

Technical data sheet

910...
910C...
Electric Actuators for Butterfly
Valves (Standard Series)

Product overview

Electric Butterfly valve actuators
Used to drive V2...BV series Butterfly valves for Open/Close and
modulating applications

- Operating voltage230 VAC, 50/60 Hz
- Control signals
 - 9102/3-point (SPDT)
 - 910C0–10 VDC (or 4–20 mA / 2–10 VDC)
- Ingress protectionIP67 / IP68 (optional)
- Nominal angle of rotation90°
- How it worksWheels and 3D valve position indication are available
- Anti-condensationBuilt-in anti-condensation heating element
- Bottom flange standardISO 5211



Technical parameters

Electrical parameters	Operating voltage	230 VAC
	Voltage tolerance	+/- 10 %
	frequency	50 / 60 Hz
	current	See "Model Overview"
	Control signals	910... : 2/3-point (SPDT) 910C...: 0–10 VDC (default) / 2–10 VDC, 4–20 mA (optional)
	Position feedback	910... : Auxiliary switch (2 X SPDT), 250 VAC 5 A 910C...: 0–10 VDC (default) / 2–10 VDC, 4–20 mA (optional)
	Cable glands	2-M20X1.5
Performance parameters	Positioning time at 50 Hz, 90°	See "Model Overview"
	Rotation angle	90°±5°

Location indication	Mechanical scale indicator (optional 3D indicator)
Manual device	Wrench (can be a hand wheel)
Self-locking device	Turbine and worm mechanisms are provided
Mechanical limits	Externally adjustable bolts
Over-torque protection	-
Anti-condensation device	Built-in moisture-proof heater
Overheat protection	Built-in overtemperature protection, start-up temperature 120±5 °C
Power-off status	Hold the position
Off-signal status	4–20 mA / 2–10 VDC: Full Open/Full Close Configurable (Default Hold) 0–10 VDC: Close

Safety performance

Protection Class	III (safety extra-low voltage)
EMC	CE (2014/30/EU)
LVD	CE (2014/35/EU)
Connecting flanges	ISO 5211
Environmental compatibility	ISO 9001 (Quality)
Ambient temperature	-25–70 °C (can be customised)
Ambient relative humidity	< 90 % RH
Degree of protection	IP67 / IP68 (optional)
Noises	≤70 dB(A) -1 m
Maintenance	Maintenance-free

Size/weight

Size/weight

See "Dimensions/Weight"

Selection Instructions

Actuator	Type	Options	Controls	-	Power	-	Torque	-	Switches
9	1	0	C	-	230	-	100	-	S2
9 = Butterfly valve actuators	1 = Standard series 2 = Advanced series 3 = Ingenuous series 7 = Pneumatic Pneumatic	0 = No options	/ = 2/3-point (SPDT) C = 0–10 VDC, (or 4–20 mA/ 2–10 VDC) U = Universal		024 = 24 VAC/DC 230 = 230 VAC 380 = 380 VAC		50 = 50 Nm 100 = 100 Nm 150 = 150 Nm 200 = 200 Nm 500 = 500 Nm 700 = 700 Nm 1K = 1000 Nm 1K7 = 1700 Nm 2K3 = 2300 Nm 2K8 = 2800 Nm 4K = 4000 Nm 6K = 6000 Nm 8K = 8000 Nm		S2 = 2 x SPDT

Model example:**910-230-50-S2** = Electric open/close actuator, 50 Nm, power supply: 230 VAC, 2/3-point, 2 auxiliary switches**910C-230-150-S2** = Electric modulating actuator, 150 Nm, power supply: 230 VAC, 0–10 VDC, 2 auxiliary switches

Model overview

Product model	Rated voltage /current	Control signals	Position feedback signal	50 Hz, 90° positioning time	Maximum output torque [Nm]	Flange connection ISO 5211
910-230-50-S2	230 VAC/0.2 A	2/3-point (SPDT)	2 x SPDT	27 s	50 Nm	F05-F07, sq11
910-230-100-S2	230 VAC/0.28 A	2/3-point (SPDT)	2 x SPDT	27 s	100 Nm	F05-F07, sq14
910-230-150-S2	230 VAC/0.3 A	2/3-point (SPDT)	2 x SPDT	32 s	150 Nm	F07-F10, sq17
910-230-200-S2	230 VAC/0.55 A	2/3-point (SPDT)	2 x SPDT	27 s	200 Nm	F07-F10, sq17
910-230-500-S2	230 VAC/0.72 A	2/3-point (SPDT)	2 x SPDT	27 s	500 Nm	F07-F10, sq22
910-230-700-S2	230 VAC/0.8 A	2/3-point (SPDT)	2 x SPDT	33 s	700 Nm	F10-F12, sq27
910-230-1K-S2	230 VAC/0.96 A	2/3-point (SPDT)	2 x SPDT	33 s	1000 Nm	F10-F12, sq27
910-230-1K7-S2	230 VAC/1.3 A	2/3-point (SPDT)	2 x SPDT	38 s	1700 Nm	F14/F16, sq36
910-230-2K3-S2	230 VAC/1.7 A	2/3-point (SPDT)	2 x SPDT	38 s	2300 Nm	F16, square 36
910-230-2K8-S2	230 VAC/1.7 A	2/3-point (SPDT)	2 x SPDT	45 s	2800 Nm	F16, square 36
910-230-4K-S2	230 VAC/1.3 A	2/3-point (SPDT)	2 x SPDT	88 s	4000 Nm	F16, square 46
910-230-6K-S2	230 VAC/1.7 A	2/3-point (SPDT)	2 x SPDT	105 s	6000 Nm	F16, square 46
910-230-8K-S2	230 VAC/1.7 A	2/3-point (SPDT)	2 x SPDT	135 s	8000 Nm	F16-F25, sq55
910C-230-50-S2	230 VAC/0.2 A	0-10 VDC(default) (or 4-20 mA/ 2-10 VDC)	0-10 VDC(default) (or 4-20 mA/ 2-10 VDC)	27 s	50 Nm	F05-F07, sq11
910C-230-100-S2	230 VAC/0.28 A			27 s	100 Nm	F05-F07, sq14
910C-230-150-S2	230 VAC/0.3 A			32 s	150 Nm	F07-F10, sq17
910C-230-200-S2	230 VAC/0.55 A			27 s	200 Nm	F07-F10, sq17
910C-230-500-S2	230 VAC/0.72 A			27 s	500 Nm	F07-F10, sq22
910C-230-700-S2	230 VAC/0.8 A			33 s	700 Nm	F10-F12, sq27
910C-230-1K-S2	230 VAC/0.96 A			33 s	1000 Nm	F10-F12, sq27
910C-230-1K7-S2	230 VAC/1.3 A			38 s	1700 Nm	F14/F16, sq36
910C-230-2K3-S2	230 VAC/1.7 A			38 s	2300 Nm	F16, sq36
910C-230-2K8-S2	230 VAC/1.7 A			45 s	2800 Nm	F16, sq36
910C-230-4K-S2	230 VAC/1.3 A			88 s	4000 Nm	F16, sq46
910C-230-6K-S2	230 VAC/1.7 A			105 s	6000 Nm	F16, sq46
910C-230-8K-S2	230 VAC/1.7 A			135 s	8000 Nm	F16-F25, sq55

- * If you need to order an actuator with 24 VDC/AC or 380 VAC, please consult the supplier.
The default control signal for the regulated actuator is 0-10 VDC, if 4-20 mA, or 2-10 VDC please specify when ordering.
The actuator is rated for 0.75 times the maximum output torque.

Device combinations

PN 16 Wafer type Butterfly valve	Actuators											
	910(C)- 230-50	910(C)- 230- 100	910(C)- 230- 150	910(C)- 230- 200	910(C)- 230- 500	910(C)- 230- 700	910(C)- 230-1K	910(C)- 230- 1K7	910(C)- 230- 2K3	910(C)- 230-4K	910(C)- 230-6K	910(C)- 230-8K
Butterfly valves	ΔPs [kPa]											
V2WABV.50	1600											
V2WABV.65	1600											
V2WABV.80	1600											
V2ABV.100	1600											
V2WABV.125		1600										
V2WABV.150			1600									
V2WABV.200			1600									
V2WABV.250					1600							
V2WABV.300					1600							
V2WABV.350						1600						
V2WABV.400							1600					
V2WABV.450							1600					
V2WABV.500								1600				
V2WABV.600									1600			
V2WABV.700										1000		
V2WABV.800											1000	

PN 16 Lug type Butterfly valve	Actuators											
	910(C)- 230-50	910(C)- 230- 100	910(C)- 230- 150	910(C)- 230- 200	910(C)- 230- 500	910(C)- 230- 700	910(C)- 230-1K	910(C)- 230- 1K7	910(C)- 230- 2K3	910(C)- 230-4K	910(C)- 230-6K	910(C)- 230-8K
Butterfly valves	ΔPs [kPa]											
V2LABV.50	1600											
V2LABV.65	1600											
V2LABV.80	1600											
V2LABV.100	1600											
V2LABV.125		1600										
V2LABV.150			1600									
V2LABV.200			1600									
V2LABV.250					1600							
V2LABV.300					1600							
V2LABV.350						1600						
V2LABV.400							1600					
V2LABV.450							1600					
V2LABV.500								1600				
V2LABV.600									1600			
V2LABV.700										1000		
V2LABV.800											1000	

PN 16 Flanged type Butterfly valve	Actuators											
	910(C)- 230-50	910(C)- 230- 100	910(C)- 230- 150	910(C)- 230- 200	910(C)- 230- 500	910(C)- 230- 700	910(C)- 230-1K	910(C)- 230- 1K7	910(C)- 230- 2K3	910(C)- 230-4K	910(C)- 230-6K	910(C)- 230-8K
Butterfly valves	ΔP_s [kPa]											
V2DABV.50	1600											
V2DABV.65	1600											
V2DABV.80	1600											
V2DABV.100	1600											
V2DABV.125		1600										
V2DABV.150			1600									
V2DABV.200				1600								
V2DABV.250					1600							
V2DABV.300					1600							
V2DABV.350						1600						
V2DABV.400						1600						
V2DABV.450							1600					
V2DABV.500							1600					
V2DABV.600								1600				
V2DABV.700										1000		
V2DABV.800											1000	

DPs Refers to the maximum allowable differential pressure (closing differential pressure) at both ends of the valve under the condition that the electric Butterfly valve can be safely closed.

Functionality/Features

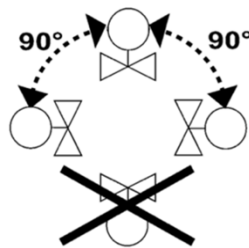
Mode of operation

- Open/Close control
- 3 point control
- Modulating control
- Manual control

The motor overheat protection function ensures the safety of the motor. Anti-condensation function, a heater is installed inside the actuator to remove the internal condensation damage to electrical components.

Direct installation

Actuators can be installed directly in V2: BV Butterfly valves, no special tools are required. When the actuator is mounted on the valve, the Butterfly valve must be in the fully closed position "0%". Mounting orientation: vertical to horizontal.



Indicates the signal

A mechanical indicator shows the opening position of the actuator, and an auxiliary switch integrated in the switching actuator triggers signal feedback when passing a fixed angle.

Manual operation

The actuator can be operated manually via a wrench integrated into the actuator body (note: the actuator can only be operated manually when the power is off).

Safety Precautions

Electrical installation

The electrical connection of the actuator must comply with the relevant local regulations (see "Electrical Wiring").

Commissioning and maintenance

Before the test run of the electric Butterfly valve, it is necessary to confirm that the wiring is correct and the parts are functionally intact.

To avoid pressure shocks on the Butterfly valve, before starting the pump, V2: The BV must be placed in a fully open position (either manually or via a control signal). Before performing any maintenance on a valve or actuator, do the following:

- Turn off the pump and power
 - Close the main shut-off valve in the pipeline
 - Release the pressure on the pipes and allow them to cool completely
- Disconnect the terminal blocks if needed.

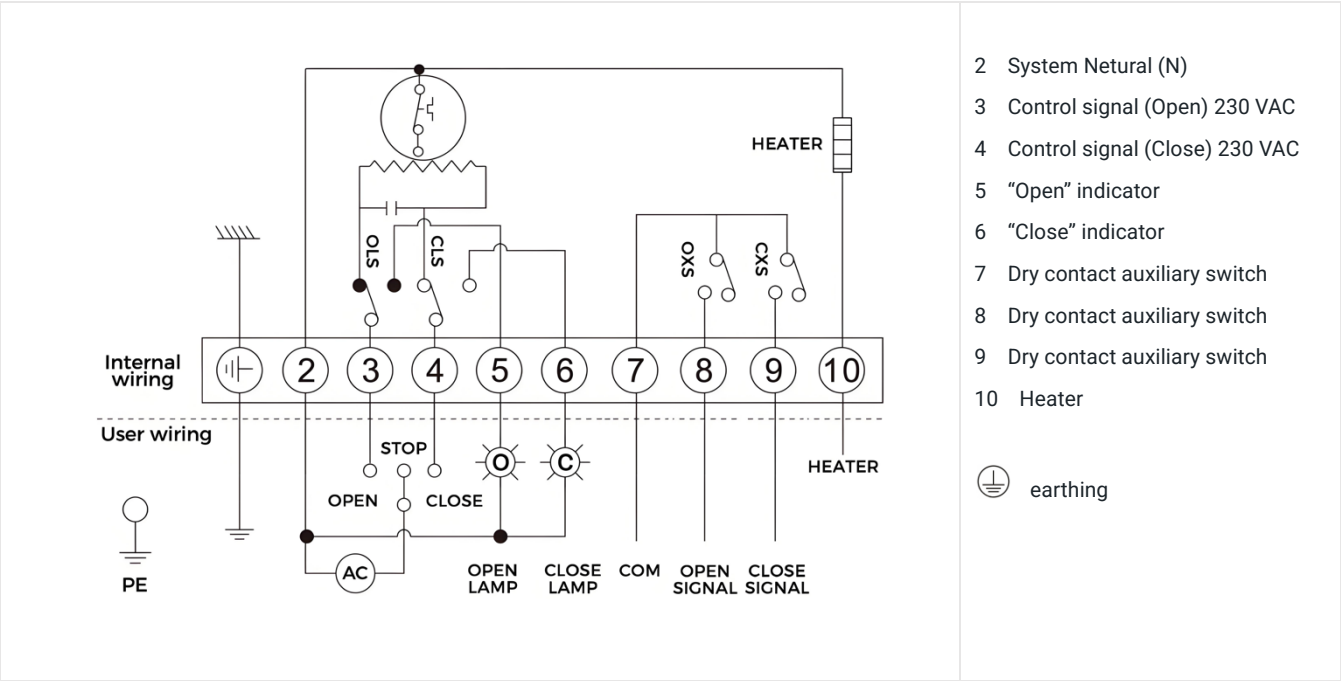
Valves can only be commissioned after the correct installation of the handwheel, turbine or actuator.

Safety Matters

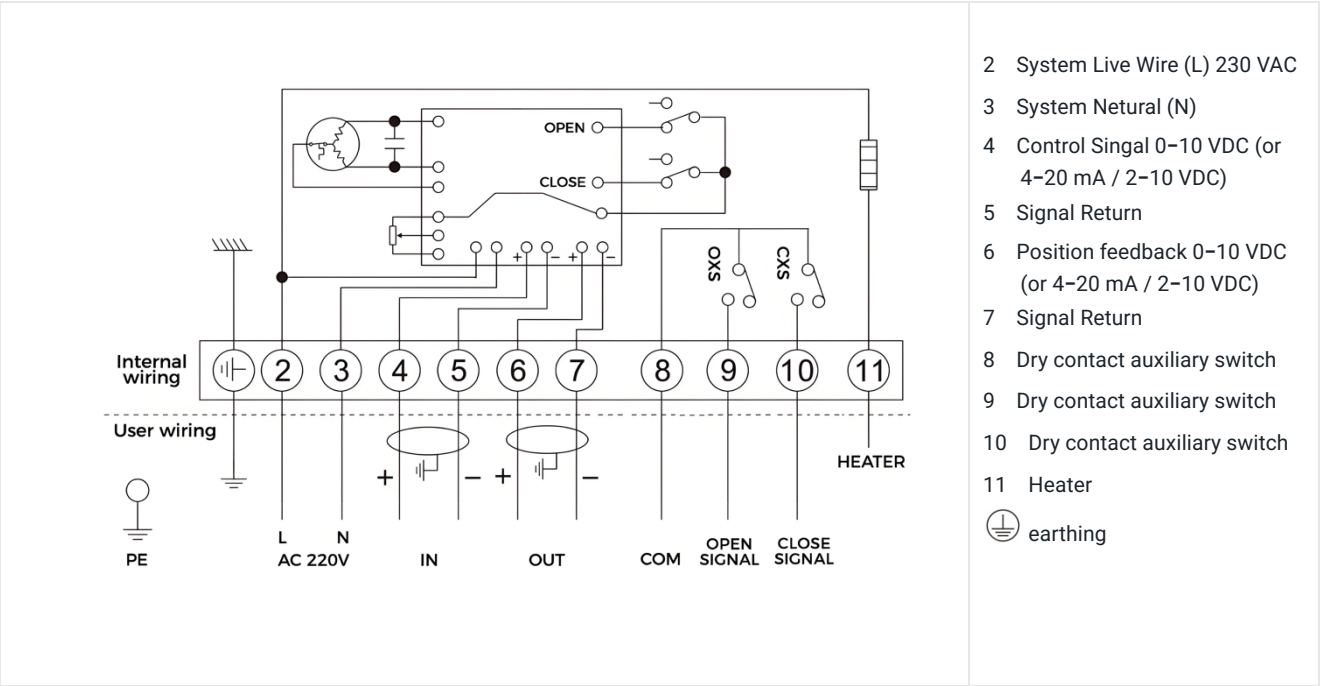
- The operation of this equipment must at all times comply with regulations and restrictions designed for the safety of persons and property!
- The device is not allowed to be used outside of the designated field of application, especially on board aircraft.
- The device should only be installed by properly trained personnel.
- The equipment installation process must comply with local laws and regulations or regulations issued by the authorities.
- Valves must comply with all local and currently applicable laws and regulations when disposed of at the end of life and are not allowed to be disposed of as household waste.
- By law, some parts may require special handling, as they may be harmful to the environment.

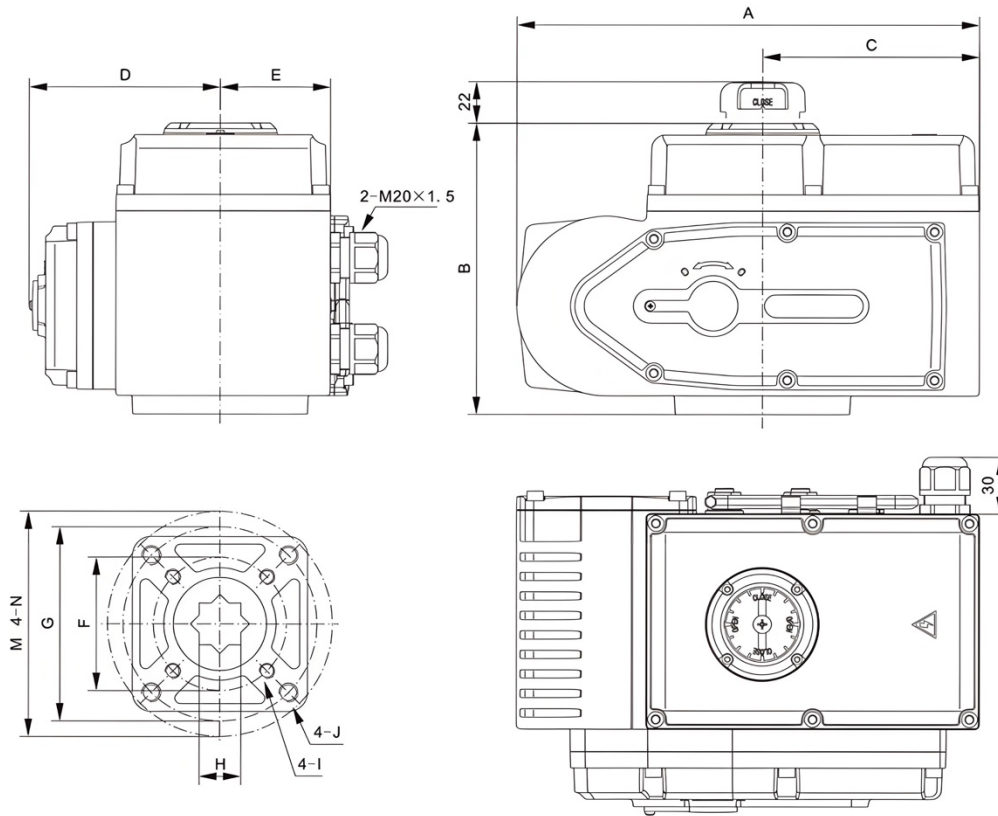
Electrical wiring

[910...]

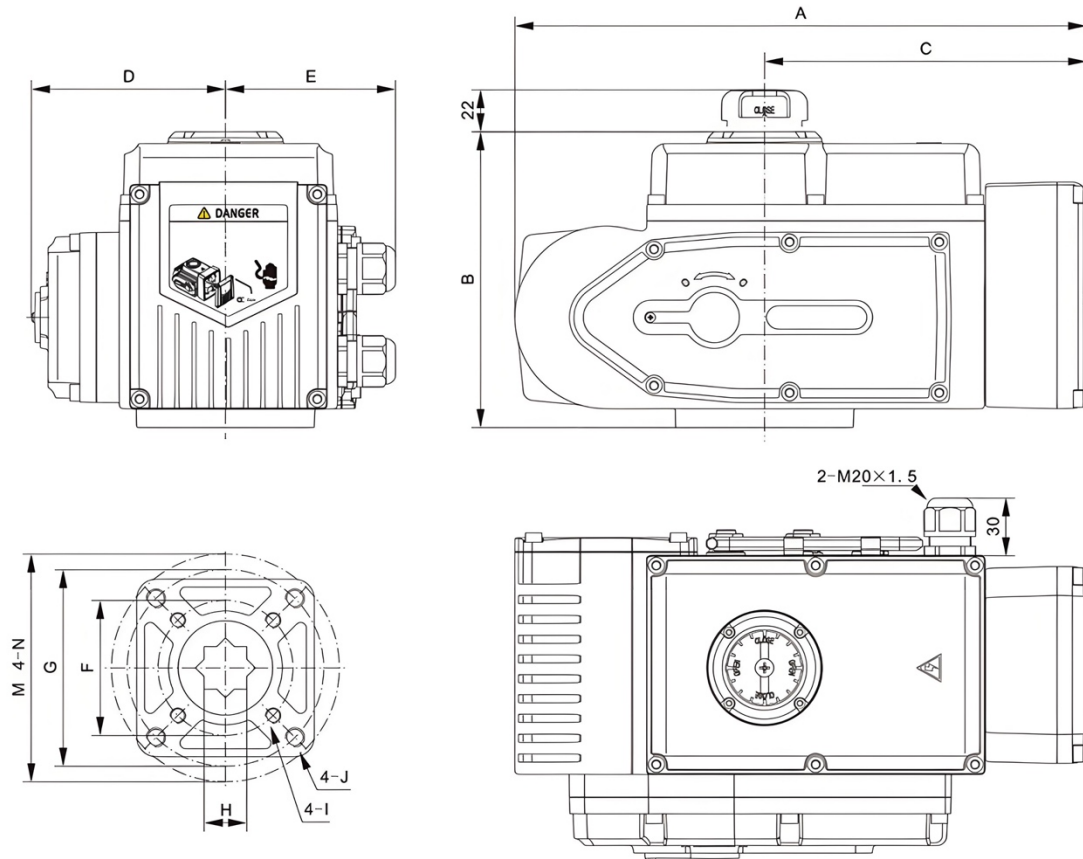


[910C...]



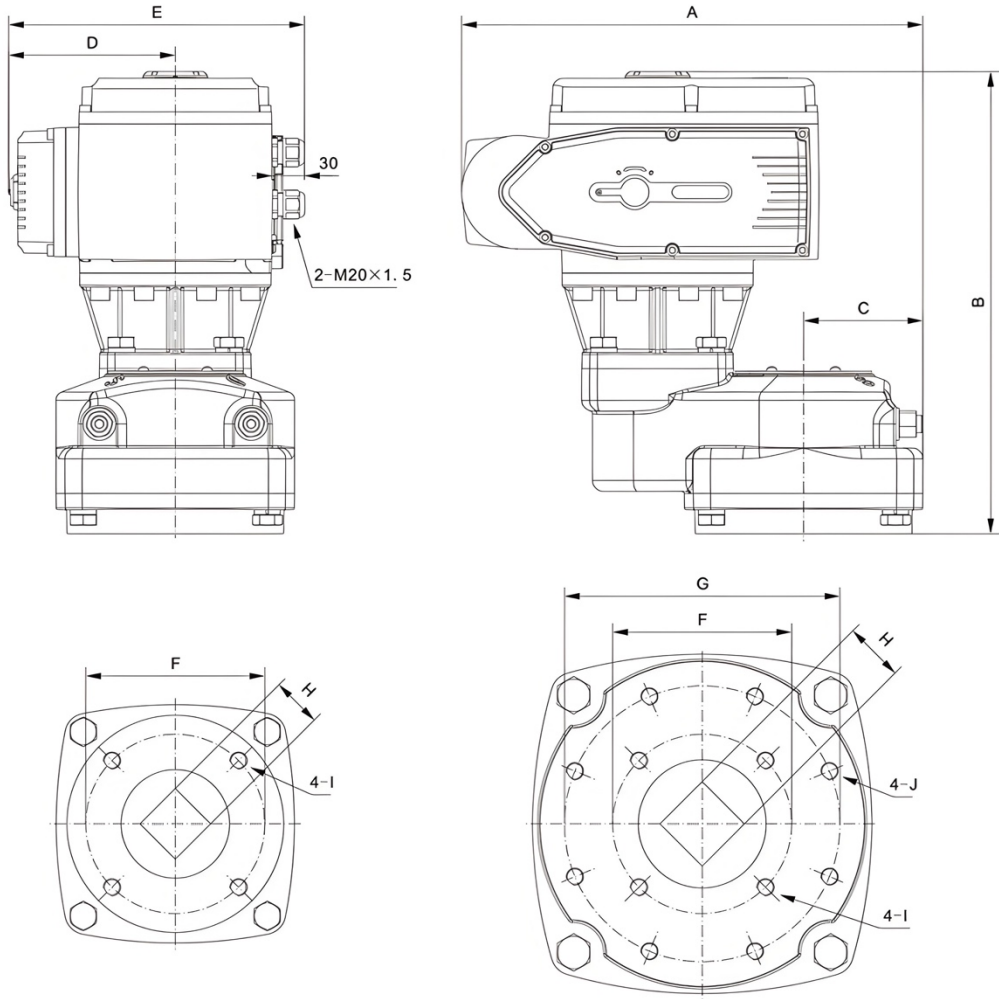
Dimensions (mm) / Weight (kg)
[910-230-50...2K8]


Model	A	B	C	D	And	Ø F	4 - I	Ø G	4 - J	Ø M	4 - N	H	Inner Depth	Weight (kg)
910-230-50	161	123	73	74	39	36	4-M5	50	4-M6	70	4-M8	9/11/14	< 18	3.2
910-230-100	193	133	87	84	47	50	4-M6	70	4-M8	102	4-M10	11/14/17	< 20	4.5
910-230-150	193	133	87	84	47	50	4-M6	70	4-M8	102	4-M10	11/14/17	< 29	4.6
910-230-200	243	153	114	100	58	70	4-M8	102	4-M10	102	4-M10	14/17/22/27	< 29	6.8
910-230-500	243	153	114	100	58	70	4-M8	102	4-M10	102	4-M10	14/17/22/27	< 32	7.5
910-230-700	274	166	133	114	67	70	4-M8	102	4-M10	125	4-M12	17/22/27	< 39	10
910-230-1K	274	166	133	114	67	70	4-M8	102	4-M10	125	4-M12	17/22/27	< 39	10.5
910-230-1K7	329	264 F14/F16	148	153	90	102	4-M10	125	4-M12	F14(140/4-M16) F16(165/4-M20)		22/27/36	< 60	19.2
910-230-2K3	329	264 F14/F16	148	153	90	102	4-M10	125	4-M12	F14(140/4-M16) F16(165/4-M20)		27/36	< 60	20
910-230-2K8	329	264 F14/F16	148	153	90	102	4-M10	125	4-M12	F14(140/4-M16) F16(165/4-M20)		27/36	< 60	20

[910C-230-50...2K8]


Model	A	B	C	D	And	Ø F	4 - I	Ø G	4 - J	Ø M	4 - N	H	Inner Depth	Weight (kg)
910C-230-50	214	123	127	74	69	36	4-M5	50	4-M6	70	4-M8	9/11/14	< 18	3.2
910C-230-100	246	133	140	84	77	50	4-M6	70	4-M8	102	4-M10	11/14/17	< 20	4.5
910C-230-150	246	133	140	84	77	50	4-M6	70	4-M8	102	4-M10	11/14/17	< 29	4.6
910C-230-200	296	153	167	100	88	70	4-M8	102	4-M10	102	4-M10	14/17/22/27	< 29	6.8
910C-230-500	296	153	167	100	88	70	4-M8	102	4-M10	102	4-M10	14/17/22/27	< 32	7.5
910C-230-700	325	166	185	114	96	70	4-M8	102	4-M10	125	4-M12	17/22/27	< 39	10
910C-230-1K	325	166	185	114	96	70	4-M8	102	4-M10	125	4-M12	17/22/27	< 39	10.5
910C-230-1K7	381	264 F14/F16	201	153	119	102	4-M10	125	4-M12	F14(140/4-M16) F16(165/4-M20)		22/27/36	< 60	19.2
910C-230-2K3	381	264 F14/F16	201	153	119	102	4-M10	125	4-M12	F14(140/4-M16) F16(165/4-M20)		27/36	< 60	20
910C-230-2K8	381	264 F14/F16	201	153	119	102	4-M10	125	4-M12	F14(140/4-M16) F16(165/4-M20)		27/36	< 60	20

[910(C)-230-4K...8K]



Model	A	B	C	D	And	Ø F	4 - I	Ø G	4 - J	H	Inner Depth	Weight (kg)
910(C)-230-4K	425	425	110	153	272	165	4-M20	F14(140/4-M16) F16(165/4-M20)		36/46	< 145	56.2
910(C)-230-6K	425	425	110	153	272	165	4-M20	F14(140/4-M16) F16(165/4-M20)		36/46	< 145	57
910(C)-230-8K	520	432	156	153	272	165	4-M20	254	8-M16	46/55	< 150	86