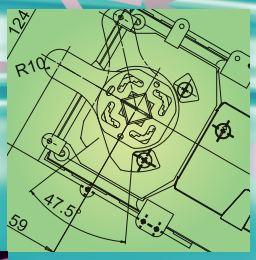
Belimo Pressure Independent Control Valve Range

- PICCV



Technical Databook

Version 3.0





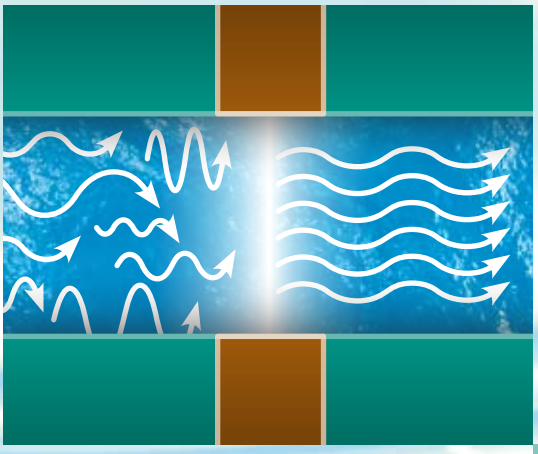


Belimo Asia Pacific

BELIMO®

Pressure Independent Characterised Control Valve (PICCV)





PICCV *– consists of a Differential Pressure Regulator in series with a Control Valve*

PICCV Rotary Actuator

V̇ Default [l/s]	Flow range** [l/s]	DN [mm]	DN [inches]	Type	Rotary Actuator Open/Close	Rotary Actuator Multifunction	Frequency [Hz]
0.06	0.04...0.10	15	1/2"	PICCV-15-006			
0.09	0.04...0.10	15	1/2"	PICCV-15-009		LR24A-MF (AC/DC 24V)	50/60
0.13	0.10...0.40	15	1/2"	PICCV-15-013			
0.19	0.10...0.40	15	1/2"	PICCV-15-019			
0.32	0.10...0.40	15	1/2"	PICCV-15-032			
0.36	0.10...0.40	15	1/2"	PICCV-15-036	LR24A(-S)/LR230A(-S)		
0.37	0.27...0.60	20	3/4"	PICCV-20-037			
0.44	0.27...0.60	20	3/4"	PICCV-20-044			
0.57	0.27...0.60	20	3/4"	PICCV-20-057			
0.60	0.27...0.60	20	3/4"	PICCV-20-066	LR24A(-S)/LR230A(-S)		
0.69	0.50...1.10	25	1"	PICCV-25-069			
0.88	0.50...1.10	25	1"	PICCV-25-088			
0.98	0.50...1.10	25	1"	PICCV-25-098			
1.02	0.50...1.10	25	1"	PICCV-25-102	LR24A(-S)/LR230A(-S)		
0.99	0.72...1.60	32	1 1/4"	PICCV-32-099		NR24A-MF (AC/DC 24V)	
1.12	0.72...1.60	32	1 1/4"	PICCV-32-112			
1.27	0.72...1.60	32	1 1/4"	PICCV-32-127			
1.51	0.72...1.60	32	1 1/4"	PICCV-32-151			
1.56	0.72...1.60	32	1 1/4"	PICCV-32-156			
1.90	0.99...2.20	40	1 1/2"	PICCV-40-190			
2.08	0.99...2.20	40	1 1/2"	PICCV-40-208			
2.35	1.22...2.70	50	2"	PICCV-50-235			
2.55	1.22...2.70	50	2"	PICCV-50-255	NR24A(-S)/NR230A(-S)		
3.00	2.48...5.50	50	2"	PICCV-50-300		SR24A-MF (AC/DC 24V)	
3.50	2.48...5.50	50	2"	PICCV-50-350			
4.20	2.48...5.50	50	2"	PICCV-50-420			
5.06	2.48...5.50	50	2"	PICCV-50-506	SR24A(-S)/SR230A(-S)		

Remark:
** Flow setting is depending on combination of actuators (Angle). For detail, please refer to PICCV Flow Limitation at our web site www.belimo.ch

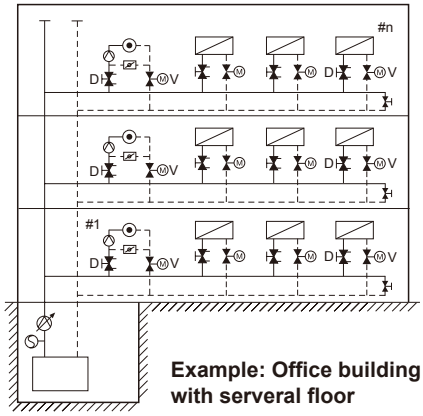
Note:
• Emergency control function (Mechanical Fail-Safe Actuators) is available on request for PICCV valve.

UL mark is optional, please contact your local Sales Representative for details.

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PICCV sets new standards

The challenge



Example: Office building with serveral floor

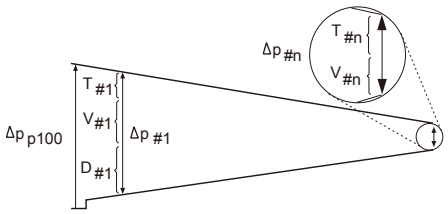
Energy savings with maximum convenience and low installation cost are requirements for the construction of new buildings and renovations. Selecting the correct valves for the entire pipe line system and a professional hydraulic balancing cost money.

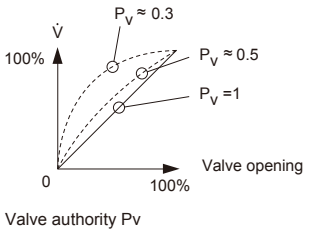
Valves are conventionally designed with a valve authority of 0.5 and installed after each consumer (e.g. air heater, heat exchanger, supply controls).

However, pressure conditions vary depending on the installation site of the consumer and the load. In the case of consumers (#1) that are placed near the main pump, the differential pressure between the supply/return pipes is much higher than at the end of the pipes (#n). With nominal volumetric flow, the necessary delivery height $\triangle p_{p100}$ of the main pump depends on the selected pipe network (DN and pipe lengths) and on the minimum differential pressure at the last consumer (pressure drop at the consumer and valve).

Pressure diagram at full load

The pressure difference $\triangle$p #1 consists of the pressure drop at consumer T#1, valve V#1 and the balancing valve D#1. The valve V#1 is fully opened. If valve #1 closes, the differential pressure across valve V#1 can increase up to $\triangle$p #1, the valve authority sinks markedly, and the flow quantity increases disproportionately.





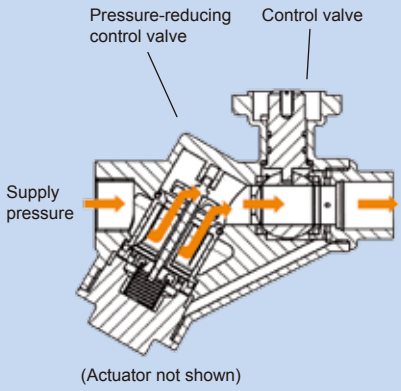
The solution

As a result of the consistent further development of the tried-and-tested Belimo Characterised Control Valve, the valve design has been simplified with the new Pressure Independent Characterised Control Valve (PICCV). The flow rate is constant, even when the valve closes and the differential pressure increases. The valve authority is 1, even with over-sized valves.

The advantages

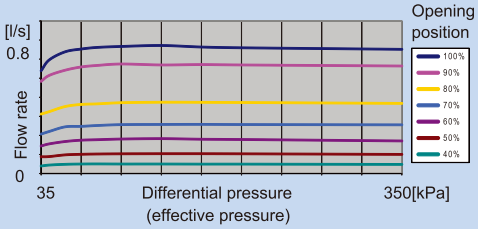
Hydraulic balancing is no longer necessary. Equipping a building becomes simpler, and only one valve per consumer is needed. Since no more balancing valves are needed and the hydraulic balancing is eliminated, it is possible to minimise cost while - at the same time - increase convenience.

PICCV: The simplest way to control the flow rat

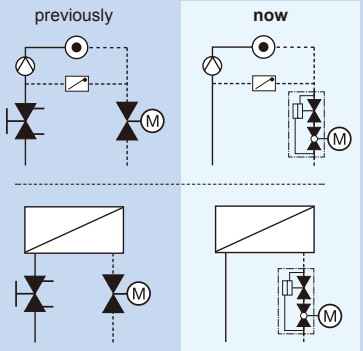


(Actuator not shown)

Typical flow diagram PICCV-20-066



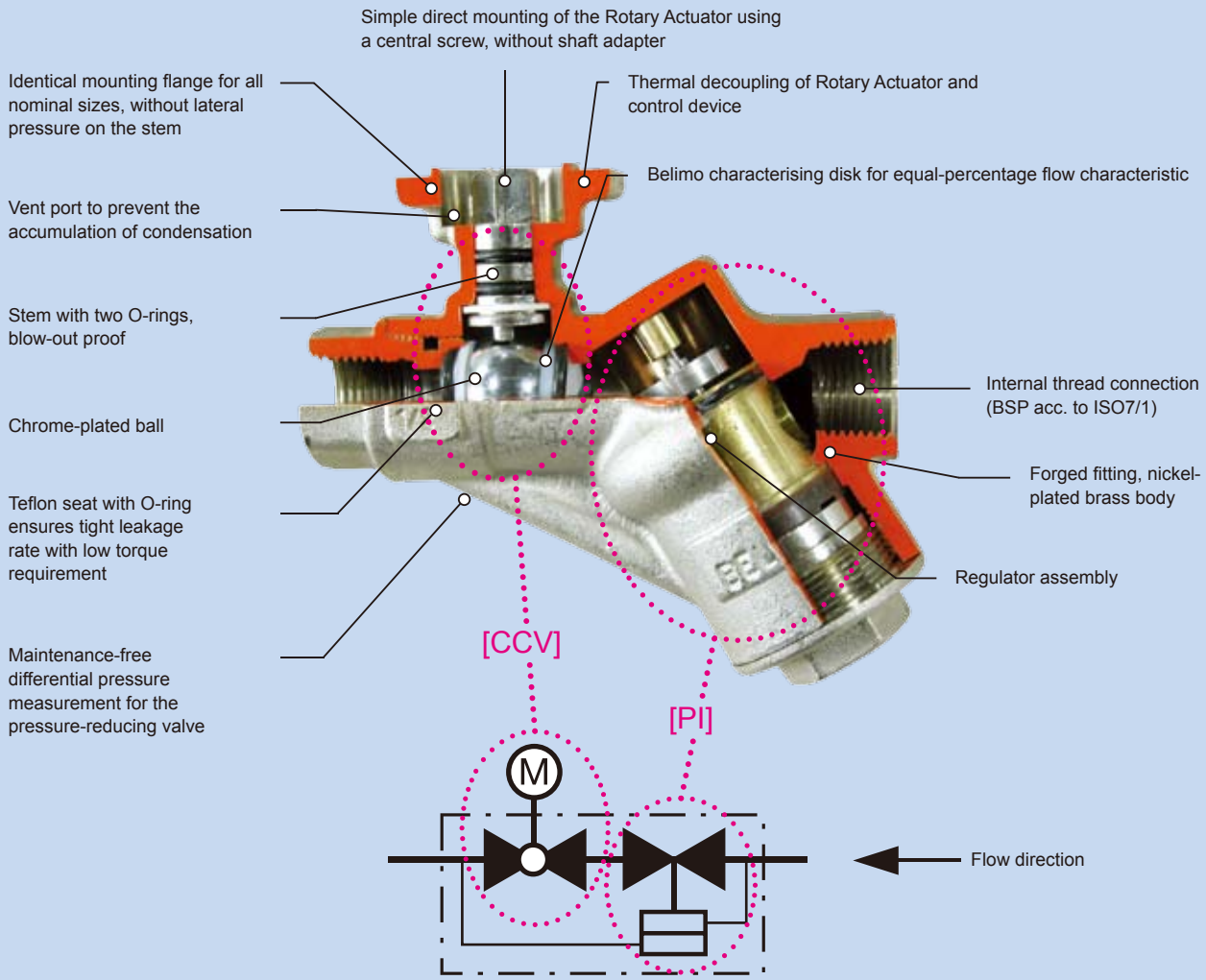
Only one valve is needed per consumer:



UL mark is optional, please contact your local Sales Representative for details.

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Cross-section of the Pressure Independent Characterised Control Valve PICCV



The characteristics

The Pressure Independent Characterised Control Valve PICCV contains two valves: The pressure self-regulating valve **[PI]** and the Characterised Control Valve **[CCV]** that works with equal-percentage. When the differential pressure increases, the pressure-regulating valve closes and ensures a constant pressure over the control valve.

The selection

The range of motorised Pressure Independent Characterised Control Valves comprises a practical spectrum. All valves are:

- 2-way valves in the most common nominal sizes (DN15...50)
- Designed for a flow rate of 0.04l/s to 5.5l/s

The corresponding drives

Optimum function ability of the Belimo Pressure Independent Characterised Control Valve is ensured by the corresponding motorisation. Depending on the application, the Pressure Independent Characterised Control Valves are supplied with different Rotary Actuators. You can choose from the LR..A.., NR..A.. and SR..A.. Rotary Actuators. Depending on the type, they can be controlled by a modulating, Open/Close or 3-point control system.

UL mark is optional, please contact your local Sales Representative for details.

BELIMO

Sizing diagram for Pressure Independent Characterised Control Valves PICCV

Legend

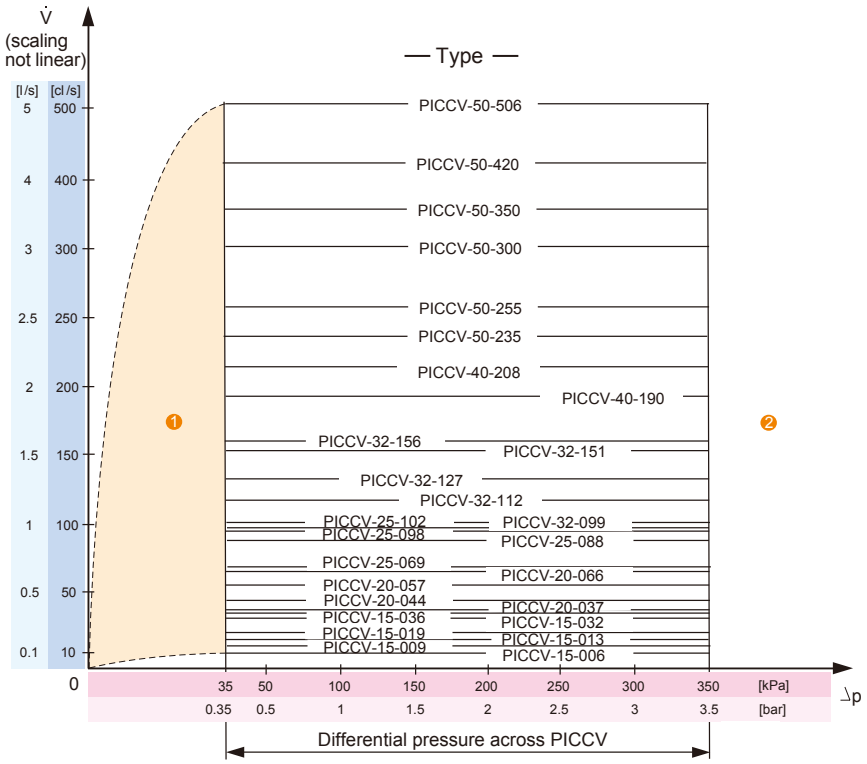
❶
The differential pressure across the PICCV should be within the range of 35...350kPa. If the differential pressure is lower than 35kPa, the PICCV behaves like a conventional control valve, where the flow decreases with the differential pressure.

❷
The PICCV is not recommended if △p over the PICCV is greater than the differential pressure of 350kPa.

△ps defintion

Closing pressure at which the Rotary Actuator is still able to close the valve in relation to the corresponding leakage rate.

△ps = 350kPa



Ordering sample

PICCV-32-151

- Nominal flow rate in l/s, e.g 1.51l/s
- DN in mm
- Pressure Independent Characterised Control Valve

Design

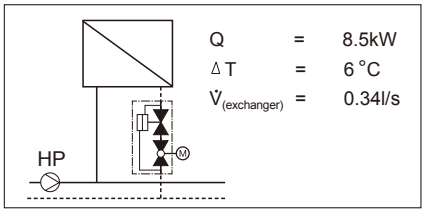
In the case of conventional control valves, the valves are selected k vs = $\frac{\dot{V}_{100}}{\sqrt{\triangle p_{v100}}}$.

The decisive factor for the design of the Pressure Independent Characterised Control Valve is the flow rate through the consumer or the heat exchanger.
In the case of a maximum flow rate of <2m/s, the diameter of the pipe connector at the heat exchanger can be set equal to the diameter of PICCV (max. flow rate).

Examples

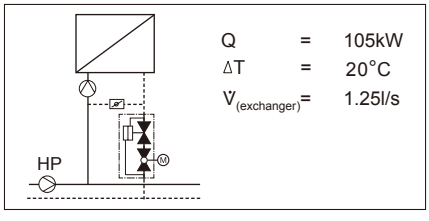
The flow rate through the Pressure Independent Characterised Control Valve should be higher than that through the consumer or heat exchanger:

Example of an air cooler (throttling circuit)



$\dot{V}_{(valve)} = \dot{V}_{(exchanger)}$
0.36l/s > 0.34l/s
→ PICCV-015-036 (Type)

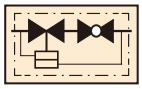
Example of an air preheater (injection circuit with 2-way valve)



$\dot{V}_{(valve)} = \dot{V}_{(exchanger)}$
1.27l/s > 1.25l/s
→ PICCV-32-127 (Type)

UL mark is optional, please contact your local Sales Representative for details.

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Pressure Independent Characterised Control Valve: DN15...50
For modulating, Open/Close or 3-point control of cold and warm water

Applications

- Water-side control of air handling unit in ventilations and air-conditioning plants
- Water side control in heating plants
- Fancoil control
- VAV reheat



Technical data

Medium	Cold and warm water, with 60% volume of glycol
Temperature of medium	-5...+100°C (DN 15...20), lower temperture on request -5...+80°C (DN 25...50), lower temperture on request
Rated pressure	4140kPa (DN15...25), 2760kPa (DN32...50)
Flow characteristic	equal percentage (following VDE2173)
Rangeability	DN15 Sv>50 DN20...50 Sv>100
Pipe connecter	Internal thread to ISO 7/1
Differential pressure	35...350kPa
Closing Pressure △ps	1400kPa (actuator still capable of closing valve, leakage rate exceeds 0.01% maximum flow) 350kPa (leakage 0.01% maximum flow)
Angle of rotation	90°
Installation position	Vertical to horizontal (referred to the valve stem)
Maintenance	Maintenance-free
Valve material	
Valve body	Forged nickel-plated brass
Ball	Chrome-plated brass
Seal	PTFE
Shaft	Chrome-plated brass
O-ring	EPDM
Characterising disk	TEFZEL
Regulator	Stainless steel
Cage	Brass/Delrin 500 AF(DN25)
Diaphragm	Polyester-reinforced silicone
Spring for valve cone	Stainless steel

Mode of operation

The Pressure Independent Characterised Control Valve is motor-operated by a type of LR..A.., NR..A.. or SR..A.. General Rotary Actuator. The actuator is controlled by a modulating, Open/Close or 3-point control system and move the ball of the PICCV, the throttling element, to the opening position dictated by the control signal.

Product features

Equal-percentage characteristic

Equal-percentage characteristic of the flow ensured by the integrated characterising disk.

Constant flow volume $\dot{V}$

Constant flow volume $\dot{V}$ with various differential pressure of 35...350kPa, thanks to the integrated pressure regulator. A valve authority of 1 is attained, regardless of differential pressure variations across the valve.

Even in the part-load range, the flow rate remains constant with each opening position (angle of rotation) and ensures a steady control.

Manual operation by level

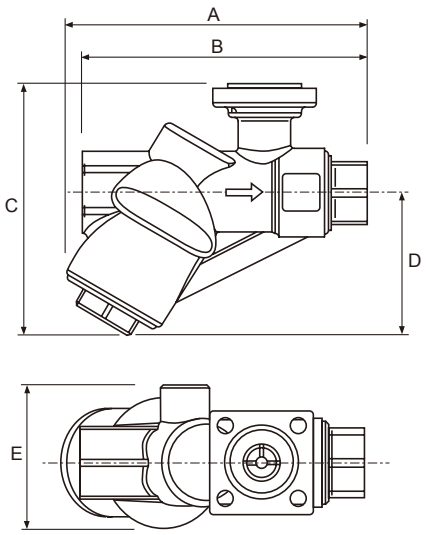
Manual operation by lever after disengaging the gearing latch on the type of LR..A.., NR..A.. or SR..A.. Rotary Actuator (manual operation is not possible with LF..).

Accuracy

±5% variance due to differential pressure fluctuation or ±10% total assembly error incroporating differential pressure fluctuation, manufacturing toleances and is valve hysteresis.

UL mark is optional, please contact your local Sales Representative for details.

PICCV-.. dimension and weight



DN		Dimension [mm]					G	Thread	Max. Thread screwing depth
[mm]	[inches]	A	B	C	D	E	[kg]	Rp[inches]	[mm]
15	1/2"	118	114	94	58	51	0.86	1/2"	13
20	3/4"	124	126	94	58	51	0.87	3/4"	14
25	1"	174	179	121	75	82	2.72	1"	16
32	1 1/4"	199	221	140	89	87	3.74	1 1/4"	19
40	1 1/2"	202	204	140	89	87	3.54	1 1/2"	19
50	2"	214	225	146	89	87	4.31	2"	23
50	2"	426	396	224	148	132	12.25	2"	22

Ordering

The Pressure Independent Characterised Control Valve (PICCV) should be ordered together with the corresponding LR..A.., NR..A.. or SR..A.. Rotary Actuator.

Ordering examples (with NR24A-MF):
a) PICCV-40-215 with NR24A-MF Rotary Actuator fitted:
- order code: PICCV-40-215+NR24A-MF

b) PICCV-40-215 with NR24A-MF Rotary Actuator supplied separately or not fitted:
- order code: PICCV-40-215/NR24A-MF

UL mark is optional, please contact your local Sales Representative for details.

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- **General Rotary Actuators for:** **DN15...25 PICCV**
- **Torque:** **5Nm**
- **Multifunction control:** **LR24A-MF (AC/DC 24V)**
- **Open/Close or 3-point control:** **LR24A(-S) (AC/DC 24V)**
  LR230A(-S) (AC 100...240V)



Technical data

Basic technical data	Torque	5Nm
	Angle of rotation	90°
	Direction of rotation	CCW (setting ↷ close position)
	Sound power level	~35dB(A) (without the valve)
	Position indicator	Mechanical
	Manual override	Gearing disengaged by pressing the push button, manual operate while the button is held depressed
	Running time	90s
	Mode of operation	Type 1 (EN60730)
	Ambient temp.	0...+50°C
	Non-operation temp.	-40...+80°C
	Humidity	5...95% RH, non-condensing
	Degree of protection	IP54
	EMC Low voltage directive	CE according to 89/336/EEC CE according to 73/23/EWG
	Maintenance	Maintenance-free
LR24A-MF	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal voltage range	AC 19.2...28.8V / DC 21.6...28.8V
	Power consumption - running - holding	2W 1.2W
	For transformer sizing	3.5VA
	Connecting cable	Cable 1m, 4x0.75mm^2
	Control signal Y	DC (0)2...10V @ input impedance 100kΩ
	Working range	DC 0...10V
	Position feedback signal U	DC 2...10V max. 0.5mA
	Position accuracy	±5%
	Protection class	III (safety extra-low voltage)
	Weight	Approx 0.5kg
LR24A(-S)	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal voltage range	AC/DC 19.2...28.8V
	Power consumption - running - holding	1W 0.2W
	For transformer sizing	2VA
	Connecting cable - motor - auxiliary switch	Cable 1m, 3x0.75mm^2 Cable 1m, 3x0.75mm^2
	Protection class	III (safety extra-low voltage)
	Auxiliary switch (LRU24-S)	1XSPDT, 1mA...3(0.5)A, AC 250V 0...100% adjustable
	Weight	Approx 0.6kg
LR230A(-S)	Nominal voltage	AC 100...240V 50/60Hz
	Nominal voltage range	AC 85...265V
	Power consumption - running - holding	1.5W 0.4W
	For transformer sizing	4VA
	Connecting cable - motor - auxiliary switch	Cable 1m, 3x0.75mm^2 Cable 1m, 3x0.75mm^2
	Protection class	II (totally insulated)
	Auxiliary switch (LRU230-S)	1XSPDT, 1mA...3(0.5)A, AC 250V 0...100% adjustable
	Weight	Approx 0.6kg

UL mark is optional, please contact your local Sales Representative for details.

NR..A.. General Rotary Actuators

- **General Rotary Actuators for:** **DN32...50 PICCV**
- **Torque:** **10Nm**
- **Multifunction control:** **NR24A-MF (AC/DC 24V)**
- **Open/Close or 3-point control:** **NR24A(-S) (AC/DC 24V)**
  NR230A(-S) (AC 100...240V)



Technical data

Basic technical data	Torque	10Nm
	Angle of rotation	90°
	Direction of rotation	CCW (setting ↷ close position)
	Sound power level	~35dB(A) (without the valve)
	Position indicator	Mechanical
	Manual override	Gearing disengaged by pressing the push button, manual operate while the button is held depressed
	Running time	90s
	Mode of operation	Type 1 (EN60730)
	Ambient temp.	0...+50°C
	Non-operation temp.	-40...+80°C
	Humidity	5...95% RH, non-condensing
	Degree of protection	IP54
	EMC Low voltage directive	CE according to 89/336/EEC CE according to 73/23/EWG
	Maintenance	Maintenance-free
NR24A-MF	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal voltage range	AC 19.2...28.8V / DC 21.6...28.8V
	Power consumption - running - holding	3.5W 1.25W
	For transformer sizing	5.5VA
	Connecting cable	Cable 1m, 4x0.75mm^2
	Control signal Y	DC (0)2...10V @ input impedance 100kΩ
	Working range	DC 0...10V
	Position feedback signal U	DC 2...10V max. 0.5mA
	Position accuracy	±5%
	Protection class	III (safety extra-low voltage)
	Weight	Approx 0.85kg
NR24A(-S)	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal voltage range	AC/DC 19.2...28.8V
	Power consumption - running - holding	1.5W 0.2W
	For transformer sizing	3.5VA
	Connecting cable - motor - auxiliary switch	Cable 1m, 3x0.75mm^2 Cable 1m, 3x0.75mm^2
	Protection class	III (safety extra-low voltage)
	Auxiliary switch (NRU24-S)	1XSPDT, 1mA...3(0.5)A, AC 250V 0...100% adjustable
	Weight	Approx 0.8kg
NR230A(-S)	Nominal voltage	AC 100...240V 50/60Hz
	Nominal voltage range	AC 85...265V
	Power Consumption - running - holding	 0.4W
	For transformer sizing	5.5VA
	Connecting cable - motor - auxiliary switch	Cable 1m, 3x0.75mm^2 Cable 1m, 3x0.75mm^2
	Protection class	II (totally insulated)
	Auxiliary switch (NRU230-S)	1XSPDT, 1mA...3(0.5)A, AC 250V 0...100% adjustable
	Weight	Approx 0.8kg

UL mark is optional, please contact your local Sales Representative for details.

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- **General Rotary Actuators for:** **PICCV-50-300...506**
- **Torque:** **20Nm**
- **Multifunction control:** **SR24A-MF (AC/DC 24V)**
- **Open/Close or 3-point control:** **SR24A(-S) (AC/DC 24V)**
  SR230A(-S) (AC 100...240V)



Technical data

Basic technical data	Torque	20Nm
	Angle of rotation	90°
	Direction of rotation	CCW (setting ↷ close position)
	Sound power level	~45dB(A) (without the valve)
	Position indicator	Mechanical
	Manual override	Gearing disengaged by pressing the push button, manual operate while the button is held depressed
	Running time	90s
	Mode of operation	Type 1 (EN60730)
	Ambient temp.	0...+50°C
	Non-operation temp.	-40...+80°C
	Humidity	5...95% RH, non-condensing
	Degree of protection	IP54
	EMC Low voltage directive	CE according to 89/336/EEC CE according to 73/23/EWG
	Maintenance	Maintenance-free
SR24A-MF	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal voltage range	AC 19.2...28.8V / DC 21.6...28.8V
	Power consumption - running - holding	4W 1.25W
	For transformer sizing	6VA
	Connecting cable	Cable 1m, 4x0.75mm^2
	Control signal Y	DC (0)2...10V @ input impedance 100kΩ
	Working range	DC 0...10V
	Position feedback signal U	DC 2...10V max. 0.5mA
	Position accuracy	±5%
	Protection class	III (safety extra-low voltage)
	Weight	Approx 1.0kg
SR24A(-S)	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal voltage range	AC/DC 19.2...28.8V
	Power consumption - running - holding	2W 0.2W
	For transformer sizing	4VA
	Connecting cable - motor - auxiliary switch	Cable 1m, 3x0.75mm^2 Cable 1m, 3x0.75mm^2
	Protection class	III (safety extra-low voltage)
	Auxiliary switch (SRU24-S)	1XSPDT, 1mA...3(0.5)A, AC 250V 0...100% adjustable
	Weight	Approx 1.0kg
SR230A(-S)	Nominal voltage	AC 100...240V 50/60Hz
	Nominal voltage range	AC 85...265V
	Power consumption - running - holding	2.5W 0.4W
	For transformer sizing	6VA
	Connecting cable - motor - auxiliary switch	Cable 1m, 3x0.75mm^2 Cable 1m, 3x0.75mm^2
	Protection class	II (Totally insulated)
	Auxiliary switch (SRU230-S)	1XSPDT, 1mA...3(0.5)A, AC 250V 0...100% adjustable
	Weight	Approx 1.0kg

UL mark is optional, please contact your local Sales Representative for details.

Product features

Mode of operation
LR24A-MF, NR24A-MF, SR24A-MF is controlled by means of a standard control signal DC (0)2...10V and travels to the position defined by this signal. The measuring voltage U allows the valve position (0...100%) to be electrically indicated and serves as a follow-up control signal for other actuators.

Simple direct mounting
Simple direct mounting on the PICCV with the actuator integrated bracket.

Adjustable angle of rotation
Adjustable angle of rotation with mechanical end stops.
- MF with ZTH & PC-tool

High functional reliability
The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

Flexible Signalisation
Flexible Signalisation of the LR..A..-S, NR..A..-S, SR..A..-S with adjustable auxiliary switch (0...100%).

MP-Bus Communication
LR24A-MP, NR24A-MP, SR24A-MP support on MP-Bus Communication

Wiring diagrams

LR24A(-S)
NR24A(-S)
SR24A(-S)

Notes
- Connection via safety isolating transformer.
- Other actuators can be connected in parallel. Please note the performance data.

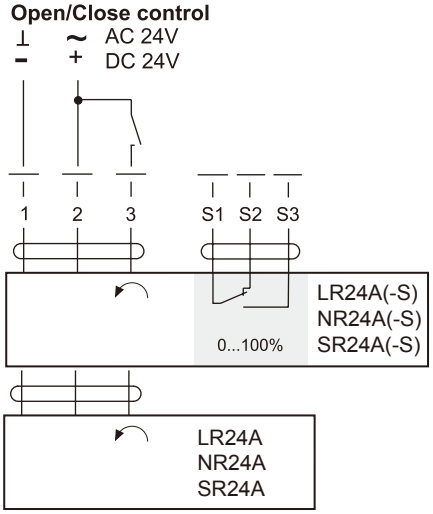
Direction of rotation
(factory setting,switch hidden)



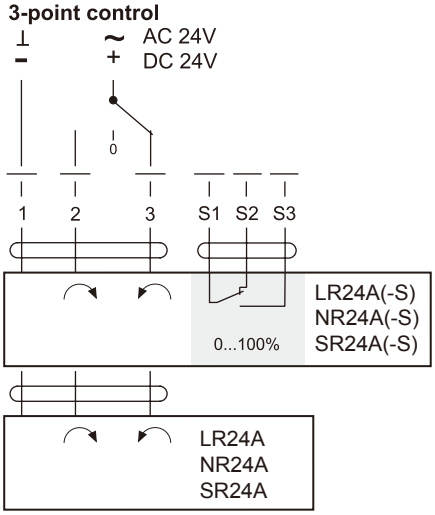
Auxiliary switch (-S)

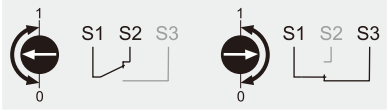


Open/Close control



3-point control





LR230A(-S)
NR230A(-S)
SR230A(-S)

Notes
- Caution: Power supply voltage!
- Other actuators can be connected in parallel. Please note the performance data.

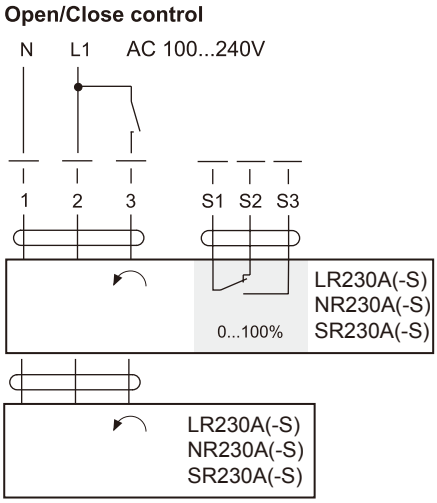
Direction of rotation
(factory setting, switch hidden)



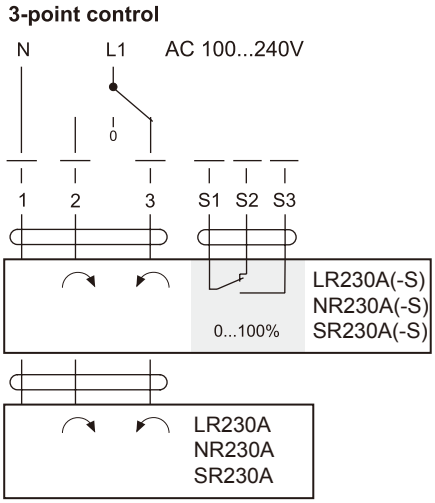
Auxiliary switch (-S)

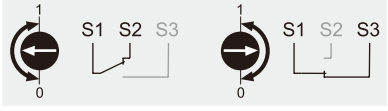


Open/Close control



3-point control





UL mark is optional, please contact your local Sales Representative for details.

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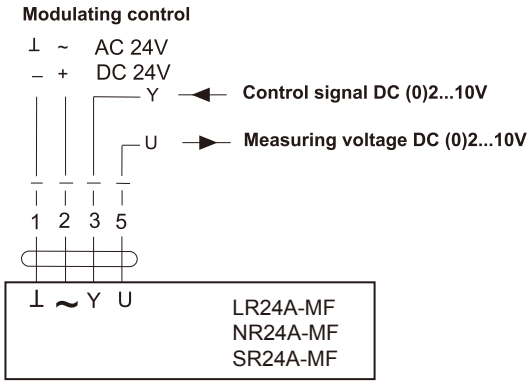
Wiring diagrams (continued)

LR24A-MF
NR24A-MF
SR24A-MF

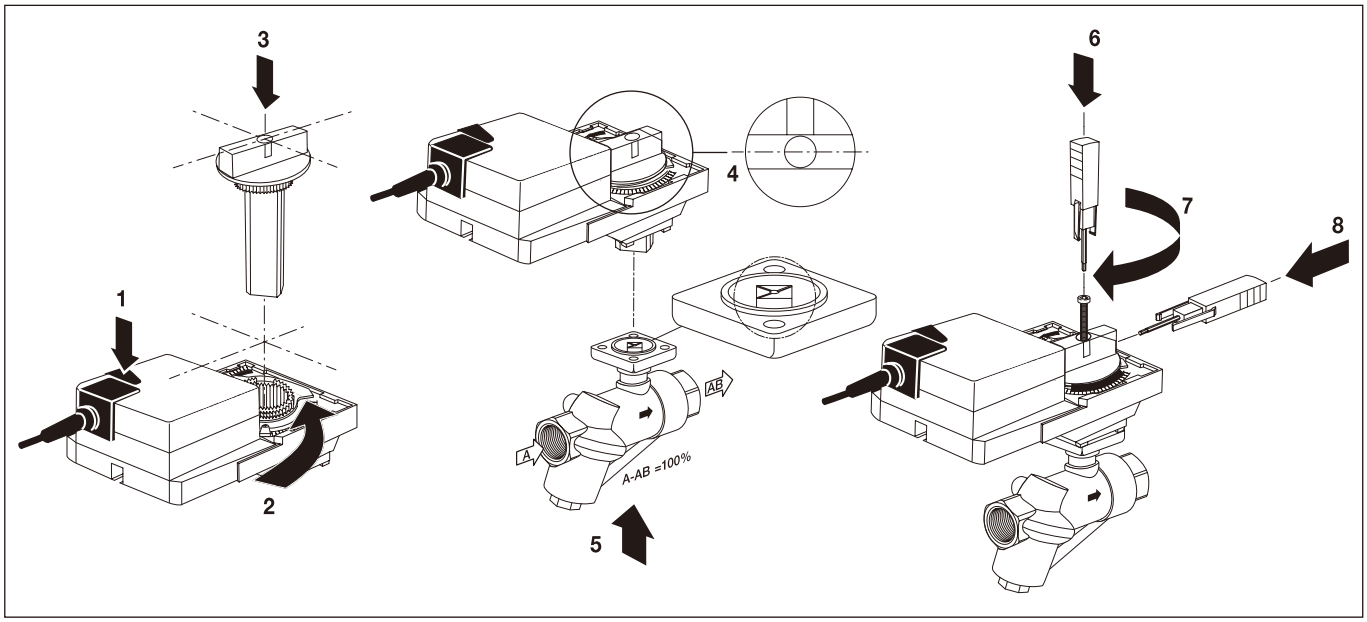
Notes
- Connection via safety isolating transformer.
- Other actuators can be connected in parallel. Please note the performance data.

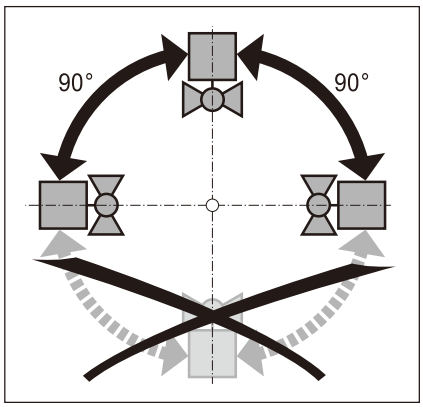
Direction of rotation
(factory setting, switch hidden)





Mounting instructions





Notes:

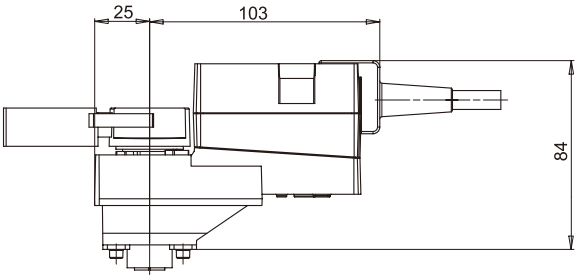
1. The valve assembly can be installed in a vertical or horizontal arrangement, as long as the actuator is positioned to avoid condensation from dripping on the actuator.

2. PICCV shall be installed, with flow in the direction of the arrow on the valve body. If installed backwards, there could be damage to either the diaphragm or the regulator top.

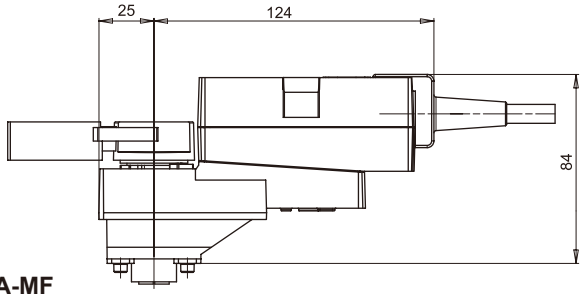
UL mark is optional, please contact your local Sales Representative for details.

Dimensions [mm]

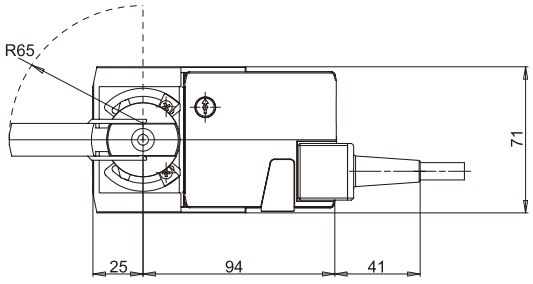
LR24A
LR230A

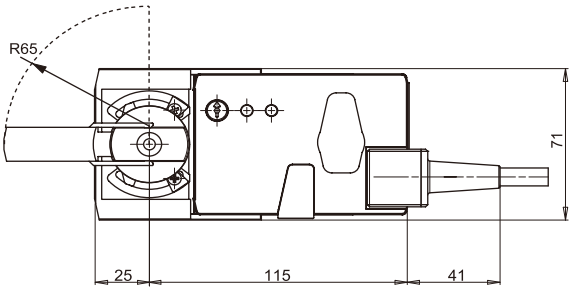


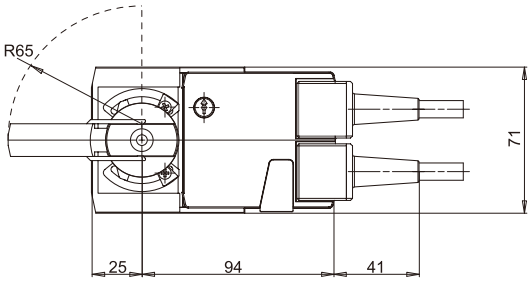
LR24A-MF



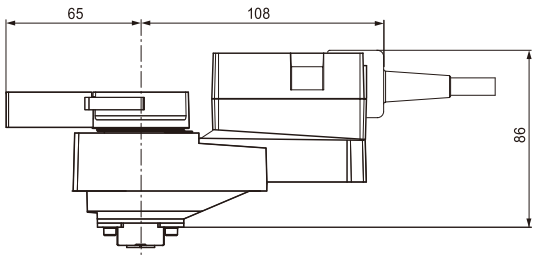
LR24A-S
LR230A-S



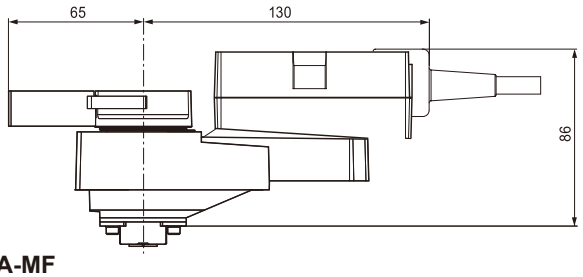




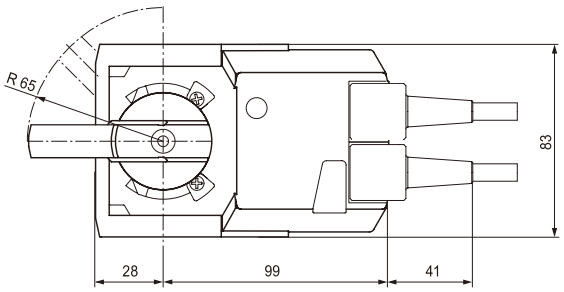
NR24A
NR230A

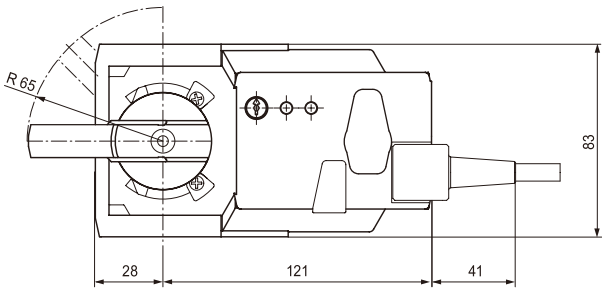


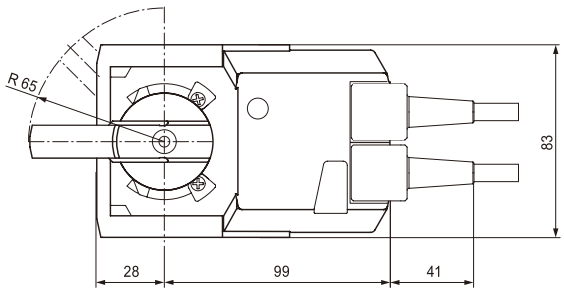
NR24A-MF



NR24A-S
NR230A-S



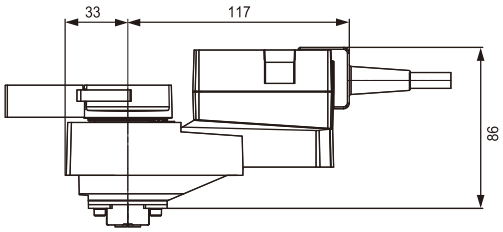


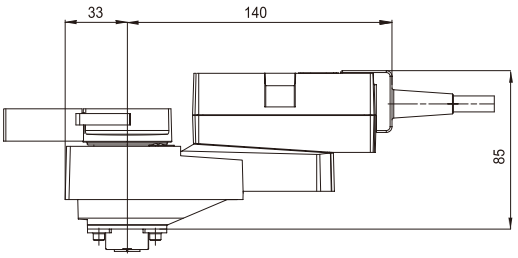


UL mark is optional, please contact your local Sales Representative for details.

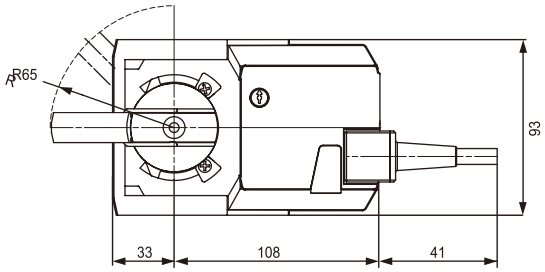
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Dimensions [mm]

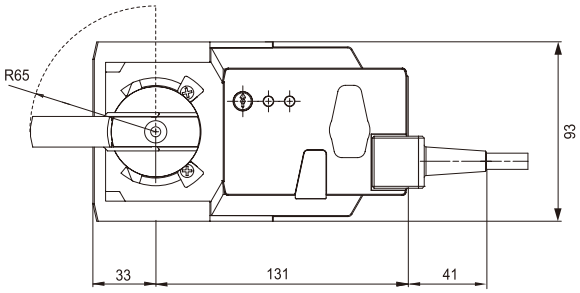




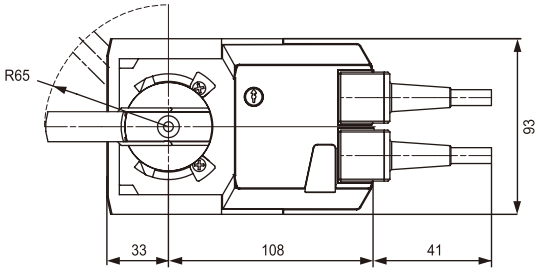
SR24A
SR230A



SR24A-MF



SR24A-S
SR230A-S



UL mark is optional, please contact your local Sales Representative for details.

Multi- Function Actuators: Simple technology with greater benefit

Individual parameterising and variable operation

The MF Actuators can be parameterised individually when necessary. This allows them to be matched precisely to the needs of the plant installation. In addition, the mode of operation for each actuator can be freely chosen. It is sufficient to have just a few different types to cover almost all the applications that arise in practice. This improves flexibility for planning purposes and also reduces the cost of procurement and warehousing.

Ease of installation

The MF Actuators are just as easy to install, connect up and use as conventional types.

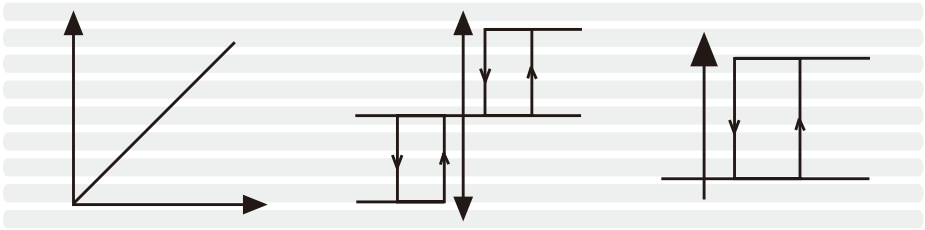
MF Actuators are the best partner of PICCV



Alternatively enter your own settings with the software PC-Tool...



...or enter your own settings on-site with the ZTH AP.



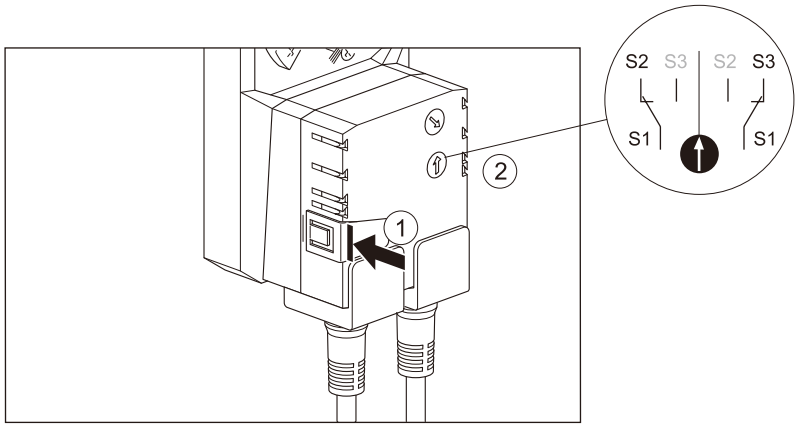
Compatible to various control input signals: Modulating, 3-point and Open/Close.

The detailed information of multifunction is available on request.

UL mark is optional, please contact your local Sales Representative for details.

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Auxiliary switch adjustment

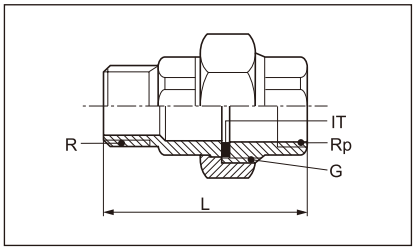


1. Press the push button and manually operate the actuator handle to the desired position of switch trip.
2. Turn the auxiliary switch pointer to the middle line.
3. Check the switch operation. The direction of switch operation is opposite to the running direction of the actuator. When the switch pointer passes the middle line position, the S1 will change the contact.

Note:
The switching point should be about 5° from the mechanical end stops (1 short step on the scale).

Pipe connectors

Type	ZR2315	ZR2320	ZR2325	ZR2332	ZR2340	ZR2350
DN [mm]	15	20	25	32	40	50
Weight [kg]	0.2	0.35	0.45	0.8	0.9	1.4
Dim.L [mm]	66	72	80	90	95	107





Included in scope of delivery of ZR23..: R-thread male part, G-thread union nut, Rp-thread emale part, IT flat gasket.

UL mark is optional, please contact your local Sales Representative for details.

Ordering

Valve

The range includes the Pressure Independent Characterised Control Valve.

Sizes: DN15...50

Assembling

The prices quoted are per subassembly (valve and actuator).

A successful order will need the below-mentioned information:

Note: An option with individual pipe connectors is available and supplied separately.

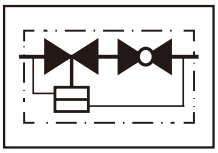
Actuator types

For motorising valves, there are four rating classes of actuators available that are suitable for different power supplies and methods of control.

Other versions and Mechanical Fail-Safe Actuators are available on request.

---

① Valve



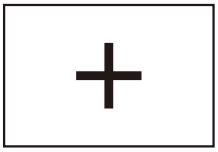
2-way

The short product list is arranged as follows:

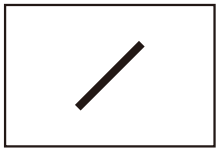
- 2-way Pressure Independen Characterised Control Valve

---

② Assembling



Actuator fitted



Supplied separately

The valves and actuators can be supplied as follows:

- Actuator fitted (+)
- Valve/actuator separately (/)
- Separately delivered at different times (on request)

---

③ Actuator types



LR..A..



NR..A..



SR..A..

The following data must be provided:

- Modulating control, 3-point or Open/Close modulating
- Nominal voltage AC/DC 24V, 230V

---

④ Pipe connectors separately (option)



Separately

The Pressure Independent Characterised Control Valves are available as low-cost fittings with internal thread.

- As an option, the PICCV are available with individual pipe connectors supplied separately (/Z).

Ordering example:

Designation:	**PICCV-25-098+LR24A-MF /Z**
	① ② ③ ④
① Valve type:	
Design	2-way PICCV
Size	Internal thread BSP 1", DN25
Flow rate	V = 0.98l/s
② Assembling	Actuator fitted
③ Actuator:	
Nominal voltage	Rotary Actuator AC/DC 24C
Control type	Multifunction
Running time	90s
④ Pipe connectors (option):	2xZR 2325 separately (for prices, see current price list)

UL mark is optional, please contact your local Sales Representative for details.

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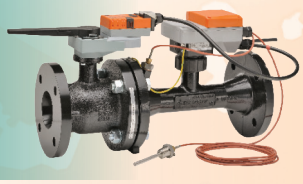
FIRE &
SMOKE



DAMPER



PICCV
EPIV
EV



CCV



BUTTERFLY
VALVE



GLOBE
VALVE



Innovation, Quality and Consultancy:

A partnership for motorising HVAC actuators

- 5 year warranty
- On site around the globe
- A complete range of products from one source
- Tested quality
- Short delivery times
- Comprehensive support

93010-00172

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