SR				600	100	600	100	600	100	600	100	600	100	600	100
								Actuator type NC		**Actuator type NO**													
Fail-safe actuators NC/NO								**Without auxiliary switch**	**With 2 auxiliary switches**	**Without auxiliary switch**	**With 2 auxiliary switches**												
2.5 Nm			■	■	24 V	90 s	<25 s	TRF24-SR		..-O		600	100	600	100								
4 Nm			■	■	24 V	150 s	<20 s	LRF24-SR				600	100	600	100	600	100						
10 Nm			■	■	24 V	90 s	<20 s	NRF24A-SR	..-S2	..-O	..-S2-O	600	100	600	100	600	100	600	100	600	100	600	100
20 Nm			■	■	24 V	90 s	<20 s	SRF24A-SR	..-S2	..-O	..-S2-O	600	100	600	100	600	100	600	100	600	100	600	100

Subject to technical modifications

DN 65...150

Field of use	Closed water circuit (pH >7)
Fluid temperature	–10...120°C
Pipe connection	Flange PN 16 (EN 1092-2)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Equal percentage
Permissible operating pressure	p_S: 1600 kPa



Suitable actuators	Nominal torque	Open/close	3-point	Modulating (2...10 V)	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Running time fail-safe	Auxiliary switch SPDT	Actuator type	2-way PN 16 DN 65 k_{vs} [m³/h]	Valve type	Δp_s kPa	Δp_{max} [1] kPa	PN 16 DN 80 k_{vs} [m³/h]	Valve type	Δp_s kPa	Δp_{max} [1] kPa	PN 16 DN 100 k_{vs} [m³/h]	Valve type	Δp_s kPa	Δp_{max} [1] kPa	PN 16 DN 125 k_{vs} [m³/h]	Valve type	Δp_s kPa	Δp_{max} [1] kPa	PN 16 DN 150 k_{vs} [m³/h]	Valve type	Δp_s kPa	Δp_{max} [1] kPa
											63	R6065W63-S8			100	R6080W100-S8			160	R6100W160-S8			250	R6125W250-S8			320	R6150W320-S8		
Standard actuators																														
SR..	20 Nm	■	■			24 V	90 s			SR24A-5	690	400	690	400																
		■	■			230 V				SR230A-5	690	400	690	400																
				■		24 V				SR24A-SR-5	690	400	690	400																
				■		230 V				SR230A-SR-5	690	400	690	400																
		■	■			24 V	90 s			SR24P-5	690	400	690	400																
		■	■			230 V				SR230P-5	690	400	690	400																
				■		24 V				SR24P-SR-5	690	400	690	400																
				■		230 V				SR230P-SR-5	690	400	690	400																
GR..	40 Nm	■	■			24 V	150 s			GR24A-5	690	400	690	400	690	400	690	400	690	400	690	400	690	400						
		■	■			230 V				GR230A-5	690	400	690	400	690	400	690	400	690	400	690	400	690	400						
SRC..				■		24 V				GR24A-SR-5	690	400	690	400	690	400	690	400	690	400	690	400	690	400						
Fast running actuators																														
	20 Nm			■		24 V	35 s			SRC24A-SR-5	690	400	690	400	690	400	690	400	690	400	690	400	690	400						
Fail-safe actuators NC/NO										Actuator type NC	Actuator type NO																			
SRF..	20 Nm	■			■	24 V	<75 s	<20 s		SRF24A-5	..-O	690	400	690	400															
		■			■				2	SRF24A-S2-5	..-O																			
		■			■	230 V				SRFA-5	..-O	690	400	690	400															
		■			■				2	SRFA-S2-5	..-O																			
				■	■	24 V	90 s	<20 s		SRF24A-SR-5	..-O	690	400	690	400															
GRK..				■	■				2	SRF24A-SR-S2-5	..-O																			
	40 Nm	■			■	230 V	150 s			GRK24A-5		690	400	690	400	690	400	690	400	690	400	690	400	690	400						
				■	■					GRK24A-SR-5		690	400	690	400	690	400	690	400	690	400	690	400	690	400						

[1] Low-noise operation Δp_{max} = 200 kPa

DN 10...20

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	2...130°C
Pipe connection	External thread G (ISO 228-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Flow characteristic	Equal percentage
Permissible operating pressure	p_S: 2700 kPa

Suitable actuators

		Nominal torque	Open/close	3-point	Modulating (2...10 V)	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Nominal torque running time	Actuator type	2-way	PN 40 DN 10 k_{vs} [m³/h]	PN 40 DN 10 Valve type	PN 40 DN 15 k_{vs} [m³/h]	PN 40 DN 15 Valve type	PN 40 DN 20 k_{vs} [m³/h]	PN 40 DN 20 Valve type
												0.3	R404DK	2.5	R412D	6.3	R417D
												0.4	R405DK	4	R413D	10	R418D
												0.63	R406DK	6.3	R414D	16	R419D
												1	R407DK				
												1.6	R408DK				
												2.5	R409DK				
												Δp_s kPa	Δp_{v100} kPa	Δp_{v0} kPa	Δp_s kPa	Δp_{v100} kPa	Δp_{v0} kPa	Δp_s kPa	Δp_{v100} kPa	Δp_{v0} kPa
		Standard actuators															
LR..		5 Nm	■	■			24 V	90 s		LR24A		1400	400	800	1400	400	800	1400	400	800
			■	■			230 V			LR230A		1400	400	800	1400	400	800	1400	400	800
					■		24 V			LR24A-SR		1400	400	800	1400	400	800	1400	400	800
LRC..		**Fast running actuators**															
		5 Nm			■			35 s		LRC24A-SR		1400	400	800	1400	400	800	1400	400	800
LRF..		**Fail-safe actuators NC**															
		4 Nm				■	■	150 s	<20 s	LRF24-SR [1]		1400	400	800	1400	400	800	1400	400	800

[1] If fluid temperature ≥100°C, then pipeline and valve must be insulated.

7

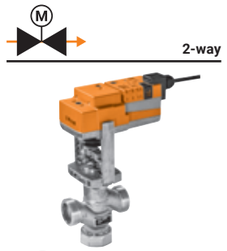
Globe valves

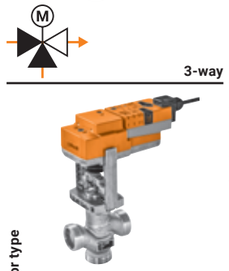
Energy-optimised control of steam, cold, warm and hot water circuits

Please refer to the data sheets or notes for project planning for further technical data to be observed.

DN 15...50

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	–10...120°C
Pipe connection	External thread G (ISO 228-1)
Leakage rate	2-way: max. 0.05% of k_{VS} value 3-way: control path A – AB: max. 0.05% of kvs value / Bypass B – AB: max. 1% of k_{VS} value
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: equal percentage / Bypass B – AB: linear
Permissible operating pressure	p_S: 1600 kPa





	PN 16	PN 16				
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
2-way	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type
	0.63 H411B					
	1 H412B					
	1.6 H413B					
	2.5 H414B					
	4 H415B	6.3 H420B	10 H425B	16 H432B	25 H440B	40 H450B
3-way	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type	k_{VS} [m³/h] Valve type
	1 H512B					
	1.6 H513B					
	2.5 H514B					
	4 H515B	6.3 H520B	10 H525B	16 H532B	25 H540B	40 H550B

Suitable actuators

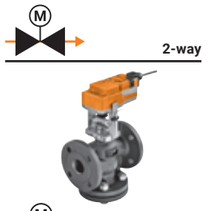
	Actuating force [1]	Actuating time per nominal stroke	Actuating time for fail-safe	Open/close	3-point	Modulating (2...10 V)	MP-Bus communication [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																				
LV.. NV.. SV..	500 N	150 s		■	■				24 V	LV24A-TPC	1300	400	900	400	500	400	350	350	150	150	70	70
				■	■				230 V	LV230A-TPC	1300	400	900	400	500	400	350	350	150	150	70	70
						■			24 V	LV24A-SR-TPC	1300	400	900	400	500	400	350	350	150	150	70	70
						■	■		24 V	LV24A-MP-TPC	1300	400	900	400	500	400	350	350	150	150	70	70
	1000 N	150 s		■	■				24 V	NV24A-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
				■	■				230 V	NV230A-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
						■			24 V	NV24A-SR-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
						■	■		24 V	NV24A-MP-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
	1500 N	150 s		■	■				24 V	SV24A-TPC	1600	400	1600	400	1600	400	1600	400	900	400	550	400
				■	■				230 V	SV230A-TPC	1600	400	1600	400	1600	400	1600	400	900	400	550	400
						■			24 V	SV24A-SR-TPC	1600	400	1600	400	1600	400	1600	400	900	400	550	400
						■	■		24 V	SV24A-MP-TPC	1600	400	1600	400	1600	400	1600	400	900	400	550	400
Fast running actuators																				
LVC.. NVC.. SVC..	500 N	35 s				■			24 V	LVC24A-SR-TPC	1300	400	900	400	500	400	350	350	150	150	70	70
						■	■			LVC24A-MP-TPC	1300	400	900	400	500	400	350	350	150	150	70	70
	1000 N	35 s				■			24 V	NVC24A-SR-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
						■	■			NVC24A-MP-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
	1500 N	35 s				■			24 V	SVC24A-SR-TPC	1600	400	1600	400	1600	400	1600	400	900	400	550	400
						■	■			SVC24A-MP-TPC	1600	400	1600	400	1600	400	1600	400	900	400	550	400
Fail-safe actuators NC/NO [2]																				
NVK.. NVKC..	1000 N	150 s	35 s		■			■	24 V	NVK24A-3-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
					■			■	230 V	NVK230A-3	1600	400	1600	400	1300	400	1000	400	500	400	300	300
						■		■	24 V	NVK24A-SR-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
						■	■	■	24 V	NVK24A-MP-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
		35 s	35 s			■		■	24 V	NVKC24A-SR-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300
						■	■	■	24 V	NVKC24A-MP-TPC	1600	400	1600	400	1300	400	1000	400	500	400	300	300

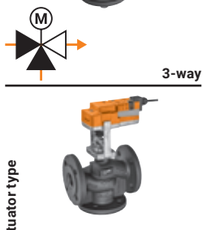
[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
[2] Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..B is at top (valve stem extended).

Subject to technical modifications

DN 15...100

Field of use	Closed water circuit (pH >7)
Fluid temperature	–10...120°C
Pipe connection	Flange PN 6 (ISO 7005-2)
Leakage rate	2-way: max. 0.05% of k_{VS} value 3-way: Control path A – AB: max. 0.05% of k_{VS} value / Bypass B – AB: max. 1% of k_{VS} value
Flow characteristic	2-way: equal percentage 3-way: Control path A – AB: equal percentage / Bypass B – AB: linear
Permissible operating pressure	p_S: 600 kPa





PN 6

2-way	DN 15		DN 20	
	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
	0.63	H611R		
	1	H612R		
	1.6	H613R		
	2.5	H614R		
	4	H615R	6.3	H620R

3-way	DN 15		DN 20	
	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
	0.63	H711R		
	1	H712R		
	1.6	H713R		
	2.5	H714R		
	4	H715R	6.3	H720R

PN 6

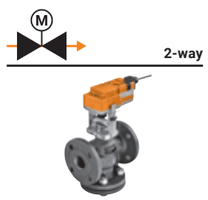
2-way	DN 25		DN 32		DN 40		DN 50		DN 65		DN 80		DN 100	
	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
	10	H625R	16	H632R	25	H640R	40	H650R	58	H664R	90	H679R	145	H6100R

3-way	DN 25		DN 32		DN 40		DN 50		DN 65		DN 80		DN 100	
	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
	10	H725R	16	H732R	25	H740R	40	H750R	58	H764R	90	H779R	145	H7100R

Suitable actuators

Suitable actuators	Actuating force [1]	Actuating time per nominal stroke	Actuating time Fail-safe	Open/close	3-point	Modulating (2...10 V)	Communication MP-Bus [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	DN 15 Δps kPa	DN 15 Δpmax kPa	DN 20 Δps kPa	DN 20 Δpmax kPa	DN 25 Δps kPa	DN 25 Δpmax kPa	DN 32 Δps kPa	DN 32 Δpmax kPa	DN 40 Δps kPa	DN 40 Δpmax kPa	DN 50 Δps kPa	DN 50 Δpmax kPa	DN 65 Δps kPa	DN 65 Δpmax kPa	DN 80 Δps kPa	DN 80 Δpmax kPa	DN 100 Δps kPa	DN 100 Δpmax kPa
Standard actuators																												
 LV.. NV.. SV..	500 N	150 s		■	■				24 V	LV24A-TPC	600	400	600	400	500	400	350	350	150	150	70	70						
				■	■				230 V	LV230A-TPC	600	400	600	400	500	400	350	350	150	150	70	70						
						■			24 V	LV24A-SR-TPC	600	400	600	400	500	400	350	350	150	150	70	70						
						■	■		24 V	LV24A-MP-TPC	600	400	600	400	500	400	350	350	150	150	70	70						
	1000 N	150 s		■	■				24 V	NV24A-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
				■	■				230 V	NV230A-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
						■			24 V	NV24A-SR-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
						■	■		24 V	NV24A-MP-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
 EV.. RV..	1500 N	150 s		■	■				24 V	SV24A-TPC	600	400	600	400	600	400	600	400	600	400	550	400	280	280	160	160		
				■	■				230 V	SV230A-TPC	600	400	600	400	600	400	600	400	600	400	550	400	280	280	160	160		
						■			24 V	SV24A-SR-TPC	600	400	600	400	600	400	600	400	600	400	550	400	280	280	160	160		
						■	■		24 V	SV24A-MP-TPC	600	400	600	400	600	400	600	400	600	400	550	400	280	280	160	160		
	2500 N	150 s		■	■				24 V	EV24A-TPC																	200	200
				■	■				230 V	EV230A-TPC																	200	200
						■			24 V	EV24A-SR-TPC																	200	200
						■	■		24 V	EV24A-MP-TPC																	200	200
	4500 N	120 s				■			24 V	RV24A-SR																	450	400
Fast running actuators																												
 LVC.. NVC.. SVC..	500 N	35 s				■			24 V	LVC24A-SR-TPC	600	400	600	400	500	400	350	350	150	150	70	70						
						■	■		24 V	LVC24A-MP-TPC	600	400	600	400	500	400	350	350	150	150	70	70						
	1000 N	35 s				■			24 V	NVC24A-SR-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
						■	■		24 V	NVC24A-MP-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
 EVC..	1500 N	35 s				■			24 V	SVC24A-SR-TPC	600	400	600	400	600	400	600	400	600	400	550	400	280	280	160	160		
						■	■		24 V	SVC24A-MP-TPC	600	400	600	400	600	400	600	400	600	400	550	400	280	280	160	160		
	2500 N	35 s				■			24 V	EVC24A-SR																	200	200
Fail-safe actuators NC/NO [2]																												
 NVK.. NVKC..	1000 N	150 s	35 s		■			■	24 V	NVK24A-3-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
					■			■	230 V	NVK230A-3	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
						■		■	24 V	NVK24A-SR-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
						■	■	■	24 V	NVK24A-MP-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
			35 s			■		■	24 V	NVKC24A-SR-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
						■	■	■	24 V	NVKC24A-MP-TPC	600	400	600	400	600	400	600	400	500	400	300	300	140	140	80	80		
 AVK..	2000 N	150 s	35 s		■			■	24 V	AVK24A-3-TPC																	150	150
					■			■	230 V	AVK230A-3																	150	150
						■		■	24 V	AVK24A-SR-TPC																	150	150
						■	■	■	24 V	AVK24A-MP-TPC																	150	150

[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
[2] Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..B is at top (valve stem extended).



DN 15...150

Field of use	Closed water circuit (pH >7)
Fluid temperature	−10...120°C
Pipe connection	Flange PN 16 (ISO 7005-2)
Leakage rate	2-way: max. 0.05% of k_{VS} value 3-way: control path A – AB: max. 0.05% of k_{VS} value / bypass B – AB: max. 1% of k_{VS} value
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: equal percentage / bypass B – AB: linear
Permissible operating pressure	p_S: 1600 kPa

PN 16

	DN 15 k_{VS} [m^3/h]	DN 15 Valve type	DN 20 k_{VS} [m^3/h]	DN 20 Valve type	DN 25 k_{VS} [m^3/h]	DN 25 Valve type	DN 32 k_{VS} [m^3/h]	DN 32 Valve type	DN 40 k_{VS} [m^3/h]	DN 40 Valve type	DN 50 k_{VS} [m^3/h]	DN 50 Valve type	DN 65 k_{VS} [m^3/h]	DN 65 Valve type	DN 65 k_{VS} [m^3/h]	DN 65 Valve type	DN 80 k_{VS} [m^3/h]	DN 80 Valve type	DN 80 k_{VS} [m^3/h]	DN 80 Valve type	DN 100 k_{VS} [m^3/h]	DN 100 Valve type	DN 125 k_{VS} [m^3/h]	DN 125 Valve type	DN 150 k_{VS} [m^3/h]	DN 150 Valve type
2-way	0.63	H611N																								
	1	H612N																								
	1.6	H613N																								
	2.5	H614N																								
	4	H615N	6.3	H620N	10	H625N	16	H632N	25	H640N	40	H650N	58	H664N	63	H665N	90	H679N	100	H680N	145	H6100N				
3-way	0.63	H711N																								
	1	H712N																								
	1.6	H713N																								
	2.5	H714N																								
	4	H715N	6.3	H720N	10	H725N	16	H732N	25	H740N	40	H750N	58	H764N	63	H765N	90	H779N	100	H780N	145	H7100N	220	H7125N	320	H7150N

Suitable actuators

LV..
NV..
SV..

EV..
RV..

LVC..
NVC..
SVC..

EVC..

NVK..
NVKC..

AVK..

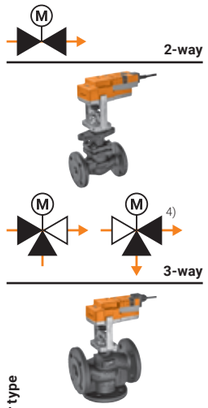
Actuating force[1]	Actuating time per nominal stroke	Actuating time Fail-safe	Open/close	3-point	Modulating (2...10 V)	Communication MP-Bus[1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	DN 15 Δp_s kPa	DN 15 Δp_{max} kPa	DN 20 Δp_s kPa	DN 20 Δp_{max} kPa	DN 25 Δp_s kPa	DN 25 Δp_{max} kPa	DN 32 Δp_s kPa	DN 32 Δp_{max} kPa	DN 40 Δp_s kPa	DN 40 Δp_{max} kPa	DN 50 Δp_s kPa	DN 50 Δp_{max} kPa	DN 65 Δp_s kPa	DN 65 Δp_{max} kPa	DN 65 Δp_s kPa	DN 65 Δp_{max} kPa	DN 80 Δp_s kPa	DN 80 Δp_{max} kPa	DN 80 Δp_s kPa	DN 80 Δp_{max} kPa	DN 100 Δp_s kPa	DN 100 Δp_{max} kPa	DN 125 Δp_s kPa	DN 125 Δp_{max} kPa	DN 150 Δp_s kPa	DN 150 Δp_{max} kPa
Standard actuators																																			
500 N	150 s		■	■				24 V	**LV24A-TPC**	1300	400	900	400	500	400	350	350	150	150	70	70														
			■	■				230 V	**LV230A-TPC**	1300	400	900	400	500	400	350	350	150	150	70	70														
					■			24 V	**LV24A-SR-TPC**	1300	400	900	400	500	400	350	350	150	150	70	70														
					■	■		24 V	**LV24A-MP-TPC**	1300	400	900	400	500	400	350	350	150	150	70	70														
1000 N	150 s		■	■				24 V	**NV24A-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
			■	■				230 V	**NV230A-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
					■			24 V	**NV24A-SR-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
					■	■		24 V	**NV24A-MP-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
1500 N	150 s		■	■				24 V	**SV24A-TPC**	1600	400	1600	400	1600	400	1600	400	600	400	550	400	280	280			160	160								
			■	■				230 V	**SV230A-TPC**	1600	400	1600	400	1600	400	1600	400	600	400	550	400	280	280			160	160								
					■			24 V	**SV24A-SR-TPC**	1600	400	1600	400	1600	400	1600	400	600	400	550	400	280	280			160	160								
					■	■		24 V	**SV24A-MP-TPC**	1600	400	1600	400	1600	400	1600	400	600	400	550	400	280	280			160	160								
2500 N	150 s		■	■				24 V	**EV24A-TPC**															550	400			350	350	200	200	130	130	80	80
			■	■				230 V	**EV230A-TPC**															550	400			350	350	200	200	130	130	80	80
					■			24 V	**EV24A-SR-TPC**															550	400			350	350	200	200	130	130	80	80
					■	■		24 V	**EV24A-MP-TPC**															550	400			350	350	200	200	130	130	80	80
4500 N	120 s				■			24 V	**RV24A-SR**															700	400			700	400	450	400	290	290	190	190
Fast running actuators																																			
500 N	35 s				■			24 V	**LVC24A-SR-TPC**	1300	400	900	400	500	400	350	350	150	150	70	70														
					■	■		24 V	**LVC24A-MP-TPC**	1300	400	900	400	500	400	350	350	150	150	70	70														
1000 N	35 s				■			24 V	**NVC24A-SR-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
					■	■		24 V	**NVC24A-MP-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
1500 N	35 s				■			24 V	**SVC24A-SR-TPC**	1600	400	1600	400	1600	400	1600	400	600	400	550	400	280	280			160	160								
					■	■		24 V	**SVC24A-MP-TPC**	1600	400	1600	400	1600	400	1600	400	600	400	550	400	280	280			160	160								
2500 N	35 s				■			24 V	**EVC24A-SR**															550	400			350	350	200	200	130	130	80	80
Fail-safe actuators NC/NO [2]																																			
1000 N	150 s	35 s		■			■	24 V	**NVK24A-3-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
				■			■	230 V	**NVK230A-3**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
					■		■	24 V	**NVK24A-SR-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
					■	■	■	24 V	**NVK24A-MP-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
	35 s	35 s			■		■	24 V	**NVKC24A-SR-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
					■	■	■	24 V	**NVKC24A-MP-TPC**	1600	400	1600	400	1300	400	1000	400	500	400	300	300	140	140			80	80								
2000 N	150 s	35 s		■			■	24 V	**AVK24A-3-TPC**															400	400			250	250	150	150				
				■			■	230 V	**AVK230A-3**															400	400			250	250	150	150				
					■		■	24 V	**AVK24A-SR-TPC**															400	400			250	250	150	150				
					■	■	■	24 V	**AVK24A-MP-TPC**															400	400			250	250	150	150				

[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).

[2] Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..B is at top (valve stem extended).

DN 15...150

Field of use	Closed water circuit and steam circuit in the subcritical range (pH >7)
Fluid temperature	5...150°C (120°C to p_s 1600 kPa, 150°C to p_s 1400 kPa)
Pipe connection	Flange PN 16 (ISO 7005-2)
Leakage rate	2-way: max. 0.05% of k_{VS} value 3-way: control path A – AB: max. 0.05% of k_{VS} value / bypass B – AB: max. 1% of k_{VS} value
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: equal percentage / bypass B – AB: linear



PN 16

DN 15				DN 20	
k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
0.4	H610S	1	H612S	4	H619S
0.63	H611S	1.6	H613S	6.3	H620S
		2.5	H614S		
		4	H615S		

k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
4	H715S	6.3	H720S

PN 16

DN 25		DN 32		DN 40		DN 50		DN 65				DN 80		DN 100		DN 125		DN 150	
k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
6.3	H624S																		
10	H625S	16	H632S	25	H640S	40	H650S	58	H664S	63	H665S	100	H680S	145	H6100S	220	H6125S	320	H6150S

DN 25		DN 32		DN 40		DN 50		DN 65				DN 80		DN 100		DN 125		DN 150	
k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
10	H725S	16	H732S	25	H740S	40	H750S			63	H765S	100	H780S	160	H7100S	220	H7125S	320	H7150S

Suitable actuators

Actuating force [1]	Actuating time per nominal stroke	Actuating time Fail-safe	Open/close	3-point	Modulating (2...10 V)	Communication MP-Bus [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	DN 15 Δps kPa	DN 15 Δpmax kPa	DN 20 Δps kPa	DN 20 Δpmax kPa	DN 25 Δps kPa	DN 25 Δpmax kPa	DN 32 Δps kPa	DN 32 Δpmax kPa	DN 40 Δps kPa	DN 40 Δpmax kPa	DN 50 Δps kPa	DN 50 Δpmax kPa	DN 65 Δps kPa	DN 65 Δpmax kPa	DN 80 Δps kPa	DN 80 Δpmax kPa	DN 100 Δps kPa	DN 100 Δpmax kPa	DN 125 Δps kPa	DN 125 Δpmax kPa	DN 150 Δps kPa	DN 150 Δpmax kPa
Standard actuators																															
500 N	150 s		■	■				24 V	LV24A-TPC [2]	1600	1000	800	800	800	800	450	450	300	300	140	140	60	60										
			■	■				230 V	LV230A-TPC [2]	1600	1000	800	800	800	800	450	450	300	300	140	140	60	60										
					■			24 V	LV24A-SR-TPC [2]	1600	1000	800	800	800	800	450	450	300	300	140	140	60	60										
					■	■		24 V	LV24A-MP-TPC [2]	1600	1000	800	800	800	800	450	450	300	300	140	140	60	60										
1000 N	150 s		■	■				24 V	NV24A-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	300	300	130	130								
			■	■				230 V	NV230A-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	300	300	130	130								
					■			24 V	NV24A-SR-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	300	300	130	130								
					■	■		24 V	NV24A-MP-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	300	300	130	130								
1500 N	150 s		■	■				24 V	SV24A-TPC	1600	1000	1600	1000	1600	1000	1600	1000	1550	1000	850	850	500	500	250	250								
			■	■				230 V	SV230A-TPC	1600	1000	1600	1000	1600	1000	1600	1000	1550	1000	850	850	500	500	250	250								
					■			24 V	SV24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000	1550	1000	850	850	500	500	250	250								
					■	■		24 V	SV24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000	1550	1000	850	850	500	500	250	250								
2500 N	150 s		■	■				24 V	EV24A-TPC																						
			■	■				230 V	EV230A-TPC																						
					■			24 V	EV24A-SR-TPC																						
					■	■		24 V	EV24A-MP-TPC																						
4500 N	120 s				■			24 V	RV24A-SR																						
Fast running actuators																															
500 N	35 s				■			24 V	LVC24A-SR-TPC [2]	1600	1000	800	800	800	800	450	450	300	300	140	140	60	60										
					■	■		24 V	LVC24A-MP-TPC [2]	1600	1000	800	800	800	800	450	450	300	300	140	140	60	60										
1000 N	35 s				■			24 V	NVC24A-SR-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	300	300	130	130								
					■	■		24 V	NVC24A-MP-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	300	300	130	130								
1500 N	35 s				■			24 V	SVC24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000	1550	1000	850	850	500	500	250	250								
					■	■		24 V	SVC24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000	1550	1000	850	850	500	500	250	250								
2500 N	35 s				■			24 V	EVC24A-SR																						
Fail-safe actuators NC/NO [3]																															
1000 N	150 s	35 s		■			■	24 V	NVK24A-3-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	140	140	130	130								
				■			■	230 V	NVK230A-3	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	140	140	130	130								
					■		■	24 V	NVK24A-SR-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	140	140	130	130								
					■	■	■	24 V	NVK24A-MP-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	140	140	130	130								
	35 s	35 s			■		■	24 V	NVKC24A-SR-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	140	140	130	130								
					■	■	■	24 V	NVKC24A-MP-TPC	1600	1000	1600	1000	1600	1000	1300	1000	950	950	500	500	140	140	130	130								
2000 N	150 s	35 s		■			■	24 V	AVK24A-3-TPC																						
				■			■	230 V	AVK230A-3																						
					■		■	24 V	AVK24A-SR-TPC																						
					■	■	■	24 V	AVK24A-MP-TPC																						


LV..
NV..
SV..

EV..
RV..


LVC..
NVC..
SVC..


EVC..


NVK..
NVKC..


AVK..

[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
[2] For DN 15 only recommended with H610S and H611S.

[3] The fail-safe position NC/NO or all fail-safe actuators can be adjusted on the actuator. Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..R is at top (valve stem extended).
[4] As a diverting valve, the maximum values are reduced to a quarter.

Subject to technical modifications

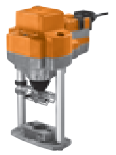
Subject to technical modifications

DN 40...150

Field of use	Closed water circuit and steam circuit in the subcritical range (pH >7)
Fluid temperature	5...150°C (120°C to p_S 1600 kPa, 150°C to p_S 1400 kPa)
Pipe connection	Flange PN 16 (ISO 7005-2)
Leakage rate	Max. 0.05% of k_{VS} value
Flow characteristic	Equal percentage

Suitable actuators

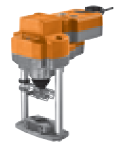

NV..
SV..


EV..
RV..


NVC..
SVC..


EVC..


NVK..
NVKC..

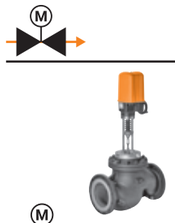
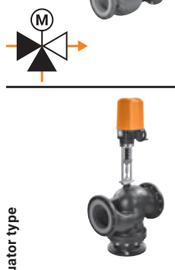

AVK..

Actuating force [1]	Actuating time per nominal stroke	Actuating time for fail-safe	Open/close	3-point	Modulating (2...10 V)	MP-Bus communication [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	PN 16 DN 40		PN 16 DN 50		DN 65		DN 80		DN 100		DN 125		DN 150	
									2-way	k_{vs} [m^3/h]	Valve type	k_{vs} [m^3/h]	Valve type	k_{vs} [m^3/h]	Valve type	k_{vs} [m^3/h]	Valve type	k_{vs} [m^3/h]	Valve type	k_{vs} [m^3/h]	Valve type	k_{vs} [m^3/h]	Valve type
										25	**H640SP**	**40**	**H650SP**	**58**	**H664SP**	**90**	**H679SP**	**145**	**H6100SP**	**220**	**H6125SP**	**320**	**H6150SP**
										Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																							
1000 N	150 s		■	■				24 V	NV24A-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
			■	■				230 V	NV230A-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■			24 V	NV24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■	■		24 V	NV24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
1500 N	150 s		■	■				24 V	SV24A-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
			■	■				230 V	SV230A-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■			24 V	SV24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■	■		24 V	SV24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
2500 N	150 s		■	■				24 V	EV24A-TPC									600	600	600	600	600	600
			■	■				230 V	EV230A-TPC									600	600	600	600	600	600
					■			24 V	EV24A-SR-TPC									600	600	600	600	600	600
					■	■		24 V	EV24A-MP-TPC									600	600	600	600	600	600
4500 N	120 s				■			24 V	RV24A-SR									600	600	600	600	600	600
Fast running actuators																							
1000 N	35 s				■			24 V	NVC24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■	■		24 V	NVC24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
1500 N	35 s				■			24 V	SVC24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■	■		24 V	SVC24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
2500 N	35 s				■			24 V	EVC24A-SR									600	600	600	600	600	600
Fail-safe actuators NC/NO [2]																							
1000 N	150 s	35 s		■			■	24 V	NVK24A-3-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
				■			■	230 V	NVK230A-3	1600	1000	1600	1000	1600	1000	1600	1000						
					■		■	24 V	NVK24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■	■	■	24 V	NVK24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
	35 s	35 s			■		■	24 V	NVKC24A-SR-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
					■	■	■	24 V	NVKC24A-MP-TPC	1600	1000	1600	1000	1600	1000	1600	1000						
2000 N	150 s	35 s		■			■	24 V	AVK24A-3-TPC									600	600				
				■			■	230 V	AVK230A-3									600	600				
					■		■	24 V	AVK24A-SR-TPC									600	600				
					■	■	■	24 V	AVK24A-MP-TPC									600	600				

[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
[2] The fail-safe position NC/NO or all fail-safe actuators can be adjusted on the actuator. Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..R is at top (valve stem extended).

DN 200/250

Field of use	Closed water circuit (pH >7)
Fluid temperature	5...120°C
Pipe connection	Flange PN 16 (ISO 7005-2)
Leakage rate	2-way: max. 0.05% of k_{VS} value 3-way: control path A – AB: max. 0.05% of k_{VS} value/ bypass B – AB: max. 1% of k_{VS} value
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: linear/ bypass B – AB: linear
Permissible operating pressure	p_S: 1600 kPa

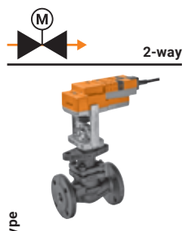
	PN 16			
	DN 200		DN 250	
2-way	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
	630	H6200W630-S7	1000	H6250W1000-S7
3-way	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
	630	H7200W630-S7	1000	H7250W1000-S7

Suitable actuators	Actuating force [1]	Actuating time per nominal stroke	3-point	Modulating (2...10 V)	Nominal voltage AC/DC 24 V AC 230 V	Auxiliary switch SPDT	Actuator type	DN 200 Δp_S kPa	DN 200 Δp_{max} kPa	DN 250 Δp_S kPa	DN 250 Δp_{max} kPa
Standard actuators											
GV.. 	12000 N	82 s	■		230 V	2	GV12-230-3-T	310	60	190	60
				■	24 V		GV12-24-SR-T	310	60	190	60

[1] Operating range can be switched 0.5...10 V / 2...10 V

DN 15...50

Field of use	Closed water circuit and steam circuit in the subcritical range (pH >7)
Fluid temperature	5...150°C (120°C to p_s 2500 kPa, 150°C to p_s 2430 kPa)
Pipe connection	Flange PN 25 (ISO 7005-2)
Leakage rate	Max. 0.05% of k_{VS} value
Flow characteristic	Equal percentage

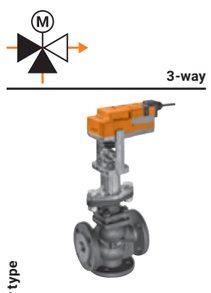


Suitable actuators	Actuating force	Actuating time per nominal stroke	Actuating time for fail-safe	Open/close	3-point	Modulating (2...10 V)	MP-Bus communication [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	PN 25 DN 15 k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	PN 25 DN 20 k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	PN 25 DN 25 k_{VS} [m³/h]	Valve type	DN 32 k_{VS} [m³/h]	Valve type	DN 40 k_{VS} [m³/h]	Valve type	DN 50 k_{VS} [m³/h]	Valve type
											0.4	H6015XP4-S2	1	H6015X1-S2	4	H6020X4-S2	4	H6020X6P3-S2	6.3	H6025X6P3-S2	10	H6032X10-S2	16	H6040X16-S2	25	H6050X25-S2
											0.63	H6015XP63-S2	1.6	H6015X1P6-S2	6.3	H6020X6P3-S2	10	H6025X10-S2	10	H6025X10-S2	16	H6032X16-S2	25	H6040X25-S2	40	H6050X40-S2
											Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																										
LV.. NV.. SV..	500 N	150 s		■	■				24 V	LV24A-TPC [2]	2500	1000	800	800	800	800	800	600	450	450	300	300	140	140	60	60
				■	■				230 V	LV230A-TPC [2]	2500	1000	800	800	800	800	800	600	450	450	300	300	140	140	60	60
						■			24 V	LV24A-SR-TPC [2]	2500	1000	800	800	800	800	800	600	450	450	300	300	140	140	60	60
						■	■		24 V	LV24A-MP-TPC [2]	2500	1000	800	800	800	800	800	600	450	450	300	300	140	140	60	60
	1000 N	150 s		■	■				24 V	NV24A-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
				■	■				230 V	NV230A-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
						■			24 V	NV24A-SR-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
						■	■		24 V	NV24A-MP-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
	1500 N	150 s		■	■				24 V	SV24A-TPC	2500	1000	2500	1000	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500
				■	■				230 V	SV230A-TPC	2500	1000	2500	1000	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500
						■			24 V	SV24A-SR-TPC	2500	1000	2500	1000	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500
						■	■		24 V	SV24A-MP-TPC	2500	1000	2500	1000	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500
Fast running actuators																										
LVC.. NVC.. SVC..	500 N	35 s				■			24 V	LVC24A-SR-TPC [2]	2500	1000	800	800	800	800	800	600	450	450	300	300	140	140	60	60
						■	■		24 V	LVC24A-MP-TPC [2]	2500	1000	800	800	800	800	800	600	450	450	300	300	140	140	60	60
	1000 N	35 s				■			24 V	NVC24A-SR-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
						■	■		24 V	NVC24A-MP-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
	1500 N	35 s				■			24 V	SVC24A-SR-TPC	2500	1000	2500	1000	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500
						■	■		24 V	SVC24A-MP-TPC	2500	1000	2500	1000	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500
Fail-safe actuators NC/NO [3]																										
NVK.. NVKC..	1000 N	150 s	35 s		■			■	24 V	NVK24A-3-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
					■			■	230 V	NVK230A-3	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
						■		■	24 V	NVK24A-SR-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
						■	■	■	24 V	NVK24A-MP-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
		35 s	35 s			■		■	24 V	NVKC24A-SR-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300
						■	■	■	24 V	NVKC24A-MP-TPC	2500	1000	2200	1000	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300

[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
[2] Actuators LV..A.. possible only on valves H6..
[3] The fail-safe position NC/NO or all fail-safe actuators can be adjusted on the actuator. Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..R is at top (valve stem extended).

DN 15...100

Field of use	Closed water circuit (pH >7)
Fluid temperature	5...200°C (120°C to p_s 2500 kPa, 200°C to p_s 2300 kPa)
Pipe connection	Flange PN 25 (ISO 7005-2)
Leakage rate	Control path A – AB: max. 0.05% of k_{vs} value / bypass B – AB: max. 1% of k_{vs} value
Flow characteristic	Control path A – AB: linear / bypass B – AB: linear



3-way	PN 25 DN 15 k_{vs} [m³/h]	DN 15 Valve type	DN 20 k_{vs} [m³/h]	DN 20 Valve type
	4	H7015X4-S2	6.3	H7020X6P3-S2

PN 25 DN 25 k_{vs} [m³/h]	DN 25 Valve type	DN 32 k_{vs} [m³/h]	DN 32 Valve type	DN 40 k_{vs} [m³/h]	DN 40 Valve type	DN 50 k_{vs} [m³/h]	DN 50 Valve type	DN 65 k_{vs} [m³/h]	DN 65 Valve type	DN 80 k_{vs} [m³/h]	DN 80 Valve type	DN 100 k_{vs} [m³/h]	DN 100 Valve type
10	H7025X10-S2	16	H7032X16-S2	25	H7040X25-S2	40	H7050X40-S2	63	H7020X6P3-S2	100	H7080X100-S4	160	H7100X160-S4

Suitable actuators

	Actuating force	Actuating time per nominal stroke	Actuating time for fail-safe	Open/close	3-point	Modulating (2...10 V)	MP-Bus communication [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	DN 15 Δp_s kPa	DN 15 Δp_{max} kPa	DN 20 Δp_s kPa	DN 20 Δp_{max} kPa	DN 25 Δp_s kPa	DN 25 Δp_{max} kPa	DN 32 Δp_s kPa	DN 32 Δp_{max} kPa	DN 40 Δp_s kPa	DN 40 Δp_{max} kPa	DN 50 Δp_s kPa	DN 50 Δp_{max} kPa	DN 65 Δp_s kPa	DN 65 Δp_{max} kPa	DN 80 Δp_s kPa	DN 80 Δp_{max} kPa	DN 100 Δp_s kPa	DN 100 Δp_{max} kPa
Standard actuators																												
LV.. NV.. SV..	500 N	150 s		■	■				24 V	LV24A-TPC [2]	800	800	600	600	450	450	300	300	140	140	60	60						
				■	■				230 V	LV230A-TPC [2]	800	800	600	600	450	450	300	300	140	140	60	60						
						■			24 V	LV24A-SR-TPC [2]	800	800	600	600	450	450	300	300	140	140	60	60						
						■	■		24 V	LV24A-MP-TPC [2]	800	800	600	600	450	450	300	300	140	140	60	60						
	1000 N	150 s		■	■				24 V	NV24A-TPC	2200	1000	1000	1000	1300	1000	900	900	500	500	300	300						
				■	■				230 V	NV230A-TPC	2200	1000	1000	1000	1300	1000	900	900	500	500	300	300						
						■			24 V	NV24A-SR-TPC	2200	1000	1000	1000	1300	1000	900	900	500	500	300	300						
						■	■		24 V	NV24A-MP-TPC	2200	1000	1000	1000	1300	1000	900	900	500	500	300	300						
	1500 N	150 s		■	■				24 V	SV24A-TPC	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500						
				■	■				230 V	SV230A-TPC	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500						
						■			24 V	SV24A-SR-TPC	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500						
						■	■		24 V	SV24A-MP-TPC	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500						
EV.. RV..				■	■				24 V	EV24A-TPC													550	550	350	350	200	200
	2500 N	150 s		■	■				230 V	EV230A-TPC													550	550	350	350	200	200
						■			24 V	EV24A-SR-TPC													550	550	350	350	200	200
						■	■		24 V	EV24A-MP-TPC													550	550	350	350	200	200
	4500 N	120 s				■			24 V	RV24A-SR													1100	1000	700	700	450	450
Fast running actuators																												
LVC.. NVC.. SVC..	500 N	35 s				■			24 V	LVC24A-SR-TPC [2]	800	800	600	600	450	450	300	300	140	140	60	60						
						■	■		24 V	LVC24A-MP-TPC [2]	800	800	600	600	450	450	300	300	140	140	60	60						
	1000 N	35 s				■			24 V	NVC24A-SR-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
						■	■		24 V	NVC24A-MP-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
	1500 N	35 s				■			24 V	SVC24A-SR-TPC	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500						
						■	■		24 V	SVC24A-MP-TPC	2500	1000	2500	1000	2100	1000	1500	1000	850	850	500	500						
EVC..	2500 N	35 s				■			24 V	EVC24A-SR													550	550	350	350	200	200
Fail-safe actuators NC/NO [3]																												
NVK.. NVKC..	1000 N	150 s	35 s		■			■	24 V	NVK24A-3-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
					■			■	230 V	NVK230A-3	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
						■		■	24 V	NVK24A-SR-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
						■	■	■	24 V	NVK24A-MP-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
		35 s	35 s			■		■	24 V	NVKC24A-SR-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
						■	■	■	24 V	NVKC24A-MP-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300						
AVK..	2000 N	150 s	35 s		■			■	24 V	AVK24A-3-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300	400	400	250	250	150	150
					■			■	230 V	AVK230A-3	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300	400	400	250	250	150	150
						■		■	24 V	AVK24A-SR-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300	400	400	250	250	150	150
						■	■	■	24 V	AVK24A-MP-TPC	2200	1000	1500	1000	1300	1000	900	900	500	500	300	300	400	400	250	250	150	150

[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
[2] For DN 15 only recommended with H610S and H611S.
[3] The fail-safe position NC/NO or all fail-safe actuators can be adjusted on the actuator. Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..R is at top (valve stem extended).

Subject to technical modifications

DN 65...100

Field of use	Closed water circuit and steam circuit in the subcritical range (pH > 7) Flange PN 65 (ISO 7005-2)
Fluid temperature	5...150°C (120°C to p_s 2500 kPa, 150°C to p_s 2430 kPa)
Pipe connection	Flange PN 25 (ISO 7005-2)
Leakage rate	Max. 0.05% of k_{VS} value
Flow characteristic	Equal percentage

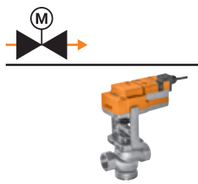
Suitable actuators		Actuating force	Actuating time per nominal stroke	Actuating time for fail-safe	Open/close	3-point	Modulating (2...10 V)	MP-Bus communication [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	PN 25 DN 65 2-way k_{VS} [m³/h]	Valve type	Δp_s kPa	Δp_{max} kPa	PN 25 DN 80 k_{VS} [m³/h]	Valve type	Δp_s kPa	Δp_{max} kPa	PN 25 DN 100 k_{VS} [m³/h]	Valve type	Δp_s kPa	Δp_{max} kPa
	Standard actuators											58	H6065X58-SP2			90	H6080X90-SP2			125	H6100X125-SP2		
NV.. SV..		1000 N	150 s		■	■				24 V	NV24A-TPC	2100	1000	1600	1000	1000	1000						
					■	■				230 V	NV230A-TPC	2100	1000	1600	1000	1000	1000						
							■			24 V	NV24A-SR-TPC	2100	1000	1600	1000	1000	1000						
							■	■		24 V	NV24A-MP-TPC	2100	1000	1600	1000	1000	1000						
		1500 N	150 s		■	■				24 V	SV24A-TPC	2500	1000	2400	1000	1700	1000						
					■	■				230 V	SV230A-TPC	2500	1000	2400	1000	1700	1000						
							■			24 V	SV24A-SR-TPC	2500	1000	2400	1000	1700	1000						
							■	■		24 V	SV24A-MP-TPC	2500	1000	2400	1000	1700	1000						
	Fast running actuators																						
NVC.. SVC..		1000 N	35 s				■			24 V	NVC24A-SR-TPC	2100	1000	1600	1000	1000	1000						
							■	■		24 V	NVC24A-MP-TPC	2100	1000	1600	1000	1000	1000						
		1500 N	35 s				■			24 V	SVC24A-SR-TPC	2500	1000	2400	1000	1700	1000						
							■	■		24 V	SVC24A-MP-TPC	2500	1000	2400	1000	1700	1000						
	Fail-safe actuators NC/NO [2]																						
NVK.. NVKC..		1000 N	150 s	35 s		■			■	24 V	NVK24A-3-TPC	2100	1000	1600	1000	1000	1000						
						■			■	230 V	NVK230A-3	2100	1000	1600	1000	1000	1000						
							■		■	24 V	NVK24A-SR-TPC	2100	1000	1600	1000	1000	1000						
							■	■	■	24 V	NVK24A-MP-TPC	2100	1000	1600	1000	1000	1000						
			35 s	35 s			■		■	24 V	NVKC24A-SR-TPC	2100	1000	1600	1000	1000	1000						
							■	■	■	24 V	NVKC24A-MP-TPC	2100	1000	1600	1000	1000	1000						

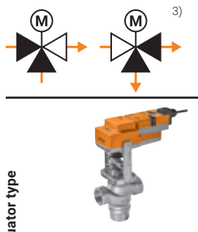
[1] Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
[2] The fail-safe position NC/NO or all fail-safe actuators can be adjusted on the actuator. Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..R is at top (valve stem extended).

Subject to technical modifications

DN 15...50

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	0...130°C
Pipe connection	Internal thread (ISO 7-1)
Leakage rate	2-way: max. 0.01% of k_{VS} value 3-way: control path A – AB: max. 0.02% of k_{VS} value / bypass B – AB: max. 0.02% of k_{VS} value
Flow characteristic	2-way: equal percentage 3-way: control path A – AB: equal percentage / bypass B – AB: linear
Permissible operating pressure	p_S: 2500 kPa





	PN 25				PN 25									
	DN 15				DN 20		DN 25		DN 32		DN 40		DN 50	
	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
2-way	1.6	H215S-G	4	H215S-J	6.3	H220S-K	10	H225S-L	16	H232S-M	25	H240S-N	40	H250S-P
3-way	1.6	H315S-G	4	H315S-J	6.3	H320S-K	10	H325S-L	16	H332S-M	25	H340S-N	40	H350S-P

3) As a diverting valve, the maximum values are reduced to a quarter.

Suitable actuators	Actuating force	Actuating time per nominal stroke	Open/close	3-point	Modulating (2...10 V)	MP-Bus communication [1]	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Actuator type	2-way Δp_s kPa	2-way Δp_{max} kPa	3-way Δp_s kPa	3-way Δp_{max} kPa	DN 20 Δp_s kPa	DN 20 Δp_{max} kPa	DN 25 Δp_s kPa	DN 25 Δp_{max} kPa	DN 32 Δp_s kPa	DN 32 Δp_{max} kPa	DN 40 Δp_s kPa	DN 40 Δp_{max} kPa	DN 50 Δp_s kPa	DN 50 Δp_{max} kPa
Standard actuators																							
LV.. NV.. SV..	500 N	150 s	■	■				24 V	LV24A-TPC	650	650	650	650	650	650								
			■	■				230 V	LV230A-TPC	650	650	650	650	650	650								
					■			24 V	LV24A-SR-TPC	650	650	650	650	650	650								
								24 V	LV24A-MP-TPC	650	650	650	650	650	650								
	1000 N	150 s	■	■				24 V	NV24A-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
			■	■				230 V	NV230A-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
					■			24 V	NV24A-SR-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
								24 V	NV24A-MP-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
	1500 N	150 s	■	■				24 V	SV24A-TPC											700	700	500	500
			■	■		■		230 V	SV230A-TPC											700	700	500	500
								24 V	SV24A-SR-TPC											700	700	500	500
					■			24 V	SV24A-MP-TPC											700	700	500	500
Fast running actuators																							
LVC.. NVC.. SVC..	500 N	35 s			■			24 V	LVC24A-SR-TPC	650	650	650	650	650	650								
					■	■		24 V	LVC24A-MP-TPC	650	650	650	650	650	650								
	1000 N	35 s			■			24 V	NVC24A-SR-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
					■	■		24 V	NVC24A-MP-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
	1500 N	35 s			■			24 V	SVC24A-SR-TPC											700	700	500	500
					■	■		24 V	SVC24A-MP-TPC											700	700	500	500
Fail-safe actuators NC/NO [2]																							
NVK.. NVKC..	1000 N	150 s		■			■	24 V	NVK24A-3-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
				■			■	230 V	NVK230A-3	800	800	800	800	800	800	600	600	550	550	450	450	300	300
					■		■	24 V	NVK24A-SR-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
					■	■	■	24 V	NVK24A-MP-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
		35 s			■		■	24 V	NVKC24A-SR-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300
					■	■	■	24 V	NVKC24A-MP-TPC	800	800	800	800	800	800	600	600	550	550	450	450	300	300

1) Running times, control signal, stroke limitation and other functions for MP types can be adjusted with PC-Tool or Service-Tool ZTH EU (delivery condition: modulating, operating range 2...10 V).
2) The fail-safe position NC/NO or all fail-safe actuators can be adjusted on the actuator. Delivery condition: Actuator spindle retracted. Closing point of the globe valves H..R is at top (valve stem extended).

Subject to technical modifications

8

Control butterfly valves

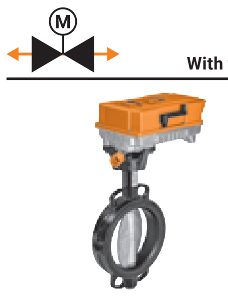
Fit for reliable control applications

Wafer type flange		PN 6, 10, 16	**DN 25...300**	62
	2-way	PN 10, 16	**DN 350**	64
		PN 16	**DN 400...700**	64
Lug type flange		PN 10, 16	**DN 25...150**	62
	2-way	PN 16	**DN 200...300**	62
		PN 16	**DN 350...700**	64
	3-way	PN 16	**DN 150...300**	66

Please refer to the data sheets or notes for project planning for further technical data to be observed.

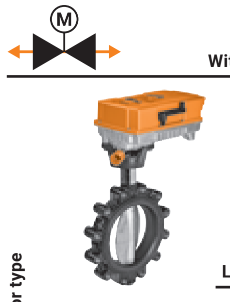
DN 25...300

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	−20…120°C
Pipe connection	Flange (ISO 7005-2 and EN 1092-2) D6..W additionally: ISO 7005-1 and EN 1092-1
Leakage rate	Tight, leakage rate A (EN 12266-1)
Flow characteristic	DN 25…125: 0…60% opening angle: equal percentage DN 150…300: characteristic curve parametrisable with the Belimo Assistant App: equal percentage or linear
Permissible operating pressure	p_S: 1600 kPa



With wafer types

	PN 6, 10, 16			PN 6, 10, 16								
	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300
k_{vs} [1) [m³/h]	24	25	27	30	50	75	150	260	400	820	1300	1740
Valve	D625N	D632N	D640N	D650N	D665N	D680N	D6100N	D6125N	D6150N	D6200W	D6250W	D6300W



With lug types

	PN 10, 16			PN 10, 16						PN 16		
	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300
k_{vs} [1) [m³/h]	24	25	27	30	50	75	150	260	400	820	1300	1740
Valve	D625NL	D632NL	D640NL	D650NL	D665NL	D680NL	D6100NL	D6125NL	D6150NL	D6200WL	D6250WL	D6300WL

Suitable actuators

	Nominal torque	Open/close	3-point	Modulating	Terminal connection	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Auxiliary switch SPDT	Degree of protection	Actuator type
Modulating actuators											
SR..	20 Nm	—	—	■	—	—	24 V	90 s	—	IP54	SR24A-SR-5
SR..	20 Nm	—	—	■	—	—	230 V	90 s	—	IP54	SR230A-SR-5
GR..	40 Nm	—	—	■	—	—	24 V	150 s	—	IP54	GR24A-SR-5
DR..	<90 Nm	—	—	■	—	—	24 V	150 s	—	IP54	DR24A-SR-5
DR..	<90 Nm	—	—	■	—	—	24 V	150 s	—	IP54	DR24A-SR-7
Communicative actuators											
PR..	160 Nm	■	■	■	■	—	AC 24...240 V DC 24...125 V	35 s [2)	2	IP66/IP67	PRCA-BAC-S2-T
PR..	160 Nm	■	■	■	■	—	AC 24...240 V DC 24...125 V	35 s [2)	2	IP66/IP67	PRCA-BAC-S2-T-200
PR..	160 Nm	■	■	■	■	—	AC 24...240 V DC 24...125 V	35 s [2)	2	IP66/IP67	PRCA-BAC-S2-T-250
PRK..	160 Nm	■	■	■	■	■	AC 24...240 V DC 24...125 V	35 s [2)	2	IP66/IP67	PRKCA-BAC-S2-T
PRK..	160 Nm	■	■	■	■	■	AC 24...240 V DC 24...125 V	35 s [2)	2	IP66/IP67	PRKCA-BAC-S2-T-200
PRK..	160 Nm	■	■	■	■	■	AC 24...240 V DC 24...125 V	35 s [2)	2	IP66/IP67	PRKCA-BAC-S2-T-250

Actuator type	DN 25 Δp_s kPa	DN 25 Δp_{max} kPa	DN 32 Δp_s kPa	DN 32 Δp_{max} kPa	DN 40 Δp_s kPa	DN 40 Δp_{max} kPa	DN 50 Δp_s kPa	DN 50 Δp_{max} kPa	DN 65 Δp_s kPa	DN 65 Δp_{max} kPa
Linkage type										
SR24A-SR-5	1200	300	1200	300	1200	300	1200	300	1200	300
SR230A-SR-5	1200	300	1200	300	1200	300	1200	300	1200	300
GR24A-SR-5	1200	300	1200	300	1200	300	1200	300	1200	300
DR24A-SR-5										
DR24A-SR-7										
PRCA-BAC-S2-T										
PRCA-BAC-S2-T-200										
PRCA-BAC-S2-T-250										
PRKCA-BAC-S2-T										
PRKCA-BAC-S2-T-200										
PRKCA-BAC-S2-T-250										

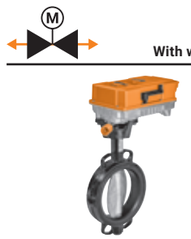
Actuator type	DN 80 Δp_s kPa	DN 80 Δp_{max} kPa	DN 100 Δp_s kPa	DN 100 Δp_{max} kPa	DN 125 Δp_s kPa	DN 125 Δp_{max} kPa	DN 150 Δp_s kPa	DN 150 Δp_{max} kPa	DN 200 Δp_s kPa	DN 200 Δp_{max} kPa	DN 250 Δp_s kPa	DN 250 Δp_{max} kPa	DN 300 Δp_s kPa	DN 300 Δp_{max} kPa
Linkage type	ZPR03 [3)		ZPR03 [3)		ZPR01 [3)		ZPR01		ZPR01		ZPR01		ZPR01	
SR24A-SR-5														
SR230A-SR-5														
GR24A-SR-5	1200	300												
DR24A-SR-5	1200	300	1200	300										
DR24A-SR-7					1200	300								
PRCA-BAC-S2-T	1200	300	1200	300	1200	300	1200	300					1400	300
PRCA-BAC-S2-T-200									1400	300				
PRCA-BAC-S2-T-250											1400	300		
PRKCA-BAC-S2-T	1200	300	1200	300	1200	300	1200	300					1400	300
PRKCA-BAC-S2-T-200									1400	300				
PRKCA-BAC-S2-T-250											1400	300		

1) For control applications with an opening angle of 60%. The maximum flow speed of 4 m/s may not be exceeded in the control butterfly valve.
2) 30...120 s parametrisable with the Belimo Assistant App (NFC)
3) Linkage is only required in combination with a PR actuator.

8

DN 350...700

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	–20…120°C
Pipe connection	Flange (ISO 7005-2 and EN 1092-2)
Leakage rate	Tight, leakage rate A (EN 12266-1)
Flow characteristic	0…60% opening angle: equal percentage
Permissible operating pressure	p_S: 1600 kPa



	PN 10, 16	PN 16				
	DN 350	DN 400	DN 450	DN 500	DN 600	DN 700
With wafer types	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve
	3010 D6350N	4140 D6400N	5490 D6450N	7060 D6500N	10900 D6600N	11760 D6700N
With lug types	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve	k_{vs} [1] [m³/h] / Valve
	3010 D6350NL	4140 D6400NL	5490 D6450NL	7060 D6500NL	10900 D6600NL	11760 D6700NL
Linkage type		ZSY-401	ZSY-701	ZSY-702	ZSY-702	ZSY-901	ZSY-902	ZSY-903

Suitable actuators

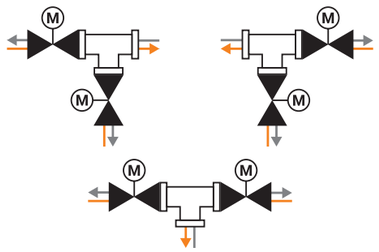
Nominal torque	Modulating (2...10 V / 0.5...10 V)	Terminal connection	Nominal voltage AC 230 V	Running time motor 90°	Auxiliary switch SPDT	Degree of protection	Actuator type	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Modulating actuators																							
650 Nm	■	■		31 s	2	IP67	SY6-230-MF-T	600	300			600	300												
1000 Nm	■	■		55 s	2	IP67	SY7-230A-MF-T			1200	300			1200	300	600	300								
1500 Nm	■	■		55 s	2	IP67	SY8-230A-MF-T									1200	300	600	300						
2000 Nm	■	■	230 V	70 s	2	IP67	SY9-230A-MF-T													1200	300				
2500 Nm	■	■		70 s	2	IP67	SY10-230A-MF-T															600	300		
3500 Nm	■	■		70 s	2	IP67	SY12-230A-MF-T															1000	300	200	200

SY..

[1] For control applications with an opening angle of 60%. The maximum flow speed of 4 m/s may not be exceeded in the control butterfly valve.

DN 150...300

Field of use	Closed and open water circuit (pH >7) for mixing and distribution applications
Fluid temperature	–20…120°C
Pipe connection	Flange (ISO 7005-2 and EN 1092-2) D7..WL/BAC also: ISO 7005-1 and EN 1092-1
Leakage rate	Tight, leakage rate A (EN 12266-1)
Flow characteristic	Characteristic curve parametrisable with the Belimo Assistant App: control path A – AB: equal percentage and bypass B – AB: equal percentage inverted or control path A – AB: linear and bypass B – AB: linear inverted
Permissible operating pressure	p_s: 1600 kPa



PN	DN	k_{vs} [m³/h] [1]	Open/close [2]	Modulating (2...10 V / 0.5...10 V) [2]	BACnet MS/TP communication [2]	Modbus RTU communication [2]	MP-Bus communication [2]	Nominal voltage	Running time motor 90° [3]	Auxiliary switch SPDT	Degree of protection	Control butterfly valve type with actuator	Δp_s kPa	Δp_{max} kPa	Suitable T-pieces: T-piece type
With communicative actuator															
D7..L/BAC  16	**150**	400	■	■	■	■	■	AC 24...240 V DC 24...125 V	35 s	4	IP66 IP67	D7150NL/BAC [4]	1200	300	ZD7150 [5]
	200	800	■	■	■	■	■		35 s	4	IP66 IP67	D7200WL/BAC [4]	1400	300	ZD7200 [5]
	250	1200	■	■	■	■	■		35 s	4	IP66 IP67	D7250WL/BAC [4]	1400	300	ZD7250 [5]
	300	1700	■	■	■	■	■		35 s	4	IP66 IP67	D7300WL/BAC [4]	1400	300	ZD7300 [5]

Suitable T-pieces

Spheroidal graphite cast iron with fastening screws

[1] For control applications with opening angle 60% (parametrisable with the Belimo Assistant App (NFC)). The maximum flow speed of 4 m/s may not be exceeded in the control butterfly valve.
[2] Parametrisable with the Belimo Assistant App (NFC)
[3] 30...120 s parametrisable with the Belimo Assistant App (NFC)
[4] T-piece is not included in scope of delivery.
[5] The necessary fastening screws and nuts are included in the scope of delivery.

9

Ball valves

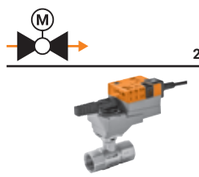
Open/close and changeover applications

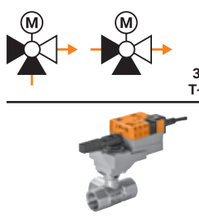
Internal thread	Open/close ball valves	2-way		PN 25, 40	**DN 15...50**	70
	Changeover ball valves	3-way	T-bore			
	Changeover ball valves	3-way	L-bore	PN 25, 40	**DN 15...50**	72
External thread	Open/close ball valves	2-way		PN 25, 40	**DN 15...50**	74
	Changeover ball valves	3-way	T-bore			
Flange	Open/close ball valves	2-way		PN 6	**DN 15...50**	76
	Changeover ball valves	3-way	T-bore			

Please refer to the data sheets or notes for project planning for further technical data to be observed.

DN 15...50

Field of use	2-way: closed and open water circuit (pH >7) 3-way: closed water circuit (pH >7)
Fluid temperature	–10...120°C [1]
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	2-way: air-bubble tight, leakage rate A (EN 12266-1) 3-way: path A – AB: air-bubble tight, leakage rate A (EN 12266-1) / bypass B – AB: leakage class I
Flow	3-way: bypass B – AB: approx. 50% of the k_{VS} value
Permissible operating pressure	p_S: 1600 kPa





		PN 40	PN 40		PN 25		
		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
2-way	k_{VS} [m³/h]	15	32	26	32	31	49
	Valve type	R2015-S1	R2020-S2	R2025-S2	R2032-S3	R2040-S3	R2050-S4
3-way T-bore	k_{VS} [m³/h]	15	32	26	32	31	49
	Valve type	R3015-S1	R3020-S2	R3025-S2	R3032-S3	R3040-S3	R3050-S4

Suitable actuators

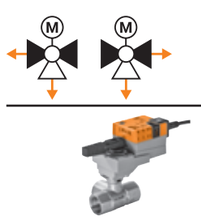
	Nominal torque	Open/close	3-point	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Running time fail-safe	Actuator type	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa	Δp_s kPa	Δp_{max} [2] kPa
Compact actuators																				
TR.. TRY..	2 Nm	■	■		24 V	100 s		TR24 [3]	1400	1000										
		■	■			35 s		TRY24 [3]	1400	1000										
		■	■		230 V	35 s		TRY230 [3]	1400	1000										
								Without auxiliary switch			With auxiliary switch									
Standard actuators																				
LR.. NR.. SR..	5 Nm	■	■		24 V	90 s		LR24A	1400	1000	..-S		1400	1000	1400	1000				
		■	■		230 V			LR230A	1400	1000	..-S		1400	1000	1400	1000				
	10 Nm	■	■		24 V	90 s		NR24A	1400	1000	..-S		1400	1000	1400	1000	1400	1000	1400	1000
		■	■		230 V			NR230A	1400	1000	..-S		1400	1000	1400	1000	1400	1000	1400	1000
	20 Nm	■	■		24 V	90 s		SR24A	1400	1000	..-S		1400	1000	1400	1000	1400	1000	1400	1000
		■	■		230 V			SR230A	1400	1000	..-S		1400	1000	1400	1000	1400	1000	1400	1000
Very fast running actuators																				
LRQ.. NRQ.. SRQ..	4 Nm	■			24 V	9 s		LRQ24A	1400	1000			1400	1000	1400	1000				
	8 Nm	■			24 V	9 s		NRQ24A	1400	1000			1400	1000	1400	1000	1400	1000	1400	1000
	16 Nm	■			24 V	9 s		SRQ24A	1400	1000			1400	1000	1400	1000	1400	1000	1400	1000
								Actuator type NC					Actuator type NO							
								Without auxiliary switch	With 1 auxiliary switch				Without auxiliary switch	With 1 auxiliary switch						
Fail-safe actuators NC/NO																				
TRF..	2.5 Nm	■		■	24 V	75 s	<75 s	TRF24 [3]	..-S		..-O	..-S-O	1400	1000						
		■		■	230 V			TRF230 [3]	..-S		..-O	..-S-O	1400	1000						
	4 Nm	■		■	24 V	75 s	<20 s	LRF24 [3]	..-S		..-O	..-S-O	1400	1000	1400	1000				
LRF..		■		■	230 V			LRF230 [3]	..-S		..-O	..-S-O	1400	1000	1400	1000				
								Without auxiliary switch	With 2 auxiliary switches		Without auxiliary switch	With 2 auxiliary switches								
	10 Nm	■		■	24 V	75 s	<20 s	NRF24A	..-S2		..-O	..-S2-O	1400	1000	1400	1000	1400	1000	1400	1000
		■		■	AC 24...240 V DC 24...125 V			NRFA	..-S2		..-O	..-S2-O	1400	1000	1400	1000	1400	1000	1400	1000
NRF.. SRF..	20 Nm	■		■	24 V	75 s	<20 s	SRF24A	..-S2		..-O	..-S2-O	1400	1000	1400	1000	1400	1000	1400	1000
		■		■	AC 24...240 V DC 24...125 V			SRFA	..-S2		..-O	..-S2-O	1400	1000	1400	1000	1400	1000	1400	1000

[1] Compact actuators TR../TRY.. only up to 100°C)
[2] Low-noise operation Δp_{max} = 200 kPa
[3] If fluid temperature ≥100°C, then pipeline and valve must be insulated.

Subject to technical modifications

DN 15...50

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	–10...100°C
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_S: 1600 kPa

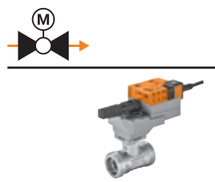


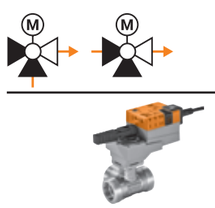
		PN 40	PN 40		PN 25											
		DN 15	DN 20	DN 25	DN 32		DN 40		DN 50							
	3-way L-bore	k_{vs} [m³/h]	5.5	11	10	9		15		14		47		24		75	
		Valve type	R3015-BL1	R3020-BL2	R3025-BL2	R3032-BL2		R3032-BL3		R3040-BL3		R3040-BL4		R3050-BL3		R3050-BL4	
Suitable actuators			Δp_s kPa	Δp_{max} [1] kPa	Δp_s kPa	Δp_{max} [1] kPa	Δp_s kPa	Δp_{ma} [1] x kPa	Δp_s kPa	Δp_{max} [1] kPa	Δp_s kPa	Δp_{max} [1] kPa	Δp_s kPa	Δp_{max} [1] kPa	Δp_s kPa	Δp_{max} [1] kPa	Δp_s kPa	Δp_{max} [1] kPa
Compact actuators																		
TR.. TRY..	2 Nm	■ ■ — 24 V	100 s	TR24	500	350												
		■ ■ —	35 s	TRY24	500	350												
		■ ■ — 230 V	35 s	TRY230	500	350												
				Without auxiliary switch	With auxiliary switch													
Standard actuators																		
LR.. NR.. SR..	5 Nm	■ ■ — 24 V	90 s	LR24A	..-S	500	350	500	350	500	350							
		■ ■ — 230 V		LR230A	..-S	500	350	500	350	500	350							
	10 Nm	■ ■ — 24 V	90 s	NR24A	..-S	500	350	500	350	500	350	500	350	500	350			
		■ ■ — 230 V		NR230A	..-S	500	350	500	350	500	350	500	350	500	350			
	20 Nm	■ ■ — 24 V	90 s	SR24A	..-S	500	350	500	350	500	350	500	350	500	350	500	350	500	350
		■ ■ — 230 V		SR230A	..-S	500	350	500	350	500	350	500	350	500	350	500	350	500	350
Very fast running actuators																		
LRQ.. NRQ.. SRQ..	4 Nm	■ — — 24 V	9 s	LRQ24A		500	350	500	350	500	350							
	8 Nm	■ — — 24 V	9 s	NRQ24A		500	350	500	350	500	350	500	350	500	350			
	16 Nm	■ — — 24 V	9 s	SRQ24A		500	350	500	350	500	350	500	350	500	350			
				Actuator type NC		Actuator type NO												
				Without auxiliary switch	With 1 auxiliary switch	Without auxiliary switch	With 1 auxiliary switch											
Fail-safe actuators NC/NO																		
TRF..	2.5 Nm	■ — ■ 24 V	75 s	<75 s	TRF24	..-S	..-O	..-S-O	500	350								
		■ — ■ 230 V			TRF230	..-S	..-O	..-S-O	500	350								
	4 Nm	■ — ■ 24 V	75 s	<20 s	LRF24	..-S	..-O	..-S-O	500	350	500	350	500	350				
		■ — ■ 230 V			LRF230	..-S	..-O	..-S-O	500	350	500	350	500	350				
					Without auxiliary switch	With 2 auxiliary switches	Without auxiliary switch	With 2 auxiliary switches										
LRF..	10 Nm	■ — ■ 24 V	75 s	<20 s	NRF24A	..-S2	..-O	..-S2-O	500	350	500	350	500	350	500	350			500	350		
		■ — ■ AC 24...240 V DC 24...125 V			NRFA	..-S2	..-O	..-S2-O	500	350	500	350	500	350	500	350			500	350		
	20 Nm	■ — ■ 24 V	75 s	<20 s	SRF24A	..-S2	..-O	..-S2-O	500	350	500	350	500	350	500	350	500	350	500	350	500	350
NRF.. SRF..		■ — ■ AC 24...240 V DC 24...125 V			SRFA	..-S2	..-O	..-S2-O	500	350	500	350	500	350	500	350	500	350	500	350	500	350

[1] Low-noise operation Δp_{max} = 200 kPa

DN 15...50

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	–10...100°C
Pipe connection	External thread G (ISO 228-1)
Leakage rate	2-way: air-bubble tight, leakage rate A (EN 12266-1) 3-way: path A – AB: air-bubble tight, leakage rate A (EN 12266-1) / bypass B – AB: leakage class I
Flow	3-way: bypass B – AB: approx. 50% of the k_{VS} value
Permissible operating pressure	p_S: 1600 kPa





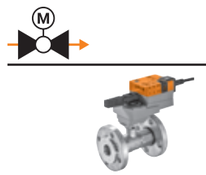
Suitable actuators	Nominal torque	Open/close	3-point	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Running time fail-safe	Actuator type	2-way k_{VS} [m³/h]	2-way Valve type	3-way T-bore k_{VS} [m³/h]	3-way T-bore Valve type	Δp_S kPa	Δp_{max} [1] kPa
									PN 40 DN 15					
Compact actuators														
TR.. TRY..	2 Nm	■	■		24 V	100 s		TR24					1400	400
		■	■			35 s		TRY24					1400	400
		■	■		230 V	35 s		TRY230					1400	400
								Without auxiliary switch						
Standard actuators														
LR.. NR.. SR..	5 Nm	■	■		24 V	90 s		LR24A					1400	400
		■	■		230 V			LR230A					1400	400
	10 Nm	■	■		24 V	90 s		NR24A					1400	400
		■	■		230 V			NR230A					1400	400
	20 Nm	■	■		24 V	90 s		SR24A					1400	400
		■	■		230 V			SR230A					1400	400
Very fast running actuators														
LRQ.. NRQ.. SRQ..	4 Nm	■			24 V	9 s		LRQ24A					1400	400
	8 Nm	■			24 V	9 s		NRQ24A					1400	400
	16 Nm	■			24 V	9 s		SRQ24A					1400	400
								Actuator type NC / Without auxiliary switch						
								Actuator type NC / With 1 auxiliary switch						
								Actuator type NO / Without auxiliary switch						
								Actuator type NO / With 1 auxiliary switch						
Fail-safe actuators NC/NO														
TRF..	2.5 Nm	■		■	24 V	75 s	<75 s	TRF24	..-S	..-O	..-S-O		1400	400
		■		■	230 V			TRF230	..-S	..-O	..-S-O		1400	400
LRF..	4 Nm	■		■	24 V	75 s	<20 s	LRF24	..-S	..-O	..-S-O		1400	400
		■		■	230 V			LRF230	..-S	..-O	..-S-O		1400	400
									Without auxiliary switch	With 1 auxiliary switch	Without auxiliary switch	With 1 auxiliary switch		
NRF.. SRF..	10 Nm	■		■	24 V	75 s	<20 s	NRF24A	..-S2	..-O	..-S2-O		1400	400
		■		■	AC 24...240 V DC 24...125 V			NRFA	..-S2	..-O	..-S2-O		1400	400
	20 Nm	■		■	24 V	75 s	<20 s	SRF24A	..-S2	..-O	..-S2-O		1400	400
		■		■	AC 24...240 V DC 24...125 V			SRFA	..-S2	..-O	..-S2-O		1400	400

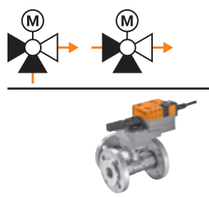
[1] Low-noise operation Δp_{max} = 200 kPa

PN 40 DN 20		PN 40 DN 25		PN 25 DN 32		PN 25 DN 40		PN 25 DN 50	
2-way k_{VS} [m³/h]	2-way Valve type	2-way k_{VS} [m³/h]	2-way Valve type	2-way k_{VS} [m³/h]	2-way Valve type	2-way k_{VS} [m³/h]	2-way Valve type	2-way k_{VS} [m³/h]	2-way Valve type
21	R420	26	R425	32	R432	32	R440	49	R450
3-way T-bore k_{VS} [m³/h]	3-way T-bore Valve type	3-way T-bore k_{VS} [m³/h]	3-way T-bore Valve type	3-way T-bore k_{VS} [m³/h]	3-way T-bore Valve type	3-way T-bore k_{VS} [m³/h]	3-way T-bore Valve type	3-way T-bore k_{VS} [m³/h]	3-way T-bore Valve type
21	R520	26	R525	32	R532	32	R540	49	R550
Δp_S kPa	Δp_{max} [1] kPa	Δp_S kPa	Δp_{max} [1] kPa	Δp_S kPa	Δp_{max} [1] kPa	Δp_S kPa	Δp_{max} [1] kPa	Δp_S kPa	Δp_{max} [1] kPa
1400	400								
1400	400								
1400	400								
1400	400	1400	400						
1400	400	1400	400						
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400	1400	400						
1400	400	1400	400	1400	400	1400	400		
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400								
1400	400								
1400	400	1400	400						
1400	400	1400	400						
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400	1400	400	1400	400	1400	400	1400	400
1400	400	1400	400	1400	400	1400	400	1400	400

DN 15...50

Field of use	2-way: closed and open water circuit (pH >7) 3-way: closed water circuit (pH >7)
Fluid temperature	–10...100°C
Pipe connection	Flange PN 6 (EN 1092-1/4)
Leakage rate	2-way: air-bubble tight, leakage rate A (EN 12266-1) 3-way: path A – AB: air-bubble tight, leakage rate A (EN 12266-1) / bypass B – AB: leakage class I
Flow	3-way: bypass B – AB: approx. 50% of the k_{VS} value
Permissible operating pressure	p_S: 600 kPa





		PN 6	PN 6								
		DN 15	DN 20		DN 25		DN 32		DN 40		DN 50	
	2-way	k_{VS} [m³/h]	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
		15	32	R6020R-B1	26	R6025R-B2	32	R6032R-B3	31	R6040R-B3	49	R6050R-B3
	3-way T-bore	k_{VS} [m³/h]	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type	k_{VS} [m³/h]	Valve type
		15	32	R7020R-B1	26	R7025R-B2	32	R7032R-B3	31	R7040R-B3	49	R7050R-B3

Suitable actuators		Nominal torque	Open/close	3-point	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Running time fail-safe	Actuator type		Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Compact actuators																						
TR.. TRY..		2 Nm	■	■		24 V	35 s		TR24		600	100	600	100								
			■	■			100 s		TRY24		600	100	600	100								
			■	■		230 V	35 s		TRY230		600	100	600	100								
									Without auxiliary switch	With auxiliary switch												
Standard actuators																						
LR.. NR.. SR..		5 Nm	■	■		24 V	90 s		LR24A	..-S	600	100	600	100								
			■	■		230 V			LR230A	..-S	600	100	600	100								
		10 Nm	■	■		24 V	90 s		NR24A	..-S	600	100	600	100	600	100	600	100	600	100		
			■	■		230 V			NR230A	..-S	600	100	600	100	600	100	600	100	600	100		
		20 Nm	■	■		24 V	90 s		SR24A	..-S	600	100	600	100	600	100	600	100	600	100		
			■	■		230 V			SR230A	..-S	600	100	600	100	600	100	600	100	600	100		
Very fast running actuators																						
LRQ.. NRQ.. SRQ..		4 Nm	■			24 V	9 s		LRQ24A		600	100	600	100								
		8 Nm	■			24 V	9 s		NRQ24A		600	100	600	100	600	100	600	100				
		16 Nm	■			24 V	9 s		SRQ24A		600	100	600	100	600	100	600	100	600	100		
									Actuator type NC		Actuator type NO											
									Without auxiliary switch	With 1 auxiliary switch	Without auxiliary switch	With 1 auxiliary switch										
Fail-safe actuators NC/NO																						
TRF..		2.5 Nm	■		■	24 V	75 s	<75 s	TRF24	..-S	..-O	..-S-O	600	100								
			■		■	230 V			TRF230	..-S	..-O	..-S-O	600	100								
		4 Nm	■		■	24 V	75 s	<20 s	LRF24	..-S	..-O	..-S-O	600	100	600	100						
LRF..			■		■	230 V			LRF230	..-S	..-O	..-S-O	600	100	600	100						
									Without auxiliary switch	With 2 auxiliary switches	Without auxiliary switch	With 2 auxiliary switches										
		10 Nm	■		■	24 V	75 s	<20 s	NRF24A	..-S2	..-O	..-S2-O	600	100	600	100	600	100	600	100	600	100
			■		■	AC 24...240 V DC 24...125 V			NRFA	..-S2	..-O	..-S2-O	600	100	600	100	600	100	600	100	600	100
NRF.. SRF..		20 Nm	■		■	24 V	75 s	<20 s	SRF24A	..-S2	..-O	..-S2-O	600	100	600	100	600	100	600	100	600	100
			■		■	AC 24...240 V DC 24...125 V			SRFA	..-S2	..-O	..-S2-O	600	100	600	100	600	100	600	100	600	100

Subject to technical modifications

10

Potable water valves

Open/close ball valves certified according to ACS, DVGW, KIWA, KIWA Sweden, ÖVGW, ÜA and WRAS

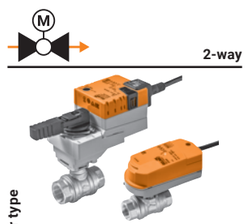
Rotary valves	Internal thread	2-way	PN 10	**DN 15...50**	80

Please refer to the data sheets or notes for project planning for further technical data to be observed.

BELIMO

DN 15...50

Field of use	Potable water applications
Fluid temperature	5…65°C (occasional increase up to 90°C permissible only for a maximum time period of 1 h)
Pipe connection	Internal thread Rp (ISO 7-1)
Leakage rate	Air-bubble tight, leakage rate A (EN 12266-1)
Potable water certificate	DVGW registration number: on request ACS registration number: 22 ACC LY 335 WRAS registration number: on request
Permissible operating pressure	p_S: 1000 kPa



Suitable actuators		Nominal torque	Open/close	3-point	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Auxiliary switch SPDT	Actuator type	2-way PN 40 DN 15 k_{vs} [m³/h]	2-way PN 40 DN 15 Valve type	PN 40 DN 15 k_{vs} [m³/h]	PN 40 DN 15 Valve type	PN 40 DN 20 k_{vs} [m³/h]	PN 40 DN 20 Valve type	PN 40 DN 25 k_{vs} [m³/h]	PN 40 DN 25 Valve type	PN 40 DN 32 k_{vs} [m³/h]	PN 40 DN 32 Valve type	PN 25 DN 40 k_{vs} [m³/h]	PN 25 DN 40 Valve type	PN 25 DN 50 k_{vs} [m³/h]	PN 25 DN 50 Valve type
										25	C215QPW-N	25	R215PW-N	32	R220PW-P	57	R225PW-Q	63	R232PW-Q	100	R240PW-R	160	R250PW-S
										Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa		
Standard actuators																							
CQ..	10 Nm	■	■		24 V	75 s		CQ24A		1600	200												
		■	■		230 V		1	CQ230A		1600	200												
LR.. NR..	20 Nm	■	■		24 V	90 s		LR24A				1600	200	1600	200	1600	200						
		■	■				1	LR24A-S				1600	200	1600	200	1600	200						
		■	■		230 V			LR230A				1600	200	1600	200	1600	200						
		■	■				1	LR230A-S				1600	200	1600	200	1600	200						
	40 Nm	■	■		24 V	90 s		NR24A										1600	200				
		■	■				1	NR24A-S										1600	200				
		■	■		230 V			NR230A [1]										1600	200				
		■	■					NR230A-S										1600	200				
SR..	40 Nm	■	■		24 V	90 s		SR24A												1600	200	1600	200
		■	■					SR24A-S												1600	200	1600	200
		■	■		230 V			SR230A [1]												1600	200	1600	200
		■	■					SR230A-S												1600	200	1600	200
Fail-safe actuators NC/NO																							
CQK..	1 Nm	■	■	■	24 V	75 s		CQK24A		1600	200												
		■	■	■	230 V			CQK230A		1600	200												
LRF..	4 Nm	■	■	■	24 V	75 s		LRF24				1600	200	1600	200	1600	200						
		■	■	■			1	LRF24-S				1600	200	1600	200	1600	200						
		■	■	■	230 V			LRF230				1600	200	1600	200	1600	200						
		■	■	■			1	LRF230-S				1600	200	1600	200	1600	200						
	10 Nm	■	■	■	AC 24...240 V DC 24...125 V	75 s		NRFA										1600	200				
		■	■	■			2	NRFA-S2										1600	200				
NRF.. SRF..	20 Nm	■	■	■	24 V	75 s		SRF24A												1600	200	1600	200
		■	■	■			2	SRF24A-S2												1600	200	1600	200
		■	■	■	AC 24...240 V DC 24...125 V			SRFA												1600	200	1600	200
		■	■	■			2	SRFA-S2												1600	200	1600	200

[1] Actuators NR230A and SR230A are also available as fast running actuators on request.

11

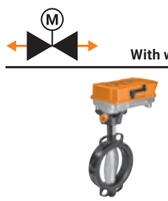
Open/close and changeover butterfly valves

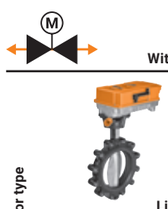
Open/close and changeover applications

Please refer to the data sheets or notes for project planning for further technical data to be observed.

DN 25...300

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	–20...120°C
Pipe connection	Flange (ISO 7005-2 and EN 1092-2) D6..W also: ISO 7005-1 and EN 1092-1
Leakage rate	Tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_S: 1600 kPa





Suitable actuators		Nominal torque	Open/close	3-point	Communicative	Terminal connection	Fail-safe	Nominal voltage AC/DC 24 V AC 230 V	Running time motor 90°	Auxiliary switch SPDT	Degree of protection	Actuator type	With wafer types: PN 6, 10, 16 DN 25 k_{vmax} [m³/h]	DN 25 Valve type	DN 32 k_{vmax} [m³/h]	DN 32 Valve type	DN 40 k_{vmax} [m³/h]	DN 40 Valve type
												With wafer types	50	D625N	55	D632N	65	D640N
												With lug types: PN 10, 16 DN 25 k_{vmax} [m³/h]	50	D625NL	55	D632NL	65	D640NL
												Linkage type	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Standard actuators																		
SR..		20 Nm	■	■				24 V	90 s		IP54	SR24A-5	1200	300	1200	300	1200	300
			■	■				230 V				SR230A-5	1200	300	1200	300	1200	300
GR.. GRC..		40 Nm	■					24 V	150 s		IP54	GR24A-5	1200	300	1200	300	1200	300
			■					230 V				GR230A-5	1200	300	1200	300	1200	300
		<90 Nm	■					24 V	150 s		IP54	DR24A-5						
			■					230 V				DR230A-5						
			■					24 V				DR24A-7						
			■					230 V				DR230A-7						
Fast running actuators																		
DR.. DRC..		40 Nm	■					24 V	35 s		IP54	GRC24A-5 [1]	1200	300	1200	300	1200	300
			■					230 V				GRC230A-5 [1]	1200	300	1200	300	1200	300
PR..		<90 Nm	■					24 V	35 s		IP54	DRC24A-5 [1]						
			■					230 V				DRC230A-5 [1]						
			■					24 V				DRC24A-7 [1]						
			■					230 V				DRC230A-7 [1]						
SRF..		160 Nm	■	■		■		AC 24...240 V DC 24...125 V	35 s [2]	2	IP66/ IP67	PRCA-S2-T						
			■	■		■						PRCA-S2-T-200						
			■	■		■						PRCA-S2-T-250						
Fail-safe actuators NC/NO																		
GRK..		20 Nm	■				■	24 V	75 s	2	IP54	SRF24A-5	1200	300	1200	300	1200	300
			■				■	AC 24...240 V DC 24...125 V		2		SRF24A-S2-5	1200	300	1200	300	1200	300
			■				■					SRFA-5	1200	300	1200	300	1200	300
			■				■			2		SRFA-S2-5	1200	300	1200	300	1200	300
DRK..		40 Nm	■				■	4 V	150 s		IP54	GRK24A-5	1200	300	1200	300	1200	300
		<90 Nm	■				■	24 V	150 s		IP54	DRK24A-5						
			■				■					DRK24A-7						
PRK..		160 Nm	■ [3]	■ [3]	■	■	■	AC 24...240 V DC 24...125 V	35 s [2]	2	IP66/ IP67	PRKCA-BAC-S2-T						
			■ [3]	■ [3]	■	■	■					PRKCA-BAC-S2-T-200						
			■ [3]	■ [3]	■	■	■					PRKCA-BAC-S2-T-250						

PN 6, 10, 16 DN 50 k_{vmax} [m³/h]	DN 50 Valve type	DN 65 k_{vmax} [m³/h]	DN 65 Valve type	DN 80 k_{vmax} [m³/h]	DN 80 Valve type	DN 100 k_{vmax} [m³/h]	DN 100 Valve type	DN 125 k_{vmax} [m³/h]	DN 125 Valve type	DN 150 k_{vmax} [m³/h]	DN 150 Valve type	DN 200 k_{vmax} [m³/h]	DN 200 Valve type	DN 250 k_{vmax} [m³/h]	DN 250 Valve type	DN 300 k_{vmax} [m³/h]	DN 300 Valve type
100	D650N	170	D665N	260	D680N	520	D6100N	880	D6125N	1400	D6150N	2200	D6200W	4200	D6250W	5700	D6300W
PN 10, 16 DN 50 k_{vmax} [m³/h]	DN 50 Valve type	DN 65 k_{vmax} [m³/h]	DN 65 Valve type	DN 80 k_{vmax} [m³/h]	DN 80 Valve type	DN 100 k_{vmax} [m³/h]	DN 100 Valve type	DN 125 k_{vmax} [m³/h]	DN 125 Valve type	DN 150 k_{vmax} [m³/h]	DN 150 Valve type	PN 16 DN 200 k_{vmax} [m³/h]	DN 200 Valve type	DN 250 k_{vmax} [m³/h]	DN 250 Valve type	DN 300 k_{vmax} [m³/h]	DN 300 Valve type
100	D650NL	170	D665NL	260	D680NL	520	D6100NL	880	D6125NL	1400	D6150NL	2200	D6200WL	4200	D6250WL	5700	D6300WL
				ZPR03 [4]		ZPR03 [4]		ZPR01 [4]		ZPR01		ZPR01		ZPR01		ZPR01	
Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
1200	300	1200	300														
1200	300	1200	300														
1200	300	1200	300	1200	300												
1200	300	1200	300	1200	300												
				1200		1200	300										
						1200	300										
								1200	300								
								1200	300								
1200	300	1200	300	1200	300												
1200	300	1200	300	1200	300												
				1200	300	1200	300										
				1200	300	1200	300										
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				1200	300	1200	300	1200	300	1200	300					1400	300
												1400	300				
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1200		1200															
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				1200	300	1200	300										
								1200	300								
				1200	300	1200	300	1200	300	1200	300					1400	300
												1400	300				
														1400	300		

[1] These products are also available as IP66 variant with protective housing.
[2] 30...120 s parametrisable with the Belimo Assistant App (NFC)
[3] Parametrisable with the Belimo Assistant App (NFC)
[4] Linkage is only required in combination with a PR actuator.

Subject to technical modifications

DN 350...700

Field of use	Closed and open water circuit (pH >7)
Fluid temperature	–20...120°C
Pipe connection	Flange (ISO 7005-2 and EN 1092-2)
Leakage rate	Tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_S: 1600 kPa

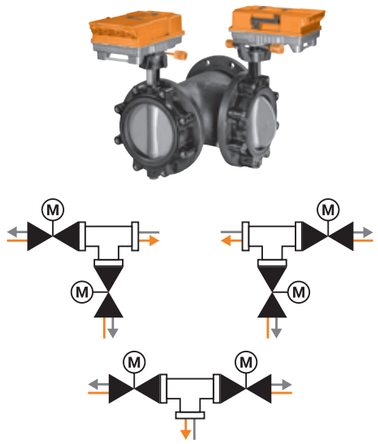
		PN 10, 16	PN 16								
		DN 350	DN 400		DN 450		DN 500		DN 600		DN 700	
With wafer types		k_{vmax} [m³/h]	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type
		10900	14200	D6400N	18800	D6450N	24100	D6500N	37300	D6600N	42800	D6700N
With lug types		k_{vmax} [m³/h]	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type	k_{vmax} [m³/h]	Valve type
		10900	14200	D6400NL	18800	D6450NL	24100	D6500NL	37300	D6600NL	42800	D6700NL
Linkage type			ZSY-401		ZSY-701		ZSY-702		ZSY-702		ZSY-901	
			Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Suitable actuators												
Fast running actuators												
SY..	650 Nm		600	300								
	1000 Nm				1200	300	600	300				
	1500 Nm						1200	300	600	300		
	2000 Nm										1200	300
	2500 Nm											
	3500 Nm											

		ZSY-902		ZSY-903	
		Δp_s kPa	Δp_{max} kPa	Δp_s kPa	Δp_{max} kPa
Suitable actuators					
Fast running actuators					
SY..	650 Nm				
	1000 Nm				
	1500 Nm				
	2000 Nm				
	2500 Nm	600	300		
	3500 Nm	1000	300	200	200

Suitable actuators	Nominal torque	Open/close	3-point	Terminal connection	Nominal voltage AC 230 V	Running time motor 90°	Auxiliary switch SPDT	Degree of protection	Actuator type
Fast running actuators									
SY..	650 Nm	■	■	■	230 V	31 s	2	IP67	SY6-230-3-T
	1000 Nm	■	■	■		55 s	2	IP67	SY7-230A-3-T
	1500 Nm	■	■	■		55 s	2	IP67	SY8-230A-3-T
	2000 Nm	■	■	■		70 s	2	IP67	SY9-230A-3-T
	2500 Nm	■	■	■		70 s	2	IP67	SY10-230A-3-T
	3500 Nm	■	■	■		70 s	2	IP67	SY12-230A-3-T

DN 150...300

Field of use	Closed and open water circuit (pH >7) for changeover applications
Fluid temperature	–20…120°C
Pipe connection	Flange (ISO 7005-2 and EN 1092-2) D7..WL/BAC also: ISO 7005-1 and EN 1092-1
Leakage rate	Tight, leakage rate A (EN 12266-1)
Permissible operating pressure	p_S: 1600 kPa



PN	DN	k_{vmax} [m³/h] [1]	Open/close [2]	Modulating (2...10 V / 0.5...10 V) [2]	BACnet MS/TP communication [2]	Modbus RTU communication [2]	MP-Bus communication [2]	Nominal voltage	Running time motor 90° [3]	Auxiliary switch SPDT	Degree of protection	Changeover butterfly valve type with actuator	Δp_s kPa	Δp_{max} kPa	T-piece type
With communicative actuator															
D7..L/BAC 															
16	**150**	1100	■	■	■	■	■	AC 24...240 V DC 24...125 V	35 s	4	IP66 IP67	D7150NL/BAC [4]	1200	300	ZD7150 [5]
	200	1800	■	■	■	■	■		35 s	4	IP66 IP67	D7200WL/BAC [4]	1400	300	ZD7200 [5]
	250	3000	■	■	■	■	■		35 s	4	IP66 IP67	D7250WL/BAC [4]	1400	300	ZD7250 [5]
	300	4700	■	■	■	■	■		35 s	4	IP66 IP67	D7300WL/BAC [4]	1400	300	ZD7300 [5]

Suitable T-pieces

Spheroidal graphite cast iron with fastening screws

[1] For changeover applications. The maximum flow speed of 4 m/s may not be exceeded in the changeover butterfly valve.
[2] Parametrisable with the Belimo Assistant App
[3] 30...120 s parametrisable with the Belimo Assistant App (NFC)
[4] T-piece is not included in scope of delivery.
[5] The necessary fastening screws and nuts are included in the scope of delivery.

Definitions

Formula symbol

k_v The flow coefficient k_v [m³/h] is the specific volume flow of a valve with a defined delay angle with reference to 100 kPa (1 bar).
The k_v value changes, depending on the valve position.
The flow coefficient is determined for a water temperature of 5…40°C.

k_{vs} The kv value in reference to the nominal delay angle is referred to as the k_{vs} value. The nominal delay angle defines the maximum valve opening and is specified by the manufacturer.
Characterised control valve (CCV):
Flow coefficient at 100% valve opening (90° angle of rotation)
Zone valve (QCV):
Flow coefficient with corresponding position of the end stop clip (variable)
Globe valves:
Flow coefficient at 100% valve opening
Butterfly valves:
Flow coefficient at 60% valve opening for control application

$$k_{vs} = \frac{V'_{100}}{\sqrt{\frac{\Delta p_{v100}}{100}}}$$

Δpv_{100}	[kPa]
V'_{100}	[m³/h]
k_{vs}	[m³/h]

k_{vmax} Flow coefficient for 100% opened butterfly valve for open/close and changeover application.

V'_{nom} Maximum possible flow rate of a pressure-independent valve, catalogue value, delivery condition.

V'_{max} Set maximum flow of a pressure-independent valve with the greatest control signal, e.g. 10 V.

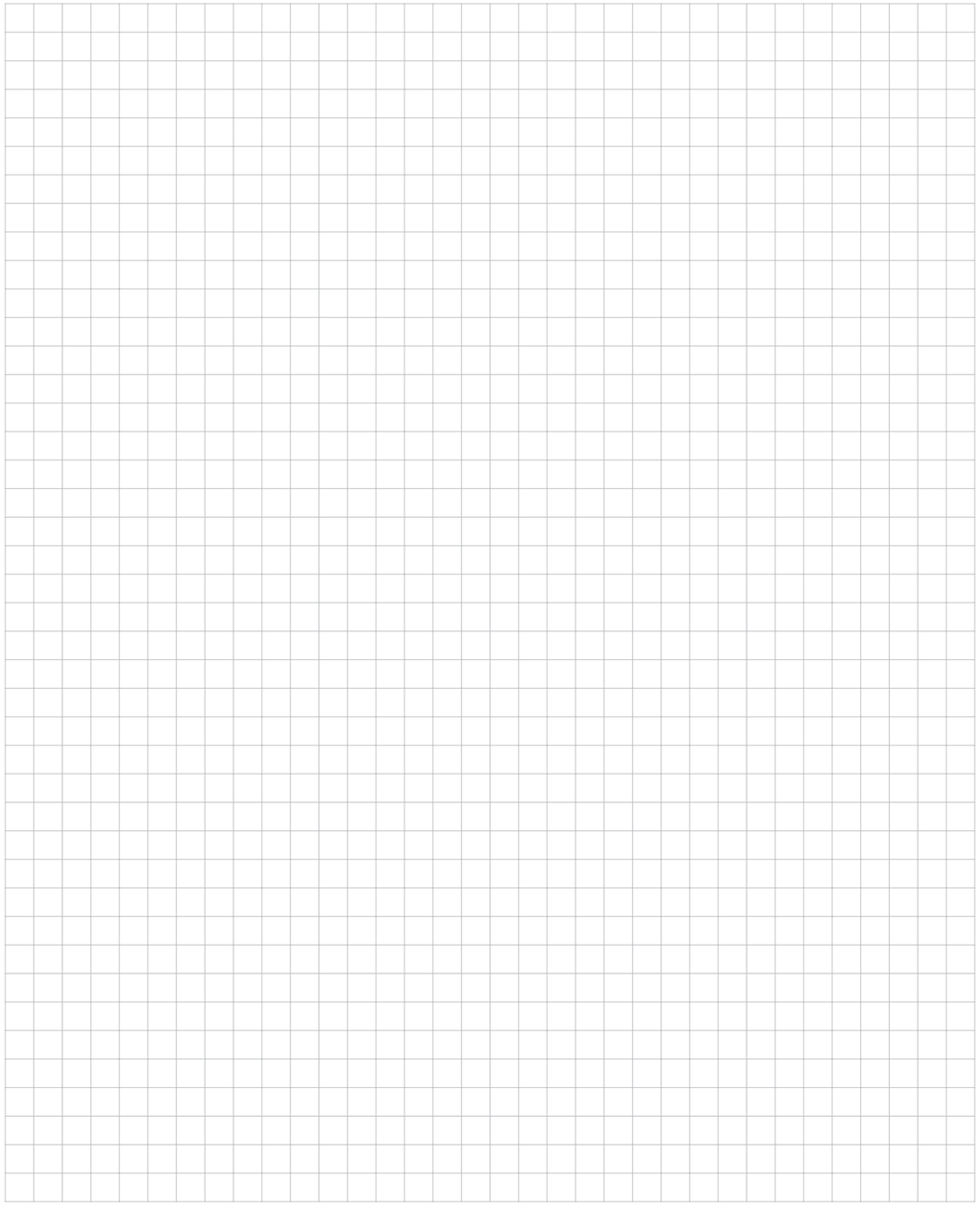
Δp_{max} Maximum permissible differential pressure for long service life across control path A – AB, with reference to the whole opening range.

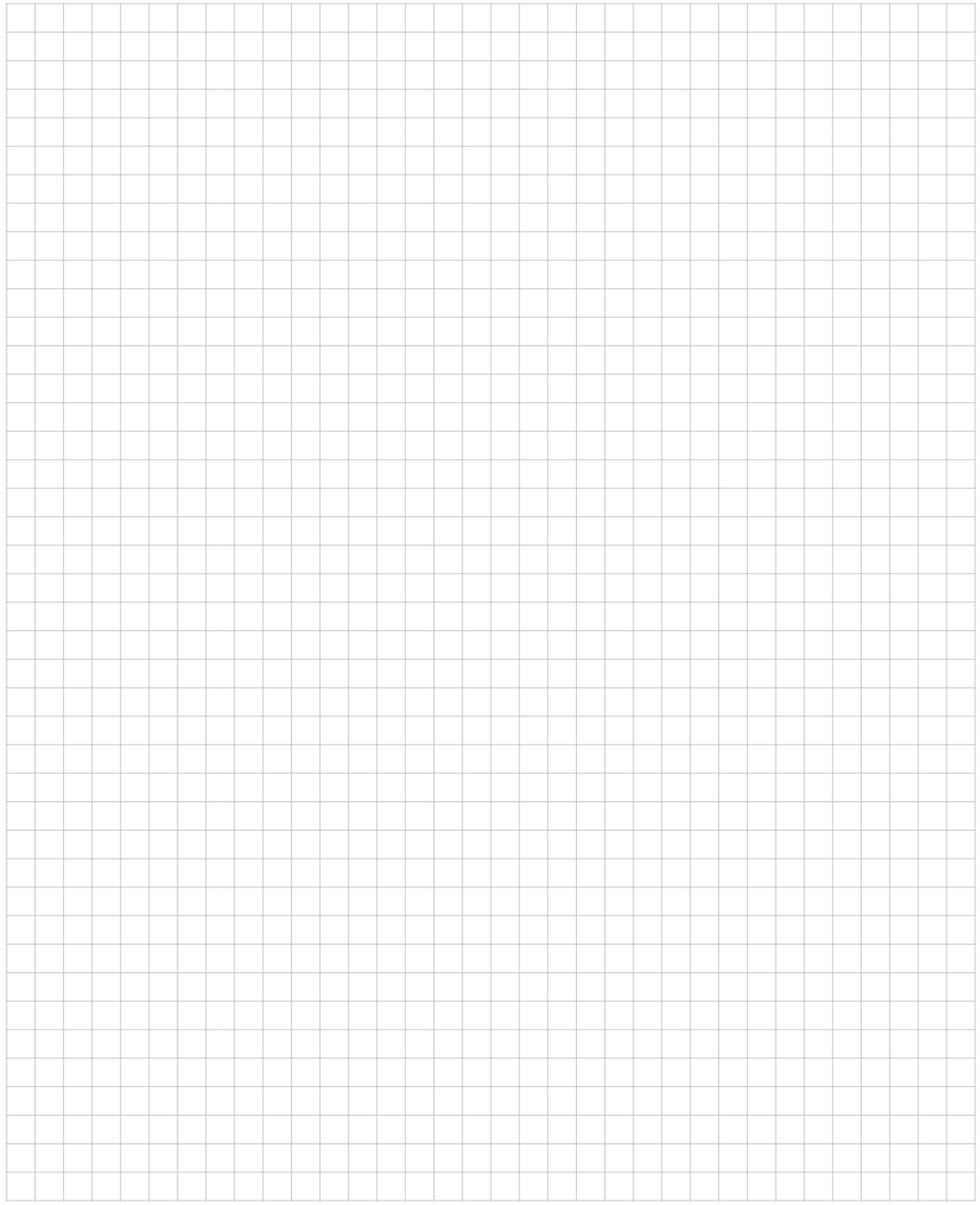
Δp_{v100} (R4..D(K)) Maximum permissible differential pressure for long service life with valve completely open.

Δp_{v0} (R4..D(K)) Maximum permissible differential pressure for long service life with closed valve.

Δp_s Maximum close-off pressure at which the valve can still seal tightly, with reference to the particular leakage class.

p_s Permissible operating pressure





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- Short delivery times
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