

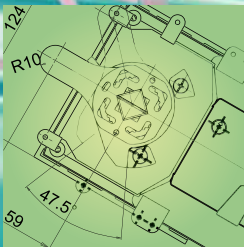
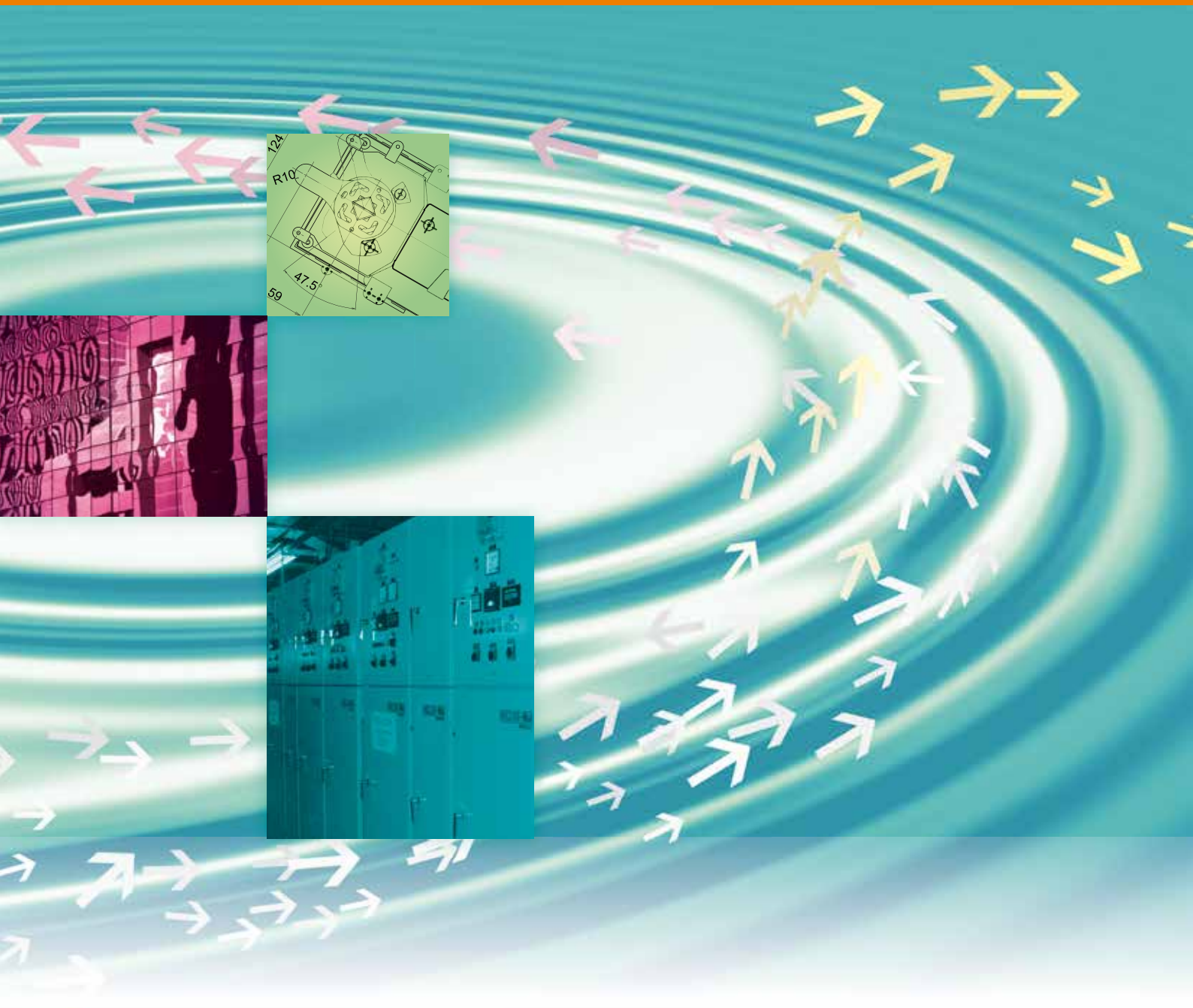
Belimo Pressure Independent Control Valve Range

- EPIV



Technical Databook

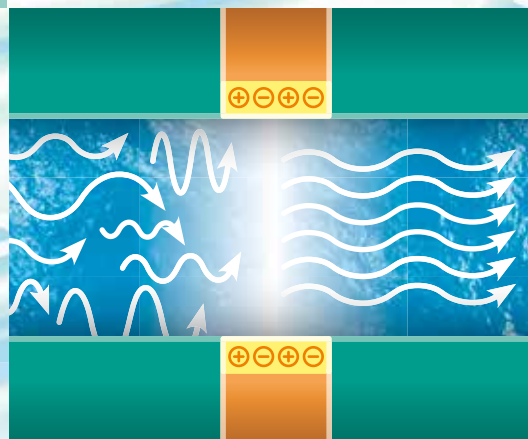
Version 3.3



Electronic Pressure Independent Control Valve (EPIV)



EPIV – uses a flow sensor and an electronic controller instead of a mechanic regulator to allocate a defined flow



Electronic Pressure Independent Valve EPIV	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

Note:

- The Electronic Pressure Independent Valve (EPIV) must be ordered together with the Rotary Actuator.
- Ordering example:
No part on EPIV can be ordered as a standard product.
- Electronic Fail-Safe Actuators are available for EPIV.

Contents

Product Overview	4
EPIV	
EP..R+MP	5
P6..W..E-MP	7
Technical Data	9
Mounting Instructions	15

Characterised control valve (CCV) with sensor-operated flow control, 2-way, with internal thread

- Nominal voltage AC/DC 24V
- Control modulating
- For modulating water-side control of air handling units and heating systems
- Communication via Belimo MP-Bus or conventional control
- Conversion of (active) sensor signals and switching contacts


Type overview

Model No.	Frequency [Hz]	\dot{V}_{nom} [l/s]	\dot{V}_{nom} [l/min]	kvs theor.* [m ³ /h]	DN [mm]	Rp ["]	PN [bar]	n(gl) []
EP015R+MP	50/60	0.35	21	2.9	15	1/2	25	3.2
EP020R+MP	50/60	0.65	39	4.9	20	3/4	25	3.2
EP025R+MP	50/60	1.15	69	8.6	25	1	25	3.2
EP032R+MP	50/60	1.8	108	14.2	32	1 1/4	25	3.2
EP040R+MP	50/60	2.5	150	21.3	40	1 1/2	25	3.2
EP050R+MP	50/60	4.8	288	32.0	50	2	25	3.2
EP050R+MP-N	50/60	6.3	378	32.0	50	2	25	3.2

* : Theoretical kvs value for pressure drop calculation

Technical data

Electrical data	Nominal voltage	AC/DC 24V
	Nominal voltage frequency	50/60Hz
	Nominal voltage range	AC 19.2...28.8V / DC 21.6...28.8V
	Power consumption in operation	4.5W
	Power consumption in rest position	1.4W
	Power consumption for wire sizing	7VA
	Connection supply / control	Cable 1m, 4x 0.75mm ²
	Parallel operation	Yes (note the performance data)
Flow measurement	Measuring principle	Ultrasonic volumetric flow measurement
	Measuring accuracy	±2% (of 25...100% \dot{V}_{nom} at 20°C, Glycol 0% vol.)
	Min. flow measurement	0.5% of \dot{V}_{nom}
Functional data	Torque motor	5Nm (DN 15...25) / 10 Nm (DN 32 + 40) / 20Nm (DN 50)
	Positioning signal Y	DC 0...10V
	Operating range Y	DC 2...10V
	Operating range Y variable	Start point DC 0.5...24V End point DC 8.5...32V
	Position feedback U	DC 2...10V
	Position feedback U variable	Start point DC 0.5...8V End point DC 2...10V
	Sound power level motor max.	45dB(A)
	Adjustable flow rate Vmax	30...100% of \dot{V}_{nom}
	Control accuracy	±5% (of 25...100% \dot{V}_{nom} at 20°C, Glycol 0% vol.)
	Media	Cold and hot water, water with glycol up to max. 60% vol.
	Media temperature	-10°C...120°C

Technical data

Functional data	Permissible Operating Δp_s	1600kPa
	Closing pressure Δp_s	1380kPa
	Differential pressure Δp_{max}	350kPa
	Flow characteristic	Equal percentage (VDI/VDE 2178), linear
	Leakage rate	Air bubble-tight (Leakage rate A, EN12266-1)
	Pipe connections	Internal thread (ISO 7-1/ EN10226-1)
	Installation position	Upright to horizontal (in relation to the stem)
	Maintenance	Maintenance-free
	Manual override	Gear disengagement with push-button, can be locked
	Safety	Running time
Protection class IEC/EN		III Safety extra-low voltage
Degree of protection IEC/EN		IP54
EMC		CE according to 2004/108/EC
Mode of operation		Type 1
Rated impulse voltage supply / control		0.8kV
Control pollution degree		3
Materials	Ambient temperature	-30...50°C
	Non-operating temperature	-40...80°C
	Ambient humidity	95% r.h., non-condensing
	Housing	Brass body, nickel-plated
	Measuring pipe	Brass body, nickel-plated
	Ball	Stainless steel AISI 316
	Stem	Stainless steel AISI 304
Stem seal	O-ring EPDM	

Safety notes

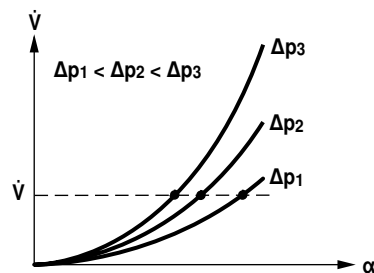


- The device has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.
- The connection between the control valve and the measuring tube should not be separated.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Mode of operation The actuator is comprised of three components: characterised control valve (CCV), measuring pipe with volumetric flow sensor and the actuator itself. The adjusted maximum flow (\dot{V}_{max}) is assigned to the maximum positioning signal (typically 10V/100%). The actuator control can be either communicative or analogue. The medium is detected by the sensor in the measuring pipe and is applied as the flow value. The measured value is balanced with the setpoint. The actuator corrects the deviation by changing the valve position. The angle of rotation α varies according to the differential pressure through the final controlling element (see volumetric flow curves).

Flow rate curves



Characterised control valve (CCV) with sensor-operated flow control, 2-way, with flange PN16

- Nominal voltage AC/DC 24V
- Control modulating
- For modulating water-side control of air handling unit and heating systems
- Communication via Belimo MP-Bus or conventional control
- Conversion of (active) sensor signals and switching contacts


Type overview

Model No.	Frequency [Hz]	\dot{V}_{nom} [l/s]	\dot{V}_{nom} [l/min]	kvs theor.* [m ³ /h]	DN [mm]	Rp ["]	PN [bar]	n(gl) []
P6065W800E-MP	50	8	480	45	65	2 1/2	16	3.2
P6080W1100E-MP	50	11	660	65	80	3	16	3.2
P6100W2000E-MP	50	20	1200	115	100	4	16	3.2
P6125W3100E-MP	50	31	1860	175	125	5	16	3.2
P6150W4500E-MP	50	45	2700	270	150	6	16	3.2
P6065W806E-MP	60	8	480	45	65	2 1/2	16	3.2
P6080W1106E-MP	60	11	660	65	80	3	16	3.2
P6100W2006E-MP	60	20	1200	115	100	4	16	3.2
P6125W3106E-MP	60	31	1860	175	125	5	16	3.2
P6150W4506E-MP	60	45	2700	270	150	6	16	3.2

* : Theoretical kvs value for pressure drop calculation

Technical data

Electrical data	Nominal voltage	AC/DC 24V
	Nominal voltage frequency	50/60Hz (upon request)
	Nominal voltage range	AC 19.2...28.8V / DC 21.6...28.8V
	Power consumption in operation	9.5W
	Power consumption in rest position	6.5W
	Power consumption for wire sizing	13VA
	Connection supply / control	Cable 1m, 4 x 0.75 mm ²
	Parallel operation	Yes (note the performance data)
Flow measurement	Measuring principle	Magnetic inductive volumetric flow measurement
	Measuring accuracy	±2% (of 25...100% \dot{V}_{nom} at 20°C, Glycol 0% vol.)
	Min. flow measurement	1.25% of \dot{V}_{nom}
Functional data	Torque motor	20Nm (DN 65...80) / 40Nm (DN 100...150)
	Positioning signal Y	DC 0...10V
	Operating range Y	DC 2...10V
	Operating range Y variable	Start point DC 0.5...24V End point DC 8.5...32V
	Position feedback U	DC 2...10V
	Position feedback U variable	Start point DC 0.5...8V End point DC 2...10V
	Sound power level motor max.	45dB(A)
	Adjustable flow rate max	30...100% of \dot{V}_{nom}
	Control accuracy	±5% (of 25...100% \dot{V}_{nom} at 20°C, Glycol 0% vol.)
	Media	Cold and hot water, water with glycol up to max. 60% vol.
	Media temperature	-10°C...120°C
	Permissible Operating Δps	1600kPa
	Closing pressure Δps	690kPa
	Differential pressure Δp_{max}	340kPa
Flow characteristic	Equal percentage (VDI/VDE 2178), linear	
Leakage rate	Air bubble-tight (Leakage rate A, EN12266-1)	
Pipe connections	Flange (ISO 7005-2 / EN 1092-1)	

Technical data

Functional data	Installation position	Upright to horizontal (in relation to the stem)
	Maintenance	Maintenance-free
	Manual override	Gear disengagement with push-button, can be locked
Safety	Running time	90s
	Protection class IEC/EN	III Safety extra-low voltage
	Degree of protection IEC/EN	IP54
	EMC	CE according to 2004/108/EC
	Mode of operation	Type 1
	Rated impulse voltage supply / control	0.8kV
	Control pollution degree	3
Materials	Ambient temperature	-10...50°C
	Non-operating temperature	-20...80°C
	Ambient humidity	95% r.h., non-condensing
	Housing	EN-JL1040 (GG25 with protective paint)
	Measuring pipe	EN-GJS-500-7U (GGG50 with protective paint)
	Ball	Stainless steel AISI 316
	Stem	Stainless steel AISI 304
Stem seal	EPDM Perox	

Safety notes



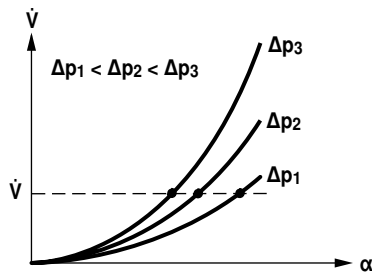
- The device has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
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Mode of operation

The actuator is comprised of three components: characterised control valve (CCV), measuring pipe with volumetric flow sensor and the actuator itself. The adjusted maximum flow (\dot{V}_{max}) is assigned to the maximum positioning signal (typically 10V). The actuator control can be either communicative or analogue. The medium is detected by the sensor in the measuring pipe and is applied as the flow value. The measured value is balanced with the setpoint. The actuator corrects the deviation by changing the valve position. The angle of rotation α varies according to the differential pressure through the final controlling element (see volumetric flow curves).

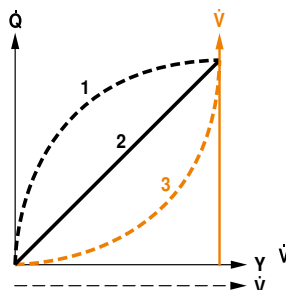
Flow rate curves



Flow characteristic of the characterised control valve

Heat exchanger transfer response

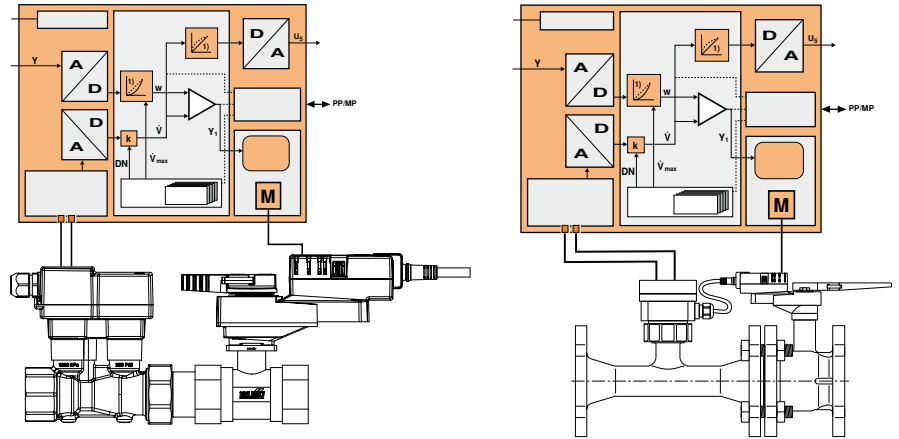
Depending on the construction, temperature spread, medium and hydraulic circuit, the power Q is not proportional to the volumetric flow of the water \dot{V} (curve 1). With the classical type of temperature control, an attempt is made to maintain the control signal Y proportional to the power Q (Curve 2) and is achieved by means of an equal-percentage valve characteristic curve (Curve 3).



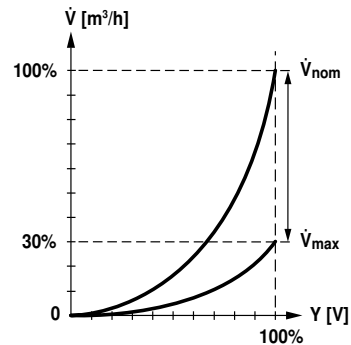
Product features

Control characteristics The velocity of the medium is measured in the measuring component (sensor electronics) and converted to a flow rate signal. The positioning signal Y corresponds to the power Q via the exchanger, the volumetric flow is regulated in the EPIV. The control signal Y is converted into an equal-percentage characteristic curve and provided with the \dot{V}_{max} value as the new reference variable w. The momentary control deviation forms the positioning signal Y1 for the actuator. The specially configured control parameters in connection with the precise flow rate sensor ensure a stable quality of control. They are however not suitable for rapid control processes, i.e. for domestic water control. U5 displays the measured volumetric flow as voltage (factory setting). As an alternative, U5 can be used for displaying the valve opening angle.

Block diagram



Definitions \dot{V}_{nom} is the maximum possible flow.



\dot{V}_{max} is the maximum flow rate which has been set with the greatest positioning signal, e.g. 10V. \dot{V}_{max} can be set to between 30% and 100% of \dot{V}_{nom} .

\dot{V}_{min} 0% (non-variable).

Creep flow suppression Given the very low flow speed in the opening point, this can no longer be measured by the sensor within the required tolerance. This range is overridden electronically.

Opening valve

The valve remains closed until the volumetric flow required by the positioning signal Y corresponds to 1% of \dot{V}_{nom} (DN15-DN50) / 2.5% of \dot{V}_{nom} (DN65-DN150). The control along the valve characteristic curve is active after this value has been exceeded.

Closing valve (DN15-DN50)

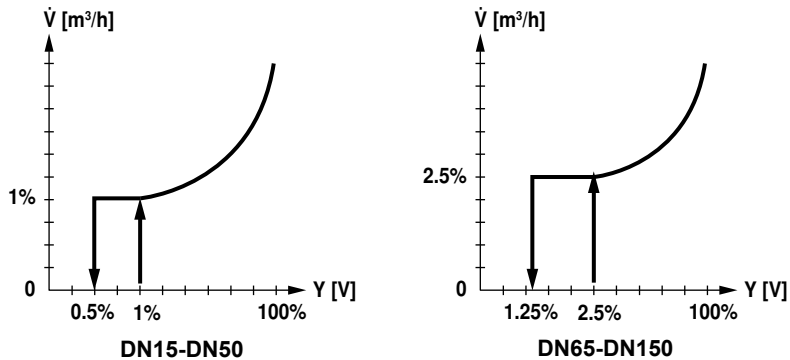
The control along the valve characteristic curve is active up to the required flow rate of 1% of \dot{V}_{nom} . Once the level falls below this value, the flow rate is maintained at 1% of \dot{V}_{nom} . If the level falls below the flow rate of 0.5% of \dot{V}_{nom} required by the reference variable Y, then the valve will close.

Closing valve (DN65-DN150)

The control along the valve characteristic curve is active up to the required flow rate of 2.5% of \dot{V}_{nom} . Once the level falls below this value, the flow rate is maintained at 2.5% of \dot{V}_{nom} . If the level falls below the flow rate of 1.25% of \dot{V}_{nom} required by the reference variable Y, then the valve will close.

Product features

Creep flow suppression



Converter for sensors

Connection option for a sensor (active sensor or switching contact). The MP actuator serves as an analogue/digital converter for the transmission of the sensor signal via MP-Bus to the higher level system.

Adjustable-parameter actuators

The factory settings cover the most common applications. Individual parameters can be altered with the Belimo service tool MFT-P or with the service tool ZTH AP.

Positioning signal inversion

This can be inverted in cases of control with with an analogue positioning signal. The inversion causes the reversal of the standard behaviour, i.e. at a positioning signal of 0%, regulation is to \dot{V}_{max} or Q_{max} , and the valve is closed at a positioning signal of 100%.

Hydraulic balancing

With the Belimo-Tools, the maximum flow rate (equivalent to 100% requirement) can be adjusted on-site, simply and reliably, in a few steps. If the device is integrated in the management system, then the balancing can be handled directly by the management system.

Manual override

Manual override with push-button possible - temporary, permanently. The gear is disengaged and the actuator decoupled for as long as the button is pressed / latched.

High functional reliability

The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

Home position

The actuator moves to the home position when the supply voltage is switched on for the first time, i.e. at the time of commissioning or after pressing the "gear disengagement" key. The actuator then moves into the required position in order to ensure the flow rate defined by the positioning signal.

Accessories

	Description	Type
Electrical accessories	Gateway MP to KNX/EIB, AC/DC 24 V, EIBA certified	UK24EIB
	Gateway MP for LonWorks®, AC/DC 24 V, LonMark-certified	UK24LON
	Gateway MP to Modbus RTU, AC/DC 24 V	UK24MOD
	Gateway MP to BACnet MS/TP, AC/DC 24 V	UK24BAC
Service Tools	Service tool, for MF/MP/Modbus/LonWorks actuators and VAV controller	ZTH AP
	Belimo PC-Tool, software for adjustments and diagnostics	MFT-P

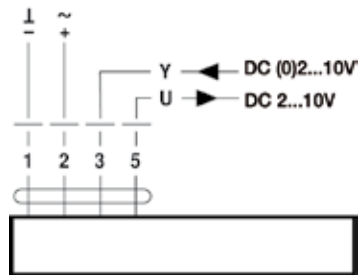
Electrical installation

Notes

- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Note the performance data.

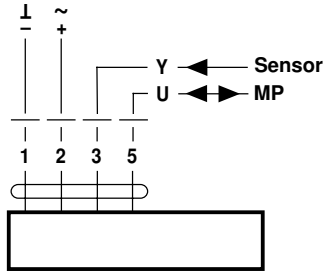
Wiring diagrams

AC/DC 24 V, modulating



Cable colours:
 1 = black
 2 = red
 3 = white
 5 = orange

Operation on the MP-Bus

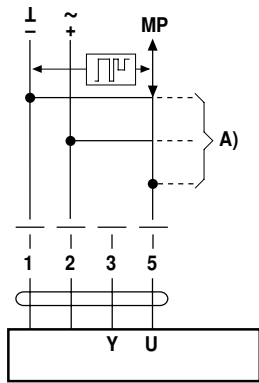


Cable colours:
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Functions

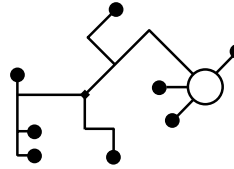
Functions when operated on MP-Bus

Connection on the MP-Bus



A) Additional actuators and sensors (max. 8)

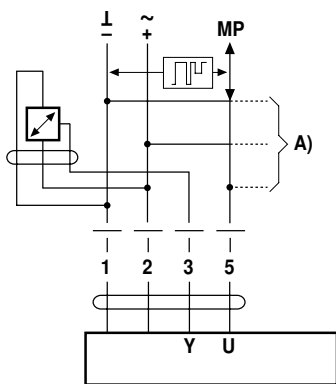
Power topology



There are no restrictions for the network topology (star, ring, tree or mixed forms are permitted). Supply and communication in the same 3-wire cable

- no shielding or twisting required
- no terminating resistor required

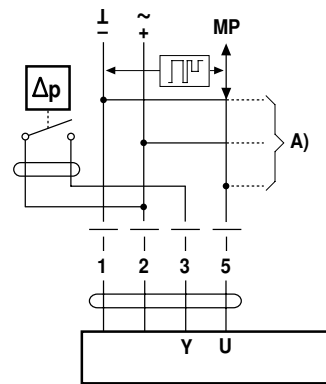
Connection of active sensors



A) Additional actuators and sensors (max. 8)

- Supply AC/DC 24V
- Output signal DC 0 ... 10V (max. DC 0 ... 32V)
- Resolution 30mV

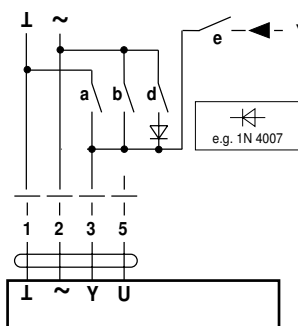
Connection of external switching contact



A) Additional actuators and sensors (max. 8)

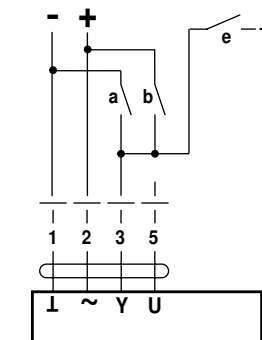
- Switching current 16 mA @ 24V
- Start point of the operating range must be parameterised on the MP actuator as ≥ 0.6 V

Functions for actuators with specific parameters
Override control and limitation with AC 24 V with relay contacts



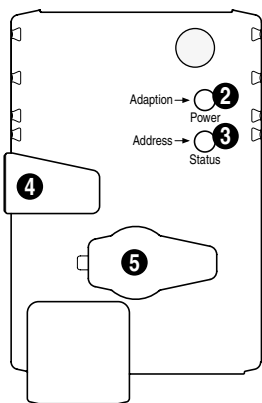
	a	b	d	e
Close	↗	↘	↗	↘
V _{max}	↗	↘	↗	↘
Open	↘	↗	↘	↗
Y	↘	↗	↘	↗

Override control and limitation with DC 24 V with relay contacts



	a	b	d	e
Close	↗	↘	↗	↘
V _{max}	↗	↘	↗	↘
Y	↘	↗	↘	↗

Operating controls and indicators



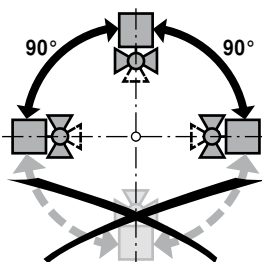
- ② Pushbutton and green LED display**
 Off: No voltage supply or malfunction
 Illuminated: Operation
 Press button: Switches on angle of rotation adaption followed by standard operation
- ③ Pushbutton and yellow LED display**
 Off: Standard operation without MP-Bus
 Illuminated: Adaption or synchronising process active
 Blinking: Addressing request sent to MP master
 Press button: Acknowledgment of addressing
 Flickering: MP communication active
- ④ Gear disengagement switch**
 Press button: Gear disengaged, motor stops, manual operation possible
 Release button: Gear engaged, synchronisation starts, followed by standard operation
- ⑤ Service plug**
 For connecting parameterising and service tools

Check voltage supply connection

- ② Off and ③ illuminated: Check the supply connections.
 Possibly \perp and ∇ are swapped over.

Installation notes

Recommended installation positions The ball valve can be installed upright to horizontal. The ball valve may not be installed in a hanging position, i.e. with the stem pointing downwards.



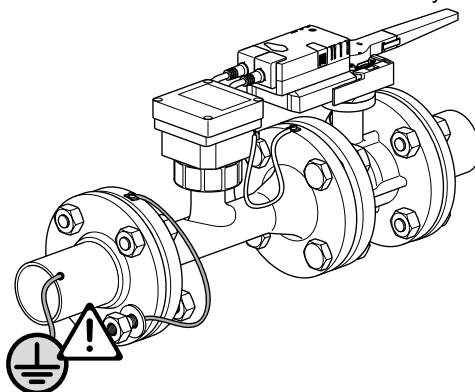
Installation position in return Installation in the return is recommended.

Water quality requirements The water quality requirements specified in VDI 2035 must be adhered to. Ball valves are regulating devices. The use of dirt filters is recommended in order to prolong their service life for performing control tasks.

Maintenance Ball valves, rotary actuators and sensors are maintenance-free.
 Before any kind of service work is carried out on the actuator, it is essential to isolate the rotary actuator from the power supply (by disconnecting the electrical cable). Any pumps in the part of the piping system concerned must also be switched off and the appropriate slide valves closed (allow everything to cool down first if necessary and reduce the system pressure to ambient pressure level).
 The system must not be returned to service until the ball valve and the rotary actuator have been properly reassembled in accordance with the instructions and the pipelines have been refilled in the proper manner.

Flow direction The direction of flow, specified by an arrow on the housing, is to be complied with, since otherwise the flow rate will be measured incorrectly.

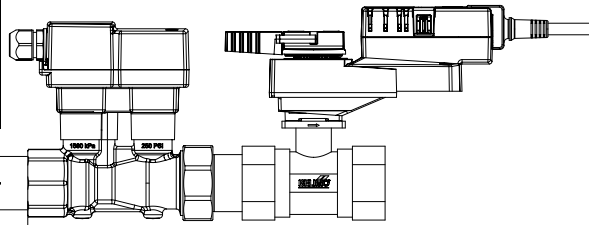
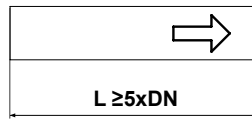
Earthing Above DN65, it is imperative that the measuring pipe be correctly earthed in order to ensure that the volumetric flow sensor does not make any unnecessary incorrect measurements.



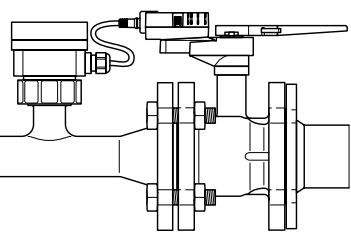
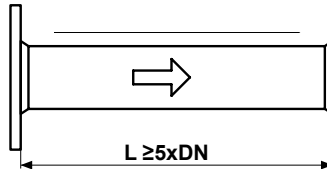
Installation notes

Inlet section In order to achieve the specified measuring accuracy, a flow-calming section or inflow section in the direction of the flow is to be provided upstream from the measuring pipe flange. Its dimensions must be at least 5 x DN.

DN	L min.
15	5 x 15 mm = 75 mm
20	5 x 20 mm = 100 mm
25	5 x 25 mm = 125 mm
32	5 x 32 mm = 160 mm
40	5 x 40 mm = 200 mm
50	5 x 50 mm = 250 mm



DN	L min.
65	5 x 65 mm = 325 mm
80	5 x 80 mm = 400 mm
100	5 x 100 mm = 500 mm
125	5 x 125 mm = 625 mm
150	5 x 150 mm = 750 mm



General information

Valve design The valve is determined using the maximum flow required \dot{V}_{max} . A calculation of the kvs value is not required.
 $\dot{V}_{max} = 30 \dots 100\%$ of \dot{V}_{nom}
 If no hydraulic data are available, then the same valve DN can be selected as the heat exchanger nominal diameter.

Minimum differential pressure (Pressure drop) The minimum required differential pressure (pressure drop via the valve) for achieving the desired volumetric flow \dot{V}_{max} can be calculated with the aid of the theoretical kvs value (see type overview) and the below-mentioned formula. The calculated value is dependent on the required maximum volumetric flow \dot{V}_{max} . Higher differential pressures are compensated for automatically by the valve.

Formula

$$\Delta p_{min} = 100 \times \left(\frac{\dot{V}_{max}}{k_{vs \text{ theor.}}} \right)^2$$

$\Delta p_{min}: \text{kPa}$
 $\dot{V}_{max}: \text{m}^3/\text{h}$
 $k_{vs \text{ theor.}}: \text{m}^3/\text{h}$

Example (DN25 with the desired maximum flow rate = 50% \dot{V}_{nom})
 EP025R+MP
 $k_{vs \text{ theor.}} = 8.6 \text{ m}^3/\text{h}$
 $\dot{V}_{nom} = 69 \text{ l/min}$
 $50\% * 69 \text{ l/min} = 34.5 \text{ l/min} = 2.07 \text{ m}^3/\text{h}$

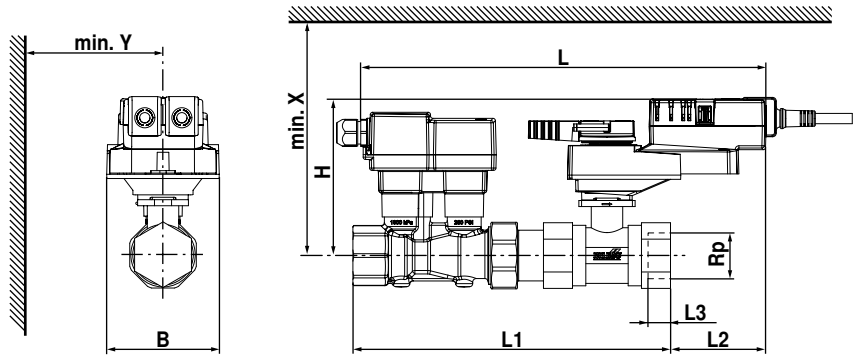
$$\Delta p_{min} = 100 \times \left(\frac{\dot{V}_{max}}{k_{vs \text{ theor.}}} \right)^2 = 100 \times \left(\frac{2.07 \text{ m}^3/\text{h}}{8.6 \text{ m}^3/\text{h}} \right)^2 = 6 \text{ kPa}$$

Example (DN100 with the desired maximum flow rate = 50% \dot{V}_{nom})
 P6100W2000E-MP
 $k_{vs \text{ theor.}} = 115 \text{ m}^3/\text{h}$
 $\dot{V}_{nom} = 1200 \text{ l/min}$
 $50\% * 1200 \text{ l/min} = 600 \text{ l/min} = 36 \text{ m}^3/\text{h}$

$$\Delta p_{min} = 100 \times \left(\frac{\dot{V}_{max}}{k_{vs \text{ theor.}}} \right)^2 = 100 \times \left(\frac{36 \text{ m}^3/\text{h}}{115 \text{ m}^3/\text{h}} \right)^2 = 10 \text{ kPa}$$

Dimensions [mm] / weight

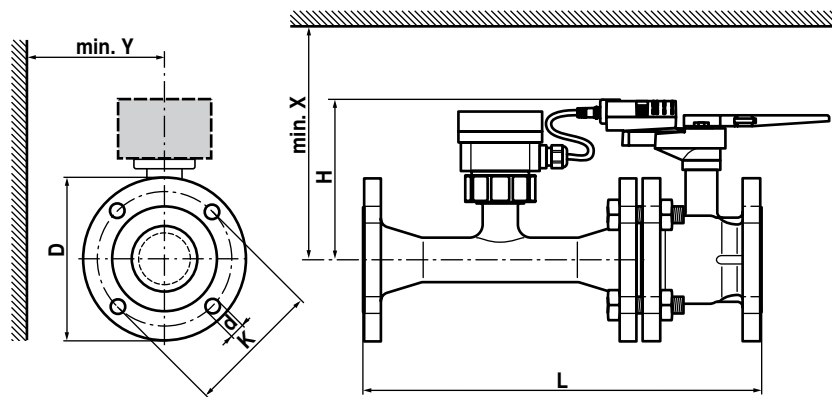
Dimensional drawings



Type	DN [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	B [mm]	H [mm]	X [mm]	Y [mm]	Weight approx. [kg]
EP015R+MP	15	275	192	81	13	75	125	195	77	1.5
EP020R+MP	20	291	211	75	14	75	125	195	77	1.8
EP025R+MP	25	295	230	71	16	75	127	197	77	2.0
EP032R+MP	32	323	255	68	19	85	131	201	77	2.8
EP040R+MP	40	325	267	65	19	85	141	211	77	3.3
EP050R+MP	50	343	288	69	22	95	142	212	77	4.4
EP050R+MP-N	50	343	288	69	22	95	142	212	77	4.4

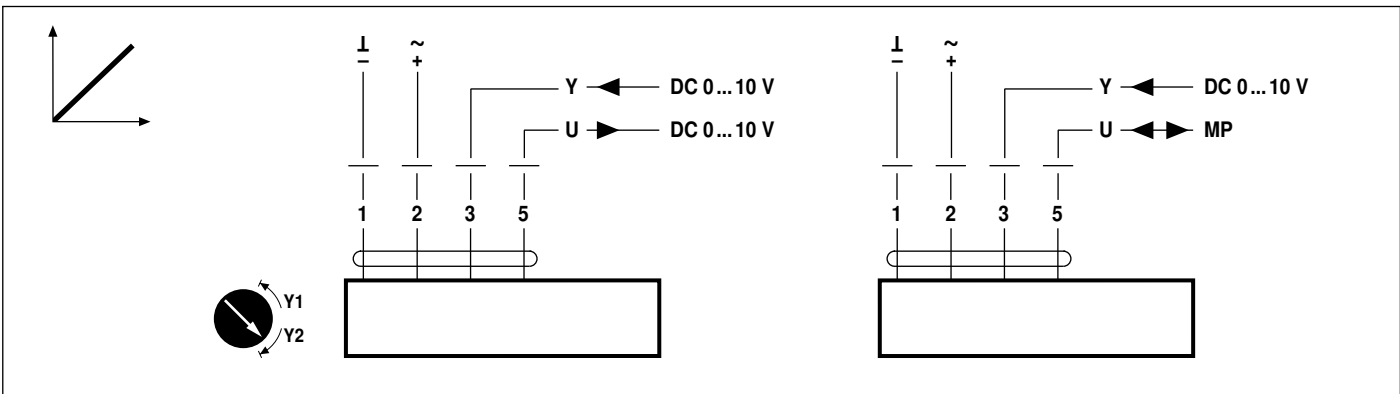
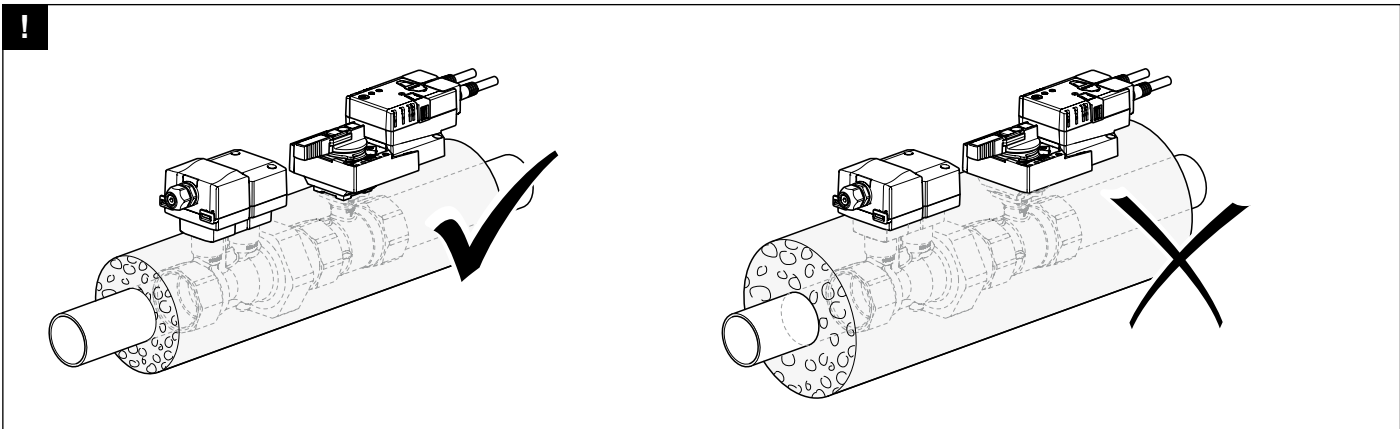
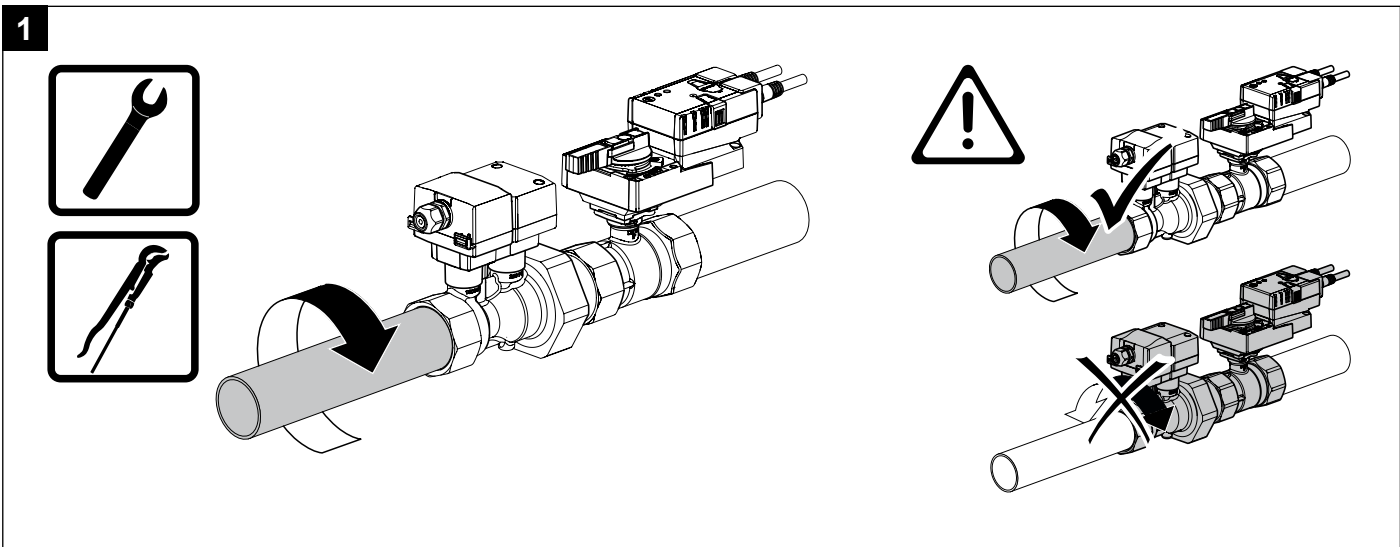
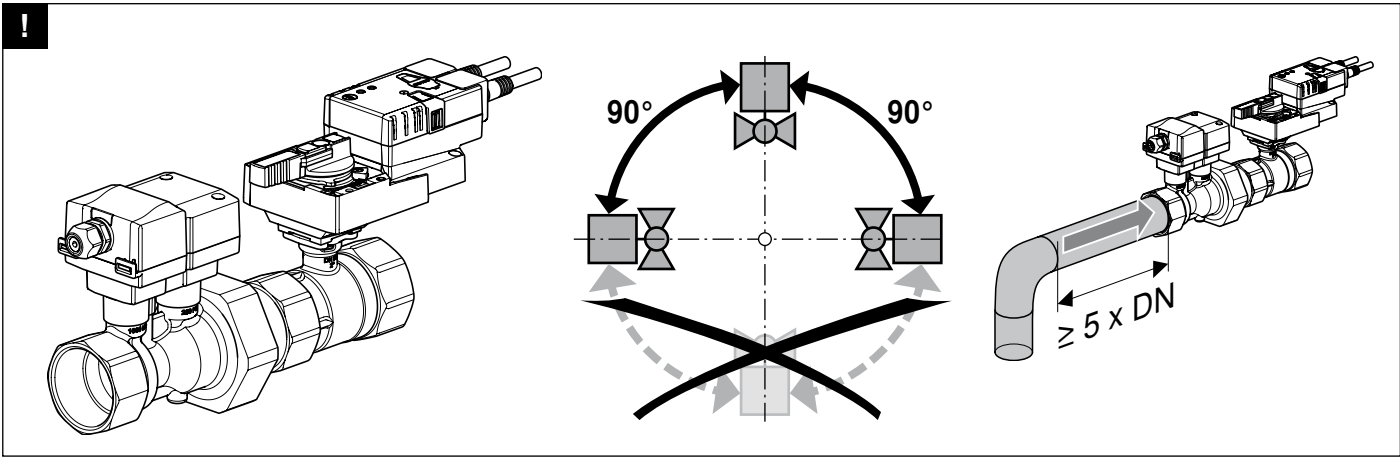
Dimensions [mm] / weight

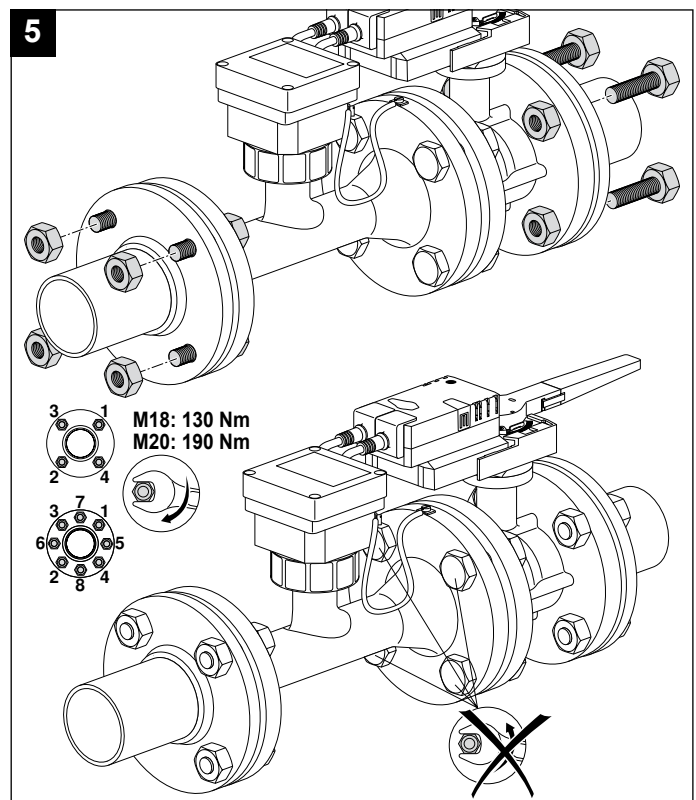
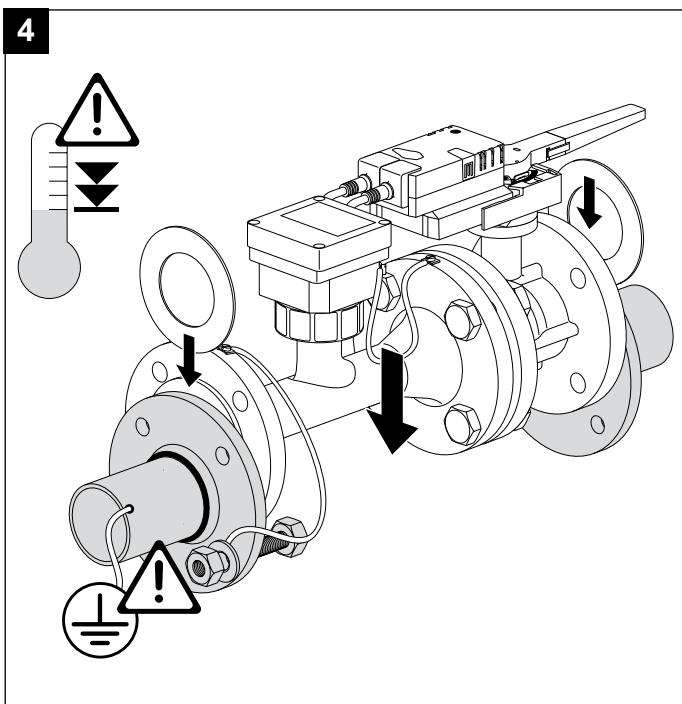
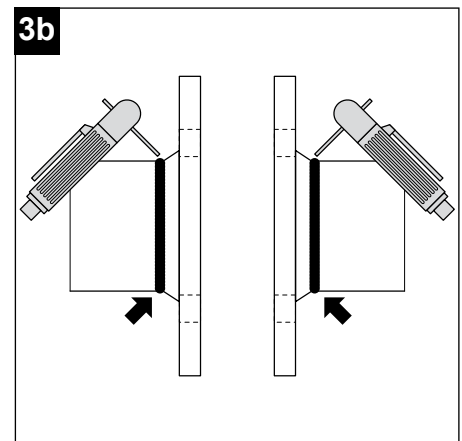
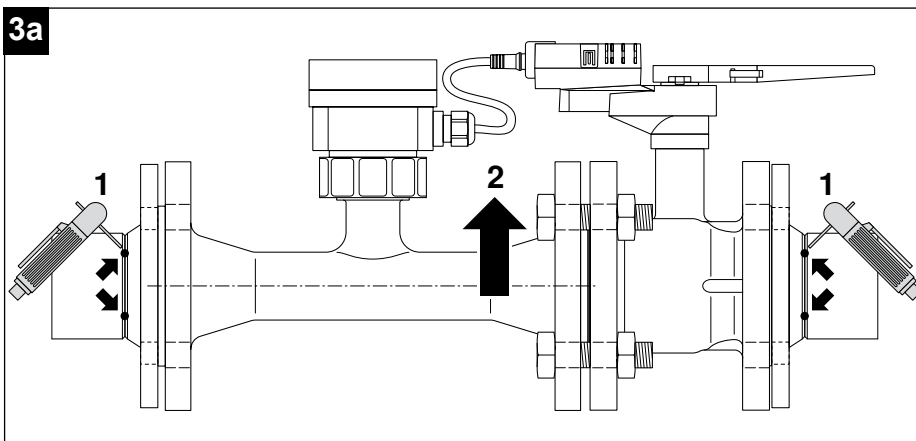
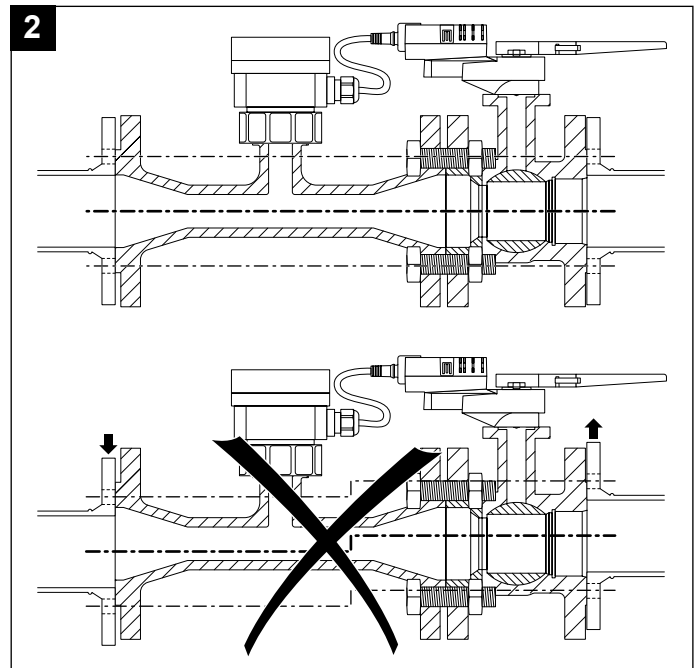
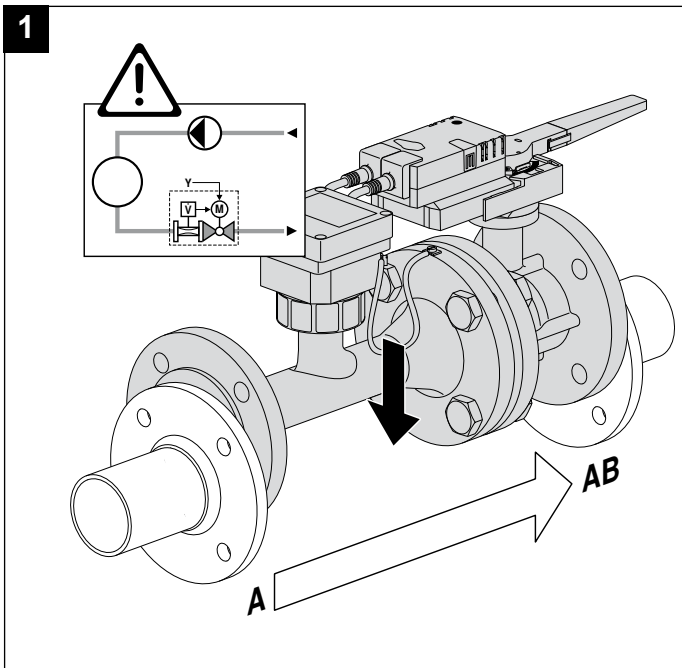
Dimensional drawings

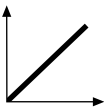
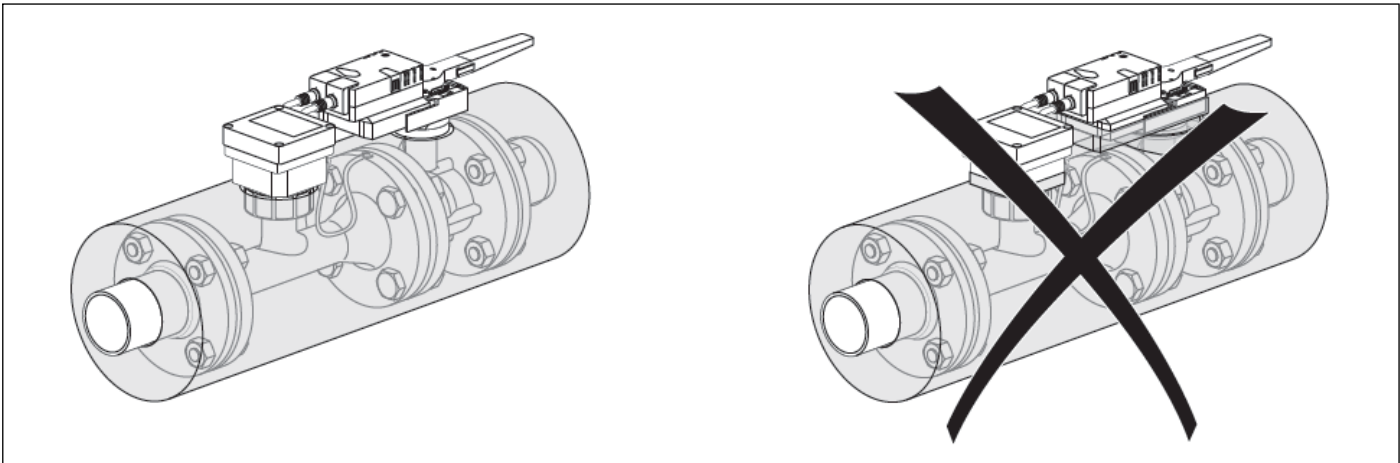
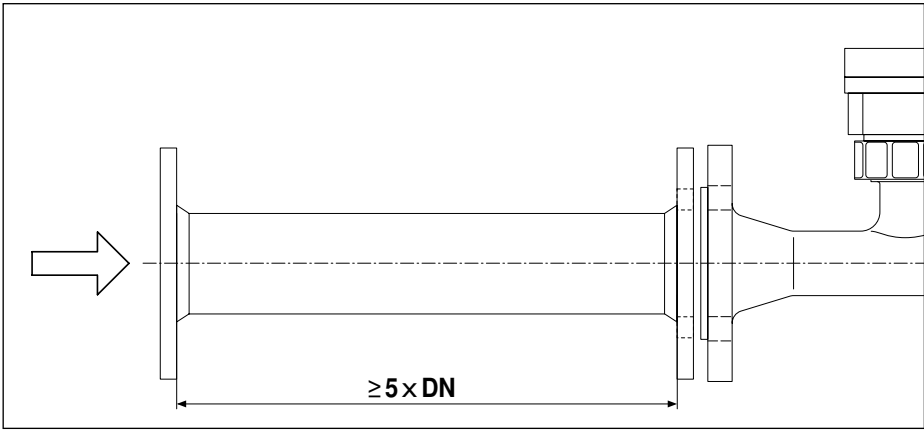
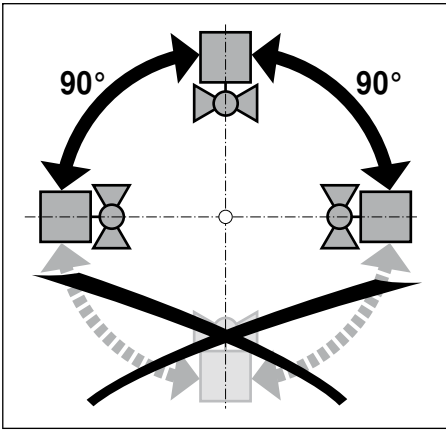


If Y < 180 mm, then the extension of the hand crank must be dismantled as necessary.

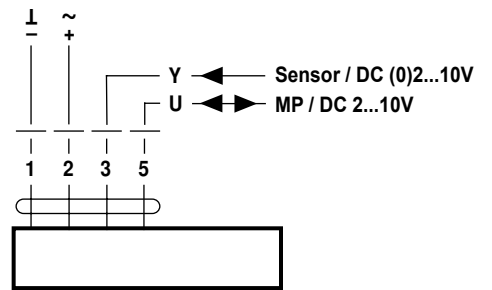
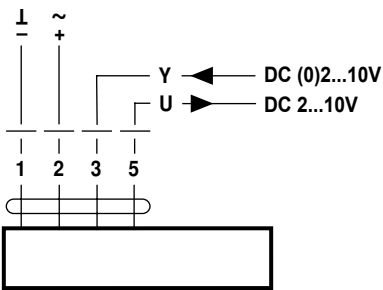
Type	DN [mm]	L [mm]	H [mm]	D [mm]	d [mm]	K [mm]	X [mm]	Y [mm]	Weight approx. [kg]
P6065W800E-MP	65	454	200	185	4 x 19	145	220	150	25
P6080W1100E-MP	80	499	200	200	8 x 19	160	220	160	30
P6100W2000E-MP	100	582	220	229	8 x 19	180	240	175	47
P6125W3100E-MP	125	640	240	252	8 x 19	210	260	190	58
P6150W4500E-MP	150	767	240	282	8 x 23	240	260	200	73
P6065W806E-MP	65	454	200	185	4 x 19	145	220	150	25
P6080W1106E-MP	80	499	200	200	8 x 19	160	220	160	30
P6100W2006E-MP	100	582	220	229	8 x 19	180	240	175	47
P6125W3106E-MP	125	640	240	252	8 x 19	210	260	190	58
P6150W4506E-MP	150	767	240	282	8 x 23	240	260	200	73

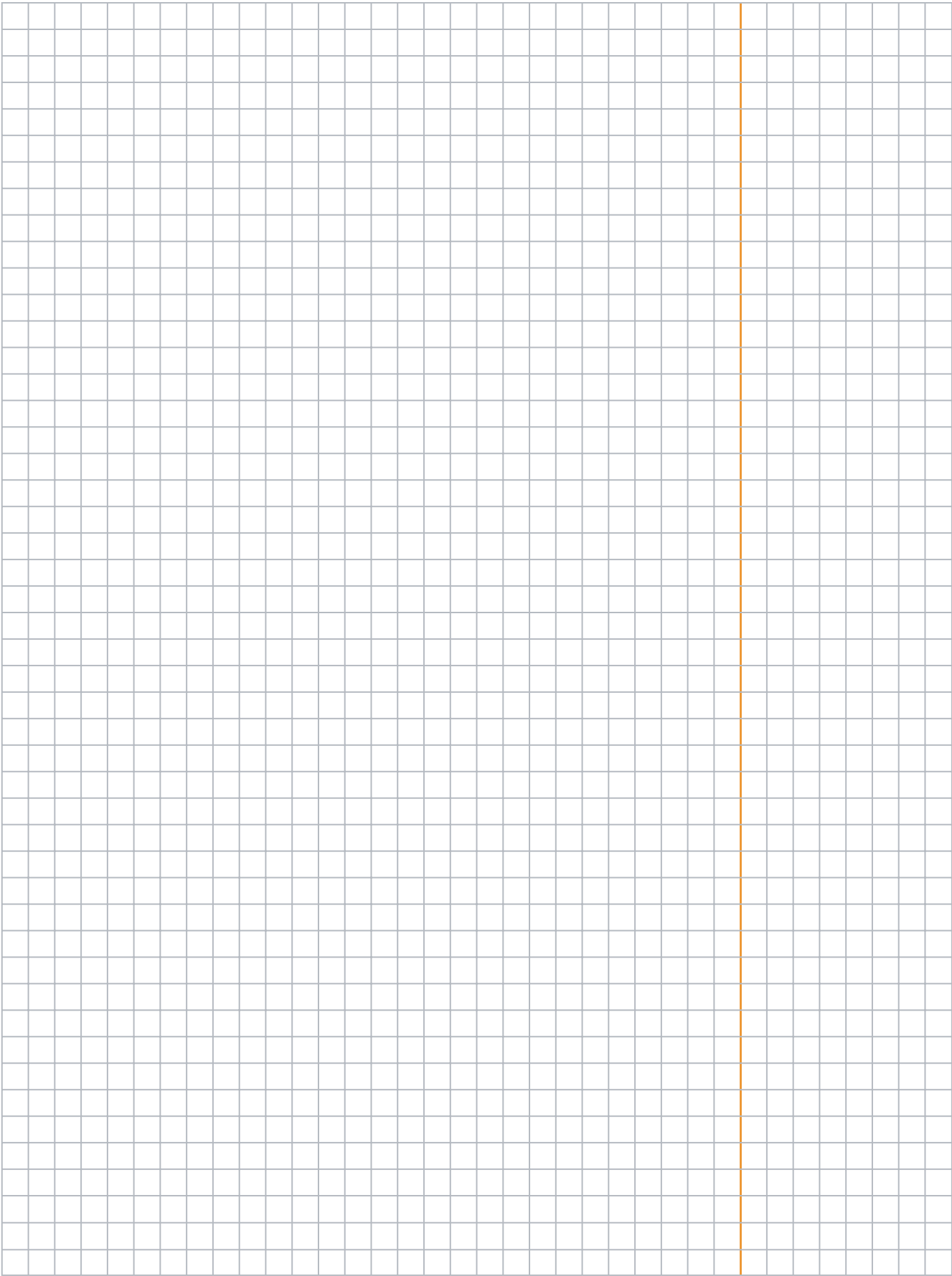






AC 24 V / DC 24 V





ASIA PACIFIC HEADQUARTERS**Belimo Actuators Ltd.**

Room 1601-6, 16/F, New Commerce Centre
19 On Sum Street, Shatin, N.T., Hong Kong
Tel: +852 2687 1716
Fax: +852 2687 1795
E-mail: info.asiapacific@belimo.ch

Belimo AUSTRALIA**Melbourne Office:**

Belimo Actuators Pty. Ltd.
12 Enterprise Court
Mulgrave Business Park
Mulgrave, VIC 3170, Australia
Tel: +61 (0)3 8585 7800
Fax: +61 (0)3 8585 7811
E-mail: info.australia@belimo.ch

Brisbane Office:

Belimo Actuators Pty. Ltd.
Unit 26 / 23 Ashtan Place
Banyo, QLD 4014, Australia
Tel: +61 (0)7 3267 1760

Sydney Office:

Belimo Actuators Pty. Ltd.
Suite 2.20, 32 Delhi Road
North Ryde, NSW 2113, Australia
Tel: +61 (0)2 9805 1777

Belimo CHINA**Shanghai Office:**

Belimo Actuators (Shanghai) Trading Ltd.
479 Chun Dong Road, Building C-2
Xin Zhuang Industry Park
Shanghai 201108, P.R. China
Tel: +86 21 5483 2929
Fax: +86 21 5483 2930
E-mail: info.shanghai@belimo.ch

Beijing Office:

Belimo Actuators Ltd.
Unit 1528-1530, 15F, Tower A
Jiatai International Mansion
No. 41, Middle East Fourth Ring Road
Chaoyang District, Beijing, 100025,
P.R. China
Tel: +86 10 6462 1382/1386
Fax: +86 10 6462 1383
E-mail: info.beijing@belimo.ch

Guangzhou Office:

Belimo Actuators Ltd.
Room 5217-5218, China International Centre,
Tower B, 33 Zhong Shan San Road, Yuexiu District,
Guangzhou 510055, P.R. China
Tel: +86 20 3435 1860
Fax: +86 20 3435 1870
E-mail: info.guangzhou@belimo.ch

Belimo HONG KONG**Hong Kong Office:**

Belimo Actuators Ltd.
Room 1601-6, 16/F, New Commerce Centre
19 On Sum Street, Shatin, N.T., Hong Kong
Tel: +852 2687 1716
Fax: +852 2687 1795
E-mail: info.hongkong@belimo.ch

Indonesia Office:

Belimo Actuators Ltd.
Graha Kencana Building 8th Floor Block B
Jl. Raya Perjuangan 88
Kebon Jeruk - Jakarta Barat 11530, Indonesia
Tel: +62 21 5367 8278
Fax: +62 21 5366 0688
E-mail: info.indonesia@belimo.ch

Japan Office:

Belimo Actuators Ltd.
2nd Floor, Yamaki Building III
3-1-5 Azumabashi, Sumida-ku
Tokyo 130-0001, Japan
Tel: +81 3 6823 6961
Fax: +81 3 3626 3911
E-mail: info.japan@belimo.ch

Malaysia Office:

Belimo Actuators Ltd
S-13-12, First Subang, Jalan SS15/4G
47500 Subang Jaya, Selangor, Malaysia
Tel: +03-56125833
Fax: +03-56125233
E-mail: info.malaysia@belimo.ch

Singapore Office

Belimo Actuators Ltd.
1 Tannery Road #08-04
One Tannery, Singapore 347719
Tel: +65 6842 1626
Fax: +65 6842 1630
E-mail: info.singapore@belimo.ch

Taiwan Office:

Belimo Actuators Ltd.
7F-2, No.343, Jhonghe Rd., Yonghe District
New Taipei City 234, Taiwan
Tel: +886 2 2922 8805
Fax: +886 2 2922 8806
E-mail: info.taiwan@belimo.ch

Thailand Office:

Belimo Actuators Ltd.
90/2 Pensiri Place, Soi Phaholyothin 32
Phaholyothin Road, Chandrakasem, Jatujak
Bangkok 10900, Thailand
Tel: +662 9415582-3
Fax: +662 9415584
E-mail: info.thailand@belimo.ch

Belimo INDIA**Mumbai Office:**

Belimo Actuators India Pvt. Ltd.
23/ ABCD, Govt. Industrial Estate, Charkop
Kandivali West, Mumbai 400067, India
Tel: +91 22 4025 4800
Fax: +91 22 4025 4899
E-mail: info.india@belimo.ch

Bangalore office:

Belimo Actuators India Pvt. Ltd.
Sreerama Complex, No. 13, 2nd Floor
5th Cross Road, 6th Block, Koramangala
Bangalore – 560097, India
Tel: +91-80-40906311
Fax: +91-80-40906288
E-mail: info.india@belimo.ch

New Delhi Office:

Belimo Actuators India Pvt. Ltd.
Flat No. 515, DLF Tower – B
Jasola Distt. Centre, Jasola
New Delhi 110025, India
Tel: +91 11 41078501
Fax: +91 11 41078508
E-mail: info.india@belimo.ch

Chennai Office:

Belimo Actuators India Pvt. Ltd.
Flat no.3B, Urmilla House
#15, ARK Colony, Eldams Road
Chennai-600 018, India
Tel: +91 44 24355154/5153
E-mail: info.india@belimo.ch

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Belimo regional head offices

EU BELIMO Automation AG
Brunnenbachstrasse 1
8340 Hinwil, Switzerland
Tel: +41 43 843 61 11
Fax: +41 43 843 62 68
E-mail: info@belimo.ch

AP Belimo Actuators Ltd.
Room 1601-6, 16/F, New Commerce Centre
19 On Sum Street, Shatin, N.T., Hong Kong
Tel: +852 2687 1716
Fax: +852 2687 1795
E-mail: info.asiapacific@belimo.ch

US BELIMO Aircontrol (USA), Inc.
33 Turner Road
Danbury, CT 06810
USA
Tel: +800 543-9038 / 203 791-9915
Fax: +800 228-8283 / 203 791-9919

Or contact your nearest Sales Representative

www.belimo.com

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