



903 Series Electric Actuators

► For Multi-turn Application



Summary

► Applicability

They provide a reliable position control of gate, stop valves, as well as similar ones. Combining with a worm-gear box can be used on part-turn applications, such as butterfly and ball valves.

► Torque / 50 ~5,000 Nm

Features

- 903 series with a full range of features and wide adaptation have a wide torque range from 50Nm to 5000Nm and the seven bases can match different valves.
- By carefully designed, the shift from manual to motor operation is semiautomatic of electric priority for 9030~9032. For 9033~9035, easy changeover is possible by adoption of the low force sliding gears.
- The smart, exquisite and safe limit switch can meet the need of wide travel range.
- The 903 series whose output torque is greater than 100 Nm can have explosion-proof enclosure to reach Ex d IIB T4 Gb (GB3836.1-2010 , GB3836.2-2010) .
- 903 series (include ex-proof units) with IP65 (GB4208-2008) enclosure can ensure complete protection from dust and moisture. IP67 or IP68 enclosure can be provided if need.



About us

Tianjin Beifang Valve Actuator Co., Ltd. (BF for short) always focus on the design and manufacture of excellent valve actuator and control equipment.

BF attaches great importance to product design, and the design team has strong product design and innovation ability. BF has complete intellectual property rights and a number of technical patents. Over the years, our products have been annual exported in batches and were widely and successfully used in water treatment, oil, electricity, chemical and other industries.

BF acquired the authentication of quality management system standards ISO9000 of DNV in 1998. Strict quality control in all stages and constantly improving the product quality control standards is the consensus of the staff.

BF believes that only solid the software and hardware foundation to achieve long-term stable development. We have set up some advanced computer-aided system, such as product design, resource management, production management, and soon. And we have set up the platform of precision machining mainly based on CNC machining center. We also continue to establish and improve a documented management system.

BF will design and manufacture products solidly and continue our efforts to create more value for customers.

Where to find information

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Structure

► Handwheel

A steel handwheel is provided for debugging and emergency operation.

► Hand/Auto switch

By operating the hand /auto lever, manual drive is engaged. Energization of the motor automatically re-engages power operation. (The hand /auto lever is lockable in order to prevent from mistaken operation.)

► Motor

The motor with special high torque low inertia can be dismantled independently.

► Terminal blocks

It provides 36 terminals at most for the consumer.

► Limit switch

The turns of the drive sleeve are transmitted through the bevel gear pair to a counter by which the different positions can be counted and set independently (two positions can be controlled at most both in OPEN and CLOSE direction). The limit switches are mounted above the counter. Once the drive sleeve turns to the setting position, the limit switch will be operated and so the motor will be switched off.

The self-cleaning switches composed of conductive ring and contact slice have silver contacts which can allow the larger current to flow.

► Position indicator

A mechanical indicator continuously indicates the valve position. This mechanism can meet the requirement of a broad range of turns.

► Local pushbuttons

Two inching pushbuttons are supplied as standard for local control of the actuator.

► Torque switch

The disk spring is mounted on the worm shaft. The axial move of the worm shaft is proportionable to the torque generated by the actuator. Two torque switches in open/close direction sense the movement of the worm shaft and interrupt the power to the motor.

9031, 9032

► Main Drive

The motor gear pair drives the worm and worm gear, which drive the valve stem or the stem nut. Both motor and manual operation can eliminate the valve jam through the hammer effect generated by the worm gear and drive sleeve.

► Control Package

By a transitional connection plate, a component plate mounted with terminal strips, reversing starters, thermal overload relay and some other control and protection units can be placed in the control package, which make 903 series successfully combine the mechanical and electronic elements. Other control elements to automatically position a valve in proportion to an analog signal could be supplied if necessary.

The package cover is equipped with a local/remote selector and an open/stop/ close operator. The indicating lights for indicating of power, full open, full close could be supplied if necessary.

9033, 9034, 9035 , 9036

A side mounted handwheel is provided as standard. Drawing out it is for manual operation and drawing back it is for motor operation. Both hand/auto position can be lockable to prevent from mistaken operation. In addition, an interlocked switch is supplied at the same time.

9030

The small and light 9030 unit adopting cam type limit switch for the small limit range can be used for the smaller sized valves. When dismant the protective cover, manual operation can be performed. Replacing the terminal box with a control package make 9030 unit successfully combine the mechanical and electronic elements.

Configuration and function

► 903 series include the basic type and the integrated type.

Basic type

Include motor, reduction mechanism, limit and torque switch. The consumer could fulfil local/remote operation by equipping with the BF series controllers made in our company or other similar equipment.

Integrated type

It integrates reversing starters, protection elements, logic elements, in/output unit in a watertight box, which can fulfil local/remote operation. This kind of actuator include : Open-close type (fulfil the fully open/close operation) and modulating type (fulfil the proportional control of the opening degree of valves.)

A full range of options could be provided, if necessary, please tell us when order.

► Standard

Ordinary products comply with GB/T24923 《Technical specifications of basic version electric valve actuators》. Explosion-proof products comply with GB/T24922 《Technical specifications of explosion-proof version electric valve actuators》.

► Ambient temperature

	Basic and integrated type	Ex-proof type and ex-proof integrated type
Standard	-20~+70 °C	-20~+40 °C
Low temperature	-40~+60 °C	
Ultralow temperature	-60~+60 °C	

► Degree of protection

Standard	IP65 (GB4208) : Protection from dust and sprinkling.
Options	IP67 (GB4208) : Protection from dust and submersion in water to a depth of 1m for 30 minutes. IP68 (GB4208) : Protection from dust and submersion in water to a depth of 3m for 48 hrs.

► Ex degree

The Ex degree of ex-proof and ex-proof integrated products is Ex d IIB T4 Gb (GB3836.1, GB3836.2)
Note: 9030 units have no ex-proof type.

► Lubrication

Extreme pressure lithium grease is used in the products. And it is not need to refresh the lubricating grease periodically.



► Coating

The grey (RAL 7030) acrylic polyurethane spraying surface has excellent corrosion resistance. If other color required, please contact us.

► Power supply

Standard	Three phase four wire system 380V/50Hz AC power supply. The product can work normally in the condition of ±10% voltage vibration or ±5% frequency vibration.
Options	Three phase three wire system 380V/50Hz AC power supply. 220VAC/50Hz/1ph power supply (Apply to part models). 24VDC power supply (Apply to part models).

► Cable gland

	Basic and integrated type		Ex-proof type and ex-proof integrated type
	9030, 9031,9032	9033 ~ 9036	
Standard	2x G ¾"	2x G 1 "	2x G1 ¼"
Options	2x ¾" NPT	2x 1 " NPT	2x 1 ¼" NPT

Note: For 9030 integrated type, standard is 2x G 1" (options is 2x 1" NPT)

► Motor

903 series adopt special motor for valve with high torque low inertia. A temperature protection switch embedded in the windings of the motor will trip the actuator control circuit if the motor windings overheat. Duty of motor as follows:

- : The continuous running time of the motor is less than 15 minutes , and it will not start again until the motor surface cooled to ambient temperature. This kind of motor is used for operating the valve full open or full close.
- : The proportion of each working time and working cycle (the interval between two starts) is not more than 25%. This kind of motor is the standard configuration for the modulating type.

► Manual operation

For 9030 units, pull the hand/auto lever while manual drive is engaged, and then the drive sleeve can be driven by rotating the hand/auto lever. Motor operation may be carried only after raising up the hand/auto lever to upright position.

Other units have a handwheel for manual operation in the event of adjusting or a power supply failure. For 9031~ 9032, the hand/auto operation is semiautomatic of electric priority, the clutch will restored when the motor is started. For 9033~9036, the low force sliding gears leads to a reliable switch.



► Limit switch

The 2-set counter with two end positions of open and close is supplied as standard to fulfill the limit switch. And two large capacity self-cleaning switches of 250VAC 10A are supplied for each position.

Options 4-set counter: Add the intermediate position control both in open and close direction.
3-layer switch: Three self-cleaning switches are supplied for each position for transmitting signals.

Note1: For 9030 unit, there is no counter. By worm and worm gear, the travel of the drive sleeve is transmitted to the camshaft, and the cam will touch the switch. Two SPDT switches of 250VAC 16A are supplied both in open and close direction.

Note2: The allowed travel range is different with the base no., please refer to “Mechanical parameters” on page 9.

► Torque switch

Torque switch mechanism is used to limit the maximum output torque of the actuator. 903 series adopted mechanical torque switch and supplied a DPDT switch of 250VAC 10A in open/close direction respectively.

► Position indication

A continuous mechanical position indicator is provided for local indication. It is possible to the consumers correct setting for the travel.

► Position transmitter

903 series actuators provide a potentiometer of 560Ω. If require special potentiometer, please contact us. Two optional module can output 4~20mADC analog signal proportional to valve position. Generally, 4mA corresponds to fully close position, 20mA corresponds to fully open position.

VPT2 Two-wire system. Input 24VDC signal by two wire and feedback 4~20mA DC signal at the same time.

VPT4 Four-wire system. Input 220VAC signal by two wire, feedback 4~20mADC signal by other two wire.

► Heat and dehumidify

903 series provide a space heater of 220VAC to prevent from humidity and condensation.

► Integrated type

The control package integrates the reversing startup of motor, input and output signal processing and all protection functions.

Local/Remote operation

903 series provide a local/remote selector and a local open/stop/close operator; When the selector is in “local” position , it can be operated in site; When the selector is in “remote” position , actuators can communicate with upper computer, receive the on-off signals of opening/closing valve and feedback the valve position and passive contact signal of over torque, and the selector can be locked in “remote” position to prevent from mistaken operation.

Protection :

Mechanical interlock	The open and close contactors are supplied with mechanical interlock component, which can effectively prevent short circuits when reversing or contact ignition.
Overcurrent protection	The thermal overload relays are supplied for overcurrent protection.
Phase discrimination and phase-failure protection	(options) The phase protector real-time monitor the three phase current, which can prevent the valve running to the wrong direction or running short of phase due to phase sequence error.

► Proportional modulating

903 series can proportional modulate the valve according to the received 4 ~ 20mA DC control signal.

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The integrated type may be equipped with proportional regulating module to achieve proportional modulating function for 903 series. For the proportional modulating mode, S4-25% motor is the standard configuration to adapt to more frequent startup operation.

The modulating precision and starting frequency of actuators relate to their rotational inertia, so actuators with a rotate speed not more than 18r/min are suggested to choose in order to lower the running inertia and improve control precision.

Model and specification

Model

9034	CP	Null	Basic type
		B	Ex-proof type (or Ex-proof basic type)
		CP	Integrated type
		BCP	Ex-proof integrated type
			Base No.

Specification

9034BCP	•	120	-	18	/II	T	7	S	-L	:	C231	:	F25-Y12	Connection ways and code for valve	
														Wiring diagram	
														Work environment:	
														Null	Standard
														L	Low temperature
														U	Ultralow temperature
														Power supply:	
														Null	Three-phase AC power supply
														S	Single-phase AC power supply
														D	DC power supply
														Degree of protection: (if the former one is a letter, omit "P")	
														Null	IP65
														P7	IP67
														P8	IP68
														Working mode and functions	
														Null	Open-close type
														T	Modulating type
														Travel range	
														I	Travel rangeI
														II	Travel rangeII
														Number	Exact turns
														Output speed, unit: r/min.	
														Output torque, unit: ×10Nm	
														Model	

Note1 : If the optionsare required , please tell uswhen order.

Note2 : Electrical wiring isclosely related to the function of products. There are three wiring diagrams on page 18&19corresponding to the basic type, integrated (open-close) type and integrated (modulating) type respectively. If the different wiring is required, please contact us.

Main parameters

Output parameters

Output speed r/min	12	18	24	36	48	72	12	18	24	36	48	72
Base No.	Output torque Nm						Motor power kW					
9030	50	50	50	50	40	-	0.06	0.09	0.12	0.18	0.18	-
	70	70	70	70	-	-	0.09	0.12	0.18	0.25	-	-
9031	100	100	100	100	90	90	0.12	0.18	0.25	0.37	0.37	0.55
	150	150	150	150	140	-	0.18	0.25	0.37	0.55	0.55	-
9032	200	200	200	200	180	180	0.25	0.37	0.55	0.75	0.75	1.1
	300	300	300	300	280	-	0.37	0.55	0.75	1.1	1.1	-
9033	450	450	450	450	400	380	0.55	0.75	1.1	1.5	1.5	2.2
	600	600	600	600	580	-	0.75	1.1	1.5	2.2	2.2	-
9034	900	900	900	900	850	800	1.1	1.5	2.2	3	3	4
	1200	1200	1200	1200	1100	-	1.5	2.2	3	4	4	-
9035	1800	1800	1800	1600	1500	1400	2.2	3	4	5.5	5.5	7.5
	2500	2500	2500	2300	2000	-	3	4	5.5	7.5	7.5	-
9036	3500	3500	3500	3500	-	-	4	5.5	7.5	11	-	-
	5000	5000	5000	-	-	-	5.5	7.5	11	-	-	-

Note 1: The value in the table is the data of380VAC/3ph/50Hz. Please contact us for other power supply.

Note 2: The output torque is the setting torque at the factory. Stall torque will be 1.1~1.5 times this value instantaneously.

Note 3: Ifthe output speedis 48 or 72r/min , the actuator isunlockable.

Mechanical parameters

Base No.			9030	9031	9032	9033	9034	9035	9036
Max-dia. Of stem	Plug sleeve	mm	Φ26	Φ28	Φ40	Φ50	Φ65	Φ95	Φ120
	Stem nut	mm	Φ26	Φ28	Φ40	Φ50	Φ65	Φ95	Φ120
Travelrange ¹ (Turns)	Type I	Turns	1~9	1~26	1~26	1~35	1~35	1~35	1~35
	Type II	Turns	9~20	26~302	26~302	35~405	35~405	35~405	35~405
Allowable thrust (Stem nut)		kn	35	45	70	75	108	230	670
Manual gear ratio			1:1	1:1	1:1	33.3:1	40:1	25:1	40:1
Weight		kg	18	36	53	77	120	208	255

Note 1: “Travel range” is the turns of valve stem from the full close to full open position. The value in the table is showed as standard, if the turns are out of the standard range, please contact us.

Note 2: The value in the table is the reference weight of basic type of plug connection.

Motor parameters (380VAC/3ph/50Hz)

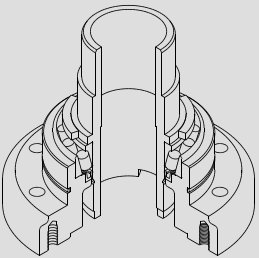
Power	kW	0.06	0.09	0.12	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11
Rated current	A	0.5	0.9	1.1	1.6	1.8	2.1	2.4	2.8	4.6	5.4	9	11	12	14.3	19.6	26
Stall current	A	1.9	2.2	2.2	5.3	7	10	13	16.5	25	30	44	66	80	111	157	195

Note: The value in the table is the reference data for duty type S2 of motor. There will be a little change with the different base no. or the duty type of motor.

Connection parameters

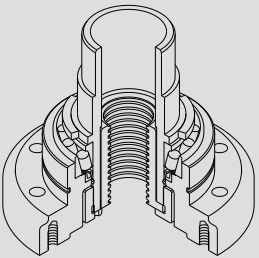
Various output connections are available in order to adapt the actuators to the different types of valves.

Plug (type Y)



The hollow shaft transmits the torque via plug connecting with the valve stem.
Thrust can not be accepted.

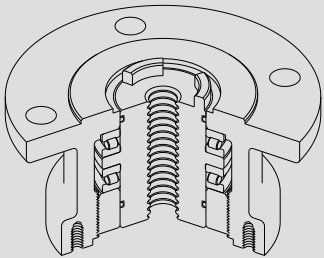
Stem nut (type T)



For 9033, 9034, 9035

The stem nut mounted in the drive sleeve is for transmission of torque and withstanding thrust.

The stem nut will be supplied with a pilot hole.

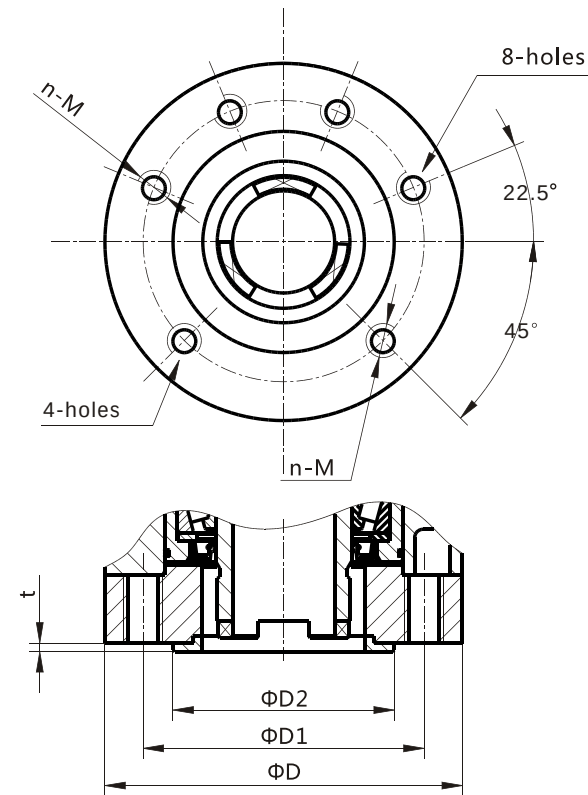


For 9030, 9031, 9032 , 9036

The thrust base together with stem nut and thrust bearings form an independent thrust component, which transmits torque and withstand thrust.

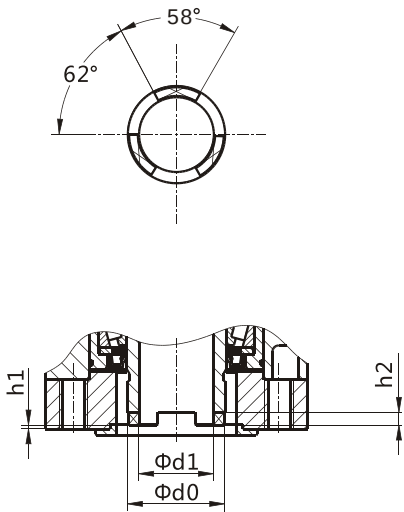
The stem nut will be supplied with a pilot hole.

Various mounting dimensions are available , please refer to the drawings and table as follows.



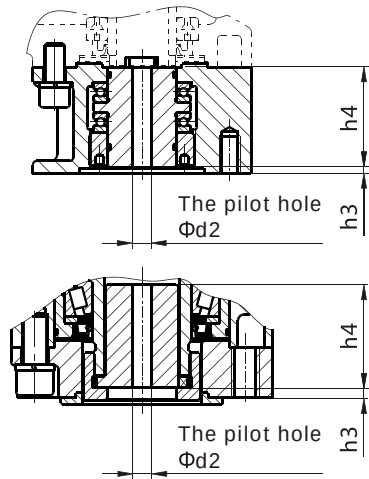
Dimensions of flange						
Flange code	D	D1	D2	t	n	M
F07	90	70	55	3	4	M8
F10	125	102	70	3	4	M10
F10A	125	102	70	3	4	M8
F14	175	140	100	3	4	M16
F16	210	165	130	3	4	M20
F25	300	254	200	5	8	M16
F30	350	298	230	5	8	M20
F35	415	356	260	5	8	M30
J 10	115	95	75	⅔5	4	M8
J 12	145	120	90	⅔5	4	M10
J 16	185	160	125	⅔5	4	M12
J 20	225	195	150	⅔5	4	M16
J 25	275	235	180	⅔6	4	M20
J 30	330	285	220	⅔8	4	M24
J 35	380	340	280	⅔6	8	M20

Plug (type Y)



Dimensions of plug				
Plug code	d0	d1	h1	h2
Y04	32	22	2	6
Y05	38	28	2	7
Y06	44	30	2	8
Y08	55	42	2	10
Y09	72	46	2	12
Y10	72	50	2	12
Y12	78	60	3	12
Y13	86	67	3	12
Y14	93	70	3	12
Y15	95	75	3	12
Y16	99	81	3	12
Y20	126	102	8	16
Y22	135	111	8	13
Y25	158	125	3	20

Stem nut (type T)



Dimensions of stem nut			
Base No.	d2	h3	h4
9030	15	5	60
9031	15	4	56
9032	16	4	50
9033	20	8	80
9034	30	9	100
9035	60	19	135
9036	75	0	150

Base No.	Flange code		Plug code	
	Standard	Options	Standard	Options
9030	F07	F10A, J10, J12	Y05	Y04
9031	F10	F10A, J10, J12	Y06	Y05
9032	F14	J12, J16	Y08	Y06
9033	F16	F14, J20	Y12	Y09, Y10, Y13*
9034	F25	J20, J25	Y15	Y12, Y14
9035	F30	J30	Y22	Y16, Y20
9036	J35(Type Y)	F35(Type T)	Y25	Y16

Note 1: “ * ” is for non-rising-stem valves.

Note 2: “Connection Code” shows the connection types and dimensions (please refer to “Specification” on page 8) . “Flange code + Plug code” is for “Type Y” , “Flange code + T” is for “Type T” .

Note 3: The max-dia. of stem may refer to “Mechanical parameters” on page 9.

Note 4: If require special size, please contact us.



9034B



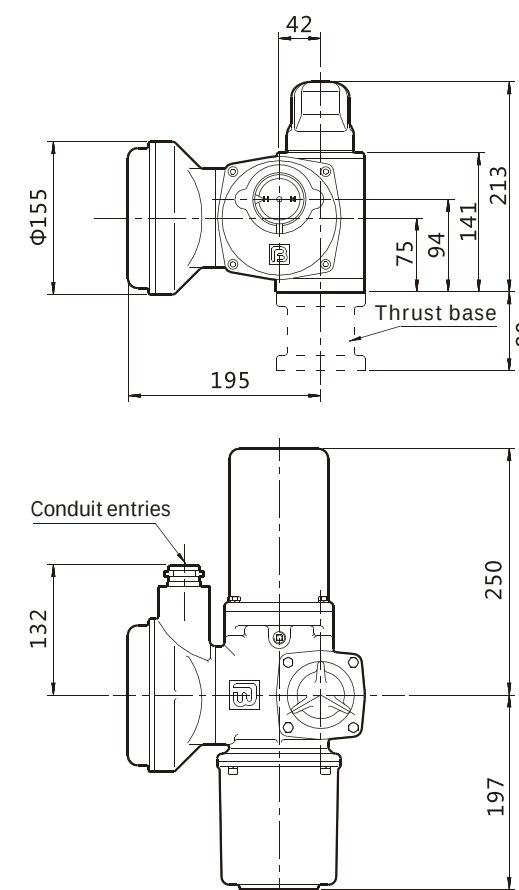
9032CP

9034BCP

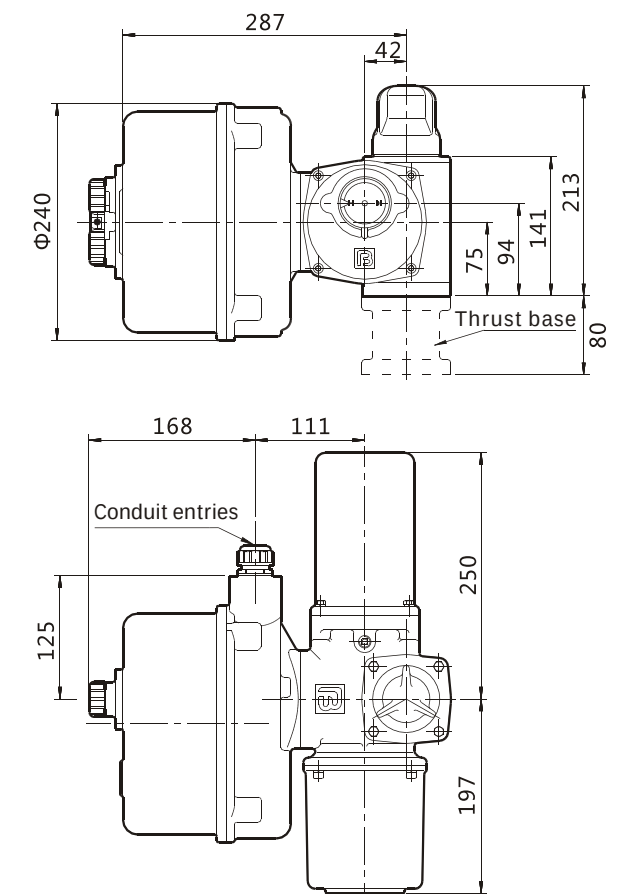


Overall dimension

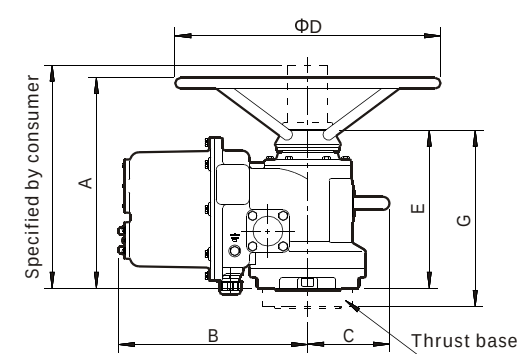
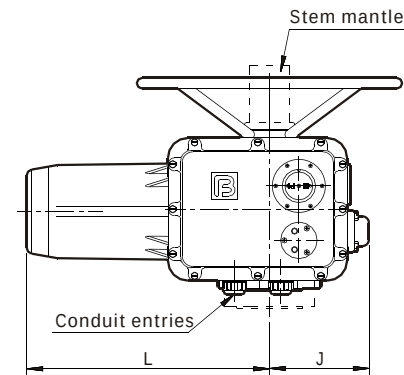
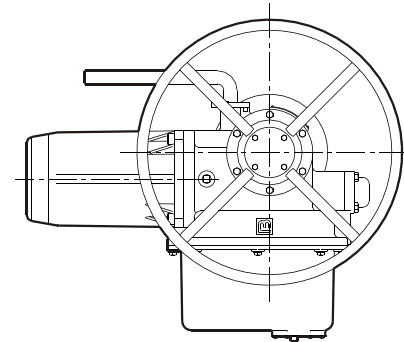
Basic type of 9030



Integrated type of 9030



Basic type of 9031, 9032

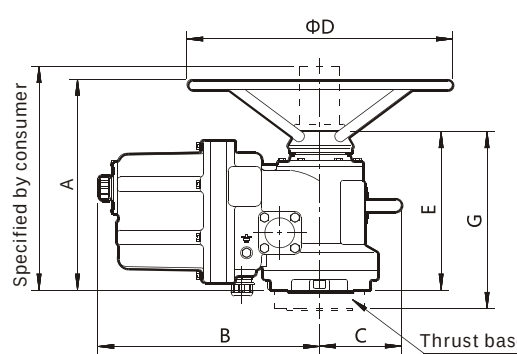
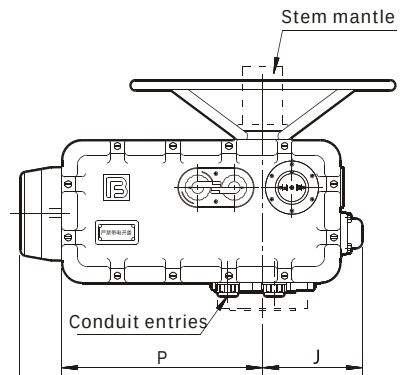
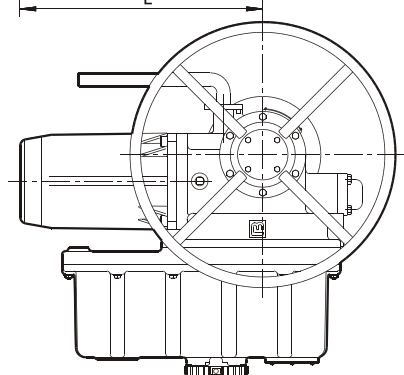


Model	A*	B	C	D	E*	G	J	L**
9031	274	274	100	300	207	264	130	324
9032	317	285	123	400	238	266	150	366

* The value changes with the joint flange.

** The value changes with different motor.

Integrated type of 9031, 9032

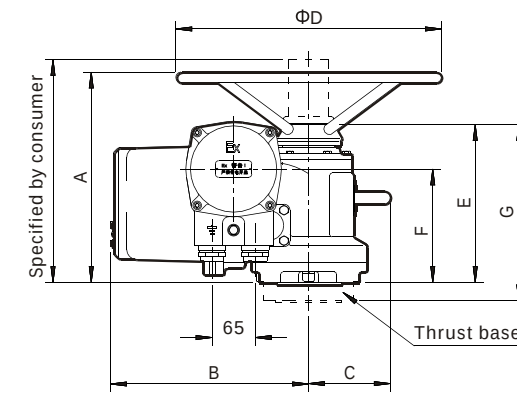
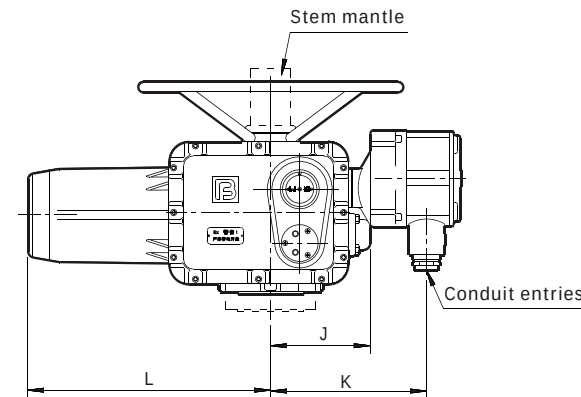
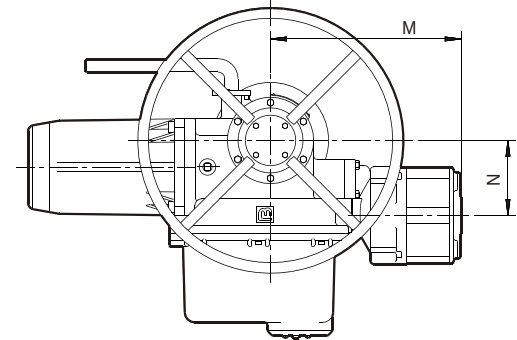


Model	A*	B	C	D	E*
9031CP	274	324	100	300	207
9032CP	317	335	123	400	238
Model	G	J	L**	P	
9031CP	264	130	324	308	
9032CP	266	150	360	303	

* The value changes with the joint flange.

** The value changes with different motor.

Ex-proof type of 9031, 9032

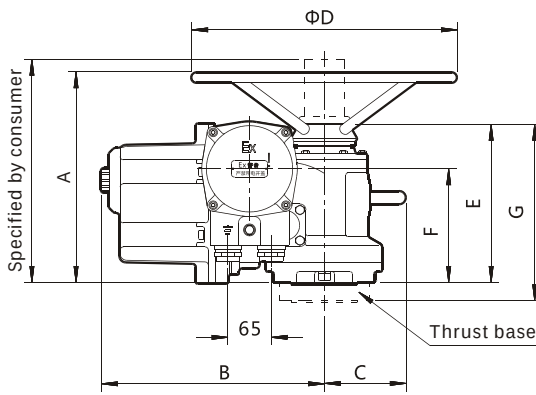
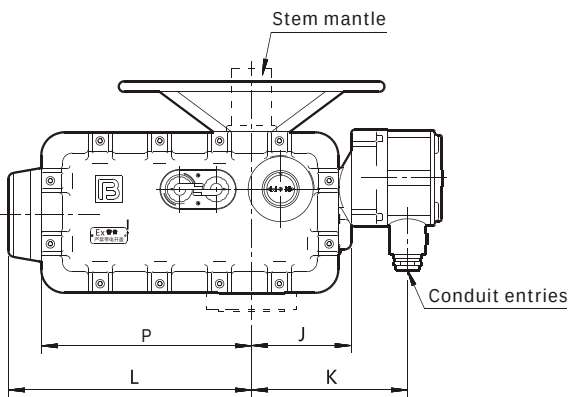
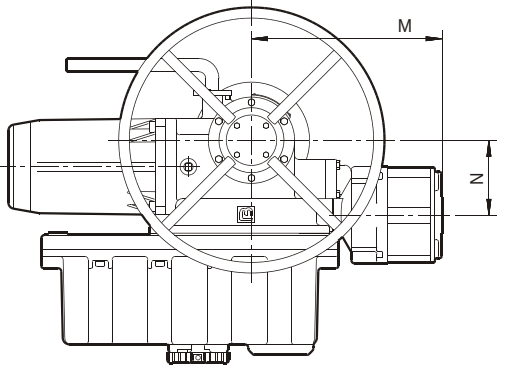


Model	A*	B	C	D	E*	F*
9031B	274	288	100	300	207	153
9032B	317	299	123	400	238	171
Model	G	J	K	L**	M	N
9031B	264	130	229	324	281	97
9032B	266	150	235	360	287	113

* The value changes with the joint flange.

** The value changes with different motor.

Ex-proof integrated type of 9031, 9032

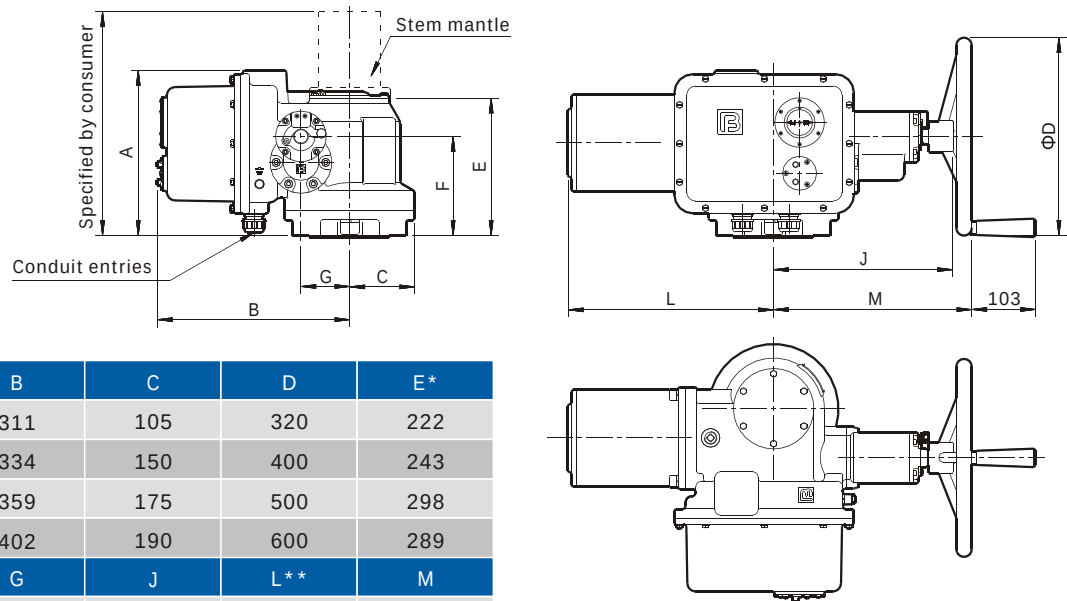


Model	A*	B	C	D	E*	F*	G
9031BCP	288	326	100	300	207	153	264
9032BCP	317	337	123	400	238	171	266
Model	J	K	L**	M	N	P	
9031BCP	130	229	324	281	97	322	
9032BCP	150	235	360	287	113	317	

* The value changes with the joint flange.

** The value changes with different motor.

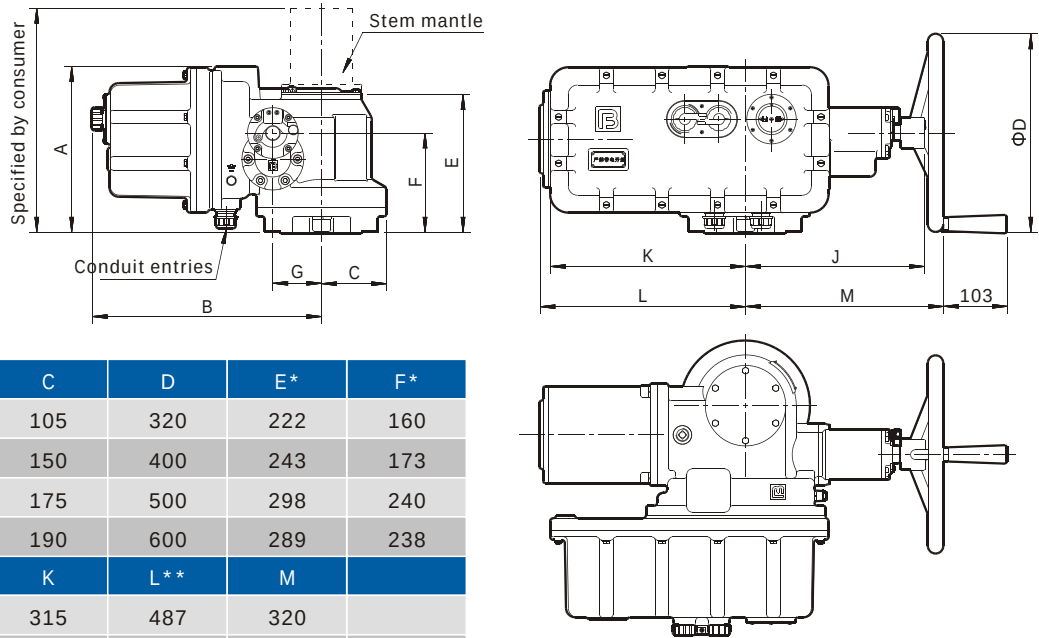
Basic type of 9033~9036



Model	A*	B	C	D	E*
9033	267	311	105	320	222
9034	277	334	150	400	243
9035	322	359	175	500	298
9036	316	402	190	600	289
Model	F*	G	J	L**	M
9033	160	79	290	487	320
9034	173	98	330	490	370
9035	240	128	406	595	459
9036	238	156	416	599	479

* The value changes with the joint flange.
** The value changes with different motor.

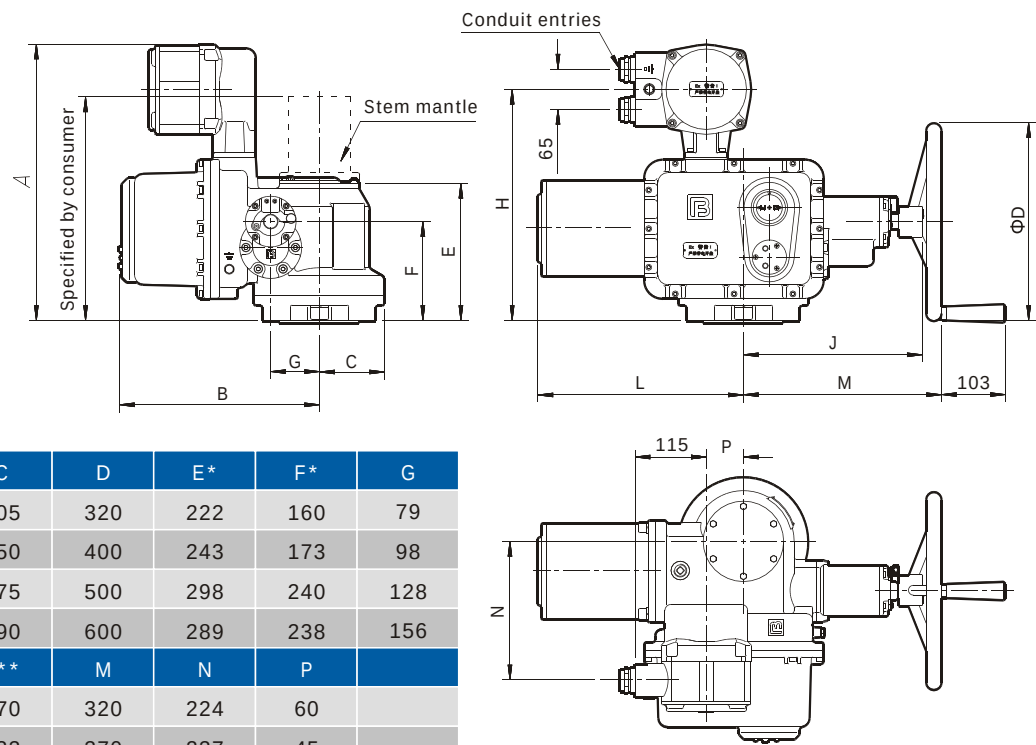
Integrated type of 9033~9036



Model	A*	B	C	D	E*	F*
9033CP	267	372	105	320	222	160
9034CP	277	395	150	400	243	173
9035CP	322	420	175	500	298	240
9036CP	316	464	190	600	289	238
Model	G	J	K	L**	M	
9033CP	79	290	315	487	320	
9034CP	98	330	320	490	370	
9035CP	128	406	293	595	459	
9036CP	156	416	323	599	479	

* The value changes with the joint flange.
** The value changes with different motor.

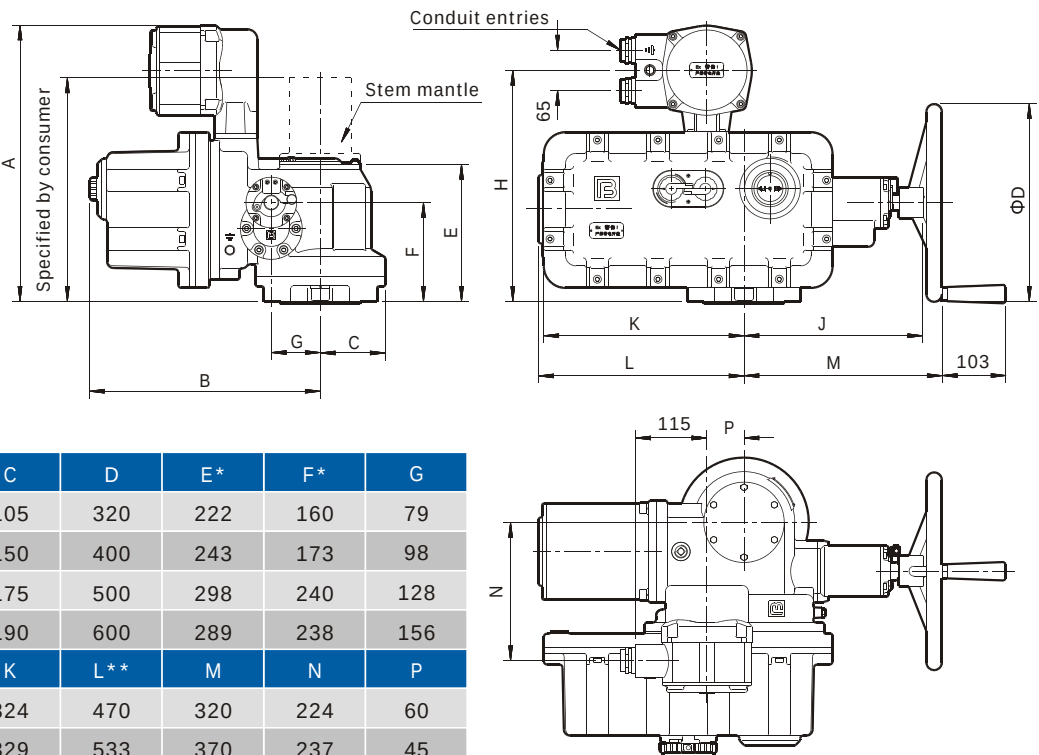
Ex-proof type of 9033~9036



Model	A*	B	C	D	E*	F*	G
9033B	447	324	105	320	222	160	79
9034B	457	347	150	400	243	173	98
9035B	502	372	175	500	298	240	128
9036B	495	425	190	600	289	238	156
Model	H*	J	L**	M	N	P	
9033B	374	290	470	320	224	60	
9034B	384	330	533	370	237	45	
9035B	429	406	630	459	272	38	
9036B	422	416	599	479	315	45	

* The value changes with the joint flange.
** The value changes with different motor.

Ex-proof integrated type of 9033~9036



Model	A*	B	C	D	E*	F*	G
9033BCP	447	373	105	320	222	160	79
9034BCP	457	396	150	400	243	173	98
9035BCP	502	421	175	500	298	240	128
9036BCP	495	465	190	600	289	238	156
Model	H*	J	K	L**	M	N	P
9033BCP	374	290	324	470	320	224	60
9034BCP	384	330	329	533	370	237	45
9035BCP	429	406	301	630	459	272	38
9036BCP	422	416	329	599	479	315	45

* The value changes with the joint flange.
** The value changes with different motor.

Wiring diagram

Electrical wiring is closely related to the function of products.
903 series are designed with rich wiring diagrams. You can visit our website or contact us for them.
This book describes some typical wiring principle (The actual wiring is subject to the wiring diagrams provided with the products).

Introduction

- 1. The internal wiring is showed on the right side of the dashed line or inside the dashed line.
- 2. Limit switches in the diagram show that the valve is in the intermediate position. Torque switches show that the valve is not over torque.

Symbol description

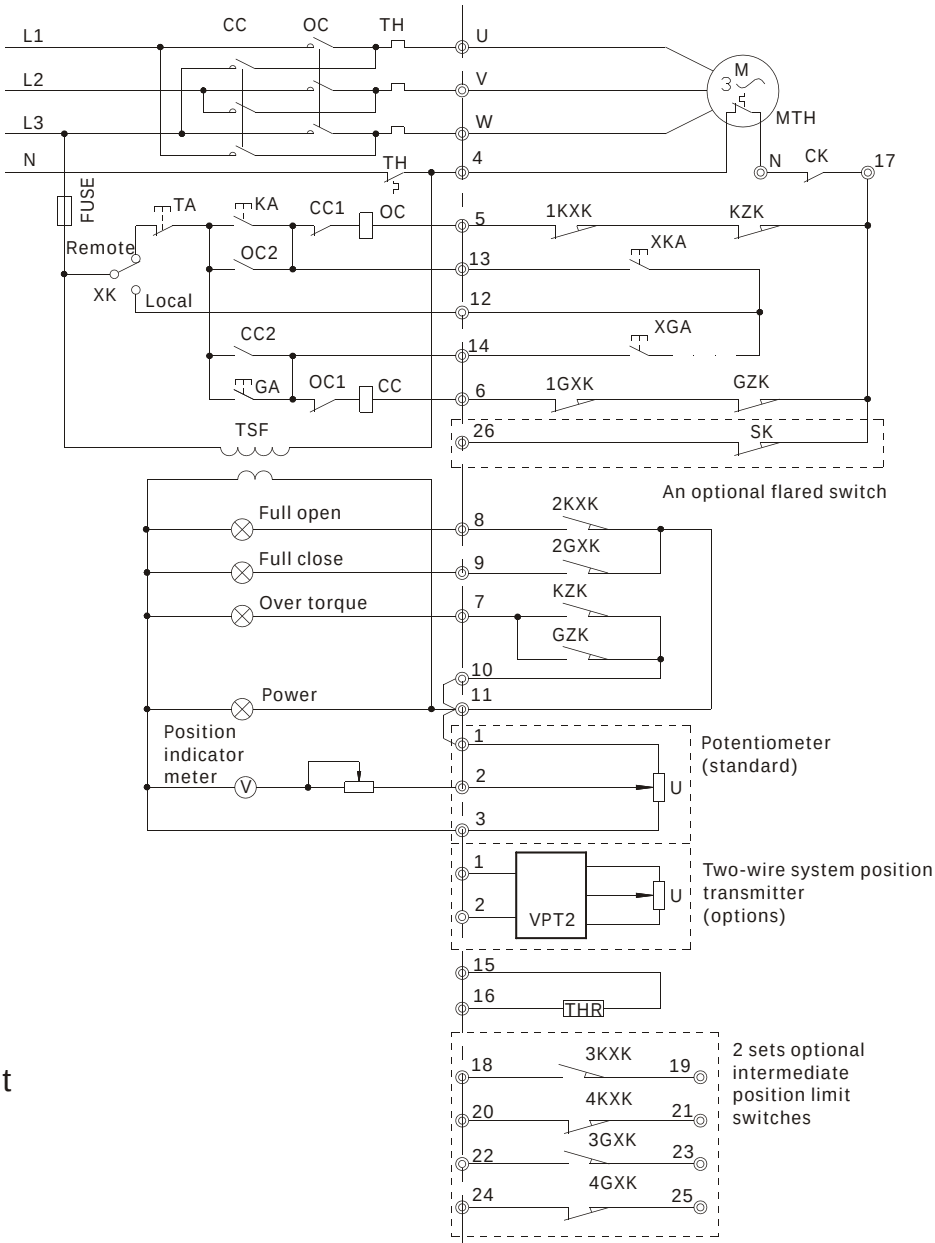
KXK	Open limit switch
GXK	Close limit switch
KZK	Open torque switch
GZK	Close torque switch
CK	Switch (It is disconnect when manual operate and it is not provided for 9030~9032.)
M	Motor
MTH	Temperature protection switch in motor winding
THR	Space heater (6800Ω)
U	Potentiometer

Limit switch contact development

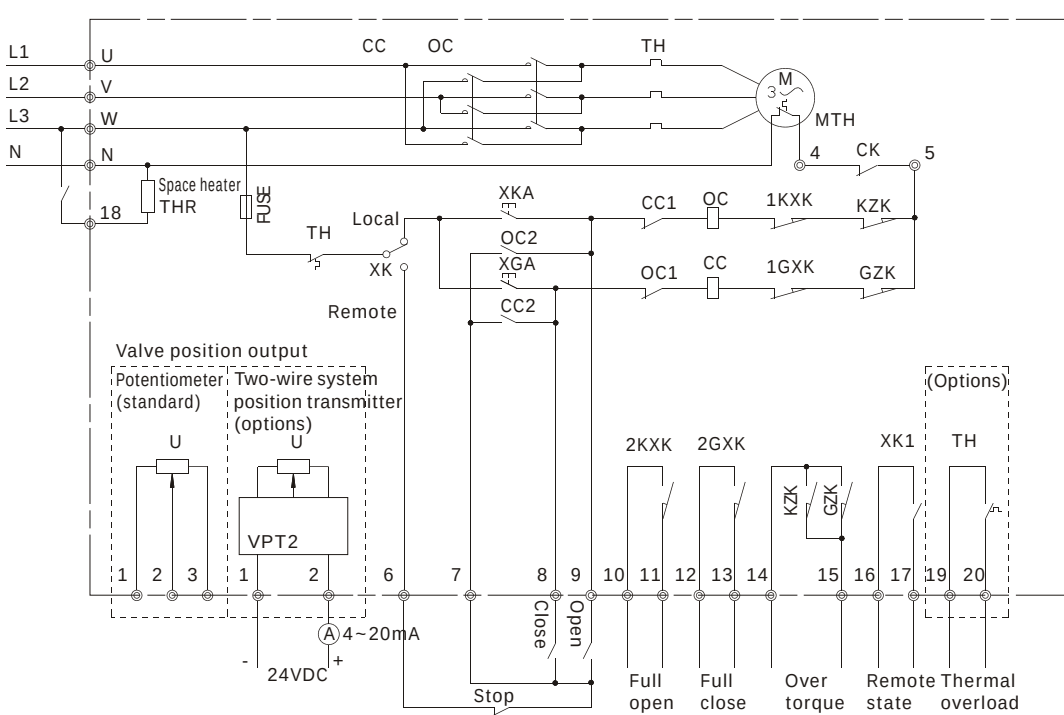
Limit switch	Valve position	
	Full close	Full open
1KXK	ON	OFF
2KXK	OFF	ON
3KXK	OFF	ON
4KXK	ON	OFF
1GXK	OFF	ON
2GXK	ON	OFF
3GXK	ON	OFF
4GXK	OFF	ON

— ON - - - OFF

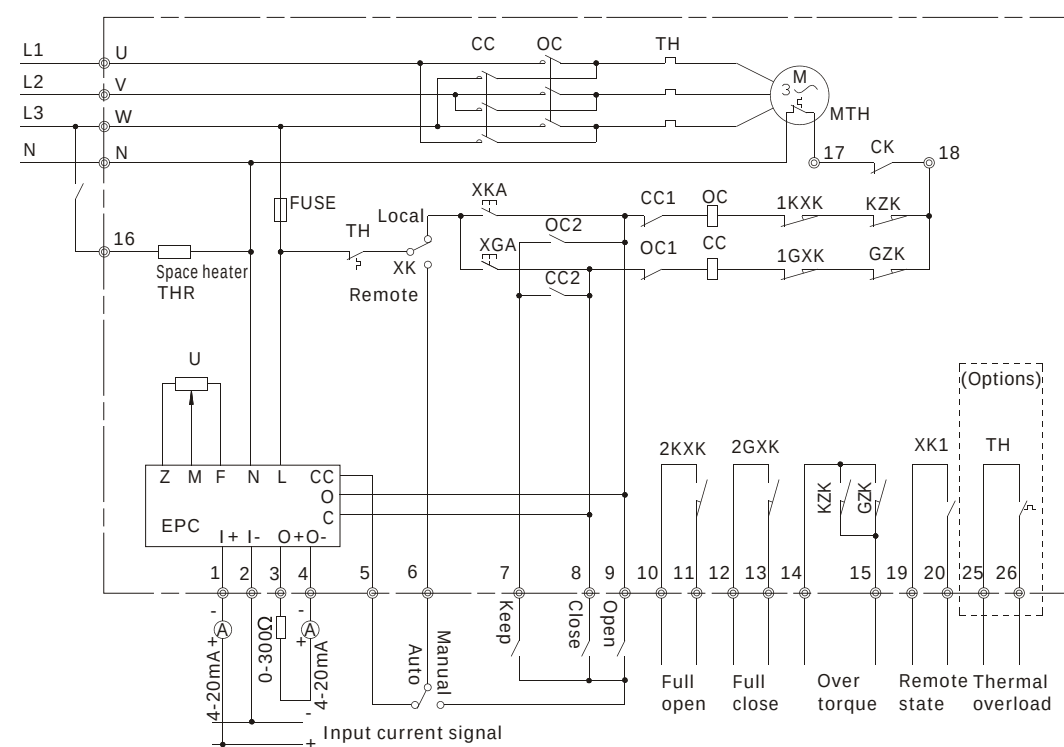
Basic type (Three-phase AC power supply)



Integrated (open-close) type

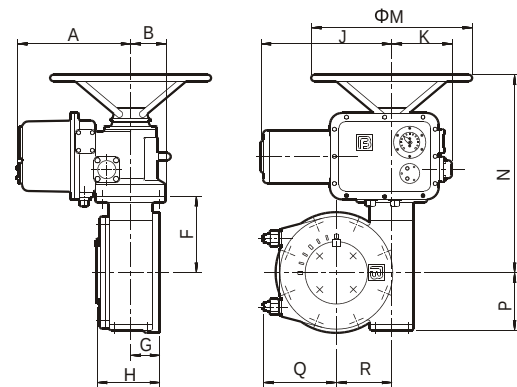


Integrated (modulating) type



Combinations of 903 and 402 series

9031/4024、9032/4025



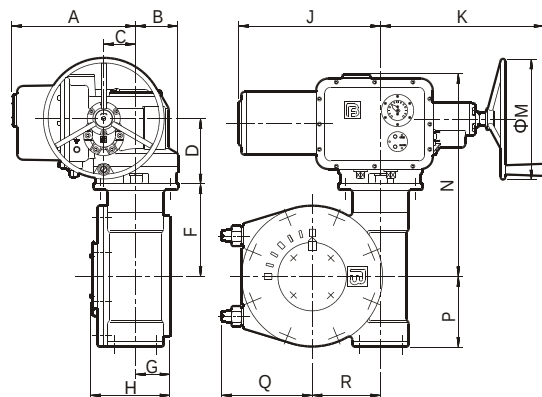
When 903 series combine with the 402 series made in our company, they can be used for part-turn valves such as butterfly or ball valves of big bore.

Please refer to publication BFYB402 for relevant information.

Main output parameters

Model	Output torque Nm	Ratio of 402	Ratio of 301
9031/4024	2500	58	—
9032/4025	5000	56	—
9033/4026	10000	56	—
9034/4027	20000	56	—
9035/4028	40000	50	—
9036/4029	80000	52	—
9035/3011/4029	80000	52	3

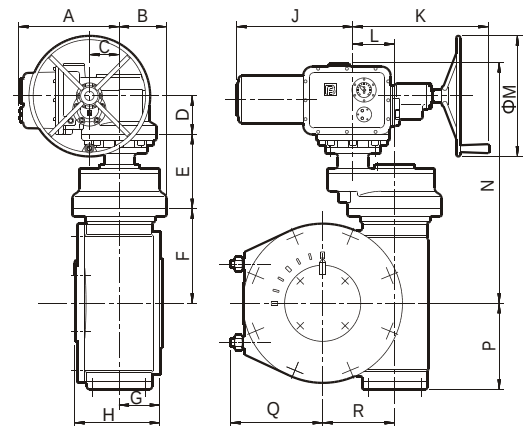
9033/4026、9034/4027、
9035/4028、9036/4029



Overall dimension

Model	A*	B	C	D	E*	F*
9031/4024	274	72.5	—	—	—	170
9032/4025	285	87.5	—	—	—	192
9033/4026	311	113	79	160	—	230
9034/4027	334	150	98	172	—	280
9035/4028	359	175	128	238	—	320
9036/4029	402	190	156	238	—	374
9035/3011/4029	359	175	128	238	254	374
Model	G	H	J	K	L	M
9031/4024	58	130	264	122	—	300
9032/4025	72	160	360	155	—	400
9033/4026	85	195	487	400	—	320
9034/4027	105	228	508	450	—	400
9035/4028	135	290	600	535	—	500
9036/4029	148	339	600	592	—	600
9035/3011/4029	150	328	600	535	206	500
Model	N	P	Q	R		
9031/4024	443	126	150	109		
9032/4025	494	154	180	138		
9033/4026	506	188	230	170		
9034/4027	563	232	255	202		
9035/4028	646	300	305	238		
9036/4029	697	361	345	308		
9035/3011/4029	950	361	345	308		

9035/3011/4029



Combinations of 903 and 402

► For part-turn application

