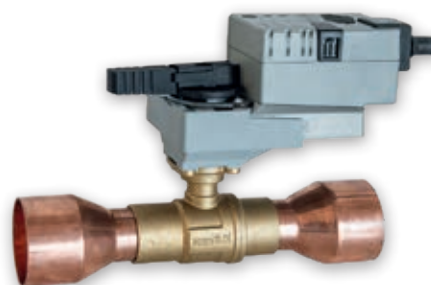


xBALL 1.0 - DATA SHEET

**xBALL 1.0 - actuated control ball valve,
0...10V signal operated**

- › HFC, HFO refrigerant compatible
- › Perfect seal closure
- › Suitable for refrigerant flow control
- › Nominal voltage AC/DC 24 V
- › IP54
- › Feedback signal 0...10V



Product range

Code	Description
BEA15D35D35NAL	Actuated control ball valve, 0...10V, 9 s, Kvs 15, 35-35 mm ODF connections, 3 mt cable
BEA21D42D42NAL	Actuated control ball valve, 0...10V, 9 s, Kvs 21, 42-42 mm ODF connections, 3 mt cable
BEA43D54D54NAL	Actuated control ball valve, 0...10V, 9 s, Kvs 43, 54-54 mm ODF connections, 3 mt cable

Technical data

Without supercap

Electrical data	Nominal voltage	AC/DC 24V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range AC	AC 19.2 ... 28.8 V
	Nominal voltage range DC	DC 19.2 ... 28.8 V
	Power consumption in operation	13 W
	Power consumption in rest position	2 W
	Power consumption for wire sizing	23 VA
Working data	Connection supply / control	Cable 3 m, 4 x 0,75 mm ²
	Running time motor	9 s / 90°
	Sound power level motor	45dB(A)
	Position indication	Mechanical
	Operating range Y	0,5V ... 10 V
	Position feedback U	0,5V ... 10 V
	Input impedance	100 kΩ
	Compatible refrigerants	Refrigerants Group 2 UNI EN 378-1
	Fluid temperature	-20°C ...90°C
	Maximum pressure Ps	25 barg
	Maximum differential pressure Δpmax	18 barg
	Leakage rate with closed valve	Leakage rate A: air bubble tight (EN 12266-1)
	Connection	Solder ODF
	Position of installation	From vertical to horizontal
Maintenance	Not necessary	

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Control general data

Controlling scope	Valve positioning / control
Controlling installation	Independent mounting
Type of movement	Rotary (90°)
Maximum angular rotation	90°
Safety	
Protection class IEC/ EN	III, Safety Extra-Low Voltage (SELV)
Index of protection IEC/EN	IP54
Directives RoHS (2015/863/EU), RED (2014/53/EU), PED (2014/68/EU), LVD (2014/35/EU), EMC (2014/30/EU)	Compliant
Operation type	Type 1
Pollution degree	3
Ambient temperature note	Caution: +40...+50°C utilization possible only with duty cycle limited at 20%
Storage temperature	-40°C ... +80°C
Maximum ambient humidity	95% RH, non-condensing
Heat and fire strength	Category D
Overvoltage category	Category III
Rated impulse voltage supply	0,8 kV

Safety notes


- The device has been designed to be used for stationary refrigeration equipment ventilation and air conditioning systems. Usage is not permitted outside the foreseen application fields, especially on airplanes or any airborne means of transport.
- External application: only possible if it is not in direct contact with sea water, snow, ice, heating or aggressive gases at direct contact with the actuator. The environmental conditions should remain any time within the limits indicated in the technical data sheet.
- The installation can only be carried out by authorized technicians. All applicable legal or institutional regulations must be respected.
- The device can only be opened at the manufacturing site. It does not contain parts repairable or replaceable by the user.
- Cables must not be removed from the device.
- The device contains electrical and electronic components and cannot be disposed of in normal household waste. All local disposal regulations must be observed.

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Product features

- Selection** Bereva sizing software is going to be updated with these valves models, Bereva support team is available to help to size them in the meantime.
- Working concept** The actuator relates to a standard control signal of 0...10 V and drives to the position defined by the control signal. Measuring voltage U serves for the electrical display of the valve position 0.5...100% and as control signal for other actuators. The opening of the ball valve is clockwise and closing counterclockwise.
- Friendly installation** Straightforward direct mounting on the ball valve with only one central screw. The assembly tool is integrated in the plug-in position indication. The mounting orientation in relation to the ball valve can be selected in 90° steps.
- Manual action** Only in case of need and in compliance with the operating conditions of the refrigeration circuit and its components, manual override with push-button possible (the gear train is disengaged for as long as the button is pressed or remains locked).

Electrical installation

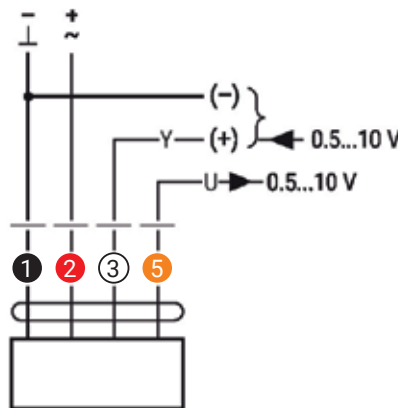


Supply from isolating transformer. Parallel connection of other actuators possible. Observe the performance data. Direction of rotation switch is covered. Factory setting: Direction of rotation Y2

A = Actuator
 C = Control unit (controlling unit)
 L1 = Connecting cable of the actuator
 L2 = Customer cable
 Ltot = Maximum signal cable length

Note:
 When several actuators are connected in parallel, the maximum signal cable length must be divided by the number of actuators.

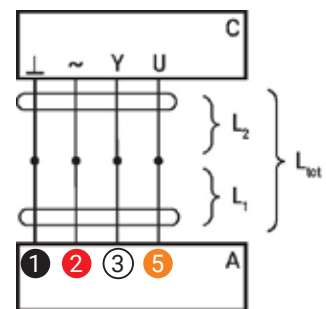
Wiring diagrams:
 AC/DC 24 V, modulating



Signal cable lengths

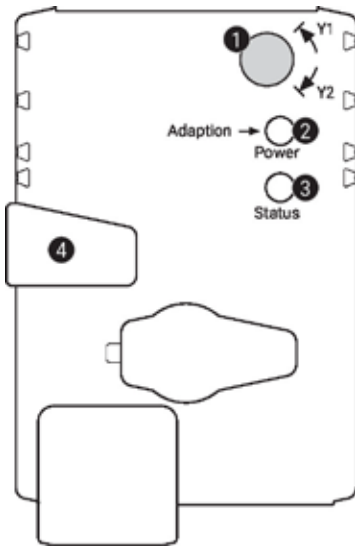
Wire colours:

- ① = black
- ② = red
- ③ = white
- ⑤ = orange



L ₂ ↓/~	L _{tot} = L ₁ + L ₂	
	AC	DC
0.75 mm ²	≤30 m	≤5 m
1.00 mm ²	≤40 m	≤8 m
1.50 mm ²	≤70 m	≤12 m
2.50 mm ²	≤100 m	≤20 m

1	2	3 (a)	3 (b)	⊗ ⊗
~	~	~	~	A - AB = 100%
~	~	~	~	A - AB = 0%
~	~	~	~	0.5...10 V

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Configuration and led indicator

1 Direction of rotation switch

Switch over: direction of rotation changes

2 Push-button and LED display green

Off: no power supply or malfunction

On: in operation

Press button: triggers angle of rotation adaptation, followed by standard mode

3 Push-button and LED display yellow

Off: standard mode

On: adaptation or synchronisation process active

Press button: no functions

4 Manual override button

Press button: gear train disengages, motor stops, manual override possible

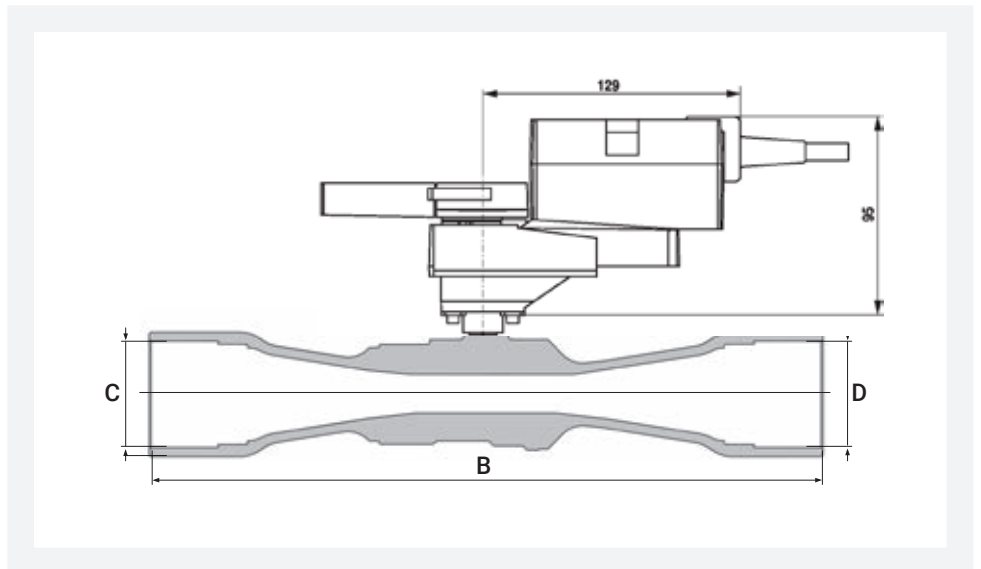
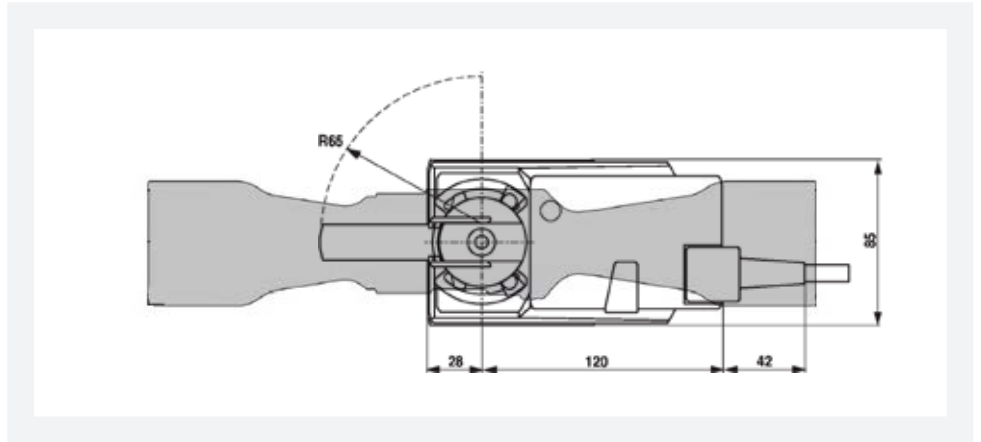
Release button: gear train engages, standard mode

Check power supply connection

2 Off and 3 On - Possible wiring error in power supply

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Dimensions (mm)



Valve model	B	C	D	Depth*
BEA15...NAL	194	35	35	48,85
BEA21...NAL	214	42	42	48,85
BEA43...NAL	234	54	54	48,85

All dimensions in [mm], the representation of the dimensions on the drawings is valid for all available model