



Ball Valves with Electrical Actuator

screw-on and flange connection, weld ends



measuring
•
monitoring
•
analysing

KUA



- p_{\max} : PN 16
- t_{\max} : +120 °C
- Connections:
screw thread G 1/4 ... G 2 1/2
weld ends DN 15 ... DN 50
flanges DN 15 ... DN 50
- Power supply:
24 V_{DC}, 230 V_{AC}
- Material:
brass, stainless steel, GG-25



Z1

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Description

The electrical actuator is specially designed to operate 2-way and 3-way ball valves and butterfly isolating valves. It is noted for its compact design, with the gear section fully isolated from electrical components and cable connections.

The valve stem is attached to the actuator end of a speed reducer that is driven by a series-connected electric motor. Two standard limit switches and the position indicator deliver electrical and visual feedback. You can manually reset the valve with the emergency manual operation facility if, for example, the power fails.

Actuator, adapter and valve are perfectly matched and supplied as a complete unit for faultless operation.

Technical Details

Material:	carbon steel, aluminium alloy, bronze body polyester coated
Installation:	as desired
Ambient temperature:	-20°C ... +70°C
Mounting pad:	DIN-ISO 5211
Standard voltages:	24 V _{DC/AC} , 230 V _{AC} others on request
Protection:	IP68
Cable entry:	2 x M20x1.5
End stops:	two limit switches
Operating angle:	90° ±5°
Heater:	2W
Standard equipment:	two additional limit switches, optical position indicator (NE05 with add. LED), manual override



Performance¹⁾

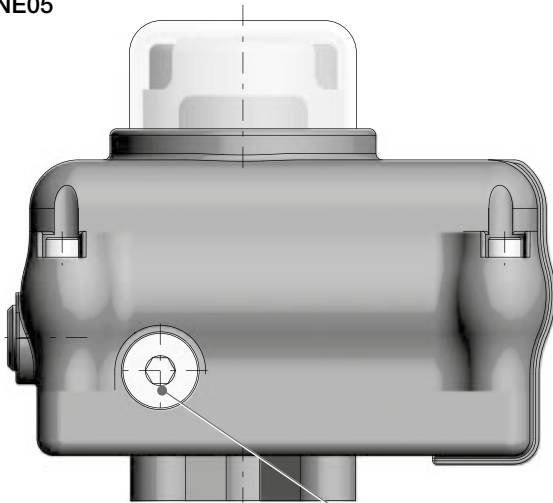
Model	Torque [Nm]	24 V		230 V			Hand wheel turns	Weight [kg]
		Operating time 90° [s]	Current [A]	Operating time 90° 60/50 Hz [s]	Current [A]	Power rating [W]		
Type NE05	50	12 ... 14	0.2 ... 1.8	14/17	0.24	55	6	2.8 ²⁾

¹⁾ Please notice: The performance is dependent of the necessary torque, all stated data regarded under best conditions. Tolerance ±20%!

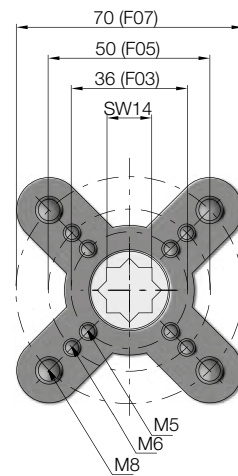
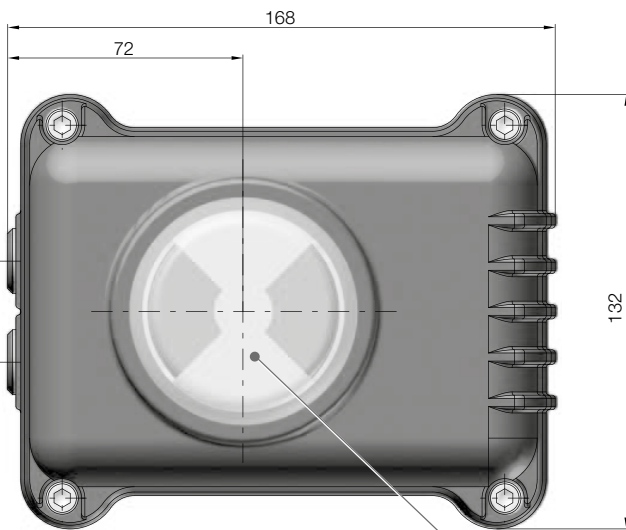
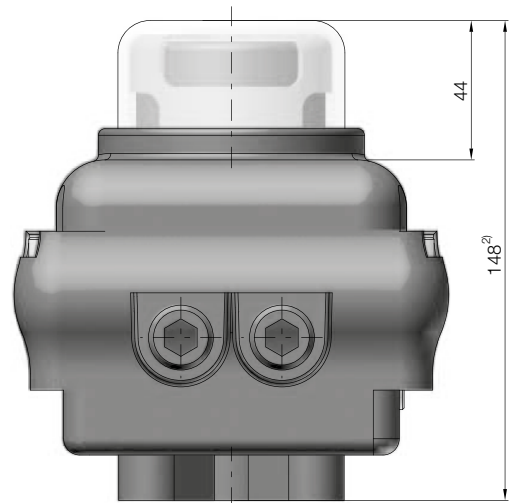
²⁾ 3.5 kg with option Proportional Control Unti (PCU) or Local Control Unit (LCU)

Dimensions [mm]

NE05



Manual override¹⁾



Illuminated optical position indicator: LED lights when the actuator is fully open or fully closed

¹⁾ = At actuators with long acting time (e.g. 100 s at 90° rotation angle) a high manual torque will be necessary

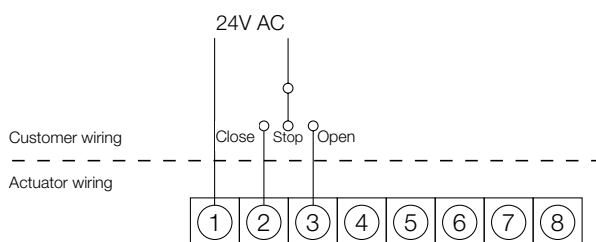
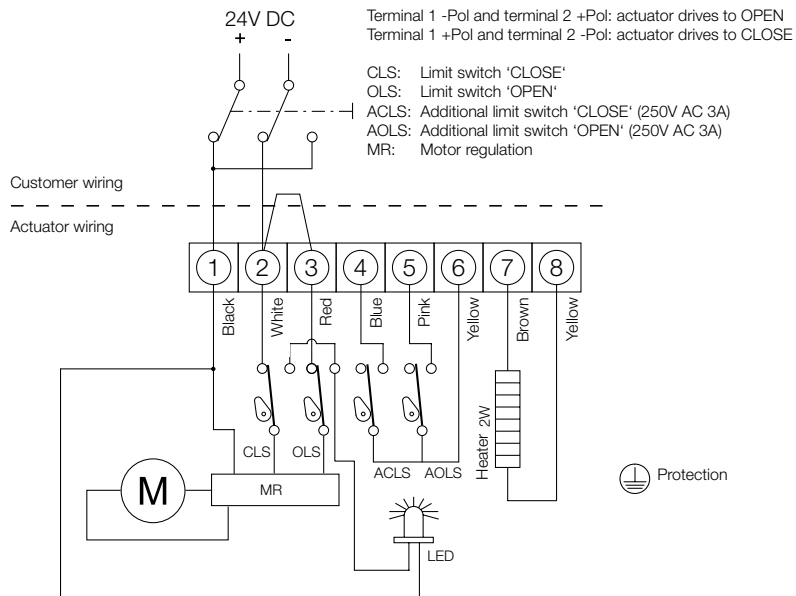
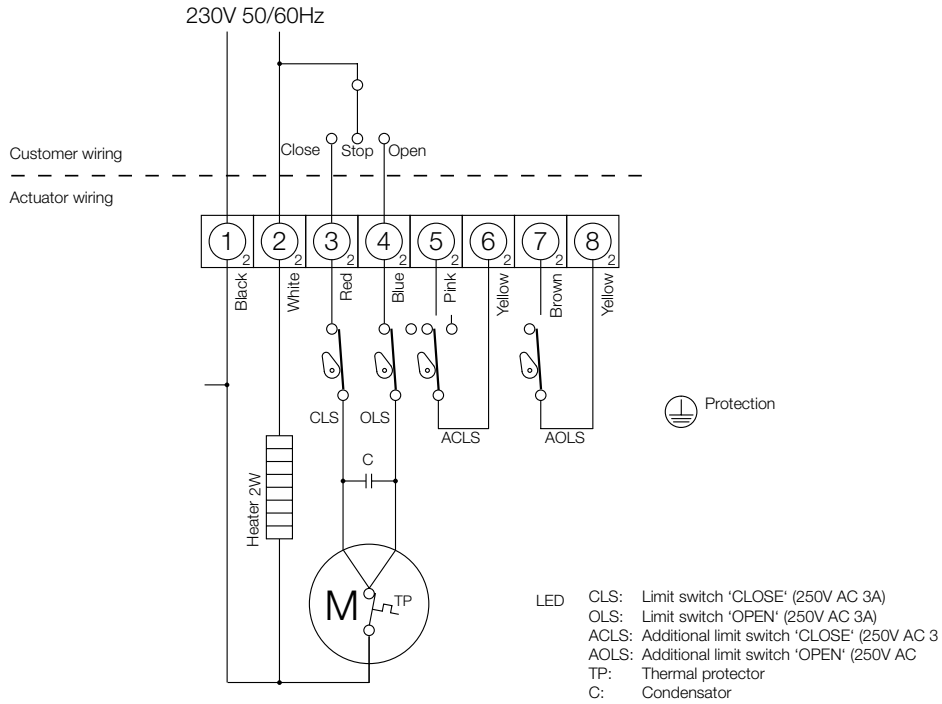
²⁾ = With option Proportional Control Unit or Local Control Unit = 208 mm



Electrical Actuator for all Ball Valves Model KUA

Connection Diagram

NE05



Design

2-way ball valve with electric actuator with optical indicator, manual override and two additional limit switches.

Operation: directly controlled with secondary reducing gear

Pressure range: PN 16 (up to +80 °C). For higher temperatures please refer to the Pressure-Temperature-Diagram

Installation: as desired, vertical preferred

Standard voltages: 24 V_{DC}, 230 V 50/60 Hz ±10%

Protection: IP67

Adjustm. of endstops: two limit switches

Standard equipment: two additional limit switches, optical position indicator, manual override

Operating time: 90° 60/50 Hz: 14/17 s

Technical Details Valve

Connections: female thread 1/2" ... Rp 2 1/2"

Temperature range: -20 °C ... +120 °C

Nominal pressure: PN 16

Materials

Body: brass, nickel-plated

Ball: brass, hard chrome-plated

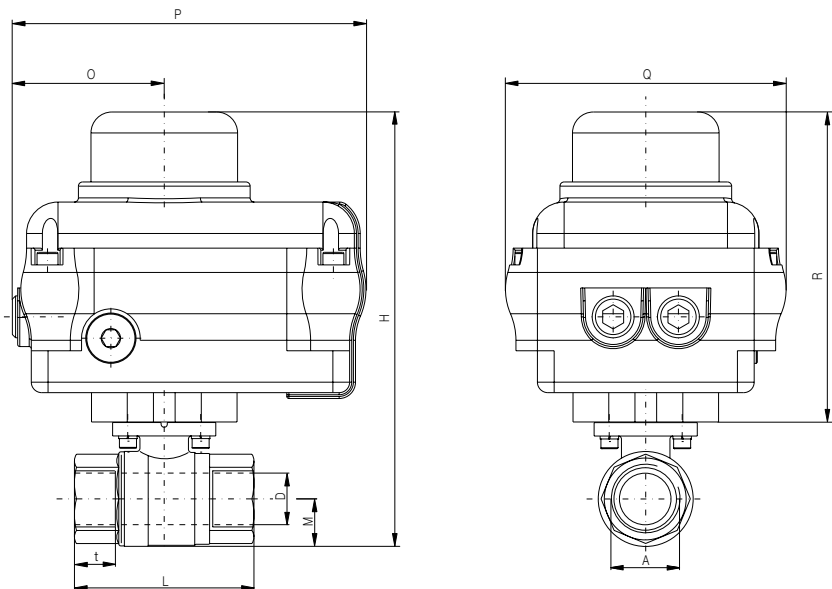
Ball gaskets: PTFE/FKM

Spindle gasket: FKM

Performance actuator

Torque	24 V		230 V			Hand wheel turns	Weight
	Operating time 90°	Current	Operating time 90° 60/50 Hz	Current	Motor class 24 V/230 V		
[Nm]	[s]	[A]	[s]	[A]	[W]		[kg]
50	12... 14	1.8	14/17	0.24	55	6	2.8

KUA-KA



Dimensions and Order Details (example: KUA-KAR 150)

A	Order no. 230 V _{AC}	Order no. 24 V _{DC}	D	L	t	M	H	O	P	Q	R
[inch]			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
1/2	KUA-KAR 150	KUA-KAR 153	15	65	17	16	193	72	168	132	148
3/4	KUA-KAR 200	KUA-KAR 203	20	75	19	19	201	72	168	132	148
1	KUA-KAR 250	KUA-KAR 253	24	86	21	23	208	72	168	132	148
1 1/4	KUA-KAR 320	KUA-KAR 323	30	95	22	28	218	72	168	132	148
1 1/2	KUA-KAR 400	KUA-KAR 403	38	100	22	35	239	72	168	132	148
2	KUA-KAR 500	KUA-KAR 503	47	120	25	42	253	72	168	132	148



2-Way Stainless Steel Ball Valve with Electrical Actuator Model KUA-ZA

Design

Body consists of three parts (screwed), full cylindrical bore.
 Operation: directly operated with secondary reducing gear
 Pressure range: almost vacuum up to PN 16 (max. +80 °C), (higher pressures on request)
 Media: gases and liquids (other media on request)
 Installation: as desired, vertical preferred
 Standard voltages: 24 V_{DC}
 230 V 50 Hz ±10%
 Protection: IP 68
 Standard equipment: two additional limit switches, optical position indicator, manual override

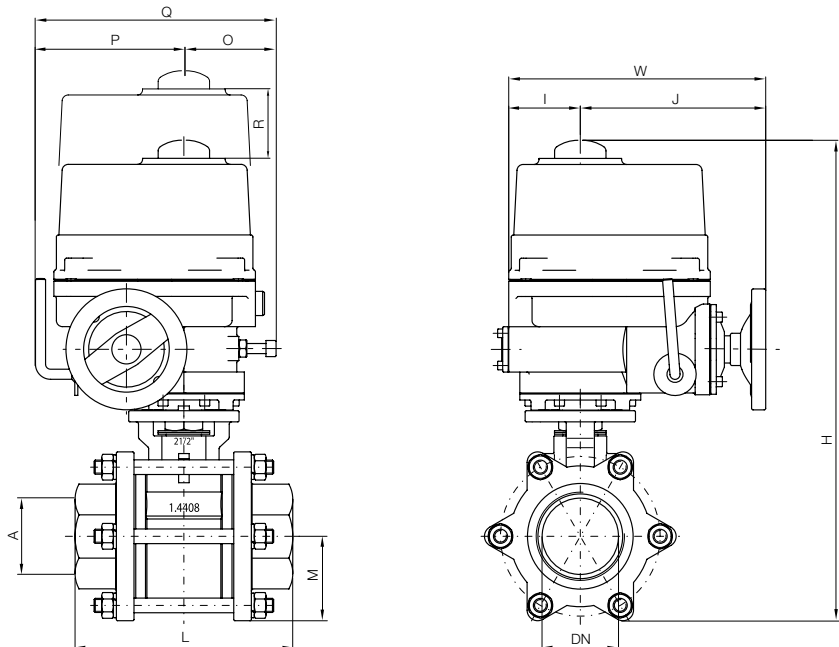
Technical Details Valve

Connections: female thread ½" to Rp 2½" (as per DIN 2999)
 Temperature range: -30 °C ... +120 °C
 At media temperature above 80 °C or large oscillating media temperatures we recommend a pressure compensation bore in the ball. At media which tend to steam-building the pressure compensation bore is compellingly required.
 Please mention in your order
 Nominal pressure: PN 16
Materials
 Body: stainless steel 1.4408
 Ball: stainless steel 1.4408
 Ball gaskets: PTFE-glassfibre reinforced
 Spindle gasket: PTFE/FKM

Performance actuator

Torque [Nm]	24 V		230 V		Motor class [W]	Hand wheel turns	Weight [kg]
	Operating time 90° [s]	Current [A]	Operating time 90° 60/50 Hz [s]	Current [A]			
50	14... 17	1.8	14/17	0.23	6	6	2.8

KUA-ZA



Order Details (example: KUA-ZAR 150)

A [inch]	Order no. 230 V _{AC}		Order no. 24 V _{DC}	
	Female thread	Weld ends	Female thread	Weld ends
½	KUA-ZAR 150	KUA-ZAW 150	KUA-ZAR 153	KUA-ZAW 153
¾	KUA-ZAR 200	KUA-ZAW 200	KUA-ZAR 203	KUA-ZAW 203
1	KUA-ZAR 250	KUA-ZAW 250	KUA-ZAR 253	KUA-ZAW 253
1¼	KUA-ZAR 320	KUA-ZAW 320	KUA-ZAR 323	KUA-ZAW 323
1½	KUA-ZAR 400	KUA-ZAW 400	KUA-ZAR 403	KUA-ZAW 403
2	KUA-ZAR 500	KUA-ZAW 500	KUA-ZAR 503	KUA-ZAW 503

Dimensions (ball valve in standard version)

DN	L	M	H	W	I	J	Q	P	O	R
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
15	75	22.5	213	168	72	96	132	66	66	80
20	80	27.2	220	168	72	96	132	66	66	80
25	90	30.3	233	168	72	96	132	66	66	80
32	110	26.9	245	168	72	96	132	66	66	80
40	120	40.6	263	168	72	96	132	66	66	80
50	140	50.1	281	168	72	96	132	66	66	80

Design

Body consists of 4 parts, reduced cylindric bore, L- or T-configuration, please mention the configuration in your order (See next page) sealed on all ports, not overlap free.

- Operation: directly operated with secondary reducing gear
- Pressure range: almost vacuum up to 16 bar (max. +80 °C)
- Media: neutral gases and liquids (other media on request)
- Installation: as desired, vertical preferred
- Standard voltages: 24 V_{DC}
230 V 50 Hz ±10%
- Protection: IP68
- Standard equipment: two additional limit switches, optical position indicator, manual override

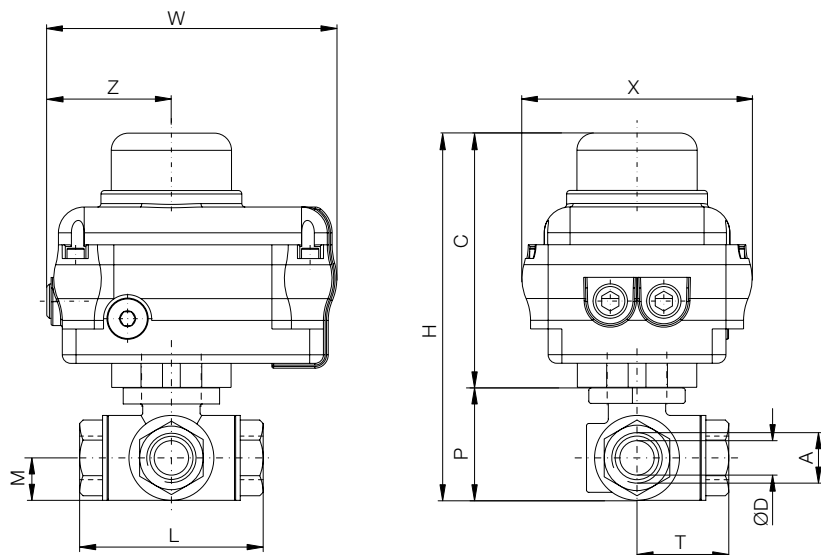
Technical Details Valve

- Connections: female thread 1/2" ... 1 1/4", ISO228
- Temperature range: -30 °C ... +120 °C
- Nominal pressure: PN 16
- Materials**
- Body: stainless steel 1.4408
- Ball: stainless steel 1.4401
- Ball gaskets: PTFE-glassfibre reinforced
- Spindle gasket: PTFE/FKM

Performance actuator

Torque	24 V		230 V			Hand wheel turns	Weight
	Operating time 90°	Current	Operating time 90° 60/50 Hz	Current	Motor class 24 V/230 V		
[Nm]	[s]	[A]	[s]	[A]	[W]		[kg]
50	14... 17	1.8	14/17	0.24	15/6	6	2.8

KUA-PD





3-Way Stainless Steel Ball Valve with Electrical Actuator Model KUA-PD

Operating possibilities for 3-way-ball valves

	T-configuration				L-configuration		
	1	2	3	4	5	6	7
0°-position							
90°-position							

The ball valve is operating by 90°-rotation of the actuator. (Actuator 180° and 3 configurations 0°- 90°-180° on request.)
If not mentioned in your order, we mount configuration 1 or 5 to the actuated ball-valves.

Order Details (example: **KUA-PD T 1 R15 0**)

Order no.	3-way version	Position (see above)	Connection size	Voltage
KUA-PD	T = T-bore	1 = standard 2 = 3 = 4 =	R15 = G ½ R20 = G ¾ R25 = G 1 R32 = G 1¼	0 = 230 V _{AC} 3 = 24 V _{DC}
	L = L-bore	5 = standard 6 = 7 =		

Dimensions

Screw thread [G]	∅ D [mm]	L [mm]	H [mm]	M [mm]	T [mm]	E [mm]	K [mm]	P [mm]	C [mm]
½	11	79	195.0	18.0	40	145	100	49.0	164
¾	16	88	204.0	22.5	44	145	100	62.5	164
1	20	108	208.0	26.0	55	169	124	70.0	164
1¼	25	124	218.5	33.5	61	169	124	88.0	164

Design

Body consists of one part, full cylindrical bore
 Operation: directly controlled with secondary reducing gear.
 Pressure range: almost vacuum up to PN16 (up to +80 °C),
 Installation: as desired, vertical preferred
 Standard voltages: 24 V_{DC}
 230 V 50 Hz ±10%
 Protection: IP68

Technical Details Valve

Connections: DN25... DN50
 overall length as per DIN 3202-F4
 Temperature range: -20 °C... +120 °C
 Nominal pressure: PN16 dimensioned, with threaded holes

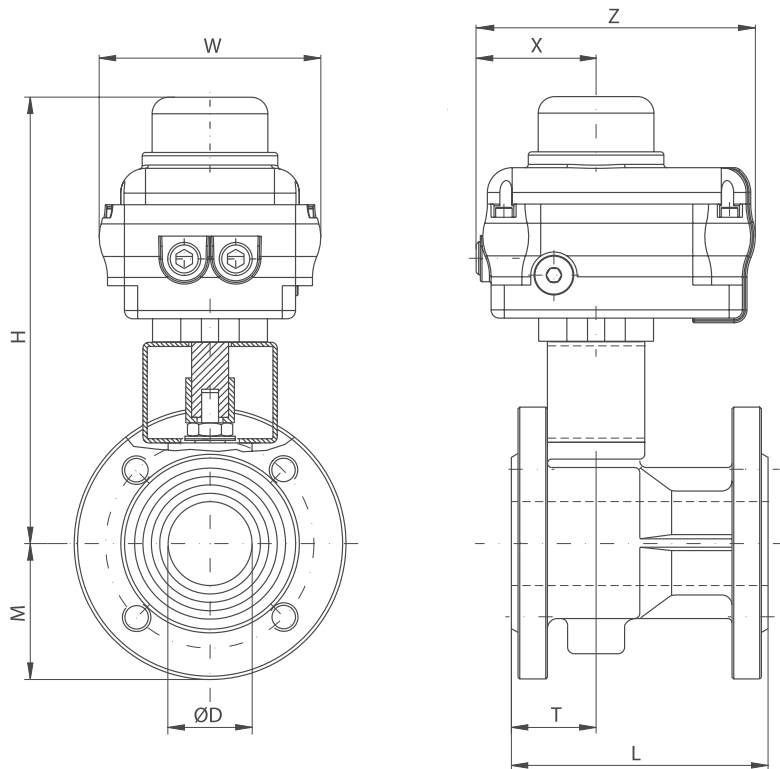
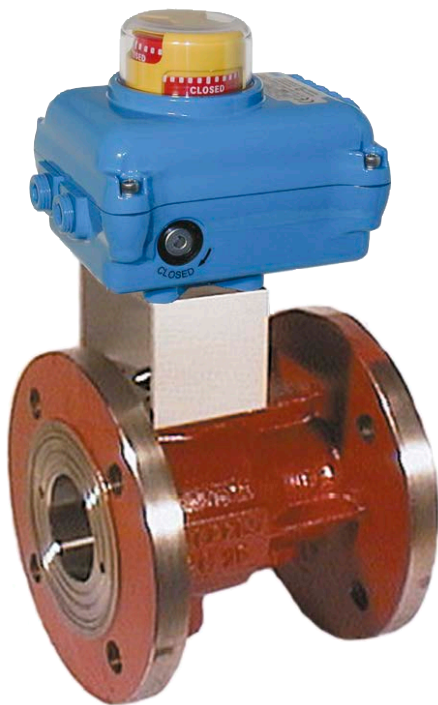
Materials

Body: cast iron GG-25
 Ball: brass, hard chrome-plated
 Ball gaskets: PTFE
 Spindle gasket: PTFE/NBR

Performance actuator

Torque [Nm]	24 V		230 V			Hand wheel turns	Weight [kg]
	Operating time 90° [s]	Current [A]	Operating time 90° 60/50 Hz [s]	Current [A]	Motor class [W]		
50	14... 17	1.8	14/17	0.23	6	6	2.8

KUA-VO



Dimensions and Order Details (example: **KUA-VOF 250**)

DN [mm]	Order no. 230 V _{AC}	Order no. 24 V _{DC}	ØD [mm]	L [mm]	M [mm]	H [mm]	T [mm]	W [mm]	Z [mm]	X [mm]
25	KUA-VOF 250	KUA-VOF 253	25	125	57.5	246.5	42	132	168	72
32	KUA-VOF 320	KUA-VOF 323	32	130	70.0	254.5	47	132	168	72
40	KUA-VOF 400	KUA-VOF 403	40	140	75.0	285.5	49	132	168	72
50	KUA-VOF 500	KUA-VOF 503	50	150	82.5	291.5	52	132	168	72



2-Way Stainless Steel Flange Ball Valve with Electrical Actuator Model KUA-VK

Design

Body consists of one part, full cylindrical bore, fire safe design.
Cavity-free seal on request.

Operation: directly controlled with secondary reducing gear

Pressure range: almost vacuum up to 16 bar (up to +80 °C)

Installation: as desired, vertical preferred

Standard voltages: 24 V_{DC}
230 V 50 Hz ±10%

Protection: IP68

Technical Details Valve

Connections: flanges DN15...DN50

Temperature range: -30 °C...+120 °C

Nominal pressure: PN16 dimensioned, with threaded holes

Materials

Body: stainless steel 1.4408/01

Ball: stainless steel 1.4401

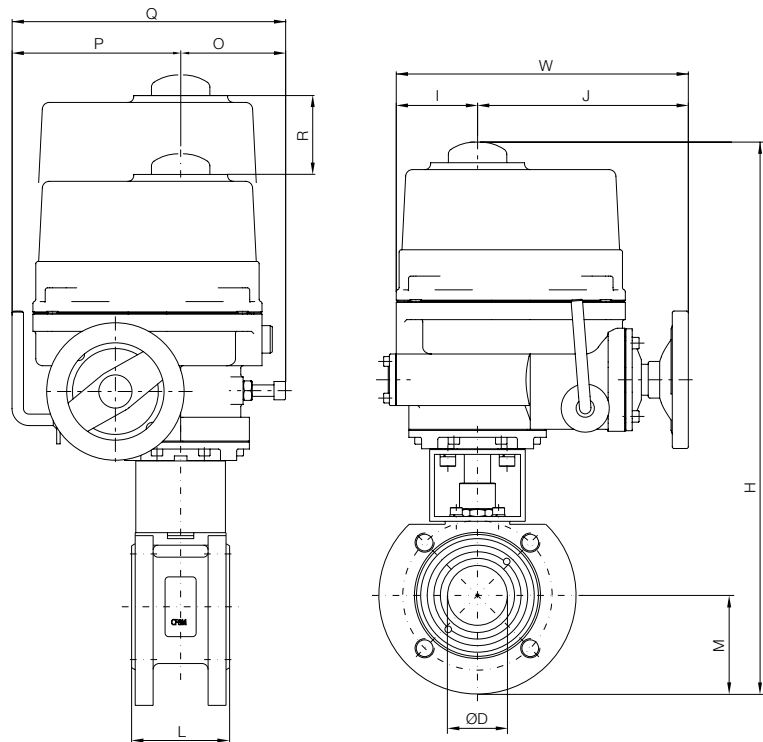
Ball gaskets: PTFE

Spindle gasket: PTFE/FKM

Performance actuator

Torque [Nm]	24 V		230 V		Motor class [W]	Hand wheel turns	Weight [kg]
	Operating time 90° [s]	Current [A]	Operating time 90° 60/50 Hz [s]	Current [A]			
50	14...17	1.8	14/17	0.23	6	6	2.8

KUA-VK



Dimensions and Order Details (example: KUA-VKF 150)

Flange DN [mm]	Order no. 230 V _{AC}	Order no. 24 V _{DC}	M [mm]	L [mm]	H [mm]	W [mm]	I [mm]	J [mm]	Q [mm]	P [mm]	O [mm]	R [mm]
15	KUA-VKF 150	KUA-VKF 153	45.0	35.0	265	132	66	66	168	72	96	80
20	KUA-VKF 200	KUA-VKF 203	50.0	40.0	274	132	66	66	168	72	96	80
25	KUA-VKF 250	KUA-VKF 253	55.0	46.0	285	132	66	66	168	72	96	80
32	KUA-VKF 320	KUA-VKF 323	65.0	54.0	301	132	66	66	168	72	96	80
40	KUA-VKF 400	KUA-VKF 403	75.0	63.5	337	132	66	66	168	72	96	80
50	KUA-VKF 500	KUA-VKF 503	82.5	82.0	353	132	66	66	168	72	96	80