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Water Product Catalogue

Asia Pacific 2016

Belimo Asia Pacific

BELIMO[®]

Water Solution Product Range

In addition to motorised butterfly valves and globe valves, Belimo supplies unique, air bubble-tight characterised control valves for the precise control of heating and cooling circuits without energy loss. The award winning Belimo Energy Valve™ with integrated logic allows energy flows to be monitored and optimised, while the integrated Delta-T Manager™ ensures that the differential temperature does not fall below defined limit values. Never before has one valve done so much.

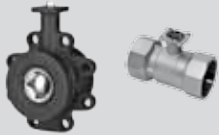
This year, Belimo proudly introduces the new series of Belimo ZoneTight™ compact valves, which are based on the proven characterised control valve technology - high close-off and zero leakage. With a different construction and function, they fulfil a wide variety of applications. The space-saving Quick Compact Valve QCV is for cooling and heating devices, under floor heating systems, radiators, etc. The Pressure Independent Quick Compact Valve PIQCV is a pressure-independent characterised control valve for the permanent supply of the exact amount of water to all of the heating and cooling elements.

The Belimo ZoneTight™ product family guarantees unproblematic and energy-efficient room and zone control in tight spaces.




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Characterised Control Valves - CCV

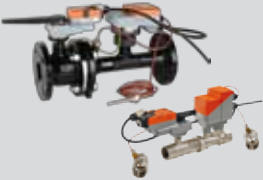
Product range	Valves	Description	Actuators
	<ul style="list-style-type: none"> R2..-S.. (2-way) R3..-S.. (3-way) R6..AO (2-way) 	<ul style="list-style-type: none"> Cold water and hot water systems Internal thread: DN15...50 Flange PN16: DN65...150 	<ul style="list-style-type: none"> Rotary Actuators: TR, LR, NR, SR and GR Series Mechanical Fail-Safe Rotary Actuators: TRF, L(R)F, NRFA and SRFA Series Fast-Running: LRQ, NRQ and SRQ Series Electronic Fail-Safe Actuators: GRK Series

Pressure Independent Quick Compact Valve - PIQCV


Product range	Valves	Description	Actuators
	<p>Internal thread:</p> <ul style="list-style-type: none"> C2..QP.. (2-way, pressure-independent zone valve, standard) C2..QPT.. (2-way, pressure-independent zone valve, with PT ports) 	<ul style="list-style-type: none"> Cold water and hot water: Nominal diameter DN15/20/25* PN25 Fan coils Cooling ceilings Zone air heaters / air coolers Floor heaters Radiators 	<ul style="list-style-type: none"> Rotary Actuators: CQ24A, CQ24A-SR, CQ230A, CQ24A-MPL, CQK24A, CQK24A-SR

*DN25 is planned to release in Q2 2016.


Energy Valves - EV

Product range	Valves	Description
	<ul style="list-style-type: none"> EV..+BAC (2-way) P6..-BAC (2-way) 	<ul style="list-style-type: none"> For modulating water-side control of air handling systems and heating systems Communication via BACnet IP, BACnet MS/TP, Belimo MP-Bus or conventional control Nominal diameter: DN15...150 Internal thread: DN15...50 Flange PN16: DN65...150


Electronic Pressure Independent Valves - EPIV

Product range	Valves	Description
	<ul style="list-style-type: none"> EP..+MP (2-way) P6..-MP (2-way) 	<ul style="list-style-type: none"> For modulating water-side control of air handling systems and heating systems Nominal diameter: DN15...150 Internal thread: DN15...50 Flange PN16: DN65...150

Pressure Independent Characterised Control Valves - PICCV


Product range	Valves	Description	Actuators
	<ul style="list-style-type: none"> PICCV...-... (2-way) 	<ul style="list-style-type: none"> Cold water and hot water systems Internal thread: DN15...50 	<ul style="list-style-type: none"> Rotary Actuators: LR, NR and SR Series Mechanical Fail-Safe Rotary Actuators: TRF, L(R)F, NRFA and SRFA Series Fast-Running: GRK Series Electronic Fail-Safe Actuators: LRQ, NRQ and SRQ Series

Globe Valves and Actuators

Product range	Valves	Description	Actuators
	<ul style="list-style-type: none"> H2..X-S (2-way) H3..X-S (3-way) H6..W-SP (2-way) H7..W-S (3-way) H7..W-D (3-way) H6..X-S(P) (2-way) H7..X-S (3-way) 	<ul style="list-style-type: none"> For open/close cold and warm water systems For modulating water side control of air handling units and heating systems Nominal diameter: DN15...250 With Internal thread or Flange PN16 or PN25 	<ul style="list-style-type: none"> New Generation Globe Valve Actuators: NV..A..-TPC (1000N), SV..A..-TPC (1500N), EV..A..-TPC (2500N), RV..A..-TPC (4500N) Electronic Globe Valve Actuators: LVK..A..-TPC (500N)*, NVK..A..-TPC (1000N), SVK..A..-TPC (1500N)*, AVK..A..-TPC (2000N)*, EVK..A..-TPC (2500N)






* Upon request

Globe Valves and Actuators (Continued)


Product range	Valves	Description	Actuators
	<ul style="list-style-type: none"> Honeywell Siemens TAC Johnson Control ... 	<ul style="list-style-type: none"> For retrofit application Universal linkage - retrofit portability with new design linkage Brand new appearance with universal valve interface Customising available Shorter lead time, lower inventory level 	<ul style="list-style-type: none"> New Generation Globe Valve Actuators: <ul style="list-style-type: none"> NV..A..-RE (1000N) SV..A..-RE (1500N) SVL..A..-RE (1500N) EV..A..-RE (2500N) RV..A..-RE (4500N) Electronic Globe Valve Actuators: <ul style="list-style-type: none"> LVK..A..-RE (500N)* NVK..A..-RE (1000N) SVK..A..-RE (1500N)* AVK..A..-RE (2000N)*

* Upon request




Butterfly Valves and Rotary Actuators

Product range	Valves	Description	Actuators
	Standard 2-way Motorised Butterfly Valve (BU..) <ul style="list-style-type: none"> Shut off or control function General HVAC application Material: <ul style="list-style-type: none"> Ductile cast iron body EPDM seat Nylon coated/Stainless steel disc Stainless steel shaft 	<ul style="list-style-type: none"> Media: Cold and hot water, glycol Nominal size and pressure: DN50...500, 1600kPa Max. close-off pressure: 1200kPa Temperature: 0...+95°C -20...+100°C Pipe connection: <ul style="list-style-type: none"> PN10/16 and Table E for wafer (DN50...300) PN16 for wafer (DN350...500) PN16 for lug (DN50...500) 	<ul style="list-style-type: none"> Rotary Actuators: <ul style="list-style-type: none"> SR..A..-5, GR..A..-5/-7, DR..A..-7, and SY series Fail-safe control function: <ul style="list-style-type: none"> SRF(..)A..-5, GRK..A..-5/-7
	Complementary 2-way Motorised Butterfly Valve (EXT-D6..AB) <ul style="list-style-type: none"> Shut off or control function Special for sea water or brine media Material: <ul style="list-style-type: none"> Ductile cast iron body NBR seat Aluminium bronze disc Stainless steel shaft 	<ul style="list-style-type: none"> Media: Sea water, brine Nominal size and pressure: DN50...800, 1600kPa Max. close-off pressure: 1200kPa (DN50...600) 1000kPa (DN700...800) Temperature: -10...+80°C Pipe connection: <ul style="list-style-type: none"> PN10/16 and Table E for wafer (DN50...300) PN16 for wafer (DN350...800) 	<ul style="list-style-type: none"> Rotary Actuators: <ul style="list-style-type: none"> SR..A..-5, GR..A..-5/-7, DR..A..-7, and SY and QB series
	Complementary 2-way Motorised Butterfly Valve (EXT-D6..D) <ul style="list-style-type: none"> Shut off or control function Special for large size pipe Material: <ul style="list-style-type: none"> Ductile cast iron body EPDM seat Nylon coated/Stainless steel disc Stainless steel shaft 	<ul style="list-style-type: none"> Media: Cold and hot water, glycol Nominal size and pressure: DN600...1200, 1600kPa Max. close-off pressure: 1200kPa (DN600) 1000kPa (DN700...1200) Temperature: -20...+100°C Pipe connection: PN16 for wafer 	<ul style="list-style-type: none"> Rotary Actuators: <ul style="list-style-type: none"> SY and QB series
	Complementary 2-way Motorised Butterfly Valve (EXT-D6..H) <ul style="list-style-type: none"> Shut off or control function Special for high Close-off pressure Material: <ul style="list-style-type: none"> Ductile cast iron body EPDM seat Stainless steel disc Carbon steel shaft 	<ul style="list-style-type: none"> Media: Cold and hot water, glycol Nominal size and pressure: DN50...500, 2500kPa Max. close-off pressure: 2200kPa Temperature: 0...+95°C -20...+100°C Pipe connection: <ul style="list-style-type: none"> ISO 7005-2 PN25 for lug (DN50...500) 	<ul style="list-style-type: none"> Rotary Actuators: <ul style="list-style-type: none"> SY and QB series
	Manual Butterfly Valve (EXT-D6..MH/MW) <ul style="list-style-type: none"> Shut off or control function General HVAC application Material: <ul style="list-style-type: none"> Ductile cast iron body EPDM seat Nylon coated/Stainless steel disc Stainless steel shaft 	<ul style="list-style-type: none"> Media: Cold and hot water, glycol Nominal size and pressure: DN50...500, 1600kPa Max. close-off pressure: 1200kPa Temperature: 0...+95°C -20...+100°C Pipe connection: <ul style="list-style-type: none"> PN10/16 and Table E for wafer (DN50...300) PN16 for wafer (DN350...500) PN16 for lug (DN50...500) 	<ul style="list-style-type: none"> Handle and worm gear: <ul style="list-style-type: none"> ZD6.. series


Steam Valves

Product range	Valves	Description	Actuators
	<ul style="list-style-type: none"> R6..AS (2-way) H6...X-S H6...X-SP H7...X-S 	<p>Cold water, hot water and steam</p> <ul style="list-style-type: none"> Nominal size and pressure: DN15/25/40/50/65/80, 1600kPa Flange PN16 Connection <p>Nominal size: DN15...250, 2500kPa</p> <ul style="list-style-type: none"> Flange PN16 Connection 	<ul style="list-style-type: none"> Rotary Actuators: LFH and SRFA...5 Series Globe Valve Actuators: NVK.. (1000N) SVK.. (1500N) AVK.. (2000N) EVK.. (2500N)

Fan Coil Valves and Actuators

Product range	Valves	Description	Actuators
	<p>Quick Compact Valve -QCV</p> <p>Internal thread:</p> <ul style="list-style-type: none"> C2..Q-. (2-way, characterised control valve) C3..Q-. (3-way, change-over ball valve) 	<p>Cold water and hot water:</p> <ul style="list-style-type: none"> Nominal diameter DN15/20 PN25 Fan coils Cooling ceilings Zone air heaters / air coolers Floor heaters Radiators 	<ul style="list-style-type: none"> Rotary Actuators: CQ24A CQ24A-SR CQ230A CQ24A-MPL CQK24A CQK24A-SR
	<ul style="list-style-type: none"> RB..Series Z..S-..Series 	<ul style="list-style-type: none"> For cold and hot water system and fan coil application Water temperature range: 0°C (non-freezing)...+100°C (cold or hot water) 	<ul style="list-style-type: none"> Standard Rotary Actuators: FRU.. Mechanical Fail-Safe Rotary Actuators: Z..S-..
	<p>Thermostat:</p> <ul style="list-style-type: none"> CFU.. <p>Temperature controller:</p> <ul style="list-style-type: none"> T24.. 	<ul style="list-style-type: none"> Used in offices, public buildings, production halls and commercial premises 2-pipe or 4-pipe system 	

Supplementary Product - Energy Meters

Product range	Valves	Description	Features
	<ul style="list-style-type: none"> Superstatic 440 Superstatic 449 Superstatic 539 Superstatic 749 	<ul style="list-style-type: none"> Nominal pressure PN16 AC 24V power supply EN 1434 Class 2 / 3 	<ul style="list-style-type: none"> Built-in M-Bus modules The tried and tested oscillating jet principle guarantees reliable, long-term metering of thermal energy and flow

For more detail, please refer to the specific product technical databook or contact your nearest Sales Representative.

Belimo solutions for water control devices

Belimo offers cost-effective solutions of high standard and quality for water control applications. Consultants, manufacturers and installers benefit from a range of advantages:

- Simplified planning with a consistent series of products for air and water applications
- Purchase of HVAC actuators from a single source (i.e one-stop shopping)
- Easy incorporation of all actuators into a total system thanks to compatible actuator technology
- Lower installation costs thanks to use of similar methods for all actuators.

The Characterised Control Valve is a full function control device

Belimo has once again demonstrated its innovative spirit, this time in the field of water flow control. The specially developed characterising disc gives the Characterised Control Valve excellent characteristics:

- Equal percentage flow characteristics
- No sudden jump in flow when the valve opens
- Kvs values comparable with those of lift-type Globe Valves of identical nominal size
- High close-off pressure
- Fewer pipe reducers needed
- Better part-load characteristics

Rotary Actuators for water control devices

Reliable operation of the valves is ensured through the use of suitable Rotary Actuators. Depending on the type of valve and the application, the choice is from the following families of actuators:

- The R.. range General Rotary Actuator: TR-2Nm, LR..A..-5Nm, NR..A..-10Nm, SR..A..-20Nm, GR..A..-40Nm
- The F.. range Fail-Safe Actuators: TRF-2Nm, LRF-4Nm, NRFA..-10Nm, SRFA..-20Nm
- All actuators except TRF have manual override facility. Actuators are prefitted, have a 1m lead, clear position indication and come in a variety of voltages and control signals.

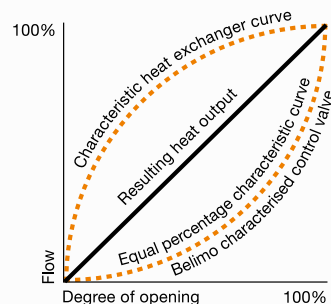
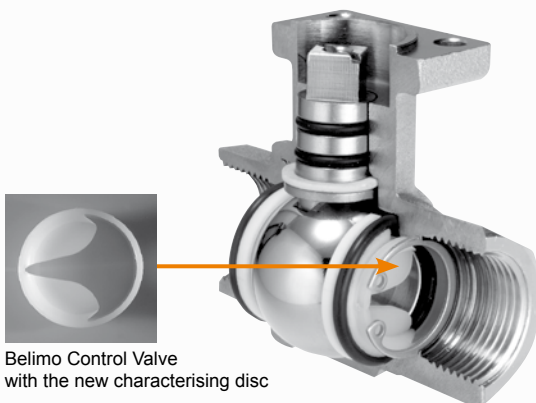
Belimo Characterised Control Valves: Equal-percentage valve characteristic thanks to the new characterising disc

In order to ensure good stability of control, the final controlling element must have an equal-percentage valve characteristic. This will give a linear relationship between the thermal output and the amount of valve opening.

In the past, this has only been possible by using lift-type Globe Valves. Under normal circumstances Ball Valves have an S-shaped characteristic which is considerably deformed in actual use because of the extremely high flow characteristic (Kvs) compared with the nominal size.

By developing a special characterising disc, Belimo has succeeded in solving this problem.

The side of the characterising disc that faces the ball is concave and rests on the surface of the ball. The flow is regulated as it passes through the hole in the ball and a V-shaped slot in the characterising disc. This reduces the Kvs value to value comparable with that of a lift-type Globe Valve of the same nominal size. It guarantees an equal-percentage valve characteristic.



Characteristic curve of a Belimo Control Valve

	Modulating/3-point			Open/Close		
	R2..XX-S..	R3..XX-S..	R6..AO	R2..-S..	R3..-S..	R6..AO
Type						
Nominal size DN[mm]	15...50					
DN[mm]	65...150					
Design	2-way					
	3-way: Through-flow A-AB, Bypass B-AB					
Characteristic curve	Equal-percentage					
Applications	Cold water and hot water systems					
Water temperature	-5...+100°C					
	-10...+120°C					
Materials	Body: nickel-plated brass					
	Body: GG25 polyester coated					
	Ball and spindle: stainless steel					
Connections	Internal thread BSP (ISO 7/1)					
	Flanged (ISO 7005-2)					
Rated pressure	PN40 (DN15...25)					
	PN25 (DN32...50)					
	PN16 (DN65...150)					
Closing pressure	1400kPa					
	700kPa (DN65...125)					
	400kPa (DN150)					

Characterised Control Valves and Rotary Actuators for modulating control



Flow characteristics of Characterised Control Valves
Characteristic: equal percentage



PN Designation: 3-way, PN40 (DN15...25), PN25 (DN32...50)
2-way, PN40 (DN15...25), PN25 (DN32...50)
PN16 (DN65...150)

Connection	Internal thread									
Kvs[m³/h]	0.25	0.4	0.63	1	1.6	2.5	4	6.3	4	6.3
DN[mm]	15	15	15	15	15	15	15	15	20	20
2-way	R2015-P25-S1	R2015-P4-S1	R2015-P63-S1	R2015-1-S1	R2015-1P6-S1	R2015-2P5-S1	R2015-4-S1	R2015-6P3-S1	R2020-4-S1	R2020-6P3-S1

Modulating DC (0)2...10V

TR24-SR

Fail-Safe TRF24-SR

Fast Running LRQ24A-SR

3-point

TR24

TR230-3

Fail-Safe TRF24-2

Connection	Internal thread						
Kvs[m³/h]	0.25	0.4	0.63	1	1.6	2.5	4
DN[mm]	15	15	15	15	15	15	15
3-way	R3015-P25-S1	R3015-P4-S1	R3015-P63-S1	R3015-1-S1	R3015-1P6-S1	R3015-2P5-S1	R3015-4-S1

Modulating DC (0)2...10V

TR24-SR

Fail-Safe TRF24-SR

Fast Running LRQ24A-SR

3-point

TR24

TR230-3

Fail-Safe TRF24-2

Characterised Control Valves

Open/Close Ball Valves and Rotary Actuators for shut-off or change-over functions

	Flow characteristics of Open/Close Ball Valves	PN Designation: 3-way, PN40 (DN15...25), PN25 (DN32...50) 2-way, PN40 (DN15...25), PN25 (DN32...50) PN16 (DN65...150)
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Connection	Internal thread						
Kvs[m³/h]	15	15	32	26	32	31	49
DN[mm]	15	20	20	25	32	40	50
2-way	R2015-S1	R2020-S1	R2020-S2	R2025-S2	R2032-S2**	R2040-S2**	R2050-S3

Open/Close	TR24	LR24A(-S)	NR24A(-S)
	TR230-3	LR230A(-S)	NR230A(-S)
Fail-Safe	TRF24(-S)	LRF24(-S)	NRFA(-S2)
	TRF230(-S)	LRF230(-S)	NRFA(-S2)
Fast Running	LRQ24A	SRQ24A	

Connection	Internal thread							
Kvs[m³/h]	15	12	32	26	18	32	31	49
DN[mm]	15	20	20	25	32	32	40	50
3-way	R3015-S1	R3020-S1	R3020-S2	R3025-S2	R3032-S2	R3032-S3	R3040-S3	R3050-S4

Open/Close	TR24	LR24A(-S)	NR24A(-S)	SR24A(-S)
	TR230-3	LR230A(-S)	NR230A(-S)	SR230A(-S)
Fail-Safe	TRF24(-S)	LRF24(-S)	NRFA(-S2)	SRFA(-S2)
	TRF230(-S)	LRF230(-S)	NRFA(-S2)	SRFA(-S2)
Fast Running	LRQ24A	NRQ24A	SRQ24A	

Characterised Control Valves and Rotary Actuators for modulating control

	Flow characteristics of Characterised Control Valves Characteristic: equal percentage		PN Designation: 3-way, PN40 (DN15...25), PN25 (DN32...50) 2-way, PN40 (DN15...25), PN25 (DN32...50) PN16 (DN65...150)
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Internal thread							Flange PN16					
6.3	10	10	16	16	25	25	40	63	100	140	230	320
25	25	32	32	40	40	50	50	65	80	100	125	150
R2025-6P3-S2	R2025-10-S2	R2032-10-S2	R2032-16-S2**	R2040-16-S2**	R2040-25-S2**	R2050-25-S3	R2050-40-S3	R664AO	R679AO	R6099AO	R6124AO	R6149AO

LR24A-SR	NR24A-SR	SR24A-SR-5	GR24A-SR-7
LRF24A-SR	NRF24A-SR	SRF24A-SR-5	GRK24A-MF-7
LRQ24A-SR	SRQ24A-SR	SRQS-5*	

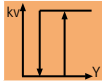
LR24A(-S)	NR24A(-S)	SR24A(-S)-5	GR24A-7
LR230A(-S)	NR230A(-S)	SR230A(-S)-5	GR230A-7
LF24-3	NRFS*	SRFS*	GRK24A-MF-7

Internal thread											
4	6.3	6.3	10	10	16	16	25	25	40	58	
20	20	25	25	32	32	40	40	50	50	50	
R3020-4-S1	R3020-6P3-S1	R3025-6P3-S2	R3025-10-S2	R3032-10-S2	R3032-16-S3	R3040-16-S3	R3040-25-S4	R3050-25-S4	R3050-40-S4	R3050-58-S4	

TR24-SR	LR24A-SR	NR24A-SR	SR24A-SR
TRF24-SR	LRF24A-SR	NRF24A-SR	SRF24A-SR
LRQ24A-SR	NRQ24A-SR	SRQ24A-SR	

TR24	LR24A(-S)	NR24A(-S)	SR24A(-S)
TR230-3	LR230A(-S)	NR230A(-S)	SR230A(-S)
TRF24-2	LF24-3	NRFS*	SRFS*

Open/Close Ball Valves and Rotary Actuators for shut-off or change-over functions



Flow characteristics of Open/Close Ball Valves

PN Designation: 3-way, PN40 (DN15...25), PN25 (DN32...50)
 2-way, PN40 (DN15...25), PN25 (DN32...50)
 PN16 (DN65...150)

Flange PN16				
120	180	230	390	570
65	80	100	125	150
R665AO	R680AO	R6100AO	R6125AO	R6150AO

SR24A(-S)-5	GR24A-7
SR230A(-S)-5	GR230A-7
SRFA(-S2)-5	GRK24A-7
SRFA(-S2)-5	

* NRFS/SRFS/SRQS..-5 model for Customising.

** Non-spring return: using NR.. series actuator for application > 70°C.

Spring return: using NRF.. series actuator for application > 70°C.

Fast-running: using NRQ.. series actuator for application > 70°C.

Open/Close or 3-point Rotary Actuators







	Rotary Actuator											
	Open/Close or 3-point										Open/Close	
	TR24	TR230-3	LR24A(-S)	LR230A(-S)	NR24A(-S)	NR230A(-S)	SR24A(-S)	SR230A(-S)	SR24A(-S)-5	SR230A(-S)-5	GR24A-7	GR230A-7
Type												
AC 230V		•		•		•		•		•		•
AC 100...240V				•		•		•		•		•
AC/DC 24V	•		•		•		•		•		•	
Motor torque (Nm)	2	2	5	5	10	10	20	20	20	20	40	40
Running time: 100...105s	•	•										
90s			•	•	•	•	•	•	•	•		
150s											•	•
Only 2-wire control		•										
Single-wire control or 2-wire control	•		•	•	•	•	•	•	•	•	•	•
Auxiliary switch model available "-S"			•	•	•	•	•	•	•	•		
Manual operation	•	•	•	•	•	•	•	•	•	•	•	•







	Fail-Safe Rotary Actuator							
	Open/Close							
	TRF24(-S)	TRF230(-S)	LRF24(-S)	LRF230(-S)	NRFA(-S2)	SRFA(-S2)	SRFA(-S2)-5	GRKS*1
Type								
AC 230V			•		•			•
AC 100...240V			•					
AC/DC 24V	•			•				
AC 24...240V/DC 24...125V					•	•	•	
Motor torque (Nm)	2	2	4	4	10	20	20	40
Running time: motor 75s, spring return 20s					•	•	•	
motor 45...75s, spring return 20s			•	•				
motor 45...75s, spring return 75s	•	•						
motor 150s, emergency setting 35s								•
Auxiliary switch model available "-S"	•	•	•	•				
"-S2"*					•	•	•	
Linkage included	•	•	•	•	•	•	•	•
Manual operation			•	•	•	•	•	•

* 2 X aux. switches available
 *1 Customising for GRKS..

	Mechanical Fail-Safe Rotary Actuator			
	3-point			
	TRF24-2	LF24-3*3	NRFS*2	SRFS*2
Type				
AC/DC 24V	•	•	•	•
Motor torque (Nm)	2	4	10	20
Running time: motor 90s, spring return 25s	•			
motor 45...75s, spring return 20s				
motor 150s, spring return 20s		•	•	•
Auxiliary switch model available "-S"			•	•

*2 Customising for NRFS/SRFS types
 *3 Linkage kit WLF required for LF.. actuators

General Rotary Actuator						
Modulating						
	TR24-SR	LR24A-SR	NR24A-SR	SR24A-SR	SR24A-SR-5	GR24A-SR-7
Type						
AC/DC 24V	•	•	•	•	•	•
Motor torque (Nm)	2	5	10	20	20	40
Running time: 90s 150s	•	•	•	•	•	•
Control signal Y DC (0)2...10V	•	•	•	•	•	•
Feedback signal U DC 2...10V		•	•	•	•	•

Fail-Safe Rotary Actuator						
Modulating						
	TRF24-SR	LRF24A-SR	NRF24A-SR	SRF24A-SR	SRF24A-SR-5	GRKS*
Type						
AC/DC 24V	•	•	•	•	•	•
Motor torque (Nm)	2	4	10	20	20	40
Running time: 90s 150s	•	•	•	•	•	•
Control signal Y DC (0)2...10V	•	•	•	•	•	•
Feedback signal U DC 2...10V	•	•	•	•	•	•
Linkage included	•	•	•	•	•	•

* Customising for GRKS..

(When ordering the actuator individually, NO or NC must be provided for fail-safe type actuators.)

Open/Close Ball Valves

2-way R2...S.. / R6..AO



					General Rotary Actuator						Fail-Safe Rotary Actuator					
					TR	LR..A..	NR..A..	SR..A..	SR..A..-5	GR..A..-7	TRF	L(R)F	NRFA..	SRFA..	SRFA..-5	GRKS..-7
DN [mm]	BSP	Type	Kvs [m³/h]	Close-off Pressure												
15	1/2"	R2015-S1	15	1400kPa	•						•					
20	3/4"	R2020-S1	15	1400kPa	•						•					
20	3/4"	R2020-S2	32	1400kPa		•						•				
25	1"	R2025-S2	18	1400kPa		•						•				
32	1 1/4"	R2032-S2	32	1400kPa		•	•					•	•			
40	1 1/2"	R2040-S2	40	1400kPa		•	•					•	•			
50	2"	R2050-S3	65	1400kPa			•						•			
65	2 1/2"	R665AO	120	700kPa					•						•	
80	3"	R680AO	180	700kPa					•						•	
100	4"	R6100AO	230	700kPa						•						•
125	5"	R6125AO	390	700kPa						•						•
150	6"	R6150AO	570	400kPa						•						•

3-way R3...S..

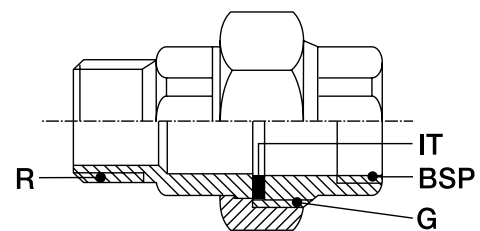


					General Rotary Actuator						Fail-Safe Rotary Actuator					
					TR	LR..A..	NR..A..	SR..A..	SR..A..-5	GR..A..-7	TRF	L(R)F	NRFA..	SRFA..	SRFA..-5	GRKS..-7
DN [mm]	BSP	Type	Kvs A-AB [m³/h]	Close-off Pressure												
15	1/2"	R3015-S1	15	1400kPa	•						•					
20	3/4"	R3020-S1	12	1400kPa	•						•					
20	3/4"	R3020-S2	32	1400kPa		•						•				
25	1"	R3025-S2	26	1400kPa		•						•				
32	1 1/4"	R3032-S2	18	1400kPa		•						•				
32	1 1/4"	R3032-S3	32	1400kPa			•						•			
40	1 1/2"	R3040-S3	31	1400kPa			•						•			
50	2"	R3050-S4	49	1400kPa				•						•		

The kvs value B-AB is 70% of A-AB.

Pipe connectors for Characterised Control Valves as accessories

DN[mm]	R/BSP	Type
15	1/2"	ZR2315
20	3/4"	ZR2320
25	1"	ZR2325
32	1 1/4"	ZR2332
40	1 1/2"	ZR2340
50	2"	ZR2350



2-way

R2..xx-S.. / R6..AO



						General Rotary Actuator						Fail-Safe Rotary Actuator					
						TR	LR..A..	NR..A..	SR..A..	SR..A..-5	GR..A..-7	TRF	L(R)F	NRFA..	SRFA..	SRFA..-5	GRKS..-7
DN [mm]	BSP	Type	Kvs [m³/h]	Close-off Pressure													
15	1/2"	R2015-P25-S1	0.25	1400kPa		•						•					
15	1/2"	R2015-P4-S1	0.4	1400kPa		•						•					
15	1/2"	R2015-P63-S1	0.63	1400kPa		•						•					
15	1/2"	R2015-1-S1	1.0	1400kPa		•						•					
15	1/2"	R2015-1P6-S1	1.6	1400kPa		•						•					
15	1/2"	R2015-2P5-S1	2.5	1400kPa		•						•					
15	1/2"	R2015-4-S1	4.0	1400kPa		•						•					
15	1/2"	R2015-6P3-S1	6.3	1400kPa		•						•					
20	3/4"	R2020-4-S1	4.0	1400kPa		•						•					
20	3/4"	R2020-6P3-S1	6.3	1400kPa		•						•					
25	1"	R2025-6P3-S2	6.3	1400kPa			•						•				
25	1"	R2025-10-S2	10	1400kPa			•						•				
32	1 1/4"	R2032-10-S2	10	1400kPa			•						•				
32	1 1/4"	R2032-16-S2	16	1400kPa			•	•					•	•			
40	1 1/2"	R2040-16-S2	16	1400kPa			•	•					•	•			
40	1 1/2"	R2040-25-S2	25	1400kPa			•	•					•	•			
50	2"	R2050-25-S3	25	1400kPa				•						•			
50	2"	R2050-40-S3	40	1400kPa				•						•			
65	2 1/2"	R664AO	63	700kPa					•							•	
80	3"	R679AO	100	700kPa					•							•	
100	4"	R6099AO	140	700kPa						•							•
125	5"	R6124AO	230	700kPa						•							•
150	6"	R6149AO	320	400kPa						•							•
						3-way											
						R3..xx-S..											
DN [mm]	BSP	Type	Kvs A-AB [m³/h]	Close-off Pressure													
15	1/2"	R3015-P25-S1	0.25	1400kPa		•						•					
15	1/2"	R3015-P4-S1	0.4	1400kPa		•						•					
15	1/2"	R3015-P63-S1	0.63	1400kPa		•						•					
15	1/2"	R3015-1-S1	1.0	1400kPa		•						•					
15	1/2"	R3015-1P6-S1	1.6	1400kPa		•						•					
15	1/2"	R3015-2P5-S1	2.5	1400kPa		•						•					
15	1/2"	R3015-4-S1	4.0	1400kPa		•						•					
20	3/4"	R3020-4-S1	4.0	1400kPa		•						•					
20	3/4"	R3020-6P3-S1	6.3	1400kPa		•						•					
25	1"	R3025-6P3-S2	6.3	1400kPa			•						•				
25	1"	R3025-10-S2	10	1400kPa			•						•				
32	1 1/4"	R3032-10-S2	10	1400kPa			•						•	•			
32	1 1/4"	R3032-16-S3	16	1400kPa				•						•			
40	1 1/2"	R3040-16-S3	16	1400kPa				•						•			
40	1 1/2"	R3040-25-S4	25	1400kPa					•						•		
50	2"	R3050-25-S4	25	1400kPa					•						•		
50	2"	R3050-40-S4	40	1400kPa					•						•		
50	2"	R3050-58-S4	58	1400kPa					•						•		

The kvs value B-AB is 70% of A-AB.



		LRQ..A../NRQ..A../SRQ..A. Fast Running Actuators 4Nm/8Nm/16Nm					
		Open/Close			Modulating		
		LRQ24A	NRQ24A	SRQ24A	LRQ24A-SR	NRQ24A-SR	SRQ24A-SR
Damper Actuators							
Torque	4Nm	•			•		
	8Nm		•			•	
	16Nm			•			•
AC/DC 24V		•	•	•	•	•	•
Running time	9s/90°	•	•	•	•	•	•
Open/Close		•	•	•			
Control signal	Y DC (0)2...10V				•	•	•
Feedback signal	U DC 2...10V, max. 0.5mA				•	•	•
Degree of protection:	IP54	•	•	•	•	•	•
Sound power level max.	52dB(A)	•	•	•	•	•	•
Ambient temperature	-30...+40°C	•	•	•	•	•	•
Cable	1m, 0.75mm ²	•	•	•	•	•	•
Position indication,	mechanical, remote visible	•	•	•	•	•	•

RobustLine CCV Actuators



SR..PX..series RobustLine IP66+IP67 CCV Actuators

IP66+IP67/NEMA4
 Torque: 20Nm
 For hazardous environment applications
 UV protected

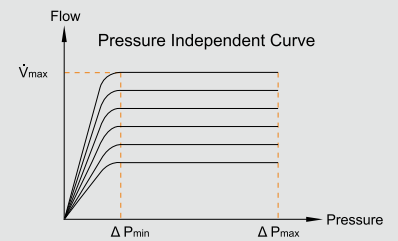
Pressure Independent Valves

Belimo has introduced a new range of innovative products for HVAC water applications. After years of research and thorough tests, Belimo is proud to introduce the PIQCV, EV, EPIV and PICCV range to the global market, which will bring enormous benefits to our customers.

Pressure Independent Control Valves

Belimo pressure independent control valve is the kind of valve that will supply a specific flow according to the control signal from actuator, regardless of pressure variations in a system. It can balance the dynamic system automatically and achieve a constant flow volume.

Pressure changes in water system are an adverse external disturbance to the temperature adjustment of overload area. Belimo pressure independent control valve absorbs all pressure changes and improves the control accuracy of flow and temperature in HVAC systems.



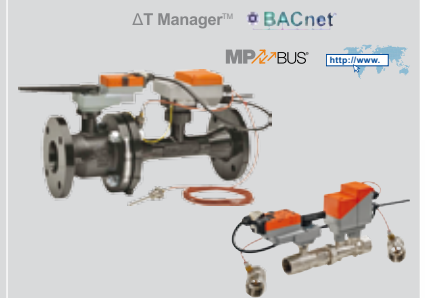
Pressure Independent Quick Compact Valve - PIQCV – NEW

- Control Valve + Dynamic balancing + dP Regulator
- Equal percentage characteristic
- Dynamic balancing (with actuator)
- Static balancing (with manual flow limiter)
- Little planning work thanks to fast and easy valve selection
- High energy efficiency – valve with low differential pressure (16 kPa) needed to be pressure independent; Belimo rotary actuator consumes up to 95% less energy than thermic actuator
- Long life expectancy thanks to the brushless motor and the robust valve design
- Snap-on connection (tool-free assembly)



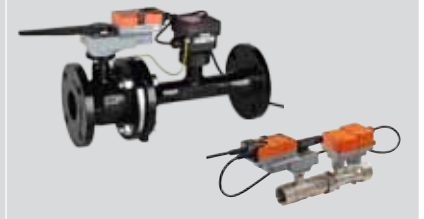
Belimo Energy Valve™ - EV

- Advanced control by utilising Belimo ΔT Manager™
- Combats water coil low ΔT and eliminates energy waste
- Optimises system performance by using advanced algorithm
- Data acquisition of medium temperature, water flow and energy consumption
- Tracking and diagnostics for better system maintenance
- Incorporates pressure independent and equal percentage Characterised Control Valve (CCV)
- Accurate automatic flow control which eliminates system hunting
- Simplified valve sizing and selection
- Easy all-in-one installation
- The data is archived for 13 months and is accessible



Electronic Pressure Independent Valves - EPIV

- Control Valve + Constant Flow Control + Flow Measurement
- Equal-percentage control performance guaranteed
- Lower installation cost
- Long life expectancy
- Simplified valve sizing and selection
- Automatic dynamic system balancing
- EPIV offers the direct allocation of flow and immediate feedback of actual flow



Pressure Independent Characterised Control Valves - PICCV

- Control Valve + Constant Flow Control
- Equal-percentage control performance guaranteed
- Easy selection, no Kvs calculation required
- Constant flow control
- Lower installation cost, long life expectancy
- Prevents overflow or underflow for fast start-up



Pressure Independent Quick Compact Valve PIQCV

	PIQCV
Nominal size DN [mm]	DN15...25*
Valve	2-way
Flow characteristic	Equal-percentage
Media	Cold and warm water, water with glycol up to max. 50% volume
Temperature of medium	-20...+120°C
Material Valve Body	Brass
Ball and stem	Stainless steel
Pipe Connections	Internal thread acc. to ISO 7/1
Body pressure rating	PN25
Close-off pressure	700kPa
Differential pressure range	16...350kPa
Flow tolerance	16...34kPa: ±10% @ \dot{V}_{nom} 35...350kPa: ±5% @ \dot{V}_{nom}
Flow	0.058...0.47l/s**



* DN25 is planned to release in Q2 2016.

** 0.47l/s in DN20 and DN25 are planned to release in Q2 2016.

Model No.	Nominal Size DN [mm]	Vnom [l/s]	Adjustable maximum flow rate Vmax [l/s]	PT ports	Actuators
C215QP-B	15	0.058	0.005...0.048	No	CQ24A
C215QPT-B	15	0.058	0.005...0.048	Yes	CQ24A-SR
C215QP-D	15	0.12	0.012...0.086	No	CQ230A
C215QPT-D	15	0.12	0.012...0.086	Yes	CQC230A
C220QP-F	20	0.27	0.028...0.23	No	CQD230A
C220QPT-F	20	0.27	0.028...0.23	Yes	CQ24A-MPL CQK24A CQK24A-SR

BELIMO
ZoneTight™



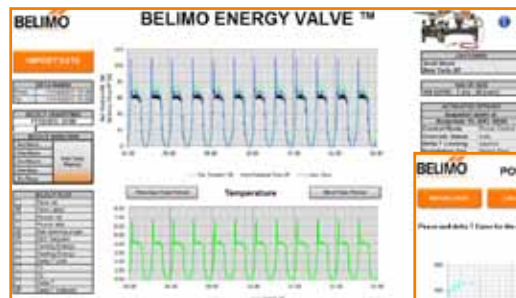
BELIMO Energy Valve™		
		
Nominal size DN[mm]	DN15...50	DN65...150
Design	2-way	
Flow characteristic	Equal-percentage (VDI/VDE 2178), linear	
Areas of application	Cold and hot water, water with glycol up to max. 60% vol.	
Temperature of medium	-10...120°C	-5...+120°C
Material Valve body	Brass body, nickel-plated	EN-JL1040 (GG25), with protective paint
Ball	Stainless steel AISI 316	
Connections	Internal thread (ISO 7-1 / EN10226-1)	Flange (ISO 7005-2 / EN 1092-1)
Rated pressure	1380kPa	690kPa

Model No.	Frequency [Hz]	DN [mm]	Torque [Nm]	Nominal Flow		Adjustable max. flow rate [m³/h]
				[l/s]	[l/min]	
EV015R+BAC	50/60	15	5Nm	0.35	21	0.38...1.26
EV020R+BAC	50/60	20	5Nm	0.65	39	0.7...2.34
EV025R+BAC	50/60	25	5Nm	1.15	69	1.24...4.14
EV032R+BAC	50/60	32	10Nm	1.8	108	1.94...6.48
EV040R+BAC	50/60	40	10Nm	2.5	150	2.7...9
EV050R+BAC	50/60	50	20Nm	4.8	288	5.18...17.28
EV050R+BAC-N	50/60	50	20Nm	6.3	378	6.8...22.68
P6065W800EV-BAC	50	65	20Nm	8	480	8.64...28.8
P6080W1100EV-BAC	50	80	20Nm	11	660	11.88...39.6
P6100W2000EV-BAC	50	100	40Nm	20	1200	21.6...72
P6125W3100EV-BAC	50	125	40Nm	31	1860	33.48...111.6
P6150W4500EV-BAC	50	150	40Nm	45	2700	48.6...162
P6065W806EV-BAC	60	65	20Nm	8	480	8.64...28.8
P6080W1106EV-BAC	60	80	20Nm	11	660	11.88...39.6
P6100W2006EV-BAC	60	100	40Nm	20	1200	21.6...72
P6125W3106EV-BAC	60	125	40Nm	31	1860	33.48...111.6
P6150W4506EV-BAC	60	150	40Nm	45	2700	48.6...162



Monitoring and adjustment

Belimo Delta T Manager algorithm reduces pumping and chiller/boiler operating costs by increasing chiller plant efficiency and eliminating waste zone operation.


- Advance data analytical tools
- Live data via web
- 13 months of trended data
- Coil performance characteristic
- Return of investment



Electronic Pressure Independent Valves

EPIV		
		
Nominal size DN[mm]	DN15...50	DN65...150
Design	2-way	
Flow characteristic	Equal-percentage (VDI/VDE 2178), linear	
Areas of application	Cold and hot water, water with glycol up to max. 60% vol.	
Temperature of medium	-10...120°C	
Material Valve body	Brass body, nickel-plated	EN-JL1040 (GG25), with protective paint
Ball	Stainless steel AISI 316	
Connections	Internal thread (ISO 7-1 / EN10226-1)	Flange (ISO 7005-2 / EN 1092-1)
Rated pressure	1380kPa	690kPa

Model No.	Frequency [Hz]	DN [mm]	Torque [Nm]	Nominal Flow		Adjustable max. flow rate [m³/h]
				[l/s]	[l/min]	
EP015R+MP	50/60	15	5Nm	0.35	21	0.38...1.26
EP020R+MP	50/60	20	5Nm	0.65	39	0.7...2.34
EP025R+MP	50/60	25	5Nm	1.15	69	1.24...4.14
EP032R+MP	50/60	32	10Nm	1.8	108	1.94...6.48
EP040R+MP	50/60	40	10Nm	2.5	150	2.7...9
EP050R+MP	50/60	50	20Nm	4.8	288	5.18...17.28
EP050R+MP-N	50/60	50	20Nm	6.3	378	6.8...22.68
P6065W800E-MP	50	65	20Nm	8	480	8.64...28.8
P6080W1100E-MP	50	80	20Nm	11	660	11.88...39.6
P6100W2000E-MP	50	100	40Nm	20	1200	21.6...72
P6125W3100E-MP	50	125	40Nm	31	1860	33.48...111.6
P6150W4500E-MP	50	150	40Nm	45	2700	48.6...162
P6065W806E-MP	60	65	20Nm	8	480	8.64...28.8
P6080W1106E-MP	60	80	20Nm	11	660	11.88...39.6
P6100W2006E-MP	60	100	40Nm	20	1200	21.6...72
P6125W3106E-MP	60	125	40Nm	31	1860	33.48...111.6
P6150W4506E-MP	60	150	40Nm	45	2700	48.6...162

PICCV-..	
	
Nominal size DN[mm]	DN15...50
Design	2-way
Flow characteristic	Equal-percentage
Areas of application	Cold and hot water, with 50% volume of glycol
Temperature of medium	-5...+100°C
Material Body	Forged nickel-plated brass
Ball and spindle	Chrome-plated brass
Pipe Connections	Internal thread acc. to ISO 7/1
Rated pressure	4140kPa (DN15...25), 2760kPa (DN32...50)
Closing pressure	1400kPa (actuator still capable of closing valve, leakage rate exceeds 0.01% maximum flow) Stainless steel AISI 316
Differential pressure	35...350kPa
Flow range	0.04...5.5l/s

Valve sizing table

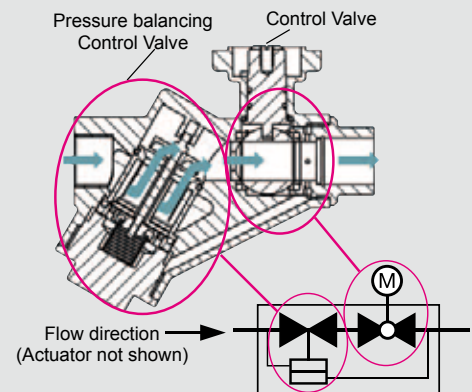
Type	DN [mm]	[l/s] Default	[m³/h]	Flow range** [l/s]	Actuators
PICCV-15-006	15	0.06	0.22	0.04...0.10	LR24A-MF/ LR24A(-S)/ LR230A(-S)*
PICCV-15-009	15	0.09	0.32		
PICCV-15-013	15	0.13	0.47	0.10...0.40	
PICCV-15-019	15	0.19	0.68		
PICCV-15-032	15	0.32	1.15		
PICCV-15-036	15	0.36	1.30		
PICCV-20-037	20	0.37	1.33		
PICCV-20-044	20	0.44	1.58		
PICCV-20-057	20	0.57	2.05		
PICCV-20-066	20	0.60	2.38		
PICCV-20-080***	20	0.80	2.88	0.50...1.10	
PICCV-25-069	25	0.69	2.48		
PICCV-25-088	25	0.88	3.17		
PICCV-25-098	25	0.98	3.53		
PICCV-25-102	25	1.02	3.67		
PICCV-32-099	32	0.99	3.56		
PICCV-32-112	32	1.12	4.03		
PICCV-32-127	32	1.27	4.57		
PICCV-32-151	32	1.51	5.44	NR24A-MF/ NR24A(-S)/ NR230A(-S)*	
PICCV-32-156	32	1.56	5.62		
PICCV-40-190	40	1.90	6.84		0.99...2.20
PICCV-40-208	40	2.08	7.74		
PICCV-50-235	50	2.35	8.46		1.22...2.70
PICCV-50-255	50	2.55	9.18		
PICCV-50-300	50	3.00	10.80	2.48...5.50	SR24A-MF/ SR24A(-S)/ SR230A(-S)*
PICCV-50-350	50	3.50	12.60		
PICCV-50-420	50	4.20	15.12		
PICCV-50-506	50	5.06	18.22		

* For more details of the actuator, please refer to Pressure Independent Characterised Control Valves databook.

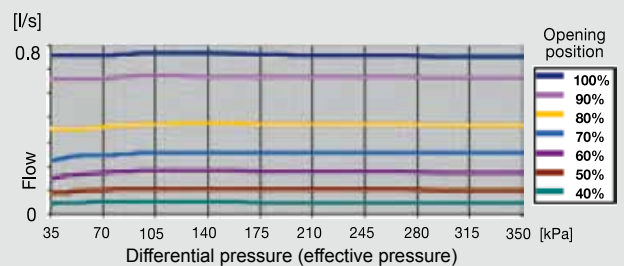
**Flow setting is dependent on combination of actuators (angle). For more details, please refer to PICCV flow limitation at our website www.belimo.ch.

*** For PICCV-20-080, On/Off Pressure Independent (PI) application is recommended.

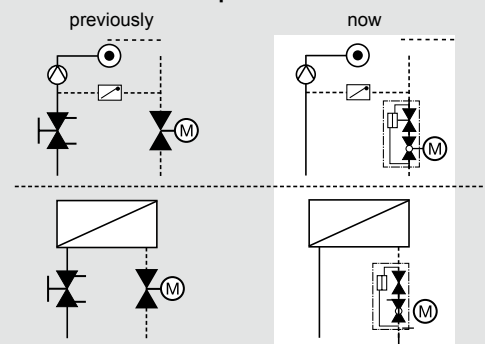
The flow is unaffected by pressure changes - the simplest way to control the flow rate



Flow diagram of PICCV-20-066



Only one valve is needed per consumer:



Belimo ZoneTight™ - Quick Compact Valves

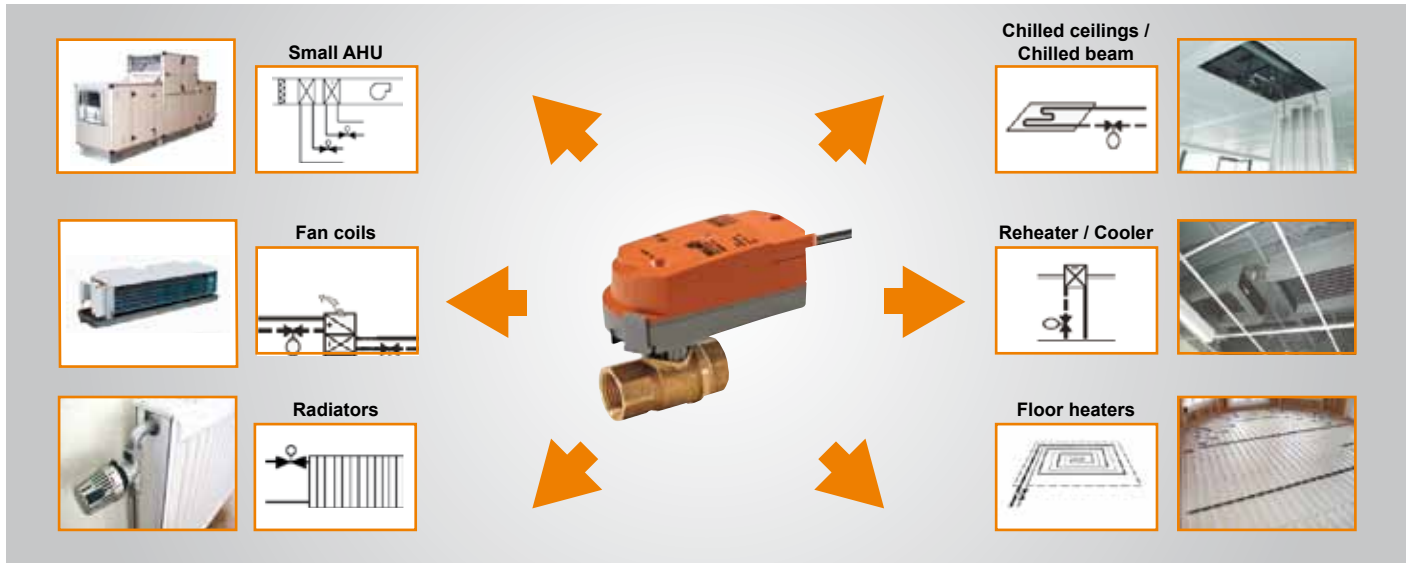


Quick Compact Valve QCV

- 2-way characterised control valves
- 3-way changeover ball valves
- Manually adjustable kvs values to meet the design flow rate
- No water loss thanks to the Belimo rotary valve technology (according to EN12266-1)
- PN25 body pressure rating
- Exceptionally compact structure for installation requires only 110mm height
- Snap-on connection (tool-free assembly)
- Long life expectancy thanks to the brushless motor and the robust valve design
- Communicative MP-Bus® actuator facilitates monitoring and maintenance






QCV Applications













		QCV
Nominal size DN [mm]		DN15...20
Media		Cold and warm water, water with glycol up to max. 50% volume
Temperature of medium		2...100°C
Body pressure rating		PN25
Close-off pressure		500kPa
Differential pressure		280kPa
Leakage rate		Leakage rate A, tight (EN 12266-1)
Pipe Connection		Internal thread acc. to ISO 7/1
Angle of rotation		90°
Material	Valve body	Brass
	Ball	Chrome-plated brass
	Stem	Brass
	Stem seal	O-ring EPDM
	Valve seat	PTFE, O-ring EPDM



Fan Coil Valves and Actuators			
Type	Rotary 	Rotary 	Solenoid 
Valve	QCV	RB series	Z..S.. series
Media	2...100°C cold and hot water	5...100°C cold and hot water	0...93°C cold and hot water
Nominal size DN15 (2-way/ 3-way)	•	•	•
DN20 (2-way/ 3-way)	•	•	•
DN25 (2-way/ 3-way)		•	•
Body pressure rating	PN25	PN20	PN20
Close-off pressure	350kPa	600kPa	303-414kPa
Flow rate Kvs *	4...8 m³/h, adjustable	1.5...8 m³/h	1.7...2.6 (9.3*) m³/h
Pipe connector	Internal thread ISO 7/1	Internal thread ISO 7/1	Internal thread BSP
Actuator			
Rated power supply AC230V, 50Hz		•	
AC230V, 50/60Hz	•		•
AC/DC 24V	•	•	•
Electrical connection	1m PVC cable	1m PVC cable	10cm, 2x0.75mm²
Running time Motor	75s	100...105s	13...18s
Spring	60s		4...5s
Actuator type Non-Fail-Safe	•	•	
Fail-Safe Spring return			•
Fail-Safe SuperCap	•		

* large Kvs model for DN25 only

		Thermostat				Temperature controller		
		Digital				Mechanical	Digital	Mechanical
								
Type		CFU-D series	EXT-CFU-230-D..	EXT-RCP-24	EXT-RCF-24	CFU-M series	EXT-T24-D201	T24A1T
Nominal voltage	AC 24V			•	•		•	•
	AC 230V	•	•			•		
2-pipe	Cooling only	•				•		
	Cooling or heating	•	•	•	•	•	•	•
4-pipe	Cooling or heating	•	•					
Size	Standard 86x86mm		•	•	•		•	•
Fan speed	Single fan speed	•		•	•			
	3-fan speed	•	•	•	•	•		
Occupancy mode	Occupancy contact	•	•*	•	•		•	•
	External sensor contact	•	•*	•	•	•	•	•
Control Signal	Open/Close	•				•		
Output	DC 0-10V		•	•			•	•
	DC 2-10V		•	•			•	
	3-point floating				•			•
Matching valve series	QCV 	•	•	•	•	•	•	•
	RB series 	•			•	•		•
	Z..S.. series 	•				•		

*Models with occupancy contact and external sensor contact is planned to release in Q4 2015.

Applications

Belimo has developed a wide range of Butterfly Valves and Actuators meeting all specific and stringent demands of HVAC applications. These require positive shut off and control for all kinds of flow media, with enormous efforts and continual innovation. Typical applications include chiller isolations, cooling tower isolations, large air handling units, boilers, change-over systems, water and ice storage systems and bypass control applications.

Features and benefits

- Double-D fit of stem connecting with the disc, gives a stronger and more compact structure. It can produce self-adjusting centring due to rotary movement, thanks to a unique design. It can also optimise and minimise interference-fit, resulting in low operation torque.
- Innovative double supports of trench seat without back can ensure positive assembly among valve body, valve seat and disc and can keep rotation of disc consistently running smoothly, minimising compressional deformation and seat brushing off.
- Advanced ball profile of disc with narrow sealing belt can provide complete isolation of HVAC flow media from valve body by double-prevention and can eliminate internal leakage and reduce seat tearing or fatiguing due to bunching. The primary seal is achieved by an interference-fit of the molded seat flat with the disc hub. The secondary seal is created when the stem diameter is greater than the internal stem hole.
- The nylon coated disc features excellent anti-corrosion and low friction coefficient with exact casting, precision machining and advanced coated process which gives a smooth rotation and close disc-to-seat relationship. The stainless steel disc is rust proof due to the hand polishing process which can decrease operation torque for the actuator and withstand higher HVAC flow media temperature.
- Three anti-corrosion RPTFE bushings (made of Reinforced PolyTetraFluoroEthylene), EPDM O ring (made of Ethylene Propylene Diene Monomer) and stainless steel stem circlip completely isolate flow media from top flange, synchronise rotation between stem and disc, decrease operation torque and ensure long life expectancy.
- Meet stringent and extensive HVAC flow media variations with wide and circular arc flange sealing surface. This can be suitable for all flange connection standards as ISO, JIS, AS without additional gasket in Asia Pacific.
- Belimo offers numerous advanced motorised actuators, along with high quality manual handle or worm gear drives, ensuring a highly reliable performance and value added Butterfly Valve combination solution is provided.



	Lug	Wafer
	BU6..L..(S)	BU6..(S)
Nominal size DN [mm]	DN50...500	
Nominal pressure	1600kPa	
Max. close-off pressure	1200kPa	
Flow media	Nylon coated disc SS304 disc	Cold water and hot water-10...120°C Cold water and hot water, max. 50% glycol
Temperature of medium	Nylon coated disc SS304 disc	0...+95°C -20...+100°C
Material	Ductile cast iron GGG40 (DN50...500)	
Body		
Disc	Nylon coated ductile cast iron disc / stainless steel 304 disc (S)	
Seat	EPDM	
Stem	Stainless steel 416	
Bushing	RPTFE	
Connections For pipe flange	PN16 for lug (DN50...500)	ISO 7005.2, AS 2129 PN10/16 and Table E for wafer (DN50...300) PN16 for wafer (DN350...500)
For actuator	ISO 5211	



Butterfly Valves and Rotary Actuators for open/close or modulating control


Nylon coated ductile cast iron disc (BU6..series)
Nominal pressure: 1600kPa



Kvs [m3/h]	80	170	290	560	870	1340	2690	5540	7540	10300	14300	18900	24200		
DN [mm]	50	65	80	100	125	150	200	250	300	350	400	450	500		
Model	Water	BU6..	BU650	BU665	BU680	BU6100	BU6125	BU6150	BU6200	BU6250	BU6300	BU6350	BU6400	BU6450	BU6500
	Lug	BU6..L	BU650L	BU665L	BU680L	BU6100L	BU6125L	BU6150L	BU6200L	BU6250L	BU6300L	BU6350L	BU6400L	BU6450L	BU6500L

 With Open/Close actuator	IP54	SR24A(-S)-5 SR230A(-S)-5 SRFA-5 SRFA-S2-5		GR..A-5 GRK...-5	GR..A-7 GRK...-7	DR...-7								
	IP67	SY1-24-3-T SY1-230-3-T		SY1..	SY2..		SY3..	SY4..		SY6..	SY7..	SY8..		
 With Modulating actuator	IP54	SR24A-SR-5 SRF24A-SR-5		GR..A-5 GRK...-5	GR..A-7 GRK...-7	DR...-7								
	IP67	SY1U24-SR-T SY1U230-SR-T		SY1..	SY2..		SY3..	SY4..		SY6..	SY7..	SY8..		

Note: Stainless Steel disc (BU6..S series) is available on request.

Standard Rotary Actuators (IP54)								
								
Type	SR24A-5	SR24A-S-5	SR230A-5	SR230A-S-5	SR24A-SR-5	GR24A-5/7	GR230A-5/7	GR24A-SR-5/7
Voltage AC/DC 24V 230V	•	•	•	•	•	•	•	•
Torque	20Nm	20Nm	20Nm	20Nm	20Nm	40Nm	40Nm	40Nm
Control signal Open/Close or 3-point Modulating	•	•	•	•	•	•	•	•
Integral, potential-free auxiliary switch 0...100% adjustable		•		•				
Manual override	•	•	•	•	•	•	•	•

Standard Rotary Actuators (IP54)				
				
Type	DR24A-MP-7	DR24A-SR-7	DR24A-7	DR230A-7
Voltage AC/DC 24V 230V	•	•	•	•
Torque	90Nm	90Nm	90Nm	90Nm
Control signal Open/Close or 3-point Modulating	•	•	•	•
Integral, potential-free auxiliary switch 0...100% adjustable	•	•		
Manual override	•	•	•	•

Mechanical Fail-Safe Rotary Actuators (IP54)			Electronic Fail-Safe Rotary Actuators (IP54)		
					
Type	SRFA-5	SRFA-SR-5	SFR24A-S2-5	GRK24A-7	GRK24A-MF-7
Voltage AC/DC 24V AC 24...240V	•	•	•	•	•
Torque	20Nm	20Nm	20Nm	40Nm	40Nm
Control signal Open/Close or 3-point Modulating	•	•	•	•	•
Fixed 10%, adjustable 10...90%		•			
Modulating		•			•
Fail-Safe	•	•	•	•	•
Manual override	•	•	•	•	•

SY.. Large Torque Multi-function Actuators

- Large Torque Multi-function Actuators for operation of DN50...500 Butterfly Valves
- Torque 35...1500Nm
- Open/Close or 3-point control: SY..24-3-T, SY..230-3-T
- Open/Close or 3-point control: SY..24-3-T, SY..230-3-T
- Modulating control: SY1U24-SR-T, SY1U230-SR-T
SY..U24-MF-T, SY..U230-MF-T (SY2..8)
- MP models available on request



Type	SY.. Large Torque Multi-function Rotary Actuators (IP67)			
	Open/Close		Modulating	
	SY..-24-3-T	SY..-230-3-T	SY..U24-SR/MF-T	SY..U230-SR/MF-T
Voltage 230V AC 24V	•	•	•	•
Control signal Open/Close or 3-point Modulating	•	•	•	•
Control/feedback signal DC (0)2...10V (Standard)			•	•
Degree of protection: IP67	•	•	•	•
2 auxiliary switches	•	•	•	•
Heater	•	•	•	•
Torque range 35...1500Nm 2000...3500Nm (on request)	•	•	•	•
Manual override	•	•	•	•

Complementary Motorised Butterfly Valves and Manual Butterfly Valves



Carefully matched valve range

Belimo also provides motorised 2-way and 3-way Globe Valves in its range for mixing applications in HVAC systems.

The key feature of the valves is high performance and quality combined with low leakage rates. For the most popular pressure of PN16, they are available in nominal sizes from DN15 to DN250.

Innovative actuator range

The specially developed Linear Actuators are based on the proven technology of Belimo Damper Actuators. They allow reliable operation of Globe Valves of up to 50mm stroke. The Linear Actuators are of extremely solid construction and are powerful and very durable. They follow the same product philosophy as the actuators from the other ranges, including the methods of electrical connection, mounting, etc.

The Linear Actuators are available in capacity ratings from 500N to 4500N. Electronic Fail-safe version is also available.

Valves and actuators are usually supplied as combined functional units. However, they can also be ordered separately.

Optimum link-ups thanks to Multi-Function Technology (MFT)

Linear Actuators with Multi-Function Technology (MFT) incorporate intelligent electronics which allow the actuators to be matched precisely to the valves. This produces a functional unit of valve and actuator with extreme accuracy. MFT actuators are also able to transmit status and operating signals to a central plant control system. This means that they not only contribute to efficiency of operation but also reduce operating costs. Parameters are assigned to the actuators in the same way as to damper actuators. MFT actuators are easy to incorporate into field bus systems.



		External thread PN25		Flange PN16			Flange PN25	
		2-way 	3-way 	2-way 	3-way 	3-way 	2-way 	3-way
Type		H2..X-S	H3..X-S	H6..W-SP	H7..W-S	H7..W-D**	H6..X-S(P)*	H7..X-S*
Converting			•		•			•
Diverting			•			•		
Nominal width	DN 15...50	•	•					
DN[mm]	DN 65...250			•	•	•		
	DN 15...250						•	•
Pipe connection	External thread (ISO7/1, GBT7306.1)	•	•					
	Flange PN16 (ISO7005 / JB/T 4700-2)			•	•	•		
	Flange PN25 (ISO7005 / JB/T 4700-2)						•	•
Flow characteristic	A-AB equal-percentage (to VDI/VDE 2173) n(gl)=3	•	•	•	•	•	•	•
	B-AB equal-percentage		•		•	•		•
Temperature of medium	-25...+130°C	•	•					
	-25...+150°C			•	•	•		
	-25...+180°C						•	•
Area of application	Cold and warm water	•	•	•	•	•	•	•
	Hot and steam water						•	•
	Closed water circuit	•	•	•	•	•	•	•
	With max. 50% volume of glycol, hydrazine, phosphate	•	•	•	•	•	•	•
	Refrigerant (R12, R22, R134a, R202)	•	•					
Leakage rate	Control pass <0.02% Kvs	•	•	•	•	•	•	•
	Bypass <0.1% Kvs		•		•	•		•
Materials	Valve Body Stainless Steel 304	•	•					
	Ductile Iron GGG40			•	•	•	•	•
	Valve cone Stainless Steel 304	•	•	•	•	•	•	•
	Valve stem Stainless Steel 304	•	•					
	Stainless Steel 630			•	•	•	•	•
	Valve seat Stainless Steel 304	•	•	•	•	•	•	•
	Stem gland seal Teflon	•	•	•	•	•	•	•
Rate pressure	PN16			•	•	•		
	PN25	•	•				•	•

* Available in Q3 2015

** Diverting application is on request.

Selection Table for Globe Valves and Actuators - 2-way







				LV..	NV..	SV..	AV..	EV..	RV..
				500N 15mm	1000N 20mm	1500N 20mm	2000N 32mm	2500N 40mm	4500N 40mm
	Running time	Control (Operating Range)							
3-point	AC/DC 24V	150s	2 wires		NV24A-TPC	SV24A-TPC		EV24A-TPC	
	AC 230V	150s	2 wires		NV230A-TPC	SV230A-TPC		EV230A-TPC	
Modulating	AC 230V	150s	DC (0)2...10V		NV24A-MP-TPC	SV24A-MP-TPC		EV24A-MP-TPC	RV24A-MF
3-point	AC/DC 24V	150s/35s@xxx	2 wires	LVK24A-3-TPC	NVK24A-3-TPC	SVK24A-3-TPC	AVK24A-3-TPC	EVK24A-3-TPC	
Modulating	AC/DC 24V	150s/35s@xxx	DC (0)2...10V	LVK24A-MP-TPC	NVK24A-MP-TPC	SVK24A-MP-TPC	AVK24A-MP-TPC	EVK24A-MP-TPC	
3-point	AC 230V	150s/35s	2 wires	LVK230A-3	NVK230A-3	SVK230A-3	AVK230A-3	EVK230A-3	


External thread (ISO 7/1) PN25, T _{max} - 130°C															
2-way															
		DN [mm]	kvs [m3/h]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]
H2015X-S		15	1.9	500	500	800	800								
H2020X-S		20	4.4	500	500	800	800								
H2025X-S		25	8	400	400	600	600								
H2032X-S		32	10	350	350	600	600	800	800						
H2040X-S		40	20	300	300	450	450	700	700						
H2050X-S		50	32			300	300	500	500						

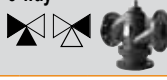
Flange (ISO 7005) PN16, T _{max} - 150°C															
2-way															
		DN [mm]	kvs [m3/h]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]
H6065W-SP		65	50					1600	1000						
H6080W-SP		80	80							1600	1000	1600	1000	1600	1000
H6100W-SP		100	125									1600	1000	1600	1000
H6125W-SP		125	200									1600	1000	1600	1000
H6150W-SP		150	300									1600	1000	1600	1000
H6200W-SP		200	520											1600	1000
H6250W-SP		250	750											1600	1000


Flange (ISO 7005) PN25, T _{max} - 180°C															
2-way															
		DN [mm]	kvs [m3/h]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]	ΔPs [kPa]	ΔPmax [kPa]
H6015X-S		15	2			1000	500								
H6020X-S		20	3			1000	400								
H6025X-S		25	5			1000	350								
H6032X-S		32	8			600	300	1000	500						
H6040X-SP		40	20					1600	1000						
H6050X-SP		50	32					1600	1000						
H6065X-SP		65	50					1600	1000						
H6080X-SP		80	80							1600	1000	1600	1000	1600	1000
H6100X-SP		100	125									1600	1000	1600	1000
H6125X-SP		125	200									1600	1000	1600	1000
H6150X-SP		150	300									1600	1000	1600	1000
H6200X-SP		200	520											1600	1000
H6250X-SP		250	750											1600	1000

Selection Table for Globe Valves and Actuators - 3-way

				LV..	NV..	SV..	AV..	EV..	RV..
									
				500N 15mm	1000N 20mm	1500N 20mm	2000N 32mm	2500N 40mm	4500N 40mm
		Running time	Control (Operating Range)						
3-point	AC/DC 24V	150s	2 wires		NV24A-TPC	SV24A-TPC		EV24A-TPC	
	AC 230V	150s	2 wires		NV230A-TPC	SV230A-TPC		EV230A-TPC	
Modulating	AC 230V	150s	DC (0)2...10V		NV24A-MP-TPC	SV24A-MP-TPC		EV24A-MP-TPC	RV24A-MF
3-point	AC/DC 24V	150s/35s@xxx	2 wires	LVK24A-3-TPC	NVK24A-3-TPC	SVK24A-3-TPC	AVK24A-3-TPC	EVK24A-3-TPC	
Modulating	AC/DC 24V	150s/35s@xxx	DC (0)2...10V	LVK24A-MP-TPC	NVK24A-MP-TPC	SVK24A-MP-TPC	AVK24A-MP-TPC	EVK24A-MP-TPC	
3-point	AC 230V	150s/35s	2 wires	LVK230A-3	NVK230A-3	SVK230A-3	AVK230A-3	EVK230A-3	

External thread (ISO 7/1)		PN25, T _{max} - 130°C																
3-way 	DN [mm]	kvs [m3/h]	ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]	
			H3015X-S	15	1.9	500	500	800	800									
H3020X-S	20	4.4	500	500	800	800												
H3025X-S	25	8	400	400	600	600												
H3032X-S	32	10	350	350	600	600	800	800										
H3040X-S	40	20	300	300	450	450	700	700										
H3050X-S	50	32			300	300	500	500										

Flange (ISO 7005)		PN16, T _{max} - 150°C																
3-way 	DN [mm]	kvs [m3/h]	ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]	
			H7065W-S	65	50					280	280	250	250					
H7080W-S/-D	80	80							250	250	300	300	600	600				
H7100W-S/-D	100	125									200	200	450	450				
H7125W-S/-D	125	200									110	110	250	250				
H7150W-S/-D	150	300									60	60	150	150				
H7200W-S	200	520											130	130				
H7250W-S	250	750											50	50				

Flange (ISO 7005)		PN25, T _{max} - 180°C																
3-way 	DN [mm]	kvs [m3/h]	ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]		ΔPs [kPa]		ΔPmax [kPa]	
			H7015X-S	15	2			500	500									
H7020X-S	20	3			400	400												
H7025X-S	25	5			350	350												
H7032X-S	32	8			300	300	500	500										
H7040X-S	40	20					500	500										
H7050X-S	50	32					300	300										
H7065X-S	65	50					450	450										
H7080X-S	80	80							250	250	300	300	600	600				
H7100X-S	100	125									200	200	450	450				
H7125X-S	125	200									110	110	250	250				
H7150X-S	150	300									60	60	150	150				
H7200X-S	200	520											130	130				
H7250X-S	250	750											50	50				

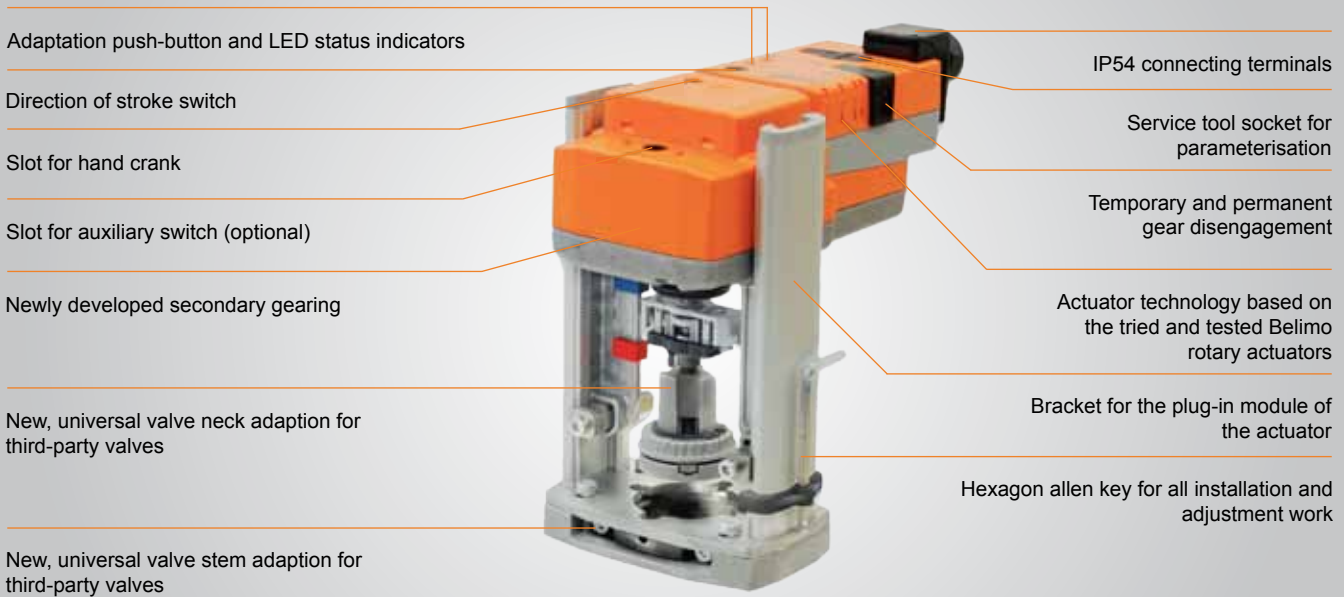
Globe Valve Actuators (Retrofit)

Quick Compact Valve QCV

- Universal valve interface, one for all - simple selection
- Retrofit portability with new design linkage
- Extended product range - higher stroke force
- Higher close-off pressure achieved
- Belimo quality product with brand new appearance
- Actuator configurable for customer specific needs
- Meets with various HVAC control signals as (0)2...10V, 4...20mA
- Shorter lead time, lower inventory level



Retrofit Globe Valve Actuator



Non Fail-Safe Globe Valve Actuator Open/Close							
Type	NV24A-RE	NV230A-RE	SV24A-RE	SV230A-RE	SVL230A-RE	EV24A-RE	EV230A-RE
AC 230V		•		•	•		•
AC/DC 24V	•		•			•	
Nominal stroke [mm]	20	20	20	20	50	50	50
Actuating force [N]	1000	1000	1500	1500	1500	2500	2500
Running time: 150s	•	•	•	•	•	•	•
Sound Power Level	45dB(A)		35dB(A)		55dB(A)	56dB(A)	
Position Indicator	Mechanically, 5...20mm stroke				Mechanically, 5...50mm stroke		
Manual operation	Gear disengagement with push-button, can be locked						
Connection Supply / Control	Terminals 4mm ²						

New Generation Globe Valve Actuators (Retrofit)

Non Fail-Safe Globe Valve Actuator Modulating					
Type	NV24A-MP-RE	SV24A-MP-RE	SVL24A-MP-RE	EV24A-MP-RE	RV24A-MP-RE
AC/DC 24V	•	•	•	•	•
Nominal stroke [mm]	20	20	50	50	50
Actuating force [N]	1000	1500	1500	2500	4500
Running time 150s	•	•	•	•	•
90...150s, adjustable	•	•	•	•	•
Control signal Y DC (0)2...10V	•	•	•	•	•
MP-Bus	•	•	•	•	•
Feedback signal U DC 2...10V, adjustable	•	•	•	•	•
Intergrated MP-Bus interface	•	•	•	•	•
Closing point selectable	•	•	•	•	•
Automatic stroke adaption	•	•	•	•	•
Sound power level	45dB(A)	35dB(A)	55dB(A)	56dB(A)	
Position indicator	Mechanically, 5...20mm stroke			Mechanically, 5...50mm stroke	
Manual operation	Gear disengagement with push-button, can be locked				
Connection supply / control	Terminals 4mm ²				1m, 4x0.75mm ²

Electronic Fail-Safe Globe Valve Actuator Open/Close								
Type	LVK24A-3-RE	LVK230A-3-RE	NVK24A-3-RE	NVK230A-3-RE	SVK24A-3-RE	SVK230A-3-RE	AVK24A-3-RE	AVK230A-3-RE
AC 230V		•		•		•		•
AC/DC 24V	•		•		•		•	
Nominal stroke [mm]	15	15	20	20	20	20	20	20
Actuating force [N]	500	500	1000	1000	1500	1500	2000	2000
Running time 150s	•	•	•	•	•	•	•	•
Actuating time emergency control function 35s	•	•	•	•	•	•	•	•
Control signal Y Open/Close	•	•	•	•	•	•	•	•
Position indicator	Mechanically, 5...15mm stroke		Mechanically, 5...20mm stroke				Mechanically, 5...32mm stroke	
Automatic stroke adaption	•	•	•	•	•	•	•	•
Sound power level	45dB(A)		45dB(A)		35dB(A)		60dB(A)	
Manual operation	Gear disengagement with push-button, can be locked							
Connection Supply / Control	Terminals 4mm ²							

Electronic Fail-Safe Globe Valve Actuator Modulating				
Type	LVK24A-MP-RE	NVK24A-MP-RE	SVK24A-MP-RE	AVK24A-MP-RE
AC/DC 24V	•	•	•	•
Nominal stroke [mm]	15	20	20	32
Actuating force [N]	500	1000	1500	2000
Running time 150s	•	•	•	•
35...150s, adjustable	•	•	•	•
Actuating time emergency control function 35s	•	•	•	•
Control signal Y DC (0)2...10V	•	•	•	•
MP-Bus	•	•	•	•
Feedback signal U DC 2...10V, adjustable	•	•	•	•
Intergrated MP-Bus interface	•	•	•	•
Closing point selectable	•	•	•	•
Position indicator	Mechanically, 5...15mm stroke	Mechanically, 5...20mm stroke		Mechanically, 5...32mm stroke
Automatic stroke adaption	•	•	•	•
Sound power level	45dB(A)	45dB(A)	35dB(A)	60dB(A)
Manual operation	Gear disengagement with push-button, can be locked			
Connection Supply / Control	Terminals 4mm ²			

Steam Valves

Technical Data		Steam Valves	
Flow medium	Cold water, hot water and steam		
Temperature of medium	0...175°C		
Rated pressure Ps	1600kPa		
Flow characteristic	Equal percentage		
Leakage rate	0...0.01%Kvs value (Max. 0.06%Kvs for DN15)		
Pipe connector	ISO 7005-2		
Closing pressure Δ ps	DN15/25/40/50/65	1000kPa	
	DN80	700kPa	
Angle of rotation	90°		
Material	Body	Grey cast iron	
	Seat	Heat-resistant PTFE	
	Stem	Stainless steel	
	Gland packing	Inorganic fibre	
	Gasket	Non-asbestos joint sheet	

Valve sizing table

	Flow characteristics of Characterised Control Valves	Rated pressure: 1600kPa (DN15/25/40/50/65/80)	
	Characteristic: equal-percentage		

Connection	Flange PN16											
Kvs [m3/h]	0.86	1.4	2.2	3.5	5.2	8.6	13.8	21.6	34.5	56	81.9	108
DN [mm]	15	15	15	15	15	25	25	40	40	50	65	80
2-way	R610AS	R611AS	R612AS	R613AS	R614AS	R623AS	R624AS	R638AS	R639AS	R649AS	R664AS	R679AS

Actuators	LFH..	SRFA..-5
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Applications

The introduction of Belimo's innovative Control Ball Valve in 1999 has helped Belimo to achieve the market leader position in both Valves and Damper Actuators in the HVAC industry. With many years of development, research and great success in the Control Ball Valve market, we have become expert in manufacturing these valves. To further strengthen our market position, we are proud to announce the expansion of the CCV range for steam applications.

Features

- An equal-percentage flow characteristic
- Compact and lightweight
- DN15/25/40/50/65/80
- Medium temperature range: 0...175°C
- High close-off pressure
- PN16 flange connections (ISO 7005-2)
- Long life expectancy
- Modulating, open/close control types are available
- Actuator with spring return function (fail-safe function)
- Manual operation
- Optional adjustable auxiliary switch
- Low power consumption
- Highly engineered and tested



Thermal energy meter Superstatic 440+Supercal 531+Temperature Sensors

Belimo Trade Item

Nominal pressure PN16
AC 24V power supply
Built-in M-Bus module
Pt500 sensor
EN 1434 Class 2

Temp. sensor cable 3m
Sensor head cable 3m



Threaded connection - Brass pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
440M1000	2.5m ³ /h	190mm	G 1"	0.1kWh	0.001m ³	0460R030	0460A206
440M1600	6.0m ³ /h	260mm	G 1-1/4"	1kWh	0.01m ³	0460R531	0460A207
440M2000	10m ³ /h	300mm	G 2"	1kWh	0.01m ³	0460R531	0460A207

Flange connection - Brass pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
440M2200	10m ³ /h	300mm	DN40	1kWh	0.01m ³	0460R531	0460A207

Flange connection - Stainless steel pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
440X2400	15m ³ /h	270mm	DN50	1kWh	0.01m ³	0460R531	0460A207
440X2600	25m ³ /h	300mm	DN65	1kWh	0.01m ³	0460R532	0460A208
440X3000	40m ³ /h	300mm	DN80	0.01MWh	0.1m ³	0460R532	0460A208
440X3400	60m ³ /h	360mm	DN100	0.01MWh	0.1m ³	0460R532	0460A208
440X3600	100m ³ /h	250mm	DN125	0.01MWh	0.1m ³	0460R532	0460A208
440X3800	150m ³ /h	300mm	DN150	0.01MWh	0.1m ³	0460R532	0460A208
440X4200	250m ³ /h	350mm	DN200	0.1MWh	1m ³	0460R533	0460A209
440X4400	400m ³ /h	450mm	DN250	0.1MWh	1m ³	0460R533	0460A209

Flange connection - Coated steel pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
440X4600	800m ³ /h	500mm	DN350	0.1MWh	1m ³	*0460R852	0460A209
440X5000	1500m ³ /h	500mm	DN500	0.1MWh	1m ³	*0460R852	0460A209

*Connection cable is not included for sensor 0460R852, cable 400 can be ordered separately.

The tried and tested oscillating jet principle of Superstatic flow sensors in combination with Supercal 531 integrators guarantees reliable, long-term metering of thermal energy and flow.

Thread, EN ISO 228-1

Flange, DIN-EN 1092-1/DIN 2501/ISO 7005-1

Thermal Energy Meter Superstatic 440 (Cast-iron version)

Belimo Trade Item

Nominal pressure PN16
AC 24V power supply
Built-in M-Bus module
Pt500 sensor
EN 1434 Class 2

Temp. sensor cable 3m
Sensor head cable 3m



Flanged connection - Cast-iron pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
440X2450	15m ³ /h	270mm	DN50	1kWh	0.01m ³	0460R531	0460A207
440X2650	25m ³ /h	300mm	DN65	1kWh	0.01m ³	0460R532	0460A208
440X3050	40m ³ /h	300mm	DN80	1kWh	0.01m ³	0460R531	0460A207
440X3450	60m ³ /h	360mm	DN100	1kWh	0.01m ³	0460R532	0460A208

Thermal Energy Meter Superstatic 449

Belimo Trade Item

Nominal pressure PN16
AC 24V power supply
Built-in M-Bus module
Pt500 sensor
EN 1434 Class 2

Temp. sensor cable 3m
Sensor head cable 0.8m
Integrator on top



Threaded connection - Brass pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
0449R0600	1.5m ³ /h	110mm	G 3/4"	0.1kWh	0.001m ³	0460R030	0460A206
0449R0700	2.5m ³ /h	190mm	G 1"	0.1kWh	0.001m ³	0460R030	0460A206

Thermal Energy Meter Superstatic 749

Belimo Trade Item

Nominal pressure PN16
AC 24V power supply
Pt1k sensor
EN 1434 Class 2

Temp. sensor cable 1.5m
P51 series, 2 pulse outputs
M51 series, Power supply over M-Bus



Threaded connection - Brass pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
EXT-749RJ162P51	0.6m ³ /h	110mm	G 3/4"	0.001MWh	0.01m ³	0460R030	0460A206
EXT-749RL162P51	1.5m ³ /h	110mm	G 3/4"	0.001MWh	0.01m ³	0460R030	0460A206
EXT-749RM172P51	1.5m ³ /h	130mm	G 1"	0.1MWh	0.001m ³	0460R030	0460A206
EXT-749RX172P51	1.5m ³ /h	190mm	G 1"	0.1MWh	0.001m ³	0460R030	0460A206
EXT-749RJ162M51	0.6m ³ /h	110mm	G 3/4"	0.001MWh	0.01m ³	0460R030	0460A206
EXT-749RL162M51	1.5m ³ /h	110mm	G 3/4"	0.001MWh	0.01m ³	0460R030	0460A206
EXT-749RM172M51	1.5m ³ /h	130mm	G 1"	0.1MWh	0.001m ³	0460R030	0460A206
EXT-749RX172M51	1.5m ³ /h	190mm	G 1"	0.1MWh	0.001m ³	0460R030	0460A206

Thermal Energy Meter Superstatic 539

Belimo Trade Item

Nominal pressure PN16
AC 24V power supply
Pt10K sensor
EN 1434 Class 3

Temp. sensor cable 1.5m
R53 series, 2 pulse outputs
R28 series, power supply over M-Bus
Pocket G 3/8"



Threaded connection - Brass pipe (EXT-..)

Model No.	Nominal flow	Mounting length	Connection	Energy unit	Volume unit	Sensor	Pockets
0539R53J	0.6m ³ /h	110mm	G 3/4"	1kWh	0.001m ³	ø5x33mm	0460P013
0539R53L	1.5m ³ /h	110mm	G 3/4"	1kWh	0.01m ³	ø5x33mm	0460P013
0539R53N	2.5m ³ /h	130mm	G 1"	1kWh	0.01m ³	ø5x33mm	0460P013
0539R28J	0.6m ³ /h	110mm	G 3/4"	1kWh	0.001m ³	ø5x33mm	0460P013
0539R28L	1.5m ³ /h	110mm	G 3/4"	1kWh	0.01m ³	ø5x33mm	0460P013
0539R28N	2.5m ³ /h	130mm	G 1"	1kWh	0.01m ³	ø5x33mm	0460P013

Thread, EN ISO 228-1

Flange, DIN-EN 1092-1/DIN 2501/ISO 7005-1

Remark: Supercal 539 will be phased out in 2016.

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