Overview Valve-actuator combinations

2014_v2

BELIMO

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Valve-actuator combinations

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PN 6 2-way/3-way	Flange	120°C	DN 15-100	12
PN 16 2-way/3-way	External thread	120°C	DN 15-50	12
2-way/3-way	Flange	120°C	DN 15-150	12
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PN 16 2-way	Flange, partly pressure-balanced	150°C	DN 40-150	13
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Open-close ball valves				**16...17**
Shut-off valves	2-way/3-way internal thread	120°C	DN 15-50	16
	2-way/3-way external thread	100°C	DN 15-50	16
	2-way/3-way flange	100°C	DN 15-50	16
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Shut-off valves with extended function (max. 130°C)	2-way external thread	130°C	DN 10-20	17
Butterfly valves				**18...20**
Butterfly valves with rotary actuators	2-way flange	120°C	DN 25-150	18
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Explanations:

1) k_{VS} = A – AB, k_{VS} (B – AB) = 70% x k_{VS}
1a) k_{VS} = A – AB, k_{VS} (B – AB) = 50% x k_{VS}
2) Low-noise operation Δp_{max} = 200 kPa
3) Medium temperature –10...+5°C with spindle heating
4) 2-way valves only
5) Parallel control not possible
5a) Only parallel control possible
6) MP types: Running times, control signal, stroke limitation and other functions can be parameterized with PC-Tool or the parameterising device MFT-H (delivery condition: modulating, operating range 0.5...10 V)
7) Low-noise operation Δp_{V100} < 50 kPa
8) Emergency setting position (NO/NC) manually adjustable at the actuator. Presetting: actuator spindle is retracted
H..R, H..B, H..N, H7..X.., H7..Y.. have their closing points at top (valve stem extended)
H..S, H6..SP, H6..X.. have their closing points at buttom (valve stem retracted)
9) LV..A: only H6.. possible
10) Can be switched to DC 0.5...10 V / DC 2...10 V
11) If medium temperature ≥100°C, then pipe and valve must be insulated
12) Media: High temperature water and steam (Δp/p1 < 0.4), water with glycol up to max. 50% vol.
13) Media: Cold, warm and high temperature water (no steam), water with glycol up to max. 50% vol.
14) Actuator is a component of the valve
15) R3.., R7..: not suitable for open circuits
16) Valve can not be motorised with NRQ.. actuators
17) Valve can not be motorised with SRQ.. actuators

The following applies for the rotation product line:
Actuator types without «..-O»: NC (normally closed)
Actuator types with «..-O»: NO (normally open)
Actuator types with «..-S»: With auxiliary switch
Actuator types with «..-S2»: With two auxiliary switches

6-way characterised control valves

		Running times	(Control) Operating range	LR	HR
					
				80°C	80°C
Modulating	AC/DC 24 V	90 s	DC (0) 2...10 V	**LR24A-SR**	
		140 s	DC (0) 2...10 V		**HR24-SR**
Communication	AC/DC 24 V	90 s, adjustable	MP-Bus, DC (0) 2...10 V variable	**LR24A-MP** x)	

Internal thread Rp (ISO 7/1) 6-way			**p_s = 1600 kPa** T_{max} = 80°C		**Range of use** closed circuits (pH > 7)	
	DN [mm]	**Rp**	**k_{vs} (Sequence 1)** [m^3/h]	**k_{vs2} (Sequence 2)** [m^3/h]	**Δp_{max}** [kPa]	**Δp_{max}** [kPa]
R3015-P25-P25-B2	15	½"	0.25	0.25	100 7)	100 7)
R3015-P25-P4-B2	15	½"	0.25	0.4		
R3015-P25-P63-B2	15	½"	0.25	0.63		
R3015-P25-1-B2	15	½"	0.25	1.0		
R3015-P25-1P3-B2	15	½"	0.25	1.3		
R3015-P4-P25-B2	15	½"	0.4	0.25		
R3015-P4-P4-B2	15	½"	0.4	0.4		
R3015-P4-P63-B2	15	½"	0.4	0.63		
R3015-P4-1-B2	15	½"	0.4	1.0		
R3015-P4-1P3-B2	15	½"	0.4	1.3		
R3015-P63-P25-B2	15	½"	0.63	0.25		
R3015-P63-P4-B2	15	½"	0.63	0.4		
R3015-P63-P63-B2	15	½"	0.63	0.63		
R3015-P63-1-B2	15	½"	0.63	1.0		
R3015-P63-1P3-B2	15	½"	0.63	1.3		
R3015-1-P25-B2	15	½"	1.0	0.25		
R3015-1-P4-B2	15	½"	1.0	0.4		
R3015-1-P63-B2	15	½"	1.0	0.63		
R3015-1-1-B2	15	½"	1.0	1.0		
R3015-1-1P3-B2	15	½"	1.0	1.3		
R3015-1P3-P25-B2	15	½"	1.3	0.25		
R3015-1P3-P4-B2	15	½"	1.3	0.4		
R3015-1P3-P63-B2	15	½"	1.3	0.63		
R3015-1P3-1-B2	15	½"	1.3	1.0		
R3015-1P3-1P3-B2	15	½"	1.3	1.3		
R3020-P63-1P6-B2	20	¾"	0.63	1.6		
R3020-P63-2P5-B2	20	¾"	0.63	2.5		
R3020-1-1P6-B2	20	¾"	1.0	1.6		
R3020-1-2P5-B2	20	¾"	1.0	2.5		
R3020-1P6-P63-B2	20	¾"	1.6	0.63		
R3020-1P6-1-B2	20	¾"	1.6	1.0		
R3020-1P6-1P6-B2	20	¾"	1.6	1.6		
R3020-1P6-2P5-B2	20	¾"	1.6	2.5		
R3020-2P5-P63-B2	20	¾"	2.5	0.63		
R3020-2P5-1-B2	20	¾"	2.5	1.0		
R3020-2P5-1P6-B2	20	¾"	2.5	1.6		
R3020-2P5-2P5-B2	20	¾"	2.5	2.5	100 7)	100 7)

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

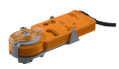
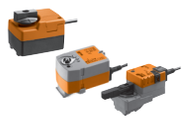
7) see explanation, page 2

2-way zone valve

		Running times	(Control) Operating range	CQ..			
							
				80°C			
3-point	AC/DC 24 V	90 s		**CQ24A**			
	AC 230 V	90 s			**CQ230A**		
Modulating	AC/DC 24 V	90 s	DC (0) 0.5...10 V			**CQ24A-SZ**	
Communication	AC/DC 24 V	90 s	MP-Bus				**CQ24A-MPL**

Internal thread Rp (ISO 7/1) 2-way 	**p_s = 1000 kPa** T_{max} = 80°C			**Range of use** Closed circuits (pH > 7)
	DN [mm]	**Rp**	**k_{vs}** [m^3/h]	**Δp_{max}** [kPa]
C215Q	15	½”	0.25 / 0.4 / 0.63 / 1 / 1.6 / 2.5 / 4 / 4.5	230

Characterised control valves with small actuators

		Running times	(Control) Operating range	Emergency control function	KR	TR / TRF / TRC
						
					80°C	120°C [11]
3-point	AC/DC 24 V	Ⓜ : 90 s / : <25 s				**TRF24-2(-O)**
		75 s			**KR24**	
		100 s				**TR24**
	AC 230 V	75 s			**KR230**	
		105 s				**TR230-3** [5]
Modulating	AC/DC 24 V	15 s	DC (0) 2...10 V			**TRC24A-SR**
		75 s	DC (0) 2...10 V		**KR24-SR**	
		90 s	DC (0) 2...10 V			**TR24-SR**
		Ⓜ : 90 s / : 25 s	DC (0) 2...10 V			**TRF24-SR(-O)**

Internal thread Rp (ISO 7/1)

2-way 

3-way 

p_s = 1600 kPa
T_{max} = 120°C

Range of use [15]
Closed / open circuits (pH > 7)

2-way	3-way	DN [mm]	k_{vs} [1] [m^3/h]	KR Δp_s [kPa]	KR Δp_{max} [kPa]	TR / TRF / TRC Δp_s [kPa]	TR / TRF / TRC Δp_{max} [kPa]
R2015-P25-S1...R2015-6P3-S1	**R3015-P25-S1...R3015-4-S1**	15	0.25 / 0.4 / 0.63 / 1 / 1.6 / 2.5 / 4 / 6.3 [4]	1400	350 [2]	1400	350 [2]

External thread G (ISO 228/1)

2-way 

3-way 

p_s = 1600 kPa
T_{max} = 100°C [3]

Range of use
Closed / open circuits (pH > 7)

2-way	3-way	DN [mm]	k_{vs} [1] [m^3/h]	KR Δp_s [kPa]	KR Δp_{max} [kPa]	TR / TRF / TRC Δp_s [kPa]	TR / TRF / TRC Δp_{max} [kPa]
R405K...R409K	**R505K...R508K**	10	0.25 / 0.4 / 0.63 / 1 / 1.6 [4]			1400	200
R409...R414 [3]	**R509...R513** [3]	15	0.63 / 1 / 1.6 / 2.5 / 4 / 6.3 [4]	1400	200	1400	200
R417...R419 [3]	**R517...R518** [3]	20	4 / 6.3 / 8.6 [4]	1400	200	1400	200

Flange (EN 10921)

2-way 

3-way 

PN 6
T_{max} = 100°C

Range of use [15]
Closed / open circuits (pH > 7)

2-way	3-way	DN [mm]	k_{vs} [1] [m^3/h]	KR Δp_s [kPa]	KR Δp_{max} [kPa]	TR / TRF / TRC Δp_s [kPa]	TR / TRF / TRC Δp_{max} [kPa]
R6015RP63-B1...R6015R4-B1	**R7015RP63-B1...R7015R4-B1**	15	0.63 / 1 / 1.6 / 2.5 / 4 [4]	600	100	600	100
R6020R6P3-B1	**R7020R6P3-B1**	20	6.3	600	100	600	100

1) to 5), 11) and 15) see explanations, page 2

Characterised control valves with standard actuators

		Running times	(Control) Operating range	Emergency control function	LR / LRC / LRQ / LRF / NRFD	NR / NRQ / NRF	SR / SRF	SR..P
								IP66/67 
					120°C	120°C	120°C	120°C
3-point	AC/DC 24 V	90 s			**LR24A(-S)**	**NR24A(-S)**	**SR24A(-S)**	**SR24P**
	AC 230 V	90 s			**LR230A(-S)**	**NR230A(-S)**	**SR230A(-S)**	**SR230P**
		Ⓜ : 35 s / : <20 s			**NRFD230A-3(-S2)(-O)**			
		Ⓜ : 90 s / : <20 s				**NRF230A-3(-S2)(-O)**		
Modulating	AC/DC 24 V	9 s	DC (0) 2...10 V		**LRQ24A-SR**	**NRQ24A-SR**		
			DC (0) 0.5...10 V		**LRQ24A-SZ**	**NRQ24A-SZ**		
		35 s	DC (0) 2...10 V		**LRC24A-SR**			
		90 s	DC (0) 2...10 V		**LR24A-SR**	**NR24A-SR**	**SR24A-SR**	**SR24P-SR**
		Ⓜ : 90 s / : <20 s	DC (0) 0.5...10 V			**NRF24A-SZ(-S2)(-O)**	**SRF24A-SZ(-S2)(-O)**	
		Ⓜ : 150 s / : <20 s	DC (0) 2...10 V		**LRF24-SR** [11]			

Internal thread Rp (ISO 7/1)
2-way 

p_s = 1600 kPa
T_{max} = 120°C

Range of use
Closed / open circuits (pH > 7)

	DN [mm]	k_{vs} [1] [m³/h]	LR / LRC / LRQ / LRF / NRFD Δp_s [kPa]	LR / LRC / LRQ / LRF / NRFD Δp_{max} [kPa]	NR / NRQ / NRF Δp_s [kPa]	NR / NRQ / NRF Δp_{max} [kPa]	SR / SRF Δp_s [kPa]	SR / SRF Δp_{max} [kPa]	SR..P Δp_s [kPa]	SR..P Δp_{max} [kPa]
R2020-4-S2...R2020-8P6-S2	20	4 / 6.3 / 8.6	1400	350 [2]	1400	350 [2]	1400	350 [2]	1400	350 [2]
R2025-6P3-S2...R2025-16-S2	25	6.3 / 10 / 16	1400	350 [2]						
R2032-16-S3	32	16								
R2040-16-S3...R2040-25-S3	40	16 / 25			1400	350 [2]				
R2050-25-S4...R2050-40-S4	50	25 / 40					1400	350 [2]	1400	350 [2]

Internal thread Rp (ISO 7/1)
3-way 

p_s = 1600 kPa
T_{max} = 120°C

Range of use [15]
closed circuits (pH > 7)

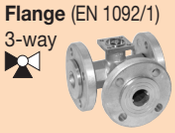
	DN [mm]	k_{vs} [1] [m³/h]	LR / LRC / LRQ / LRF / NRFD Δp_s [kPa]	LR / LRC / LRQ / LRF / NRFD Δp_{max} [kPa]	NR / NRQ / NRF Δp_s [kPa]	NR / NRQ / NRF Δp_{max} [kPa]	SR / SRF Δp_s [kPa]	SR / SRF Δp_{max} [kPa]	SR..P Δp_s [kPa]	SR..P Δp_{max} [kPa]
R3020-4-S2...R3020-6P3-S2	20	4 / 6.3	1400	350 [2]	1400	350 [2]	1400	350 [2]	1400	350 [2]
R3025-6P3-S2...R3025-10-S2	25	6.3 / 10	1400	350 [2]						
R3032-16-S3	32	16								
R3040-16-S3	40	16			1400	350 [2]				
R3040-25-S4	40	25								
R3050-25-S4...R3050-58-S4	50	25 / 40 / 58					1400	350 [2]	1400	350 [2]

Flange (EN 1092/1)
2-way 

PN 6
T_{max} = 100°C

Range of use
Closed / open circuits (pH > 7)

	DN [mm]	k_{vs} [1] [m³/h]	LR / LRC / LRQ / LRF / NRFD Δp_s [kPa]	LR / LRC / LRQ / LRF / NRFD Δp_{max} [kPa]	NR / NRQ / NRF Δp_s [kPa]	NR / NRQ / NRF Δp_{max} [kPa]	SR / SRF Δp_s [kPa]	SR / SRF Δp_{max} [kPa]	SR..P Δp_s [kPa]	SR..P Δp_{max} [kPa]
R6025R10-B2	25	10	600	100	600	100	600	100	600	100
R6032R16-B3	32	16								
R6040R25-B3	40	25								
R6050R40-B3 [16]	50	40			600	100	600	100	600	100

Flange (EN 1092/1)
3-way 

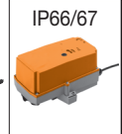
PN 6
T_{max} = 100°C

Range of use [15]
closed circuits (pH > 7)

	DN [mm]	k_{vs} [1] [m³/h]	LR / LRC / LRQ / LRF / NRFD Δp_s [kPa]	LR / LRC / LRQ / LRF / NRFD Δp_{max} [kPa]	NR / NRQ / NRF Δp_s [kPa]	NR / NRQ / NRF Δp_{max} [kPa]	SR / SRF Δp_s [kPa]	SR / SRF Δp_{max} [kPa]	SR..P Δp_s [kPa]	SR..P Δp_{max} [kPa]
R7025R10-B2	25	10	600	100	600	100	600	100	600	100
R7032R16-B3	32	16								
R7040R16-B3	40	16								
R7050R25-B3 [16]	50	25			600	100	600	100	600	100

1), 2), 11) and 16) see explanations, page 2

Characterised control valves with standard actuators

		Running times	(Control) Operating range	Emergency control function	LR / LRC / LRQ / LRF / NRFD	NR / NRQ / NRF	SR / SRF	SR..P
								IP66/67 
					100°C	100°C	100°C	100°C
3-point	AC/DC 24 V	90 s			**LR24A(-S)**	**NR24A(-S)**	**SR24A(-S)**	**SR24P**
	AC 230 V	90 s			**LR230A(-S)**	**NR230A(-S)**	**SR230A(-S)**	**SR230P**
		Ⓜ : 35 s / : <20 s			**NRFD230A-3(-S2)(-O)**			
		Ⓜ : 90 s / : <20 s				**NRF230A-3(-S2)(-O)**		
Modulating	AC/DC 24 V	9 s	DC (0) 2...10 V		**LRQ24A-SR**	**NRQ24A-SR**		
			DC (0) 0.5...10 V		**LRQ24A-SZ**	**NRQ24A-SZ**		
		35 s	DC (0) 2...10 V		**LRC24A-SR**			
		90 s	DC (0) 2...10 V		**LR24A-SR**	**NR24A-SR**	**SR24A-SR**	**SR24P-SR**
		Ⓜ : 90 s / : <20 s	DC (0) 0.5...10 V			**NRF24A-SZ(-S2)(-O)**	**SRF24A-SZ(-S2)(-O)**	
		Ⓜ : 150 s / : <20 s	DC (0) 2...10 V		**LRF24-SR** [11]			

External thread G (ISO 228/1) 2-way 	3-way 	DN [mm]	k_{vs} [1] [m³/h]	p_s = 1600 kPa T_{max} = 100°C Δp_s [kPa]	Δp_{max} [kPa]	Range of use Closed / open circuits (pH > 7) Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]
R409...R414 [3]	**R509...R513** [3]	15	0.63 / 1 / 1.6 / 2.5 / 4 / 6.3 [4]	1400	200	1400	200	1400	200	1400	200
R417...R419 [3]	**R517 / R518** [3]	20	4 / 6.3 / 8.6 [4]								
R422...R424 [3]	**R522 / R523** [3]	25	6.3 / 10 / 16 [4]	1400	200						
R431 [3]	**R531** [3]	32	16			1400	200	1400	200	1400	200
R438 / R439	**R538**	40	16 / 25								
R448 / R449	**R548**	50	25 / 40 [4]			1400	200	1400	200	1400	200

Characterised control valves with extended function (max. 130°C)

		Running times	(Control) Operating range	Emergency control function	TR / TRF	LR / LRF	NRFD
							
					130°C [11]	130°C	130°C
3-point	AC/DC 24 V	90 s				**LR24A**	
		100 s			**TR24**		
		Ⓜ : 90 s / : 25 s			**TRF24-2(-O)**		
	AC 230 V	Ⓜ : 35 s / : 20 s					**NRFD230A-3(-S2)(-O)**
Modulating	AC/DC 24 V	9 s	DC (0) 2...10 V			**LRQ4A-SR**	
		15 s	DC (0) 2...10 V		**TRC24A-SR**		
		35 s	DC (0) 2...10 V		**TRY24-SR**	**LRC24A-SR**	
		90 s	DC (0) 2...10 V		**TR24-SR**	**LR24A-SR**	
		Ⓜ : 90 s / : 25 s	DC (0) 2...10 V		**TRF24-SR(-O)**		
		Ⓜ : 150 s / : 20 s	DC (0) 2...10 V			**LRF24-SR** [11]	

External thread G (ISO 228/1) 2-way 	DN [mm]	k_{vs} [m³/h]	p_s = 2700 kPa T_{max} = 130°C (Water) Δp_s [kPa]	Δp_{v0} [kPa]	Range of use Closed / open circuits (pH > 7) Δp_s [kPa]	Δp_{v0} [kPa]	Δp_s [kPa]	Δp_{v0} [kPa]
R404DK...R409DK	10	0.3 / 0.4 / 0.63 / 1 / 1.6 / 2.5	1400	800	1400	800	1400	800
R412D...R414D	15	2.5 / 4 / 6.3						
R417D...R419D	20	6.3 / 10 / 16			1400	800	1400	800

1), 3), 4) and 11) see explanations, page 2

Characterised control valves DN65 to DN150

		Running times	(Control) Operating range	Emergency control function	SR	SRF	SRP	GR	GRK	GRC
							IP66/67 			IP66 
					120°C	120°C	120°C	120°C	120°C	120°C
Open-close	AC/DC 24 V	Ⓜ : <75 s : <20 s				**SRF24A-5(-O)** **SRF24A-S2-5(-O)**				
		Ⓜ : 150 s ⊣⊢: 35 s		⊣⊢					**GRK24A-5**	
	AC 230 V	Ⓜ : <75 s : <20 s				**SRF230A-5(-O)** **SRF230A-S2-5(-O)**				
3-point	AC/DC 24 V	90 s			**SR24A-5**		**SR24P-5**			
		150 s						**GR24A-5**		
	AC 230 V	90 s			**SR230A-5**		**SR230P-5**			
		150 s						**GR230A-5**		
Modulating	AC/DC 24 V	35 s	DC (0) 0.5...10 V							**GRC24G-SZ-T-5**
			DC (0) 2...10 V		**SRC24A-SR-5**					
		90s	DC (0) 2...10 V		**SR24A-SR-5**		**SR24P-SR-5**			
		150 s	DC (0) 2...10 V					**GR24A-SR-5**		
		Ⓜ : 90 s : <20 s	DC (0) 0.5...10 V			**SRF24A-SZ-5(-O)** **SRF24A-SZ-S2-5(-O)**				
		Ⓜ : 150 s ⊣⊢ : 35 s	DC (0) 0.5...10 V	⊣⊢					**GRK24A-SZ-5**	
	AC 230 V	90 s	DC (0) 2...10 V		**SR230A-SR-5**		**SR230P-SR-5**			

Flange (ISO 7500) 2-way 	**PN16** T_{max} = +120°C		**Range of use** closed circuits (pH > 7)											
	DN [mm]	**k_{vs}** [m^3/h]	**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]
R6065W63-S8	65	63	690	400	690	400	690	400	690	400	690	400	690	400
R6080W100-S8	80	100	690	400	690	400	690	400						
R6100W160-S8	100	160												
R6125W250-S8	125	250												
R6150W320-S8	150	320							690	400	690	400	690	400

Pressure-independent characterised control valves

		Running times	(Control) Operating range	Emergency control function	KR	LR / LRQ / LRC LRF / NRFD	NR / NRQ / NRC NRF	SRP	SR / SRF / SRC
									
					80°C	DN15/DN20: 100°C DN25...DN50: 80°C			
Open-close, 3-point	AC/DC 24 V	75 s			**KR24**				
		90 s				**LR24A(-S)**	**NR24A(-S)**	**SR24P**	**SR24A(-S)**
	AC 230 V	75 s			**KR230**				
		90 s				**LR230A(-S)**	**NR230A(-S)**	**SR230P**	**SR230A(-S)**
		Ⓜ : 35 s / : <20 s				**NRFD230A-3(-S2)(-O)**			
		Ⓜ : 90 s / : <20 s					**NRF230A-3(-S2)(-O)**		
Modulating	AC/DC 24 V	9 s	DC (0) 0.5...10 V			**LRQ24A-SZ**	**NRQ24A-SZ**		
			DC (0) 2...10 V			**LRQ24A-SR**	**NRQ24A-SR**		
		35 s	DC (0) 2...10 V			**LRC24A-SR**			**SRC24A-SR**
		45 s	DC (0) 2...10 V				**NRC24A-SR**		
		75 s	DC (0) 2...10 V		**KR24-SR**				
		90 s	DC (0) 2...10 V			**LR24A-SR**	**NR24A-SR**	**SR24P-SR**	**SR24A-SR**
		Ⓜ : 90 s / : <20 s	DC (0) 0.5...10 V				**NRF24A-SZ(-S2)(-O)**		**SRF24A-SZ(-S2)(-O)**
		Ⓜ : 150 s / : <20 s	DC (0) 2...10 V			**LRF24-SR**			

Internal thread Rp (ISO 7/1)
2-way

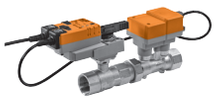
p_s = 1600 kPa
T_{max} = 80°C/ 100°C

Range of use
closed circuits (pH > 7)

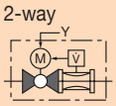
	DN [mm]	Rp	V [l/s]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]
R215P-010 / R215P-020 / R215P-040	15	½”	0.1 / 0.2 / 0.4	700	350	700	350	700	350	700	350	700	350
R220P-040 / R220P-060	20	¾”	0.4 / 0.6										
R225P-070 / R225P-110	25	1”	0.7 / 1.1			700	350						
R232P-120 / R232P-160	32	1 ¼”	1.2 / 1.6										
R240P-180 / R240P-220	40	1 ½”	1.8 / 2.2										
R250P-270	50	2”	2.7					700	350	700	350		
R250P-550	50	2”	5.5									700	350

Electronic pressure-independent characterised control valve with adjustable flow rate

		Running times	(Control) Operating range	LR	NR	SR
Modulating	AC/DC 24 V	90 s	DC (0) 0.5...10 V variable	14)	14)	14)
Communication	AC/DC 24 V	90 s	MP-Bus	14)	14)	14)



Internal thread Rp (ISO 7/1)
2-way



p_s = 1600 kPa
T_{max} = 120°C

Range of use
closed circuits (pH > 7)

	$\dot{V}_{nom}$		k_{vs} theor.[1]	DN		LR Δp_s	LR Δp_{max}	NR Δp_s	NR Δp_{max}	SR Δp_s	SR Δp_{max}
	[l/s]	[l/min]	[m³/h]	[mm]	[Zoll]	[kPa]	[kPa]	[kPa]	[kPa]	[kPa]	[kPa]
EP015R+MP	0.35	21	2.9	15	½”	1400	350				
EP020R+MP	0.65	39	4.9	20	¾”						
EP025R+MP	1.15	69	8.6	25	1”	1400	350				
EP032R+MP	1.8	108	14.2	32	1¼”			1400	350		
EP040R+MP	2.5	150	21.3	40	1½”			1400	350		
EP050R+MP	4.8	288	32	50	2”					1400	350

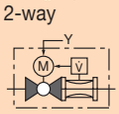
[1] Theoretical k_{vs} value for pressure drop calculation.

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

Electronic pressure-independent characterised control valve with adjustable flow rate

		Running times	(Control) Operating range	SR	GR
Modulating	AC/DC 24 V	90 s	DC (0) 0.5...10 V variable	14)	14)
Communication	AC/DC 24 V	90 s	MP-Bus	14)	14)

Flange (EN 1092/1)
2-way



PN16
T_{max} = 120°C

Range of use
closed circuits (pH > 7)

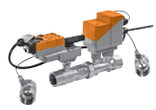
	$\dot{V}_{nom}$		k_{vs} theor.[1]	DN		SR Δp_s	SR Δp_{max}	GR Δp_s	GR Δp_{max}
	[l/s]	[l/min]	[m³/h]	[mm]	[Zoll]	[kPa]	[kPa]	[kPa]	[kPa]
P6065W800E-MP	8	480	45	65	2 ½”	690	340		
P6080W1100E-MP	11	660	65	80	3”	690	340		
P6100W2000E-MP	20	1200	115	100	4”			690	340
P6125W3100E-MP	31	1860	175	125	5”				
P6150W4500E-MP	45	2700	270	150	6”			690	340

[1] Theoretical k_{vs} value for pressure drop calculation.

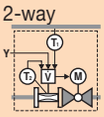
Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool

14) see explanations, page 2

Electronic pressure-independent characterised control valve with adjustable flow rate and monitoring function

		Running times	(Control) Operating range	LR	NR	SR
						
Modulating	AC/DC 24 V	90 s	DC (0) 0.5...10 V variable	14)	14)	14)
Communication	AC/DC 24 V	90 s	MP-Bus, BACnet IP, BACnet MS/TP	14)	14)	14)

Internal thread Rp (ISO 7/1)
2-way



p_s = 1600 kPa
T_{max} = 120°C

Range of use
closed circuits (pH > 7)

	$\dot{V}_{nom}$		k_{vs} theor.[1]	DN		LR Δp_s	LR Δp_{max}	NR Δp_s	NR Δp_{max}	SR Δp_s	SR Δp_{max}
	[l/s]	[l/min]	[m³/h]	[mm]	[Zoll]	[kPa]	[kPa]	[kPa]	[kPa]	[kPa]	[kPa]
EV015R+BAC	0.35	21	2.9	15	½”	1400	350				
EV020R+BAC	0.65	39	4.9	20	¾”						
EV025R+BAC	1.15	69	8.6	25	1”	1400	350				
EV032R+BAC	1.8	108	14.2	32	1¼”			1400	350		
EV040R+BAC	2.5	150	21.3	40	1½”			1400	350		
EV050R+BAC	4.8	288	32	50	2”					1400	350

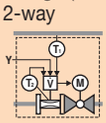
[1] Theoretical k_{vs} value for pressure drop calculation.

Completely parameterisable by means of integrated Web server

Belimo Energy Valve™ - Electronic pressure-independent characterised control valve with adjustable flow rate and monitoring function

		Running times	(Control) Operating range	SR	GR
					
Modulating	AC/DC 24 V	90 s	DC (0) 0.5...10 V variable	14)	14)
Communication	AC/DC 24 V	90 s	MP-Bus, BACnet IP, BACnet MS/TP	14)	14)

Flange (EN 1092/1)
2-way



p_s = 1600 kPa
T_{max} = 120°C

Range of use
closed circuits (pH > 7)

	$\dot{V}_{nom}$		k_{vs} theor.[1]	DN		SR Δp_s	SR Δp_{max}	GR Δp_s	GR Δp_{max}
	[l/s]	[l/min]	[m³/h]	[mm]	[Zoll]	[kPa]	[kPa]	[kPa]	[kPa]
P6065W800EV-BAC	8	480	40	65	2 ½”	690	340		
P6080W1100EV-BAC	11	660	60	80	3”	690	340		
P6100W2000EV-BAC	20	1200	100	100	4”			690	340
P6125W3100EV-BAC	31	1860	160	125	5”				
P6150W4500EV-BAC	45	2700	240	150	6”			690	340

[1] Theoretical k_{vs} value for pressure drop calculation.

Completely parameterisable by means of integrated Web server

14) see explanations, page 2

Globe valves, PN 6 und PN 16, 120°C

		Actuating time	(Control) Operating range	Emergency control function	Emergency setting position	LV..A.. 500 N 15 mm	NV..A.. 1000 N 20 mm	SV..A.. 1500 N 20 mm	AVK..A.. 2000 N 32 mm	EV..A.. 2500 N 40 mm	RV..A.. 4500 N 40 mm
3-point	AC/DC 24 V	150s/Nominal stroke				**LV24A-TPC**	**NV24A-TPC**	**SV24A-TPC**		**EV24A-TPC**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke		⊣⊢	8)		**NVK24A-3-TPC**		**AVK24A-3-TPC**		
	AC 230 V	150s/Nominal stroke				**LV230A-TPC**	**NV230A-TPC**	**SV230A-TPC**		**EV230A-TPC**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke		⊣⊢	8)		**NVK230A-3**		**AVK230A-3**		
Modu-lating	AC/DC 24 V	35s/Nominal stroke	DC (0) 0.5...10 V			**LVC24A-SZ-TPC**	**NVC24A-SZ-TPC**	**SVC24A-SZ-TPC**		**EVC24A-SZ**	
			DC (0) 2...10 V			**LVC24A-SR-TPC**	**NVC24A-SR-TPC**	**SVC24A-SR-TPC**		**EVC24A-SR**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVKC24A-SZ-TPC**				
			DC (0) 2...10 V	⊣⊢	8)		**NVKC24A-SR-TPC**				
		150s/Nominal stroke	DC (0) 0.5...10 V			**LV24A-SZ-TPC**	**NV24A-SZ-TPC**	**SV24A-SZ-TPC**		**EV24A-SZ-TPC**	**RV24A-SZ**
			DC (0) 2...10 V			**LV24A-SR-TPC**	**NV24A-SR-TPC**	**SV24A-SR-TPC**		**EV24A-SR-TPC**	**RV24A-SR**
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVK24A-SZ-TPC**		**AVK24A-SZ-TPC**		
			DC (0) 2...10 V	⊣⊢	8)		**NVK24A-SR-TPC**		**AVK24A-SR-TPC**		
Multi-functional 6)	AC/DC 24 V	35s/Nominal stroke	DC (0) 0.5...10 V			**LVC24A-MP-TPC**	**NVC24A-MP-TPC**	**SVC24A-MP-TPC**		**EVC24A-MF**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVKC24A-MP-TPC**				
		150s/Nominal stroke	DC (0) 0.5...10 V			**LV24A-MP-TPC**	**NV24A-MP-TPC**	**SV24A-MP-TPC**		**EV24A-MP-TPC**	**RV24A-MF**
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVK24A-MP-TPC**		**AVK24A-MP-TPC**		

Flange (ISO 7005)

2-way  3-Weg 

PN 6
T_{max} = 120°C 3)

2-way	3-Weg	DN [mm]	k_{vs} [m³/h]	Range of use Closed circuits: Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]
H611R...H615R	**H711R...H715R**	15	0.63/1/1.6/2.5/4	600	400	600	400	600	400						
H620R	**H720R**	20	6.3	600	400	600	400	600	400						
H625R	**H725R**	25	10	500	400	600	400	600	400						
H632R	**H732R**	32	16	350	350	600	400	600	400						
H640R	**H740R**	40	25	150	150	500	400	600	400						
H650R	**H750R**	50	40	70	70	300	300	550	400						
H664R	**H764R**	65	58			140	140	280	280						
H679R	**H779R**	80	90			80	80	160	160						
H6100R	**H7100R**	100	145							150	150	200	200	450	400

External thread (ISO228)

2-way  3-Weg 

PN 16
T_{max} = 120°C 3)

2-way	3-Weg	DN [mm]	k_{vs} [m³/h]	Range of use Closed / open circuits (pH > 7): Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]
H411B...H415B	**H511B...H515B**	15	0.63/1/1.6/2.5/4	1300	400	1600	400	1600	400						
H420B	**H520B**	20	6.3	900	400	1600	400	1600	400						
H425B	**H525B**	25	10	500	400	1300	400	1600	400						
H432B	**H532B**	32	16	350	350	1000	400	1600	400						
H440B	**H540B**	40	25	150	150	500	400	900	400						
H450B	**H550B**	50	40	70	70	300	300	550	400						

Flange (ISO 7005)

2-way  3-Weg 

PN 16
T_{max} = 120°C 3)

2-way	3-Weg	DN [mm]	k_{vs} [m³/h]	Range of use Closed circuits: Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]	Δps [kPa]	Δpmax [kPa]
H611N...H615N	**H711N...H715N**	15	0.63/1/1.6/2.5/4	1300	400	1600	400	1600	400						
H620N	**H720N**	20	6.3	900	400	1600	400	1600	400						
H625N	**H725N**	25	10	500	400	1300	400	1600	400						
H632N	**H732N**	32	16	350	350	1000	400	1600	400						
H640N	**H740N**	40	25	150	150	500	400	900	400						
H650N	**H750N**	50	40	70	70	300	300	550	400						
H664N	**H764N**	65	58			140	140	280	280						
H665N	**H765N**	65	63							400	400	550	400	1100	400
H679N	**H779N**	80	90			80	80	160	160						
H680N	**H780N**	80	100							250	250	350	350	700	400
H6100N	**H7100N**	100	145							150	150	200	200	450	400
	H7125N	125	220									130	130	290	290
	H7150N	150	320									80	80	190	190

3), 6) und 8) see explanations, page 2

Globe valves, PN 16, 150°C

		Actuating time	(Control) Operating range	Emergency control function	Emergency setting position	LV..A.. 500 N 15 mm	NV..A.. 1000 N 20 mm	SV..A.. 1500 N 20 mm	AVK..A.. 2000 N 32 mm	EV..A.. 2500 N 40 mm	RV..A.. 4500 N 40 mm
3-point	AC/DC 24 V	150s/Nominal stroke				**LV24A-TPC**	**NV24A-TPC**	**SV24A-TPC**		**EV24A-TPC**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke		⊣⊢	8)		**NVK24A-3-TPC**		**AVK24A-3-TPC**		
	AC 230 V	150s/Nominal stroke				**LV230A-TPC**	**NV230A-TPC**	**SV230A-TPC**		**EV230A-TPC**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke		⊣⊢	8)		**NVK230A-3**		**AVK230A-3**		
Modu-lating	AC/DC 24 V	35s/Nominal stroke	DC (0) 0.5...10 V			**LVC24A-SZ-TPC**	**NVC24A-SZ-TPC**	**SVC24A-SZ-TPC**		**EVC24A-SZ**	
			DC (0) 2...10 V			**LVC24A-SR-TPC**	**NVC24A-SR-TPC**	**SVC24A-SR-TPC**		**EVC24A-SR**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVKC24A-SZ-TPC**				
			DC (0) 2...10 V	⊣⊢	8)		**NVKC24A-SR-TPC**				
		150s/Nominal stroke	DC (0) 0.5...10 V			**LV24A-SZ-TPC**	**NV24A-SZ-TPC**	**SV24A-SZ-TPC**		**EV24A-SZ-TPC**	**RV24A-SZ**
			DC (0) 2...10 V			**LV24A-SR-TPC**	**NV24A-SR-TPC**	**SV24A-SR-TPC**		**EV24A-SR-TPC**	**RV24A-SR**
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVK24A-SZ-TPC**		**AVK24A-SZ-TPC**		
			DC (0) 2...10 V	⊣⊢	8)		**NVK24A-SR-TPC**		**AVK24A-SR-TPC**		
Multi-func-tional [6]	AC/DC 24 V	35s/Nominal stroke	DC (0) 0.5...10 V			**LVC24A-MP-TPC**	**NVC24A-MP-TPC**	**SVC24A-MP-TPC**		**EVC24A-MF**	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVKC24A-MP-TPC**				
		150s/Nominal stroke	DC (0) 0.5...10 V			**LV24A-MP-TPC**	**NV24A-MP-TPC**	**SV24A-MP-TPC**		**EV24A-MP-TPC**	**RV24A-MF**
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		**NVK24A-MP-TPC**		**AVK24A-MP-TPC**		

Flange (ISO 7005)
2-way

PN 16
T_{max} = 150°C @ 1400 kPa [12)]
T_{max} = 120°C @ 1600 kPa [12)]

Range of use
Closed circuits / steam: Pressure ratio Δp/p1 < 0.4

	DN [mm]	k_{vs} [m³/h]	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]
H610S...H611S	15	0.4 / 0.63	1600	1000	1600	1000	1600	1000						
H612S...H615S	15	1 / 1.6 / 2.5 / 4	800	800	1600	1000	1600	1000						
H619S / H620S	20	4 / 6.3	800	800	1600	1000	1600	1000						
H624S / H625S	25	6.3 / 10	450	450	1300	1000	1600	1000						
H632S	32	16	300	300	950	950	1550	1000						
H640S	40	25	140	140	500	500	850	850						
H650S	50	40	60	60	300	300	500	500						
H664S	65	58			130	130	250	250						
H665S	65	63							400	400	550	550	1100	1000
H680S	80	90							250	250	350	350	700	700
H6100S	100	145							150	150	200	200	450	450
H6125S	125	220									110	110	250	250
H6150S	150	320									70	70	180	180

Flange (ISO 7005)
2-way

PN 16 / partial pressure reduced
T_{max} = 150°C @ 1400 kPa [12)]
T_{max} = 120°C @ 1600 kPa [12)]

Range of use
Closed circuits / steam: Pressure ratio Δp/p1 < 0.4

	DN [mm]	k_{vs} [m³/h]	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]
H640SP	40	25	1600	1000	1600	1000						
H650SP	50	40	1600	1000	1600	1000						
H664SP	65	58	1600	1000	1600	1000						
H679SP	80	90	1600	1000	1600	1000						
H6100SP	100	145					600	600	600	600	600	600
H6125SP	125	220							600	600	600	600
H6150SP	150	320							600	600	600	600

6), 8) und 12) see explanations, page 2

Globe valves, PN 25 und PN 40, 150°C and 200°C

		Actuating time	(Control) Operating range	Emergency control function	Emergency setting position	LV..A.. [9] 500 N 15 mm	NV..A.. 1000 N 20 mm	SV..A.. 1500 N 20 mm	AVK..A.. 2000 N 32 mm	EV..A.. 2500 N 40 mm	RV..A.. 4500 N 40 mm
3-point	AC/DC 24 V	150s/Nominal stroke				LV24A-TPC	NV24A-TPC	SV24A-TPC		EV24A-TPC	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke		⊣⊢	8)		NVK24A-3-TPC		AVK24A-3-TPC		
	AC 230 V	150s/Nominal stroke				LV230A-TPC	NV230A-TPC	SV230A-TPC		EV230A-TPC	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke		⊣⊢	8)		NVK230A-3		AVK230A-3		
Modu-lating	AC/DC 24 V	35s/Nominal stroke	DC (0) 0.5...10 V			LVC24A-SZ-TPC	NVC24A-SZ-TPC	SVC24A-SZ-TPC		EVC24A-SZ	
			DC (0) 2...10 V			LVC24A-SR-TPC	NVC24A-SR-TPC	SVC24A-SR-TPC		EVC24A-SR	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		NVKC24A-SZ-TPC				
			DC (0) 2...10 V	⊣⊢	8)		NVKC24A-SR-TPC				
		150s/Nominal stroke	DC (0) 0.5...10 V			LV24A-SZ-TPC	NV24A-SZ-TPC	SV24A-SZ-TPC		EV24A-SZ-TPC	RV24A-SZ
			DC (0) 2...10 V			LV24A-SR-TPC	NV24A-SR-TPC	SV24A-SR-TPC		EV24A-SR-TPC	RV24A-SR
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		NVK24A-SZ-TPC		AVK24A-SZ-TPC		
			DC (0) 2...10 V	⊣⊢	8)		NVK24A-SR-TPC		AVK24A-SR-TPC		
Multi-functional [6]	AC/DC 24 V	35s/Nominal stroke	DC (0) 0.5...10 V			LVC24A-MP-TPC	NVC24A-MP-TPC	SVC24A-MP-TPC		EVC24A-MF	
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		NVKC24A-MP-TPC				
		150s/Nominal stroke	DC (0) 0.5...10 V			LV24A-MP-TPC	NV24A-MP-TPC	SV24A-MP-TPC		EV24A-MP-TPC	RV24A-MF
		Ⓜ150s/Nom. stroke / ⊣⊢35s/Nom. stroke	DC (0) 0.5...10 V	⊣⊢	8)		NVK24A-MP-TPC		AVK24A-MP-TPC		

Flange (ISO 7005)

2-way

3-Weg

PN 25

T_{max} = 150°C @ 2430 kPa (H6..X..-S2) [12]
T_{max} = 120°C @ 2500 kPa (H6+H7..X..-S2) [12]
T_{max} = 200°C @ 2300 kPa (H7..X..-S) [13]

Range of use

Closed circuits

		DN [mm]	k_{vs} [m³/h]	LV..A.. Δp_s [kPa]	LV..A.. Δp_{max} [kPa]	NV..A.. Δp_s [kPa]	NV..A.. Δp_{max} [kPa]	SV..A.. Δp_s [kPa]	SV..A.. Δp_{max} [kPa]	AVK..A.. Δp_s [kPa]	AVK..A.. Δp_{max} [kPa]	EV..A.. Δp_s [kPa]	EV..A.. Δp_{max} [kPa]	RV..A.. Δp_s [kPa]	RV..A.. Δp_{max} [kPa]
H6015XP4-S2		15	0.4	2500	1000	2500	1000	2500	1000						
H6015XP63-S2		15	0.63	2500	1000	2500	1000	2500	1000						
H6015X1-S2		15	1	800	800	2200	1000	2500	1000						
H6015X1P6-S2		15	1.6	800	800	2200	1000	2500	1000						
H6015X2P5-S2		15	2.5	800	800	2200	1000	2500	1000						
H6015X4-S2	H7015X4-S2	15	4	800	800	2200	1000	2500	1000						
H6020X4-S2		20	4	800	800	2200	1000	2500	1000						
H6020X6P3-S2	H7020X6P3-S2	20	6.3	600	600	1500	1000	2500	1000						
H6025X6P3-S2		25	6.3	450	450	1300	1000	2100	1000						
H6025X10-S2	H7025X10-S2	25	10	450	450	1300	1000	2100	1000						
H6032X10-S2		32	10	300	300	900	900	1500	1000						
H6032X16-S2	H7032X16-S2	32	16	300	300	900	900	1500	1000						
H6040X16-S2		40	16	140	140	500	500	850	850						
H6040X25-S2	H7040X25-S2	40	25	140	140	500	500	850	850						
H6050X25-S2		50	25	60	60	300	300	500	500						
H6050X40-S2	H7050X40-S2	50	40	60	60	300	300	500	500						
	H7065X63-S4	65	63							400	400	550	550	1100	1000
	H7080X100-S4	80	100							250	250	350	350	700	700
	H7100X160-S4	100	160							150	150	200	200	450	450

Flange (ISO 7005)

2-way

PN 25 / partial pressure reduced

T_{max} = 150°C @ 2430 kPa [12]
T_{max} = 120°C @ 2500 kPa [12]

Range of use

Closed circuits

	DN [mm]	k_{vs} [m³/h]	LV..A.. Δp_s [kPa]	LV..A.. Δp_{max} [kPa]	NV..A.. Δp_s [kPa]	NV..A.. Δp_{max} [kPa]	SV..A.. Δp_s [kPa]	SV..A.. Δp_{max} [kPa]	AVK..A.. Δp_s [kPa]	AVK..A.. Δp_{max} [kPa]	EV..A.. Δp_s [kPa]	EV..A.. Δp_{max} [kPa]	RV..A.. Δp_s [kPa]	RV..A.. Δp_{max} [kPa]
H6065X58-SP2	65	58			2100	1000	2500	1000						
H6080X90-SP2	80	90			1600	1000	2400	1000						
H6100X125-SP2	100	125			1000	1000	1700	1000						

Flange (ISO 7005)

3-Weg

PN 40

T_{max} = 200°C @ 3200 kPa [13]
T_{max} = 120°C @ 4000 kPa [13]

Range of use

Closed circuits

	DN [mm]	k_{vs} [m³/h]	LV..A.. Δp_s [kPa]	LV..A.. Δp_{max} [kPa]	NV..A.. Δp_s [kPa]	NV..A.. Δp_{max} [kPa]	SV..A.. Δp_s [kPa]	SV..A.. Δp_{max} [kPa]	AVK..A.. Δp_s [kPa]	AVK..A.. Δp_{max} [kPa]	EV..A.. Δp_s [kPa]	EV..A.. Δp_{max} [kPa]	RV..A.. Δp_s [kPa]	RV..A.. Δp_{max} [kPa]
H7015Y4-S2	15	4			2200	1000	3500	1000						
H7020Y6P3-S2	20	6.3			1500	1000	2500	1000						
H7025Y10-S2	25	10			1300	1000	2100	1000						
H7032Y16-S2	32	16			900	900	1500	1000						
H7040Y25-S2	40	25			500	500	850	850						
H7050Y40-S2	50	40			300	300	500	500						
H7065Y63-S4	65	63							400	400	550	550	1100	1000
H7080Y100-S4	80	100							250	250	350	350	700	700
H7100Y160-S4	100	160							150	150	200	200	450	450

6), 8), 9), 12) und 13) see explanations, page 2

Large globe valves, PN 16, 120°C

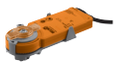
		Running times	(Control) Operating range	GV
				12 kN 65 mm 
3-point	AC 230 V	0.79 mm/s		**GV12-230-3-T**
Modulating	AC/DC 24 V	0.79 mm/s	DC (0) 2...10 V [10)]	**GV12-24-SR-T**

Flange (ISO 7005) 2-way 	3-way 	**PN 16** T_{max} = 120°C **DN** [mm]	**k_{vs}** [m^3/h]	**Range of use** Closed circuits **Δp_s** [kPa]	**Δp_{max}** [kPa]
H6200W630-S7	**H7200W630-S7**	200	630	310	60
H6250W1000-S7	**H7250W1000-S7**	250	1000	190	60

10) see explanations, page 2

Open-close ball valves

Shut-off valves

		Running times	Emergency control function	KR	TR / TRF / TRY	LR / LRQ / LRF	NR / NRQ / NRF	SR / SRF / SRQ	SR..P
									IP66/67 
				80°C	120°C [11]	120°C	120°C	120°C	120°C
Open-close	AC/DC 24 V	9 s				**LRQ24A**	**NRQ24A**	**SRQ24A**	
		35 s			**TRY24**				
		75 s		**KR24**					
		90 s			**TR24**	**LR24A(-S)**	**NR24A(-S)**	**SR24A(-S)**	**SR24P**
		Ⓜ : 75 s / : 75 s			**TRF24(-S)(-O)**				
		Ⓜ : <75 s / : <20 s				**LRF24(-S)(-O)**[11]	**NRF24A(-S2)(-O)**	**SRF24A(-S2)(-O)**	
	AC 230 V	35 s			**TRY230**				
		75 s		**KR230**					
		90 s				**LR230A(-S)**	**NR230A(-S)**	**SR230A(-S)**	**SR230P**
		Ⓜ : 75 s / : 75 s			**TRF230(-S)(-O)**				
		Ⓜ : <75 s / : <20 s				**LRF230(-S)(-O)**[11]	**NRF230A(-S2)(-O)**	**SRF230A(-S2)(-O)**	

Internal thread Rp (ISO 7/1) — p_s = 1600 kPa, T_{max} = 120°C — **Range of use** [15] Closed / open circuits (pH > 7)

2-way		3-way															
	k_{vs} [m³/h]		k_{vs} [1a] [m³/h]	DN [mm]	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]
R2015-S1	15	**R3015-S1**	15	15	1400	1000 [2]	1400	1000 [2]	1400	1000 [2]	1400	1000 [2]	1400	1000 [2]	1400	1000 [2]
R2020-S2	32	**R3020-S2**	32	20												
R2025-S2	26	**R3025-S2**	26	25					1400	1000 [2]						
R2032-S3	32	**R3032-S3**	32	32												
R2040-S3	31	**R3040-S3**	31	40							1400	1000 [2]				
R2050-S4	49	**R3050-S4**	49	50									1400	1000 [2]	1400	1000 [2]

External thread G (ISO 228/1) — p_s = 1600 kPa, T_{max} = 100°C — **Range of use** Closed / open circuits (pH > 7)

2-way		3-way															
	k_{vs} [m³/h]		k_{vs} [1a] [m³/h]	DN [mm]	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]
R415 [3]	8.6	**R515** [3]	8.6	15	1400	400 [2]	1400	400 [2]	1400	400 [2]	1400	400 [2]	1400	400 [2]	1400	400 [2]
R420 [3]	21	**R520** [3]	21	20	1400	400 [2]	1400	400 [2]								
R425 [3]	26	**R525** [3]	26	25					1400	400 [2]						
R432 [3]	32	**R532** [3]	32	32												
R440	32	**R540** [3]	32	40												
R450	49	**R550** [3]	49	50							1400	400 [2]	1400	400 [2]	1400	400 [2]

Flange (EN 1092/1) — **PN 6**, T_{max} = 100°C — **Range of use** [15] Closed / open circuits (pH > 7)

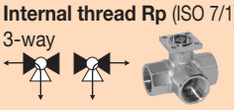
2-way		3-way															
	k_{vs} [m³/h]		k_{vs} [1a] [m³/h]	DN [mm]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]
R6015R-B1	15	**R7015R-B1**	15	15	600	100	600	100	600	100	600	100	600	100	600	100
R6020R-B1	32	**R7020R-B1**	32	20	600	100	600	100								
R6025R-B2	26	**R7025R-B2**	26	25					600	100						
R6032R-B3	32	**R7032R-B3**	32	32												
R6040R-B3	31	**R7040R-B3**	31	40												
R6050R-B3[16]	49	**R7050R-B3**[16]	49	50							600	100	600	100	600	100

1a), 2), 3), 11), 15) and 16) see explanations, page 2

Change-over valves

		Running times	Emergency control function	KR	TR / TRF / TRY	LR / LRQ / LRF	NR / NRQ / NRF	SR / SRF / SRQ	SR..P
									IP66/67 
				80°C	100°C	100°C	100°C	100°C	100°C
Open-close	AC/DC 24 V	9 s				**LRQ24A**	**NRQ24A**	**SRQ24A**	
		35 s			**TRY24**				
		75 s		**KR24**					
		90 s			**TR24**	**LR24A(-S)**	**NR24A(-S)**	**SR24A(-S)**	**SR24P**
		Ⓜ : 75 s / : 75 s			**TRF24(-S)(-O)**				
		Ⓜ : <75 s / : <20 s				**LRF24(-S)(-O)**[11]	**NRF24A(-S2)(-O)**	**SRF24A(-S2)(-O)**	
	AC 230 V	35 s			**TRY230**				
		75 s		**KR230**					
		90 s				**LR230A(-S)**	**NR230A(-S)**	**SR230A(-S)**	**SR230P**
		Ⓜ : 75 s / : 75 s			**TRF230(-S)(-O)**				
		Ⓜ : <75 s / : <20 s				**LRF230(-S)(-O)**[11]	**NRF230A(-S2)(-O)**	**SRF230A(-S2)(-O)**	

Internal thread Rp (ISO 7/1)
3-way



p_s = 1600 kPa
T_{max} = 100°C

Range of use
Closed / open circuits (pH > 7)

	DN [mm]	k_{vs} [m³/h]	KR Δp_s [kPa]	KR Δp_{max} [kPa]	TR / TRF / TRY Δp_s [kPa]	TR / TRF / TRY Δp_{max} [kPa]	LR / LRQ / LRF Δp_s [kPa]	LR / LRQ / LRF Δp_{max} [kPa]	NR / NRQ / NRF Δp_s [kPa]	NR / NRQ / NRF Δp_{max} [kPa]	SR / SRF / SRQ Δp_s [kPa]	SR / SRF / SRQ Δp_{max} [kPa]	SR..P Δp_s [kPa]	SR..P Δp_{max} [kPa]
R3015-BL1	15	5.5	500	350 [2]	500	350 [2]	500	350 [2]	500	350 [2]	500	350 [2]	500	350 [2]
R3020-BL2	20	11												
R3025-BL2	25	10												
R3032- BL2	32	9					500	350 [2]						
R3032-BL3	32	15												
R3040-BL3	40	14												
R3050-BL3 [16]	50	24							500	350 [2]				
R3040-BL4 [17]	40	47												
R3050-BL4 [17]	50	75									500	350 [2]	500	350 [2]

Shut-off valves with extended function (max. 130°C)

		Running times	Emergency control function	TR / TRF / TRY	LR / LRQ / LRF	NRF
						
				130°C [16]	130°C [16]	130°C [16]
Open-close	AC/DC 24 V	9 s			**LRQ24A**	
		35 s		**TRY24**		
		90 s			**LR24A(-S)**	
		100 s		**TR24**		
		Ⓜ : 75 s / : 75 s		**TRF24(-S)(-O)**		
		Ⓜ : 75 s / : 20 s			**LRF24(-S)(-O)**	
	AC 230 V	35 s		**TRY230**		
		90 s			**LR230A(-S)**	
		105 s		**TR230-3**		
		Ⓜ : 75 s / : 75 s		**TRF230(-S)(-O)**		
		Ⓜ : 75 s / : 20 s			**LRF230(-S)(-O)**	
3-point	AC 230 V	Ⓜ : 35 s / : <20 s				**NRFD230A-3(-S2)(-O)**

External thread G (ISO 228/1)
2-way

p_s = 2700 kPa
T_{max} = 130°C (Water)

Range of use
Closed / open circuits (pH > 7)

	DN [mm]	k_{vs} [m³/h]	TR / TRF / TRY Δp_s [kPa]	TR / TRF / TRY Δp_{V100} [kPa]	LR / LRQ / LRF Δp_s [kPa]	LR / LRQ / LRF Δp_{V100} [kPa]	NRF Δp_s [kPa]	NRF Δp_{V100} [kPa]
R410DK	10	4	1400	400	1400	400	1400	400
R415D	15	12						
R420D	20	25			1400	400	1400	400

2), 11) 16) and 17) see explanations, page 2

Butterfly valves

Butterfly valves with rotary actuators

		Running times	Emergency control function	SR	SRF	SR..P	GR	GRK	GRC	
						IP66/67 			IP66/67 	
				120°C	120°C	120°C	120°C	120°C	120°C	
Open-close	AC/DC 24 V	35 s							**GRC24A-5**	**GRC24G-5**
		90 s		**SR24A-5**		**SR24P-5**				
		150 s					**GR24A-5**			
		Ⓜ: <75 s /  : <20 s			**SRF24A(-S2)-5-(O)**					
		Ⓜ: 150 s / ⊣⊢: 35 s	⊣⊢					**GRK24A-5**		
	AC 230 V	90 s		**SR230A-5**		**SR230P-5**				
		150 s					**GR230A-5**			
		Ⓜ: <75 s /  : <20 s			**SRF230A(-S2)-5-(O)**					

Flange (ISO 7005 / EN1092-2)  		**PN 16 (PN 6 / PN 10)** T_{max} = 120°C		**Range of use** Closed / open circuits (pH > 7)					
		DN [mm]	**k_{vs}** [m^3/h]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]
D625N	**D625NL**	25	45	1200	1200	1200	1200	1200	1200
D632N	**D632NL**	32	55						
D640N	**D640NL**	40	70						
D650N	**D650NL**	50	90						
D665N	**D665NL**	65	180						
D680N	**D680NL**	80	300	1200	1200	1200			
D6100N	**D6100NL**	100	580				1200	1200	1200
D6125N	**D6125NL**	125	820						
D6150N	**D6150NL**	150	1600						

Butterfly valves with rotary actuators

		Running times	DR	DRC	
			IP54 	IP54 	IP66 
			120°C	120°C	120°C
Open-close	AC/DC 24 V	35 s		**DRC24A-7** **DRC24A-TP-7**	**DRC24G-7** **DRC24G-T-7**
		150 s	**DR24A-7** **DR24A-TP-7**		
	AC 230 V	150 s	**DR230A-7**		
Modulating	AC/DC 24 V	150 s	**DR24A-SR-7** **DR24A-MP-7**		

Flange (ISO 7005 / EN1092-2)  		**PN 16 (PN 6 / PN 10)** T_{max} = 120°C		**Range of use** Closed / open circuits (pH > 7)		
		DN [mm]	**k_{vs}** [m^3/h]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]
D625N	**D625NL**	25	45			
D632N	**D632NL**	32	55			
D640N	**D640NL**	40	70			
D650N	**D650NL**	50	90			
D665N	**D665NL**	65	180			
D680N	**D680NL**	80	300			
D6100N	**D6100NL**	100	580			
D6125N	**D6125NL**	125	820	1200	1200	1200
D6150N	**D6150NL**	150	1600	1200	1200	1200

Butterfly valves with fast runners

		Running times	SY1 [5]	SY2 [5]	SY3 [5]	SY4 [5]	SY5 [5]	SY6 [5]
			IP67	IP67	IP67	IP67	IP67	IP67
								
			120°C	120°C	120°C	120°C	120°C	120°C
Open-close	AC 24 V	15 s	**SY1-24-3-T**	**SY2-24-3-T**				
		16 s				**SY4-24-3-T**		
		22 s			**SY3-24-3-T**		**SY5-24-3-T**	
	AC 230 V	13 s	**SY1-230-3-T**					
		17 s		**SY2-230-3-T**				
		18 s				**SY4-230-3-T**		
		25 s					**SY5-230-3-T**	
		26 s			**SY3-230-3-T**			
		31 s						**SY6-230-3-T**

Flange (ISO 7005 / EN1092-2)		**PN 16 (PN 6 / PN 10)** T_{max} = 120°C		**Range of use** Closed / open circuits (pH > 7)					
		DN [mm]	**k_{vs}** [m^3/h]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]
D625N	**D625NL**	25	45	1200	1200 a)				
D632N	**D632NL**	32	55		a)				
D640N	**D640NL**	40	70		a)				
D650N	**D650NL**	50	90		a)				
D665N	**D665NL**	65	180		a)				
D680N	**D680NL**	80	300	1200	a)				
D6100N	**D6100NL**	100	580		a)				
D6125N	**D6125NL**	125	820			1200			
D6150N	**D6150NL**	150	1600		1200				
D6200N	**D6200NL**	200	2900			1200			
D6250N	**D6250NL**	250	4400				1200		
D6300N	**D6300NL**	300	7300				600	1200	
D6350N	**D6350NL**	350	10900					600	1200

a) Linkage: ZSY-005

5) see explanations, page 2

Butterfly valves with fast runners

			SY6 [5]	SY7 [5]	SY8 [5]	SY9 [5]	SY10 [5]	SY12 [5]
			IP67	IP67	IP67	IP67	IP67	IP67
								
		Running times	120°C	120°C	120°C	120°C	120°C	120°C
Open-close	AC 230 V	31 s	**SY6-230-3-T**					
		55 s		**SY7-230A-3-T**				
		55 s			**SY8-230A-3-T**			
		70 s				**SY9-230A-3-T**		
		70 s					**SY10-230A-3-T**	
		70 s						**SY12-230A-3-T**

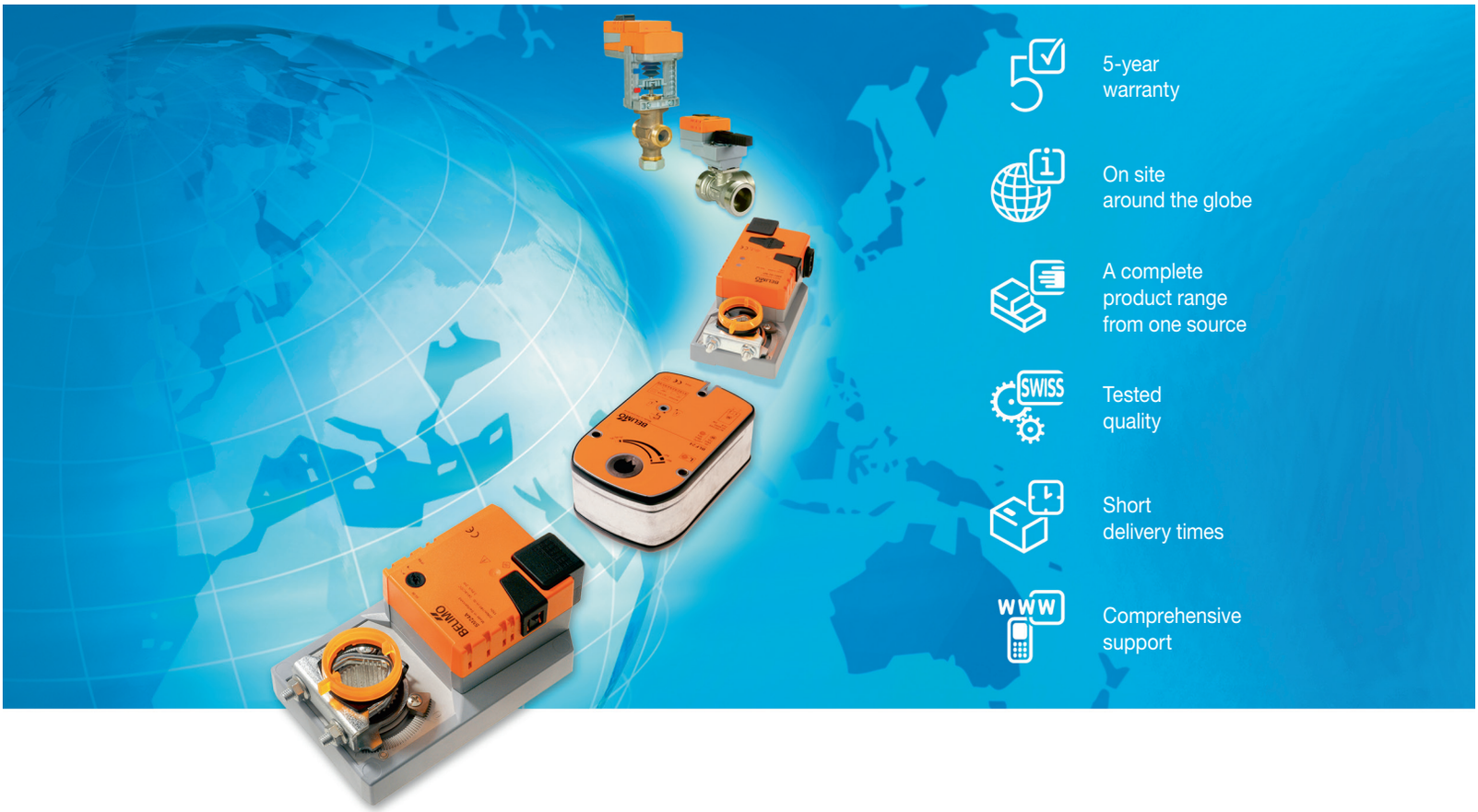
Flange (ISO 7005 / EN1092-2)		**PN 16** T_{max} = 120°C		**Range of use** Closed / open circuits (pH > 7)					
		**DN** [mm]	**k_{vs}** [m^3/h]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]	**Δp_s** [kPa]
D6400N	**D6400NL**	400	14200	600 b)	1000 c)				
D6450N	**D6450NL**	450	18800		600 d)	1000 d)			
D6500N	**D6500NL**	500	24100			600 d)	1000 e)		
D6600N	**D6600NL**	600	37300					600 f)	1000 g)
D6700N	**D6700NL**	700	42800						200 g)

b) Linkage: ZSY-401
c) Linkage: ZSY-701
d) Linkage: ZSY-702
e) Linkage: ZSY-901
f) Linkage: ZSY-902
g) Linkage: ZSY-903

5) see explanations, page 2

Notes

All-inclusive.



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