COVNA®
— VALVE —

Electric 2 Way Ultrahigh Pressure Ball Valve

Introduction

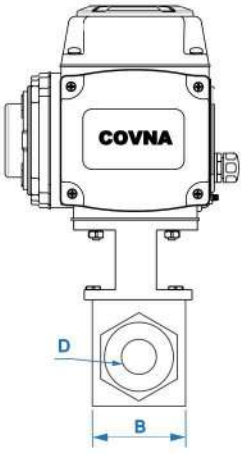
Ultrahigh pressure ball is adopt ball core rotate 90 degrees to open or close the valve, the brick, high pressure forging with German import seal assembly, provided by initial seal, stainless steel butterfly spring cushion packing seal surface enhanced with medium pressure rise, self sealing performance is strong, super high pressure ball valve can be used in the ultra high pressure liquid, ultrahigh pressure gas or the mixture of main application industry has ultrahigh pressure testing machine, pneumatic pumps, hydraulic pump, deep-sea detectors.

Electric Actuator

ON/OFF Type	Feedback: the Active Contact Signal, Passive Contact Signal, Resistance, 4-20mA
Regulation Type	Input & Output Signal: DC 4-20mA, DC 0-10V, DC 1-5V
Field Operation	The Field, Remote Control Switch Regulation and MODBUS, PROFIBUS Field Bus
Voltage Optional	AC110-240V 380V 50/60Hz; DC12V, DC24V, Special Voltage Can be Customized
Protection Class	Ip65; Explosion Proof Construption Are Acailable: EX d II BT4

Technical Parameters

Body		Valve components	
Nominal Size	DN15~DN200	Seat Material	PTFE: -30℃~180℃
Body Material	SS304, SS316, SS316L		PPL: -30℃ ~ 250℃
Connection Type	Thread	Disc Material	SS304, SS316, SS316L
Pressure Rating	PN1.6-PN6.3MPa	Stem Material	SS304,
Structure type	Floating ball core	Applicable Medium	Water, Liquids, Gas, Oil, Powder, Steam, Acid-base Corrosive Medium.



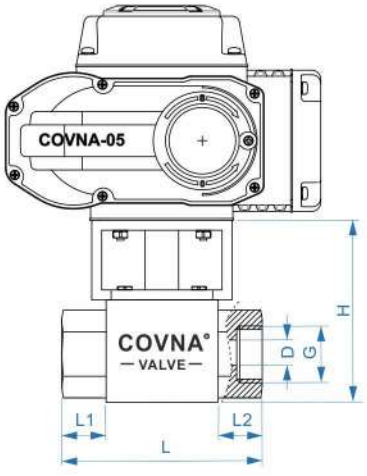
Qutine Size drawing

UNIT: mm

MEDLE	DN08	DN10	DN15	DN20	DN25	DN32	DN40	DN50
G	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
D	6	8	10	14.6	19.6	24.8	30	39.6
B	45	45	45	55	66	77	95	
H	43	43	43	53	64	70	79	
L	80	80	82	101	120	127	150	
L1	19	19	20	25	29	30	28	
L2	19	19	20	25	29	30	28	

Installation Instruction

1. Verify that the valve breakaway torque is less than the rated output torque of the actuator.
2. Any mechanical stops that would interfere with the operation of the actuator must be removed before installation of the actuator, i.e. lever, travel stops, etc.
3. The actuator output coupling must be centered with the valve stem to prevent side loading, which causes premature stem packing wear.
4. To use the manual override feature (identified on cover label), the override shaft must be pressed down firmly at least 1/4" in order to disengage the motor from the gears. The manual override is not designed to overcome torque in excess of the rated torque of the actuator. Serious damage to the gear system may result from excessive turning force on the manual override.
5. This Series actuator may be mounted in any position, i.e. horizontal, upside down. If the conduit entrance points upward, conduit piping must be oriented as to prevent condensation from entering the actuator from the conduit pipe.



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B	64	64	65	80	95	107	123	
H	43	43	43	53	64	70	79	
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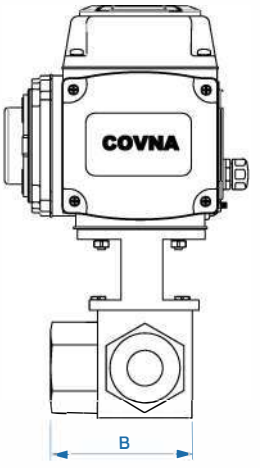

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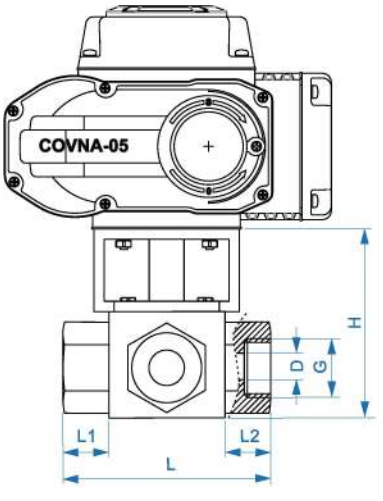


COVNA®
— VALVE —

Main Functions and Key Features

1. Body: body material is hard aluminum alloy, which is treated by hard anodic oxdization and coated by Polyester powder, so that it has great corrosion resistance and protection class is IP67.

2. Motor: fully enclosed cage type motor is small in size and inertia, large in torque. Insulation class is F grade which can prevent motor over-heating;

3. Manual Override: small handle is reliable, energy–saving. It can be used for manual operation when electricity is off; In automatic operation, it can be fixed inside the clip for easy operation;

4. Indicator: indicator is assembled on center axis, valve position can be observed; Outside mirror design facilitates position observation and prevents water drops accumulation;

5. Enclosure: high sealing performance, standard protection class is IP67;

6. Limit Switches: mechanical and electronic position limit switches.Mechanica stop lscrew can be adjustable; Electronic limit switches can be controlled by cam.Position can be set easily and accurately by simply adjusting the cam without any influence by handle;

7. Self Lock: accurate turbo–worm structure can output large torque with high efficiency and little noise (Max. 50 decibel). Service life is quite long. Its self lock function can stop reverse rotation. Drive part is stable and reliable without additional lubrication;

8. Captive Bolt: bolts won't fall off when cover is disassembled;

9. Application: bottom connection complies with ISO5211/DIN3337 Standard. Star square hole is easy for square valve stem linear or 45° rotation application; Both vertical and horizontal assemble are available;

10. Diagram: control diagram complies with single phase or three phase wiring standard, reasonable wiring diagram and connection terminal can meet requirement of other optional functions.

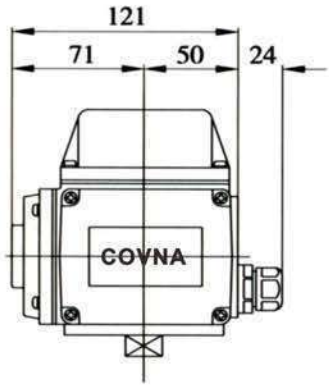
Manual Override

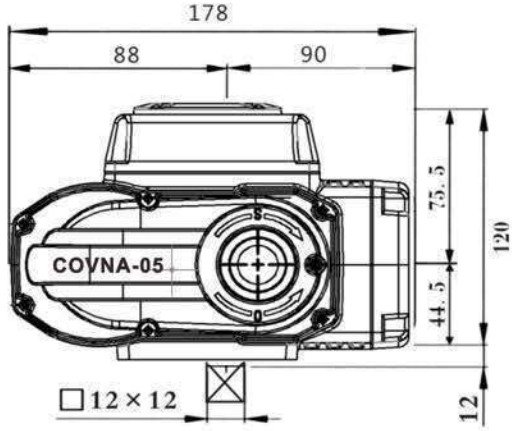

ON/OFF Type

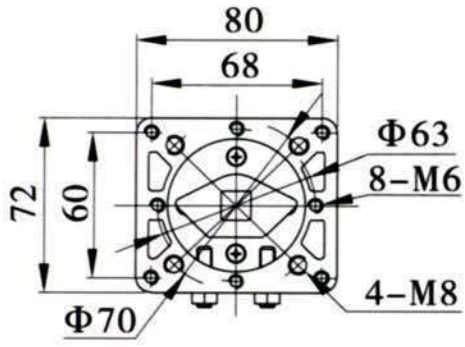

Regulation Type

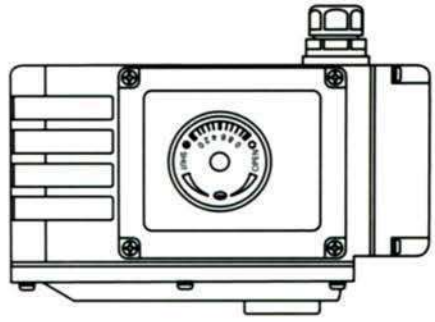

Intelligent Type

COVNA-05









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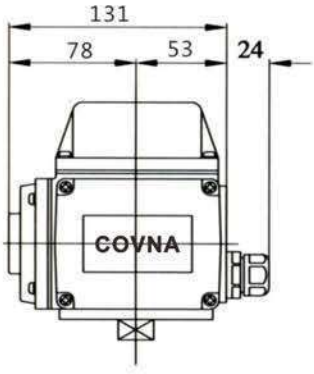

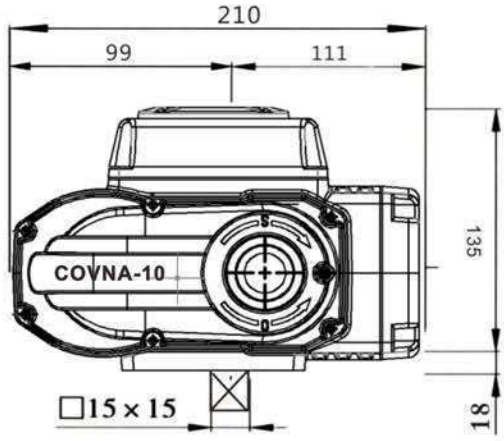

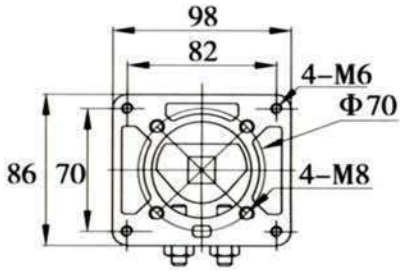

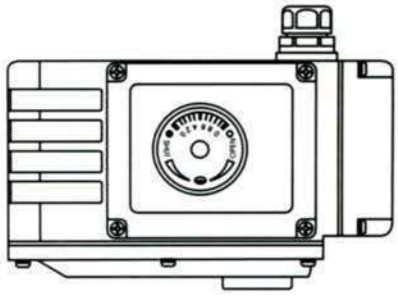

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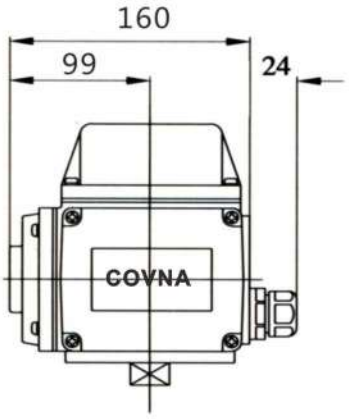

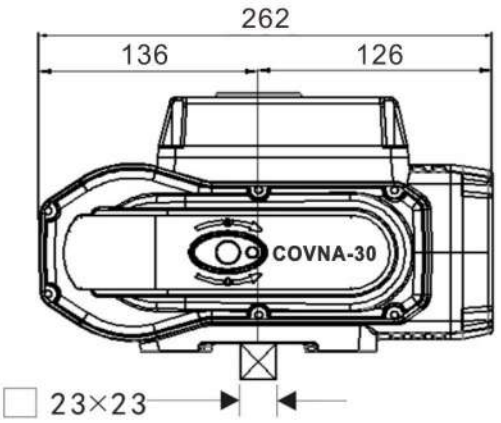

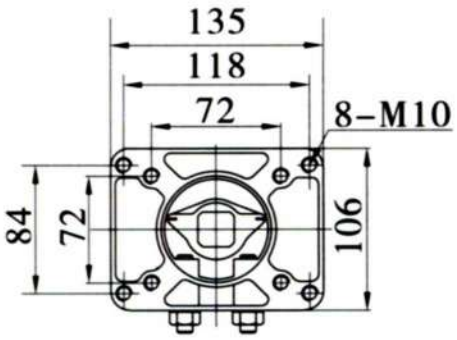

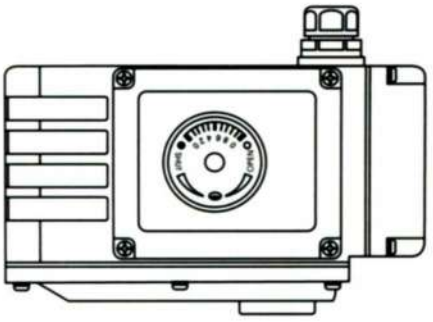

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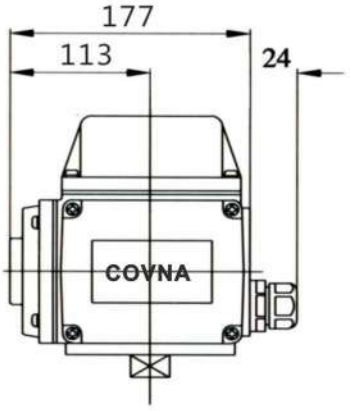

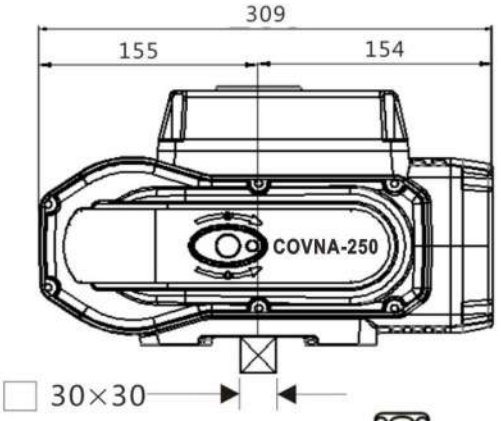

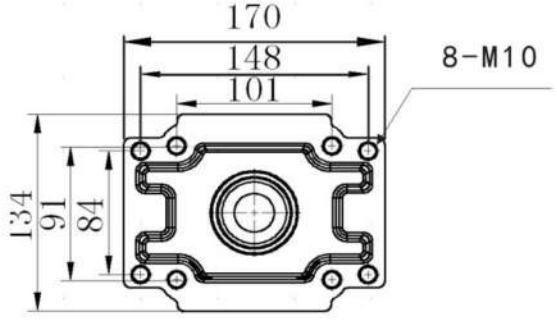

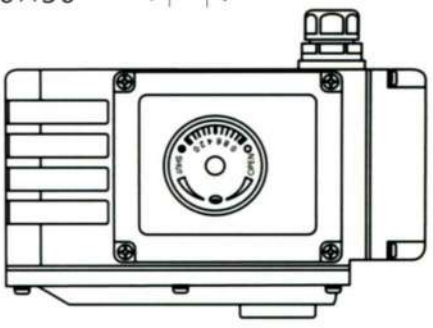

Performance Characteristics Of Electric Actuator

Performance \ Model		05	10	16	30	60	125	250	400
Angle of Rotation		0~90°	0~90°	0~90°	0~90°	0~90°	0~90°	0~90°	0~90°
AC220V AC Voltage	Torque Output	50Nm	100Nm	160Nm	300Nm	600Nm	1250Nm	2500Nm	4000Nm
	90° Cycle Time	10S/ 20S/60S	15S/30S/60S			30S/60S	90S	90S	90S
	Working Current	0.23A	0.35A	0.40A	0.45A	0.60A	1.03A	1.85A	2.7A
	Drive Motor	50W	75W	80W	100W	130W	210W	285W	360W
	Voltage Options	AC220V, AC110V, AC24V							
	Control Circuit	B: ON/OFF Type with Passive Contact Signal Feedback							
DC DC Voltage	Torque Output	60Nm	110Nm	170Nm	330Nm	680Nm	1300Nm	2500Nm	
	90° Cycle Time	8S	11S	11S	9S	35S	32S	32S	
	Starting Current	0.74A	1.40A	1.40A	3.80A	7.0A	3.8A	4.3A	
	Working Current	0.38A	0.38A	0.40A	1.03A	0.70A	1.2A	1.4A	
	Drive Motor	9.5W	9.0W	9.6W	30W	33W	30W	33W	
	Voltage Options	DC12V, DC24V, DC110V, DC220V							
	Control Circuit	F: DC24V/ DC12V Direct ON/OFF Type							
AC380V	Torque Output	70Nm	100Nm	200Nm	300Nm	600Nm	1300Nm	2500Nm	
	90° Cycle Time	20S	27S	27S	25S	26S	50S	50S	
	Starting Current	0.20A	0.28A	0.30A	0.55A	0.45A	0. 60A	0. 77A	
	Working Current	0.16A	0.25A	027A	0.53A	0. 43A	0. 65A	0. 75A	
	Drive Motor	51W	70W	77W	117W	220W	90W	103W	
	Voltage Options	AC380V							
	Control Circuit	G: AC380V Three-Phase Power Supply with Passive Signal Feedback （Default） H: AC380V Three-Phase Power Supply with Resistance Potentiometer Signal Feedback （Optional）							
Protection Class		IP65							
Ambient Temp.		–30°C~+60°C							
Installation Angle		Any							
Electrical Connection		G1/2 Water-proof Cable Connectors, Electric Power Wire, Signal Wire							

Note: Can't connect one actuator parallel with other ones, in other words, can't use the same control -ler contact points to control two and above actuators, otherwise it will cost out of control, motor overheating, product damage and shorter service life.

ON/OFF Type Performance characteristics

COVNA HK Series the on-off actuator has only two actions (0°or 90°) when performing valve operations, which means that the valve can only be fully open or fully closed. Can not control the amplitude of the valve switch, and can not control the medium flow. The on-off valve is generally used to switch off the two positions. There are two positions of full open and full closed. The function is to open or close to conduct and cut off the working medium inside. There is no special requirement for the flow characteristics, but for the switching speed, The leakage requirement is higher than that of the regulating valve.

Voltage Options	AC110V, AC220V, AC380V, DC24V, AC24V
Insulation Resistance	100MΩ/500V
Withstand Voltage	1500V; 1min
Control Circuit	A: ON/OFF Type with Light Indicator Signal Feedback B: ON/OFF Type with Passive Contact Signal Feedback C: ON/OFF Type with Resistance Potentiometer Signal Feedback D: ON/OFF Type with Resistance Potentiometer and Neutral Position Signal Feedback E: Regulation Type with Servo Control Module F: DC24V/ DC12V Direct ON/OFF Type G: AC380V Three-Phase Power Supply with Passive Signal Feedback H: AC380V Three-Phase Power Supply with Resistance Potentiometer Signal Feedback
Optional Function	Over Torque Protectors, Dehumidify Heater, Stainless Steel Coupling & Yoke

Regulation type Performance characteristics

COVNA HK Series the regulation type electric actuator has the function of a switch type integrated structure, and relatively increase the intelligent control module,, so as to accurately control the valve (any angle between 0°-90°), adjust the medium flow, and control by input or output The signal 4-20mA or 0-10v/1-5v can control the opening of the valve; the performance reflects the control accuracy, the control accuracy is generally within 1% of the error, and the opening and flow can be adjusted very accurately.

Voltage Options	AC110V, AC220V, AC380V, DC24V, AC24V
Input Signal	4–20mADC 1–5VDC 0–10VDC
Output Signal	4–20mADC 1–5VDC 0–10VDC
Tolerance	± 0.5%
Return Difference	<0.3%
Dead Zone	0.1% to 1.6%
Damping Characteristics	0
Mechanical Repeatability Error	0%

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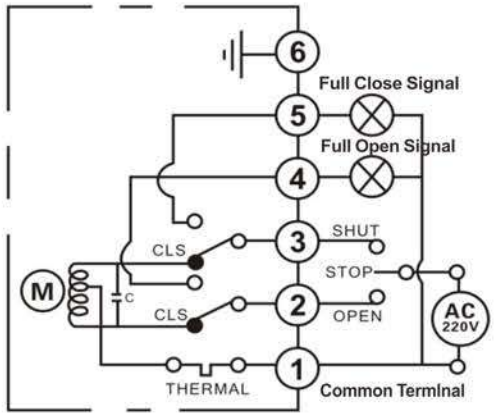
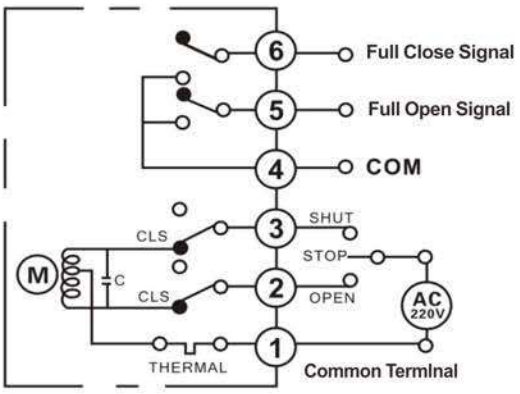


A: ON/OFF Type with Light Indicator Signal Feedback

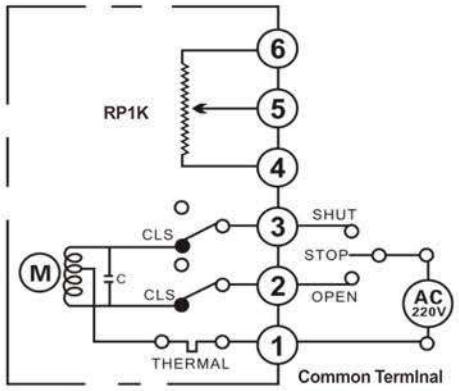
Function:Finish open or close operations by the circuit, and the actuator outputs a signal of active position (full opening, full closing)



B: ON/OFF Type with Passive Contact Signal Feedback

Function: Finish open or close operations by the circuit, and the actuator outputs a set signal of passive position (full opening, full closing)

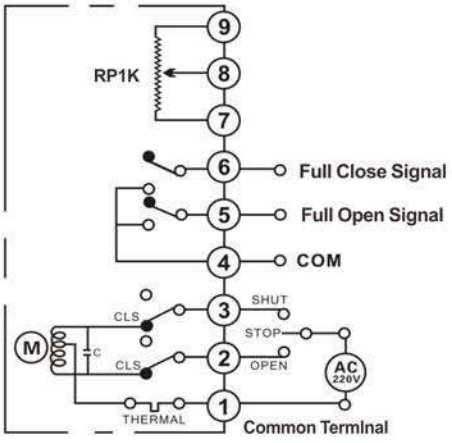
Structure: with two neutral positions switches



C: ON/OFF Type with Resistance Potentiometer Signal Feedback

Function: Control the open angle of valves by circuit, and the actuator outputs the resistance signal corresponding to the position of switch

Structure: with 500Ω or 1000Ω potentiometer



D: ON/OFF Type with Resistance Potentiometer and Neutral Position Signal Feedback

Function: control the open angle of valves by circuit, and the actuator outputs the resistance signal corresponding to the position of open position, at the same time, outputting a set signal of passive position

Structure: both potentiometer style and neutral positions switch style

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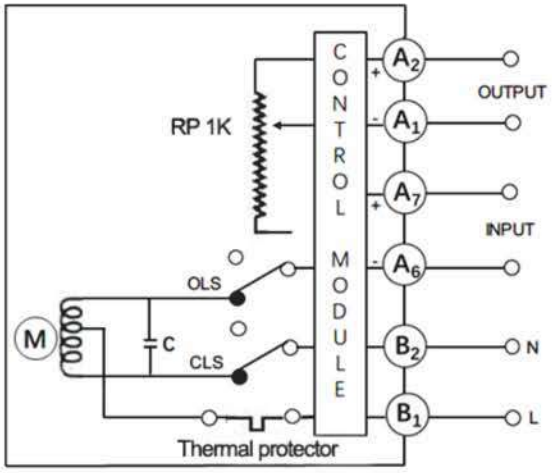
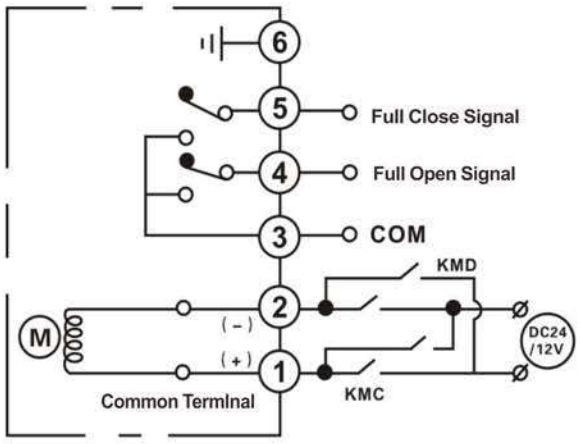


E: Regulation Type with Servo Control Module

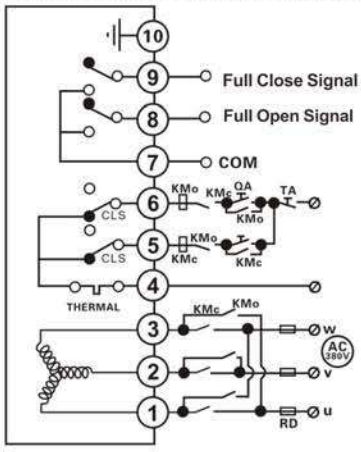
Function: Modulating, input & output
DC4-20mA, 1-5VDC, 0-10VDC

Structure: With servo control module and
1000Ω potentiometer



F: DC24V/ DC12V Direct ON-OFF Type

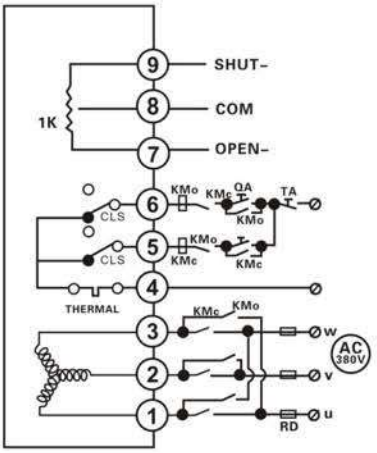
Function: The external circuit make positive and negative conversion of DC power to open or close, and the actuator outputs a set signal of passive position (full opening, full closing)



G: AC380V Three-Phase
Power Supply with Passive Signal Feedback

Function: The external circuit make positive and negative conversion of DC power to open or close, and the actuator outputs a set signal of passive position (full opening, full closing)

Notes:
Please kindly note if the switch position is correct when the three phase electric actuator is being adjusted, if it's opposite direction, then make 2 of power lines exchange each other



H: AC380V Three-Phase Power Supply
with Resistance Potentiometer Signal Feedback

Function: The external circuit make positive and negative conversion of DC power to open or close, and the actuator outputs a set signal of passive position (full opening, full closing)

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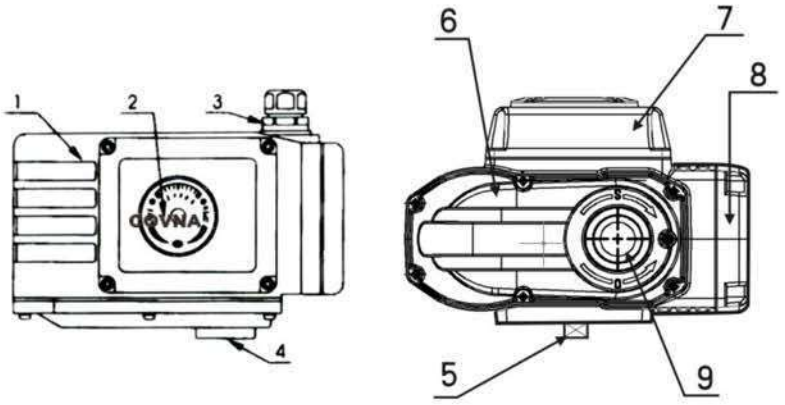


Construction					
1	Shell	4	Rubber Cap	7	Electric Cover
2	Position Indicator	5	Output Shaft	8	Terminal Box
3	Inlet Wire Lock	6	Gear Box Cover	9	Manual Override

The actuator are fully debugged before they go out, if they don't meet your demands because of the valve body, the coupling in actual installation. Please resume debugging according to following steps:

- **Assembly the actuator to the valve (refer to *Installation*)**
- **Discharge the electric cover of actuator and debug as following steps according to the actual state of valve:**

① Adjustment of limit position switch (refer to ***Commissioning***);
② Adjustment of neural position switch (refer to ***Commissioning***);
③ Adjustment of regulation type actuator (only for E style, refer to ***Commissioning of regulation type actuator***);
④ Adjustment of mechanical limited location block (refer to ***Commissioning***).

- **The manual test run**

① Take off the rubber cap of manual handle hole; inset the hand shank into hole and rotate it clockwise decreased valve opening.
② Check whether the limit switch is running or not when the valve is full closing position (sensitive switch making crack sound when it is running), then turn the adjusting screw a half turn to check if the screw could touch the mechanical limited location block.
③ Turn hand shank anticlockwise to increase valve opening, check the situation of limit switch and mechanical limit location block the same method, make trial turn to see whether they are all right.

- **The electric test run**

① Take off terminal box, wiring correctly according to wiring diagram
② Separately turn on the power on clockwise and anticlockwise and see whether the actuator and the valve are working correctly.) The direction of shut point (clockwise) show close, the direction of open point (anticlockwise) show open.

1. Installation environment

- The product can be installed indoor and outdoor.
- product is non-explosion-proof production, and the installation must be avoided being in flammable or explosive environment etc.
- The actuator should be in protection box in the environment of long-term with the splash of rain, material and direct sunlight.
- Please reserve space for controller, manual operation.

★ The surrounding environment temperature should be in -30°C~+60°C

2. Temperature of working medium

- When matching with the valve, the actuator body's temperature will a bit rise if medium temperature happen heat transfer.
- If the temperature of medium is high, the bracket has the function of reducing heat conduction.
- Please select the standard bracket if temperature of working medium below 60°C.
- Please select the standard bracket when temperature of working medium above 60°C.

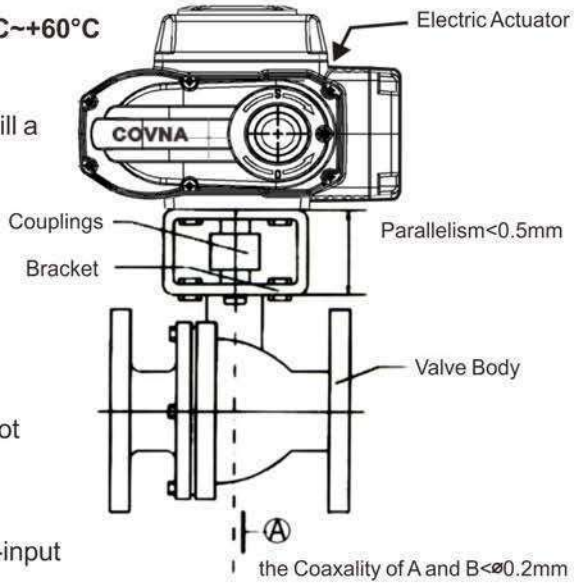


Figure 3

3. Installed on the valve body (Figure 3)

- Manually operate the actuator to drive the valve, confirm it does not have abnormal situation. Turn the valve in full closed position.
- Assemble the bracket to the valve body.
- Set one end of couplings on valve spindle.
- Turn the electric actuator to full closing position, and insert output-input shaft into the square holes of couplings.
- Set the screw between the electric actuator and bracket.
- Turn actuator by hand shank, confirm that it moves translation, no eccentric, no skew and no overrun.

4. Cable installation

- Install wire tubes as shown in Figure 4.
- The outside diameter of wire tubes should be ⌀9-⌀11.
- Take measures to proof water.
- To prevent actuator from flowing into wire tubes water, the actuation position should higher than wire tubes position.
- When installing wire, the outside diameter of wire should be ⌀9-⌀11.
- As figure 5, in case the water flow into actuator interior from line locking, all wire that are not allowed to be used.
- The signal wire should be shielded wire in principle, don't parallel it to power wire.

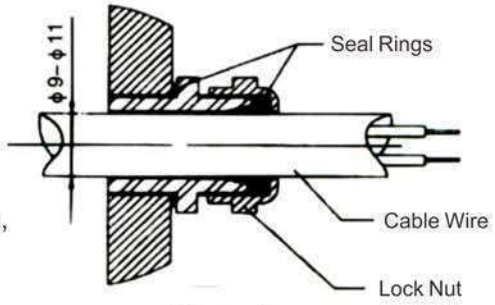


Figure 4

5. Special tips

- Caution: can't connect one actuator parallel with one another, in other words, can't use the same controller contact point to control more than one actuator, otherwise it will cause out of control, motor overheating, product damage, shorter service life.
- If the actuator is installed outdoor, we suggest equipping other protective cover to proof water, stabilize mechanical property, make a longer service life.

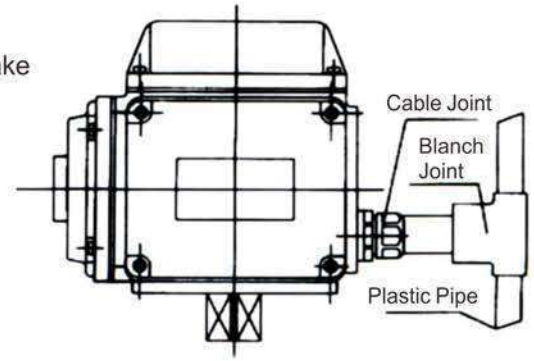
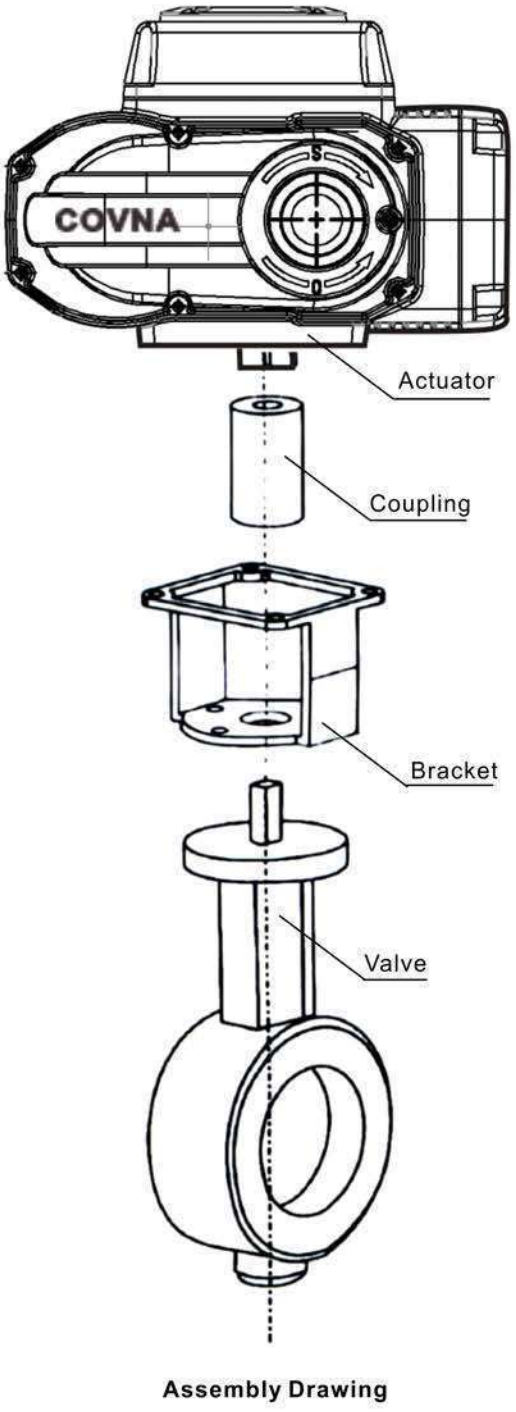


Figure 5

6. Power voltage: 220VAC 50Hz/60Hz

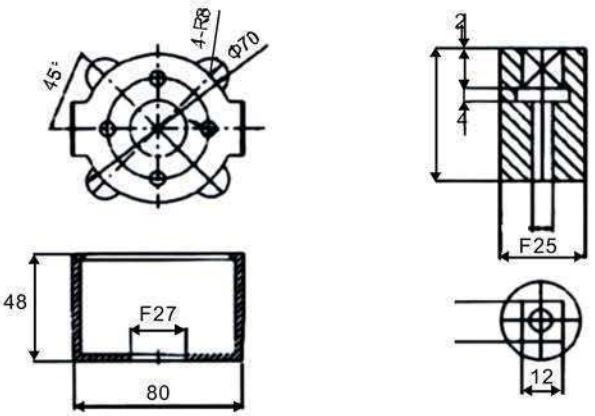
7. Guard line options for witch of cutting-off winding

Item	Guard Line	Motor Power W/F
05	3A	10
10/16	5A	25, 30
30/60	7A	40, 90
125/250/400	10A	100, 120, 140

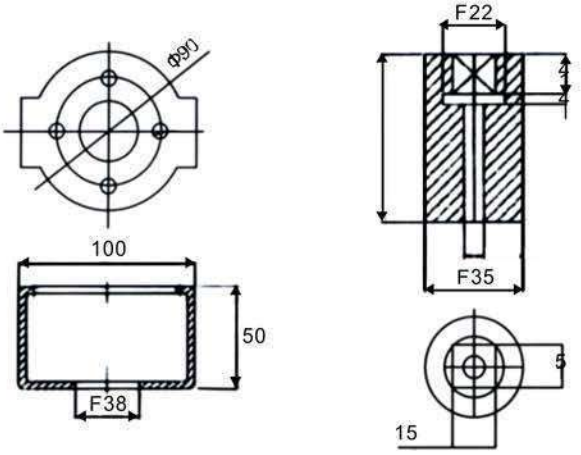


Assembly Drawing

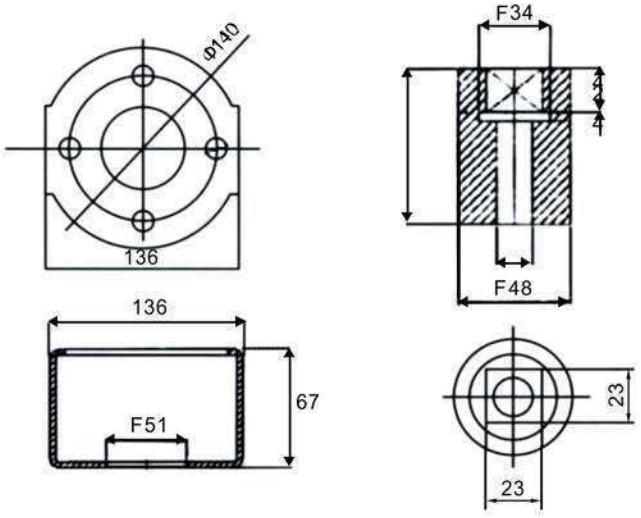
● Z type bracket and couplings (match with 05)



● S type bracket and couplings (match with 10/16)

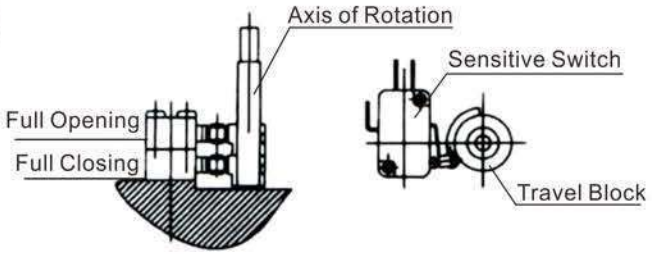


● M type bracket and couplings (match with 10/16)



1. Adjustment of limit position switch (Figure 6)

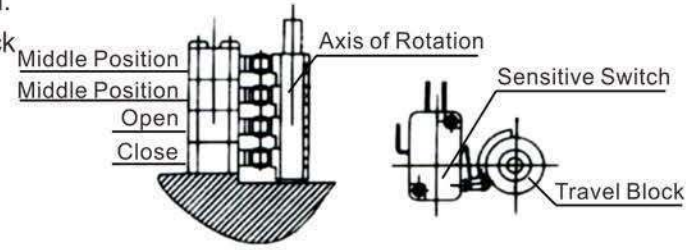
- Turn the valve to full opening position by hand.
- Loosen the screw of travel block and turn the block to drive the travel switch, then fine-tuning sensitive switch until hearing "click", after that, set screw.
- The way of adjustment full opening position is the same as above.



(Figure 6)

2. Adjustment of middle position switch (Figure 7)

- Use hand shank to drive the valve to the position it need.
- Loosen the screw of travel block and turn the travel block to drive sensitive switch, then set screw.
- These two neutral position switches' position could be adjusted according to need.



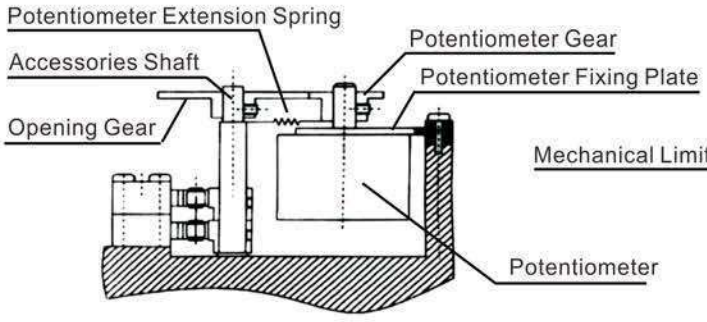
(Figure 7)

3. Adjustment of potentiometer (Figure 8)

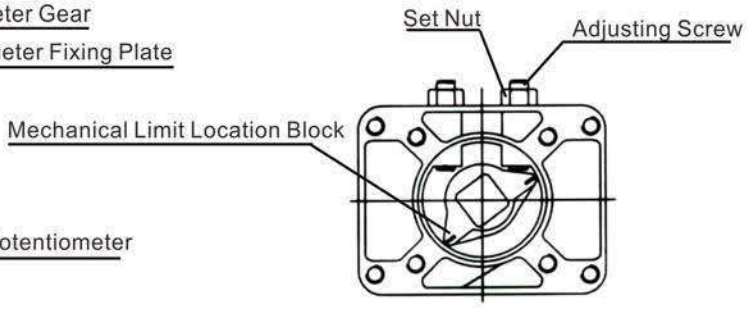
- Use hand shank to drive actuator to neutral position, and turn the pointer point to 50% scale line.
- Use multimeter to test resistance of first and third port of potentiometer (resistance between the first port and third port in potentiometer), and mark R (potentiometer default is 1KΩ ±15% if no special request).
- Separate potentiometer gear from the opening gear by suitable external force on potentiometer fixing plate.
- Put one probe of multimeter to one potentiometer terminal, the other probe to another terminal, then rotate potentiometer gear and see number in multimeter. When the resistance value is equivalent to R/2 ±2Ω, stop rotating, after that, mesh these two gears.

4. Adjustment of mechanical limit location block (Figure 9)

- Use hand shank to drive valve to full opening position and operate the switch (sensitive switch makes crack sound when it is running).
- Loosen the nut and turn the adjusting screw to touch the mechanical limit location block, then turn the adjust -ing screw a half turn back, set nut.
- Adjusting the full opening position by the same way as above.



(Figure 8)



(Figure 9)

1. Function of electrical limit and mechanical limit

① Electrical stroke limit function:

When the actuator reaches at fully opened/fully closed or the middle position, the bullt-in electrical limit switch will cut off the circuit to protect the actuator.

② Mechanical limit function of output shaft:

When electrical stroke limit function fails, output shaft Will be locked by mechanical limit to protect the valve from damage.

Figure 10 shows the position relationship between electrical limit and mechanical limit.

2. Adjustment of actuator (Figure 10)

① Adjust the over-travel limit stopper to zero position and full position, and ensure electrical limit position angle is 90°.

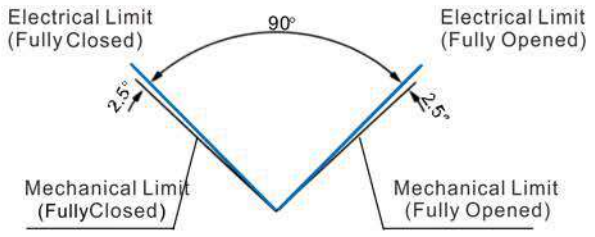
② Adjust mechanical position limitation base on electrical limit position angle.

3. Connection of actuator with servo control module

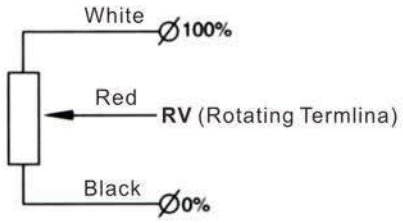
• Potentiometer installation and connection (Figure 11)

① Finish potentiometer installation and connection according to "***Commission***" in previous chapter.

② Use multimeter to check resistance of potentiometer in middle opening position, and ensure it has homogeneous continuous variable from 0-100% opening.

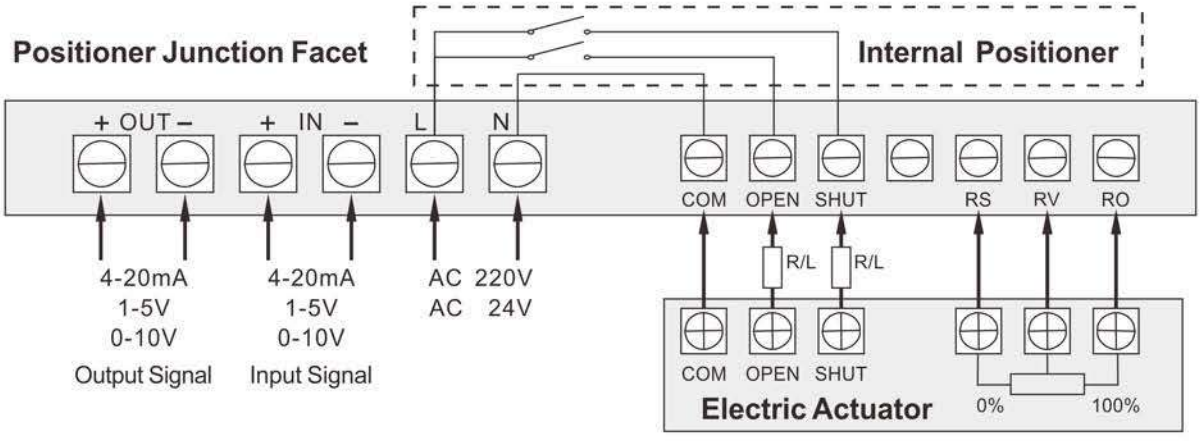


(Figure10)



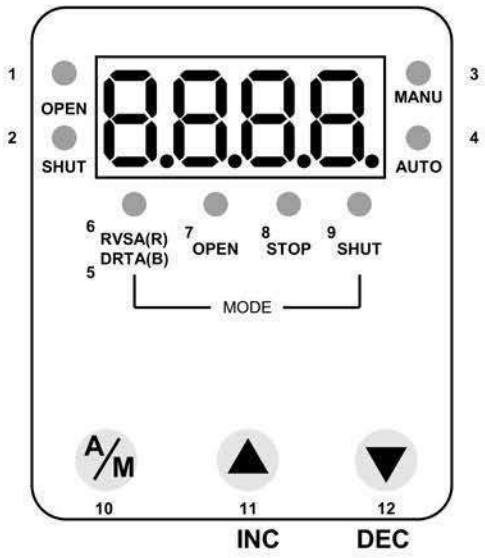
(Figure 11)

• Electrical wiring of the servo control module (Figure 12)



(Figure 12)

Module Operating Interface



Status indication	1	OPEN	Output control "open"
	2	SHUT	Output control "shut"
	3	MANU	Manual control status
	4	AUTO	Auto control status
Mode indication	5	DRTA	Operating by clockwise, the input signal is corresponding to 4mA-full position (usually we calibrate it to be full opening), 20mA-zero position (usually we set it to be full closing)
	6	RVSA	Operating by anticlockwise, the input signal is corresponding to 4mA-full position (usually we set it to be full opening), 20mA-zero position (usually we calibrate it to be full closing)
	7	OPEN	Input opening signal to make the actuator open to maximum opening degree
	8	STOP	Input stopping signal to make the actuator stop running
	9	SHUT	Input shutting signal to make the actuator shut to minimum closing degree
Button	10	A/M	Automatic or manual mode toggle key, parameter change and toggle key
	11	▲	Values increase button, it use for switching display to original set degree of opening, when it's in automatic mode, opening action when it's maual mode
	12	▼	Values decrease button, it's use for switching display to the temperature of valve positioner shell when it's in automatic mode

4. Zero Calibration

After wiring between valve positioner and actuator like Figure 12, the rotation angle has to be calibrated in the first match between positioner and actuator, after that the positioner could work correctly, the demarcation has no effect on input and output of valve positioner.

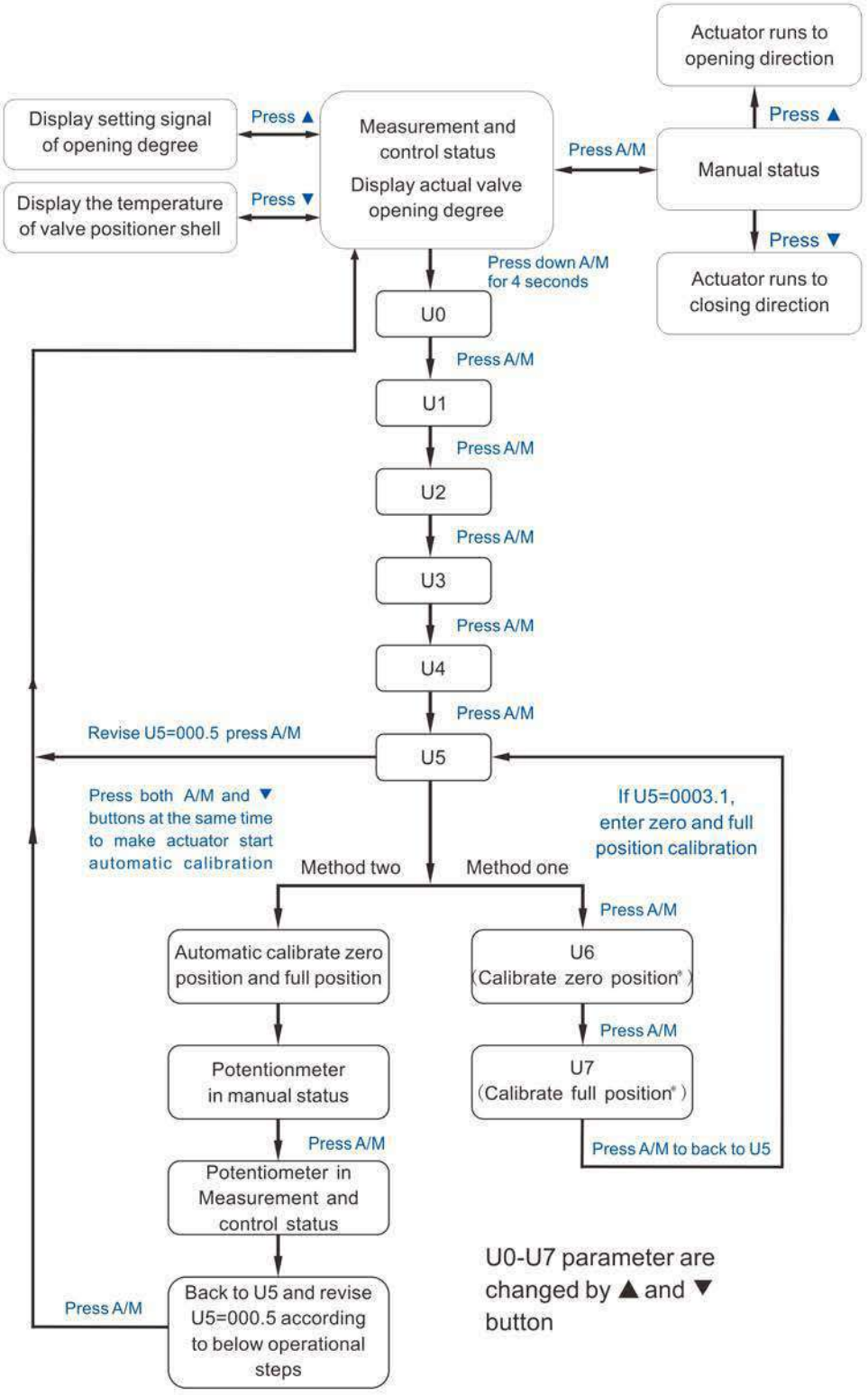
Method one: simple automatic calibration (this method request the actuator has electric limit position stopper and mechanical limit position stopper). In the automatic mode, press both A/M and buttons at the same time, then release these two buttons at the same time, the actuator will start automatic calibration and confirm the zero position (full closing) first. The valve runs to the small angle direction and reaches at minimal opening position which is judged as zero position (valve position 0.0). After that the actuator runs to maximum opening direction and reaches at maximum opening position which is judged as full position (valve position 100.0). After judgment, the actuator returns to automatic calibration and saves results by itself.

Method two: calibrate your need (this method request button idle time less than 8 seconds in the progress of calibration). In the automatic mode, press A/M button into u0 parameter, pass u1, u2, u3, u4 and into u5, revise u5=003.1, finally press A/M button.

① Enter u6, press ▲ or ▼ button to make actuator to run to "open" or "shut" direction, meanwhile, the screen shows the situation of actual valve opening degree is increasing or decreasing. If the opening arrival at Zero position that it's your expected position (you can see it if actuator is already assembled valve body, and the valve is set in full closing position in general), press A/M button to confirm it, enter u7 parameter.

② In u7 parameter, press▲ or ▼ to run to your expected full position in the same way, and press A/M to confirm full position (you can see it If actuator is already assembled valve body, and the valve is set in full opening position in general), then back to u5.

③ Revise u-00.5 and back to measurement and control status.



NOTE: Each parameters of regulation type actuator have already been calibrated before leaving factory. Do not alter it unless it must. If really do, please read it carefully before commissioning.

5. Error message and solution

Error Code	Meaning
E-01	For example, the signal of zero position is calibrate to be 4mA, but the given current ≤3.0mA. The actuator will start signal interrupt handler and show E-01 in screen
E-03	①Signal feedback lines of valve positioner and actuator are inversely connected ②Switch lines are inversely connect
E-05	The actuator has large oscillation because of input signal or feedback signal unstable, too high precision, etc
E-06	The actuator isn't able to open direction
E-07	The actuator isn't able to run to shut direction
E-08	The Internal temperature of positioner is higher than 80°C

Maintenance

① No extra oil required because the molybdenum grease we put are with long service life and high with-stand voltage.

② Please take periodical inspection to the actuator if you don‘t use it frequently.

Troubleshooting

Fault phenomenon	Possible reason	Solution
Motor does not start	Lacking of power supply	Connect the actuator to power supply
	Electric wire broken, wiring terminals loose	Repair the wire, tighten wiring terminals
	Supply voltage is wrong or below level	Check the voltage is correct or wrong
	Overheat protector activated (ambient temperature is too high, the valve is stuck)	Reduce ambient temperature, manually open/close the valve to see if it is working
	Limit switch disfunction	Replace the limit switch
	Capacitance doesn't start or running	Replace the capacitance
Opening & closing Indicator light doesn’t light	Indicator light is broken	Replace the indicator light
	Limit switch disfunction	Replace the limit switch
	Adjusting of block disfunction	Readjustment
Opening degree changing constantly	Signal source has interference signal	Check input signal
	Voltage divider generated interference	Replace the potentiometer
	Voltage divider gear or opening gear loose	Tightening up the screws of gear

SOLENOID VALVE

ELECTRIC VALVE

PNEUMATIC VALVE

SPECIALIZED FLUID CONTROL VALVE MANUFACTURER

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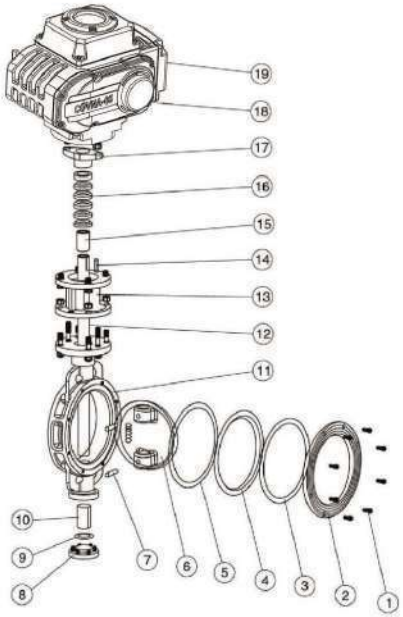


技术规范 Technical Parameter

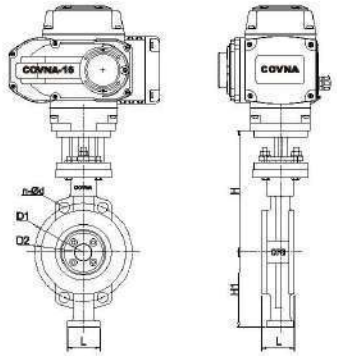
		GB	ANSI
设计依据 Design Basis		GB	ANSI
设计标准 Design Standard		GB/12238	API609
结构长度 Face to Face Dimension	对夹 连接 Water Connecting	GB/12221	ANSI B16.10
连接法兰尺寸 Connecting Flange Size		GB/9113 JB/T79	ANSI B16.5(2–24") ANSI B16.47(26–32")
试验和检验 Test & Inspection		JB/T9092	API 598

※注：系列蝶阀结构长度及连接法兰尺寸可根据用户要求设计制造。
Note: The structural length and connecting flange size of butterfly valve series can be designed and manufactured as per users'requirments.

主要零件材质表 Main Parts Materials

序号 No.	零件名称 Name	材质 Material		
		C	P	R
1	内六角螺钉 Inner Hexagon Screw	1Cr18Ni9Ti	1Cr18Ni9Ti	1Cr1812Mo2Ti
2	阀盖 Bonnet	WCB	1Cr18Ni9Ti	ZG1Cr18Ni12Mo2Ti
3	垫片 Gasket	1Cr18Ni9Ti	1Cr18Ni9Ti	1Cr1812Mo2Ti
4	阀座 Seat	不锈钢+柔性石墨 PTFE Stainless Steel+Graphite PTFE		
5	垫片 Gasket	1Cr18Ni9Ti	1Cr18Ni9Ti	1Cr1812Mo2Ti
6	蝶板 Butterfly Plate	WCB	ZG1Cr18Ni9Ti	ZG1Cr18Ni12Mo2Ti
7	圆柱销 Straight Pin	45	1Cr18Ni9Ti	1Cr1812Mo2Ti
8	下盖 Bottom Cover	WCB	ZG1Cr18Ni9Ti	ZG1Cr18Ni12Mo2Ti
9	垫片 Gasket	不锈钢+柔性石墨 PTFE Stainless Steel+Graphite PTFE		
10	衬套 Bushing	PTFE复合轴承 Composite bearings		
11	阀体 Body	WCB	ZG1Cr18Ni9Ti	ZG1Cr18Ni12Mo2Ti
12	阀杆 Stem	1Cr13	1Cr18Ni9Ti	ZG1Cr18Ni9Ti
13	支架 Yoke	WCB	WCB	WCB
14	键 Key	45	45	45
15	衬套 Bushing	PTFE复合轴承 Composite Bearings		
16	填料 Packing	柔性石墨 PTFE Graphite PTFE		
17	压务 Gland	WCB	ZG1Cr18Ni9Ti	ZG1Cr18Ni12Mo2Ti
18	气动执行器 Pneumatic Actuator	AT Series AW Series		
19	位置指示器 Location Indicator	塑料 Plastic		

※注：系列蝶阀主要零部件及密封圈的材质可根据实际工况条件或用户特殊要求设计选用。
Note: The Materials for main parts and ball seats of the butterfly valve series can be designed and optioned as per the actual working conditions and users'special requirements.



主要外形及连接尺寸 GB–PN16(1.6MPa)
Main Outline and Connecting Size

MEDLE	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500
Inch	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"
D	83	104.2	123.3	157	202.5	250.5	301.6	333.3	389.6	449.5	491.6
D1	160	180	210	240	295	355	410	410	525	585	620
D2	132	156	184	211	266	319	370	429	480	548	582
L	49	56	64	70	71	76	83	83	102	114	127
H	260	298	315	325	380	435	475	475	580	620	660
H1	114	128	148	170	188	235	265	265	335	380	410
n–Φd	4-Φ18	8-Φ18	8-Φ18	8-Φ22	12-Φ23	12-Φ26	12-Φ26	12-Φ26	16-Φ30	20-Φ30	20-Φ33

主要外形及连接尺寸 ANSI–Class 150
Main Outline and Connecting Size

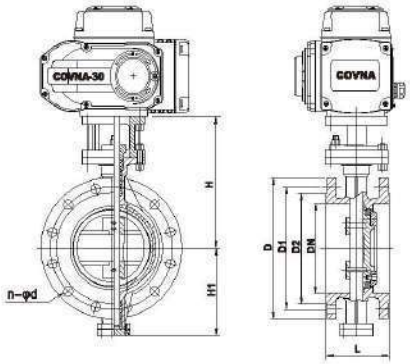
MEDLE	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500
Inch	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"
D	83	104.2	123.3	157	202.5	250.5	301.6	333.3	389.6	449.5	491.6
D1	152.4	190.5	215.9	241.3	298.5	362	431.8	476.3	539.8	577.9	635
D2	132	156	184	211	266	319	370	429	480	548	582
L	49	56	64	70	71	76	83	83	102	114	127
H	260	298	315	325	380	435	475	475	580	620	660
H1	114	128	148	170	188	235	265	265	335	380	410
n–Φd	4-Φ18	8-Φ18	8-Φ18	8-Φ22	12-Φ23	12-Φ26	12-Φ26	12-Φ26	16-Φ30	20-Φ30	20-Φ33

*注：
系列球阀结构长度及连接法兰尺寸可根据JB/T79标准或要求设计制造。
根据不同的扭矩、介质，选配的执行器型号及尺寸可能有所不同。
以上执行器配置数据均来自软密封(F, N, P)阀门，硬密封阀门的配置及数据请咨询本公司。

Note:
JB/T79 standard accepted.
The actuator model vary with different output torque and medium.
Above data are all on basis of soft–sealed valves(F, N, P), contact COVNA for hard–sealed valves data.

电动硬密封法兰蝶阀

Electric hard seal flange butterfly valve



主要外形及连接尺寸 HK59DS
Main Outline and Connecting Size

DN	Inch	L	1.6 MPa				2.5 MPa				150LB				300LB				High	
			D	D1	D2	Z-ød	D	D1	D2	Z-ød	D	D1	D2	Z-ød	D	D1	D2	Z-ød	H	H1
50	2"	108	165	125	102	4-ø18	165	125	102	4-ø18	150	120.7	92	4-ø19	165	127	92	8-ø19	130	96
65	2-1/2"	112	185	145	122	4/8-ø18	185	145	122	8-ø18	180	137.7	105	4-ø19	190	149.2	105	8-ø22	145	97
80	3"	114	200	160	138	8-ø18	200	160	138	8-ø18	190	152.4	127	4-ø19	210	168.3	127	8-ø22	167	108
100	4"	127	220	180	158	8-ø18	235	190	162	8-ø22	230	190.5	157	8-ø19	255	200	157	8-ø22	195	128
125	5"	140	250	210	188	8-ø18	270	220	188	8-ø26	255	215.9	186	8-ø22	280	235	186	8-ø22	240	145
150	6"	140	285	240	212	8-ø22	300	250	218	8-ø26	280	241.3	216	8-ø22	320	269.9	216	12-ø22	260	168
200	8"	152	340	295	268	12-ø22	360	310	278	12-ø26	345	298.5	270	8-ø22	380	330.2	270	12-ø26	290	190
250	10"	165	405	355	320	12-ø26	425	370	335	12-ø30	405	362	324	12-ø26	445	387.4	324	16-ø29	310	235
300	12"	178	460	410	378	16-ø26	485	430	305	16-ø30	485	431.8	381	12-ø26	520	450.8	381	16-ø32	380	266
350	14"	190	520	470	438	16-ø26	555	490	450	16-ø33	535	476.3	413	12-ø29	585	514.4	413	20-ø32	435	300
400	16"	216	580	525	490	16-ø30	620	550	505	16-ø36	595	539.8	470	16-ø29	650	571.5	470	20-ø35	460	330
450	18"	222	640	585	550	20-ø30	670	600	555	20-ø36	635	577.9	533	16-ø32	710	628.6	533	24-ø35	485	355
500	20"	229	715	650	610	20-ø33	730	660	615	20-ø36	700	635	584	20-ø32	775	685.8	584	24-ø35	520	385
600	24"	267	840	770	725	20-ø36	845	770	720	20-ø39	815	749.3	692	20-ø35	915	812.8	692	24-ø42	610	455
700	28"	292	910	840	795	24-ø36	960	875	820	24-ø42	925	863.6	800	28-ø35	1035	939.8	800	28-ø45	675	505

*注：
系列球阀结构长度及连接法兰尺寸可根据JB/T79标准或要求设计制造。
根据不同的扭矩、介质，适配的执行器型号及尺寸可能有所不同。
以上执行器配置数据均采集自软密封(F, N, P)阀门，硬密封阀门的配置及数据请咨询本公司。

Note:
JB/T79 standard accepted.
The actuator model vary with different output torque and medium.
Above data are all on basis of soft-sealed valves(F, N, P), contact COVNA for hard-sealed valves data.

科威納 COVNA®

防爆电动阀
Explosion-proof Electric Valve

防爆PVC球阀
Explosion-Proof Electric PVC Ball Valve

防爆三片式球阀
2 Way Explosion-Proof Electric Ball Valve

防爆三通螺纹球阀
3 Way Explosion-Proof Electric Ball Valve

防爆二通法兰球阀
Explosion-Proof Electric
2 Way Flange Ball Valve

防爆三通法兰球阀
Explosion-Proof Electric
3 Way Flange Ball Valve

防爆V型法兰球阀
Explosion-Proof Electric
V Type Flange Ball Valve

防爆对夹蝶阀
Explosion-Proof Electric
butterfly valve

防爆法兰蝶阀
Explosion-Proof Electric
flange butterfly valve

防爆硬密封蝶阀
Explosion-Proof Electric
hard seal flange butterfly valve

COVNA®
— VALVE —

Penumatic 2 Way Ultrahigh Pressure Ball Valve

Introduction

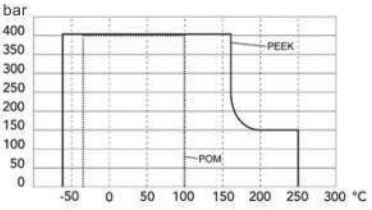
Ultrahigh pressure ball is adopt ball core rotate 90 degrees to open or close the valve, the brick, high pressure forging with German import seal assembly, provided by initial seal, stainless steel butterfly spring cushion packing seal surface enhanced with medium pressure rise, self sealing performance is strong, super high pressure ball valve can be used in the ultra high pressure liquid, ultrahigh pressure gas or the mixture of main application industry has ultrahigh pressure testing machine, pneumatic pumps, hydraulic pump, deep-sea detectors.

Pneumatic Actuator

Double acting	Air to open, air to close, air supply failure to keep the current position
Single Acting N/C	Air to open, interrupt air to close, air failure to close
Single Acting N/O	Air to close, interrupt air to open, air failure to open
Optional accessory	Reversing solenoid valve, limit switch box, air filter reducing valve, positioner, handle manual, lock up valve

Technical Parameters

Body		Valve components	
Size Range	DN08-DN50	Seating Material	PTFE: -20℃~180℃
Body material	SS304 SS316 SS316 L	Core Material	Stainless Steel
End Connection	Thread	Stem Material	Stainless Steel
Operating Pressure	PN10.0~40.0MPa	Applicable media	Ultra high pressure liquid, Ultra high pressure gas,Oil Or a mixture thereof
Structure	Floating ball core		

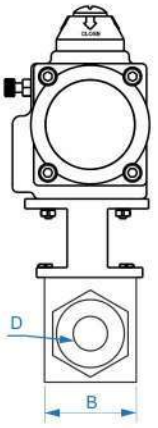


Druck Temperatur Diagramm

Qutine Size drawing

UNIT: mm

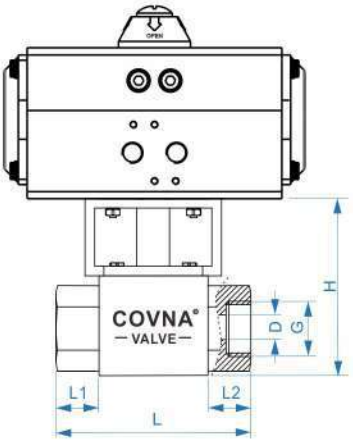
MEDLE	DN08	DN10	DN15	DN20	DN25	DN32	DN40	DN50
G	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
D	6	8	10	14.6	19.6	24.8	30	39.6
B	45	45	45	55	66	77	95	
H	43	43	43	53	64	70	79	
L	80	80	82	101	120	127	150	
L1	19	19	20	25	29	30	28	
L2	19	19	20	25	29	30	28	



Maintenance

- Tightening the seal between the valve and the actuator:
  Remove the four bolts underneath the actuator. Separate the actuator from the valve.
  Tighten the nut on the top of the valve body.
  Place the actuator back on the valve and screw everything back into place.

- Tightening the seals between the valve and the inlet/outlet ports:
  Remove the torque bolts and check for any debris or damage to the gaskets.
  Use a torque wrench or other consistent method of tightening the torque bolts to reconnect the inlet and outlet ports.



COVNA®
VALVE

Penumatic 3 Way Ultrahigh Pressure Ball Valve

Introduction

Ultrahigh pressure ball is adopt ball core rotate 90 degrees to open or close the valve, the brick, high pressure forging with German import seal assembly, provided by initial seal, stainless steel butterfly spring cushion packing seal surface enhanced with medium pressure rise, self sealing performance is strong, super high pressure ball valve can be used in the ultra high pressure liquid, ultrahigh pressure gas or the mixture of main application industry has ultrahigh pressure testing machine, pneumatic pumps, hydraulic pump, deep-sea detectors.

Pneumatic Actuator

Double acting	Air to open, air to close, air supply failure to keep the current position
Single Acting N/C	Air to open, interrupt air to close, air failure to close
Single Acting N/O	Air to close, interrupt air to open, air failure to open
Optional accessory	Reversing solenoid valve, limit switch box, air filter reducing valve, positioner, handle manual, lock up valve

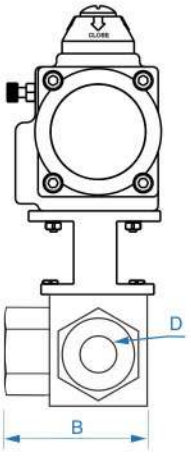
Technical Parameters

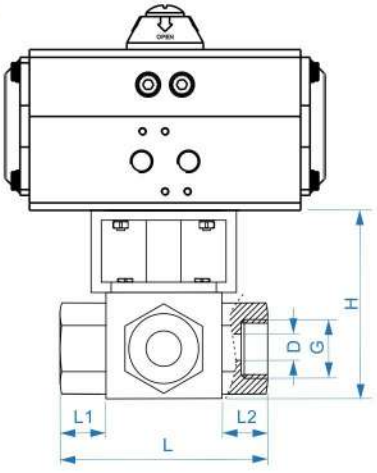
Body		Valve components	
Size Range	DN08-DN50	Seating Material	PTFE: -20℃~180℃
Body material	SS304 SS316 SS316 L	Core Material	Stainless Steel
End Connection	Female Thread	Stem Material	Stainless Steel
Operating Pressure	PN10.0~40.0MPa	Applicable media	Ultra high pressure liquid, Ultra high pressure gas,Oil Or a mixture thereof
Structure	Floating ball core		

Qutine Size drawing

UNIT: mm

MEDLE	DN08	DN10	DN15	DN20	DN25	DN32	DN40	DN50
G	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
D	8	10	15	20	25	32	40	50
B	64	64	65	80	95	107	123	
H	43	43	43	53	64	70	79	
L	80	80	82	101	120	127	150	
L1	19	19	20	25	29	30	28	
L2	19	19	20	25	29	30	28	





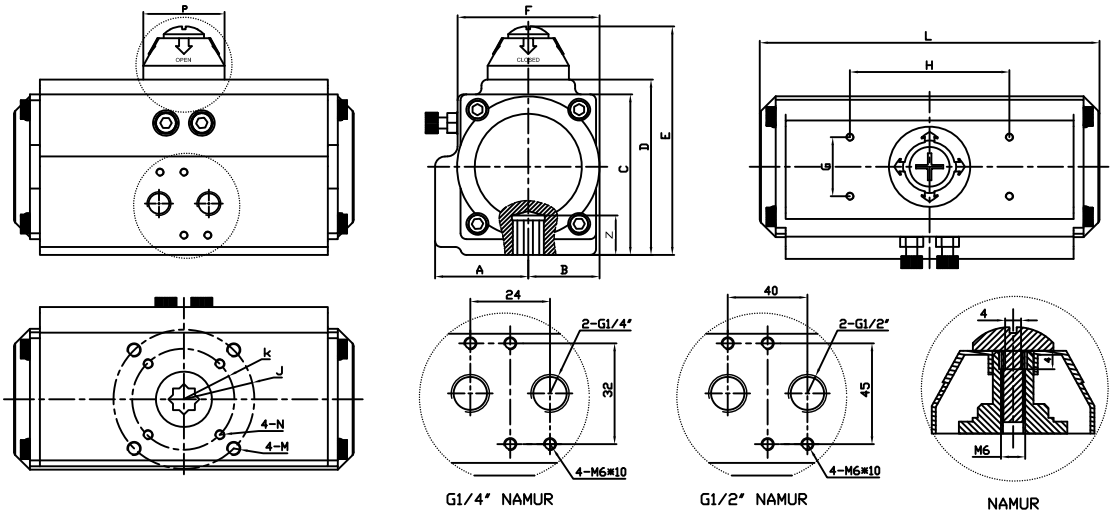
Maintenance

- Tightening the seal between the valve and the actuator:
  Remove the four bolts underneath the actuator. Separate the actuator from the valve.
  Tighten the nut on the top of the valve body.
  Place the actuator back on the valve and screw everything back into place.

- Tightening the seals between the valve and the inlet/outlet ports:
  Remove the torque bolts and check for any debris or damage to the gaskets.
  Use a torque wrench or other consistent method of tightening the torque bolts to reconnect the inlet and outlet ports.

COVNA®
— VALVE —

Pneumatic Actuator



Introduction

1. Operating media: Dry or lubricated air, or the non–corrosive gases The maximum particle diameter must less than 30 u m
2. Air supply pressure: The minimum supply pressure is 2.5 Bar The maximum supply pressure is 8 Bar
3. Operating temperature: Standard: –20° c~+ 80° c Low temperature: –35° c ~ +80° c High temperature: –15° c ~ M50° c
4. Travel adjustment: Have adjustment range of ±5° for the rotation at 0° and 90°

Qutline Size drawing

MODEL	A	B	C	D	E	F	G	H	J	K	N	M	L	P	Z	Air Hole
AT52	30	42.5	65.5	72.4	92.5	50.5	30	80	Ø36	Ø50	M5×8	M6×10	150	42	14	NAMUR G1/4"
AT63	36	47	81	88.5	98.5	69.5	30	80	Ø50	Ø70	M6×10	M8×13	171	42	18	NAMUR G1/4"
AT75	42.5	53	93	100	120	78	30	80	Ø50	Ø70	M6×10	M8×13	186	42	18	NAMUR G1/4"
AT83	46.5	57	98.5	109.7	129.5	86	30	80	Ø50	Ø70	M6×10	M8×13	206	42	21	NAMUR G1/4"
AT92	50	58	106	117	137	90	30	80	Ø50	Ø70	M6×10	M8×13	265	42	21	NAMUR G1/4"
AT105	57.5	64	122.5	135	155	104.5	30	80	Ø70	Ø102	M8×13	M10×16	272	42	27	NAMUR G1/4"
At125	67.5	74.5	145.5	157	177	120.5	30	80	Ø70	Ø102	M8×13	M10×16	304	60	27	NAMUR G1/4"
AT140	75.5	75.5	161	174	194	125	30	80	Ø102	Ø125	M10×16	M12×20	395	60	32	NAMUR G1/4"
AT160	87	87	184	198	228	143	30	80	Ø102	Ø125	M10×16	M12×20	462	60	32	NAMUR G1/4"
AT190	103	103	216	232	262	172	30	130	Ø102	Ø140	M10×16	M16×25	520	85	40	NAMUR G1/4"
AT210	113	113	235.5	257	287	194	30	130	Ø102	Ø140	M10×16	M16×25	538	85	40	NAMUR G1/4"
AT240	130	130	235.5	292	322	230	30	130		Ø165		M20×30	592	90	50	NAMUR G1/4"
AT270	147	147	235.5	331	361	253	30	130		Ø165		M20×30	713	90	50	NAMUR G1/2"
AT300	161	168	235.5	354	384	290	30	130	Ø165	Ø215	M20×30	M20×30	771	90	50	NAMUR G1/2"

Common faults and inspection, troubleshooting

Failure Phenomenon	Inspection Items	Solution
Pneumatic Valve Can Not Move	The electromagnetic valve is normal, Coil is burned, electromagnetic valve Is stuck being stolen	Solenoid valve replacement, Replacement coils, remove stolen Property.
	A separate air supply pneumatic Actuator test check seals and Whether the cylinderis damaged.	Replace a bad ring and cylinder.
	There are impurities in the spool Valve stuck.	Remove impurities, replace Damaged parts.
	the handle in a manual hand motor location.	Interchange
Slow Motion, Crawling	Supply pressure is not enough.	The increase of gas supply pressure(0 4–0.7mpa)
	Pneumatic actuator outputtorque is Too small.	Increase the pneumatic actuator Production.
	The valve spool or valve assembly too tight.	Re–assembly adjustments.
	Air supply pipe plug, flow is toosmall.	Exclude plug, replace the filter cartridge.
Reply Devices Without Signal	power line short circuit or open circuit.	Maintenance of power lines.
	reply within the cam position is not accurate.	Adjust the cam to the correct location
	Micro switch damaged.	Replacement micro switch

SOLENOID VALVE

ELECTRIC VALVE

PNEUMATIC VALVE

SPECIALIZED FLUID CONTROL VALVE MANUFACTURER

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E-mail: sales@covnavalve.com

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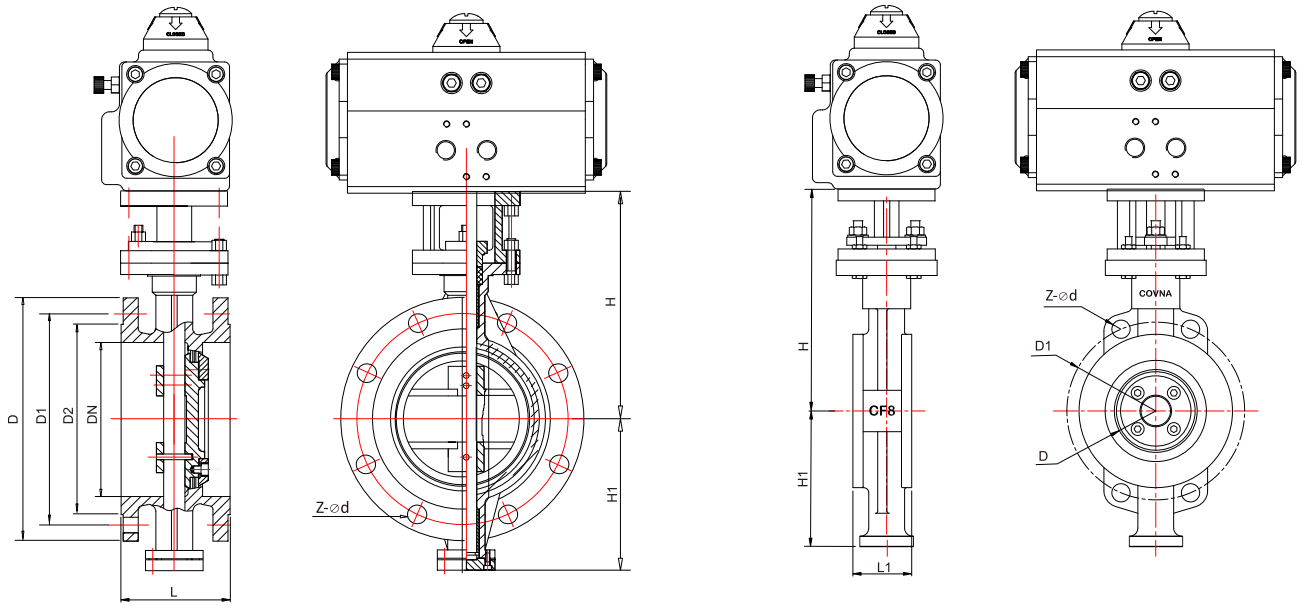
www.covnaactuator.com

COVNA®

Hard seal butterfly valve



Type		Length		1.6 MPa				2.5 MPa				150LB				300LB				High	
DN	NPS	L	L1	D	D1	D2	Z-∅d	D	D1	D2	Z-∅d	D	D1	D2	Z-∅d	D	D1	D2	Z-∅d	H	H1
50	2"	108	43	165	125	102	4-∅18	165	125	102	4-∅18	150	120.7	92	4-∅19	165	127	92	8-∅19	130	96
65	2-1/2"	112	46	185	145	122	4/8-∅18	185	145	122	8-∅18	180	137.7	105	4-∅19	190	149.2	105	8-∅22	145	97
80	3"	114	48	200	160	138	8-∅18	200	160	138	8-∅18	190	152.4	127	4-∅19	210	168.3	127	8-∅22	167	108
100	4"	127	53	220	180	158	8-∅18	235	190	162	8-∅22	230	190.5	157	8-∅19	255	200	157	8-∅22	195	128
125	5"	140	58	250	210	188	8-∅18	270	220	188	8-∅26	255	215.9	186	8-∅22	280	235	186	8-∅22	240	145
150	6"	140	58	285	240	212	8-∅22	300	250	218	8-∅26	280	241.3	216	8-∅22	320	269.9	216	12-∅22	260	168
200	8"	152	67/71	340	295	268	12-∅22	360	310	278	12-∅26	345	298.5	270	8-∅22	380	330.2	270	12-∅26	290	190
250	10"	165	74	405	355	320	12-∅26	425	370	335	12-∅30	405	362	324	12-∅26	445	387.4	324	16-∅29	310	235
300	12"	178	83	460	410	378	16-∅26	485	430	305	16-∅30	485	431.8	381	12-∅26	520	450.8	381	16-∅32	380	266
350	14"	190	92	520	470	438	16-∅26	555	490	450	16-∅33	535	476.3	413	12-∅29	585	514.4	413	20-∅32	435	300
400	16"	216	102	580	525	490	16-∅30	620	550	505	16-∅36	595	539.8	470	16-∅29	650	571.5	470	20-∅35	460	330
450	18"	222	114	640	585	550	20-∅30	670	600	555	20-∅36	635	577.9	533	16-∅32	710	628.6	533	24-∅35	485	355
500	20"	229	127	715	650	610	20-∅33	730	660	615	20-∅36	700	635	584	20-∅32	775	685.8	584	24-∅35	520	385
600	24"	267	154	840	770	725	20-∅36	845	770	720	20-∅39	815	749.3	692	20-∅35	915	812.8	692	24-∅42	610	455
700	28"	292	165	910	840	795	24-∅36	960	875	820	24-∅42	925	863.6	800	28-∅35	1035	939.8	800	28-∅45	675	505

COVNA®
— VALVE —

Pneumatic Flange butterfly valve

Introduction

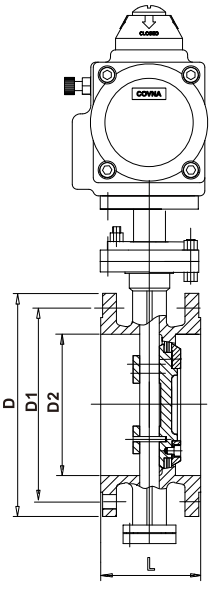
According to the sealing performance, pneumatic butterfly valve can be divided into metal seal and soft seal type. Advantages pneumatic butterfly valve over other type valves may include:compact structure，miniature size，long servise life，good sealing performance，easy maintenance，quick detachable and installation。

Electric Actuator

Double acting	Air to open, air to close, air supply failure to keep the current position
Single Acting N/C	Air to open, interrupt air to close, air failure to close
Single Acting N/O	Air to close, interrupt air to open, air failure to open
Optional accessory	Reversing solenoid valve, limit switch box, air filter reducing valve, positioner, handle manual, lock up valve

Technical Parameters

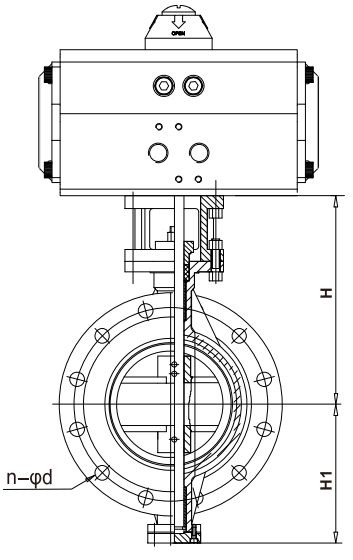
Body		Valve components	
Size Range	DN50-DN600	Seating Material	PTFE, Metal
Body material	SS, CI, Ductile Iron, WCB	Disc Material	Stainless Steel, WCB
End Connection	Flange	Stem Material	Stainless Steel, WCB
Operating Pressure	<1.6MPa	Applicable media	Control of Water, Air, Gas, Oil, Liquid, Steam
Structure	Midline Structure / A-type		



Qutine Size drawing

UNIT: mm

MEDLE	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN500
Inch	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	20"
D	52.7	64.4	83	104.2	123.3	157	202.5	250.5	301.6	333.3	389.6	491.6
D1	165	185	200	220	250	285	340	395	445	505	565	670
D2	125	145	160	180	210	240	295	355	410	470	525	620
D3	99	118	132	156	184	211	266	319	370	429	480	582
L	108	112	114	127	140	140	150	165	185	195	216	229
H	130	145	167	195	240	260	310	380	435	460	485	520
H1	86	97	108	128	145	168	235	266	300	330	355	385
n–φd	4–φ18	4–φ18	8–φ18	8–φ18	8–φ18	8-φ22	8-φ22	12-φ22	12-φ22	16-φ22	16-φ26	20-φ26



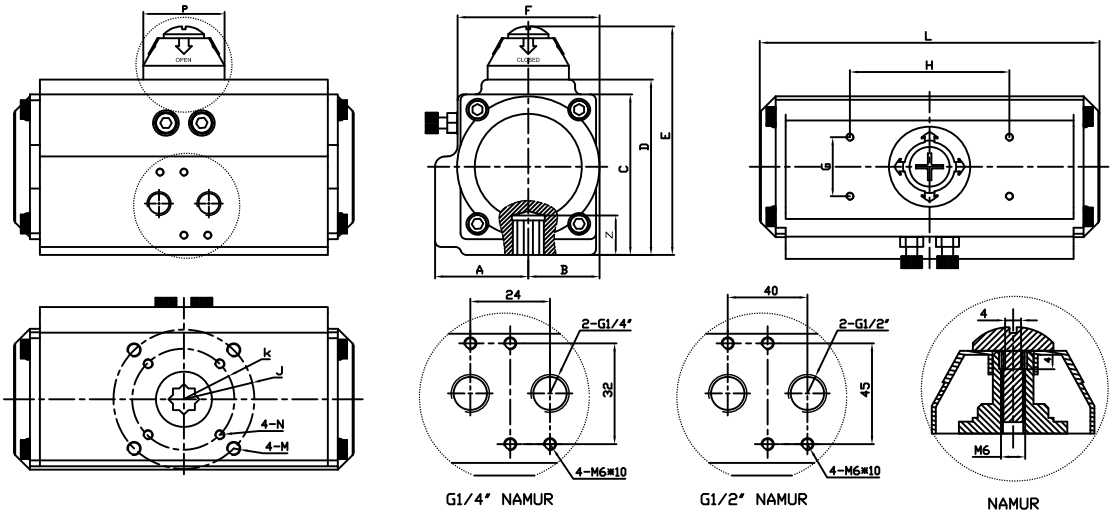
Installation Instruction

- Tightening the seal between the valve and the actuator:
  Remove the four bolts underneath the actuator. Separate the actuator from the valve.
  Tighten the nut on the top of the valve body.
  Place the actuator back on the valve and screw everything back into place.

- Tightening the seals between the valve and the inlet/outlet ports:
  Remove the torque bolts and check for any debris or damage to the gaskets.
  Use a torque wrench or other consistent method of tightening the torque bolts to reconnect the inlet and outlet ports.

COVNA®
— VALVE —

Pneumatic Actuator



Introduction

1. Operating media: Dry or lubricated air, or the non–corrosive gases The maximum particle diameter must less than 30 u m
2. Air supply pressure: The minimum supply pressure is 2.5 Bar The maximum supply pressure is 8 Bar
3. Operating temperature: Standard: –20° c~+ 80° c Low temperature: –35° c ~ +80° c High temperature: –15° c ~ M50° c
4. Travel adjustment: Have adjustment range of ±5° for the rotation at 0° and 90°

Qutline Size drawing

MODEL	A	B	C	D	E	F	G	H	J	K	N	M	L	P	Z	Air Hole
AT52	30	42.5	65.5	72.4	92.5	50.5	30	80	Ø36	Ø50	M5×8	M6×10	150	42	14	NAMUR G1/4"
AT63	36	47	81	88.5	98.5	69.5	30	80	Ø50	Ø70	M6×10	M8×13	171	42	18	NAMUR G1/4"
AT75	42.5	53	93	100	120	78	30	80	Ø50	Ø70	M6×10	M8×13	186	42	18	NAMUR G1/4"
AT83	46.5	57	98.5	109.7	129.5	86	30	80	Ø50	Ø70	M6×10	M8×13	206	42	21	NAMUR G1/4"
AT92	50	58	106	117	137	90	30	80	Ø50	Ø70	M6×10	M8×13	265	42	21	NAMUR G1/4"
AT105	57.5	64	122.5	135	155	104.5	30	80	Ø70	Ø102	M8×13	M10×16	272	42	27	NAMUR G1/4"
At125	67.5	74.5	145.5	157	177	120.5	30	80	Ø70	Ø102	M8×13	M10×16	304	60	27	NAMUR G1/4"
AT140	75.5	75.5	161	174	194	125	30	80	Ø102	Ø125	M10×16	M12×20	395	60	32	NAMUR G1/4"
AT160	87	87	184	198	228	143	30	80	Ø102	Ø125	M10×16	M12×20	462	60	32	NAMUR G1/4"
AT190	103	103	216	232	262	172	30	130	Ø102	Ø140	M10×16	M16×25	520	85	40	NAMUR G1/4"
AT210	113	113	235.5	257	287	194	30	130	Ø102	Ø140	M10×16	M16×25	538	85	40	NAMUR G1/4"
AT240	130	130	235.5	292	322	230	30	130		Ø165		M20×30	592	90	50	NAMUR G1/4"
AT270	147	147	235.5	331	361	253	30	130		Ø165		M20×30	713	90	50	NAMUR G1/2"
AT300	161	168	235.5	354	384	290	30	130	Ø165	Ø215	M20×30	M20×30	771	90	50	NAMUR G1/2"

Common faults and inspection, troubleshooting

Failure Phenomenon	Inspection Items	Solution
Pneumatic Valve Can Not Move	The electromagnetic valve is normal, Coil is burned, electromagnetic valve Is stuck being stolen	Solenoid valve replacement, Replacement coils, remove stolen Property.
	A separate air supply pneumatic Actuator test check seals and Whether the cylinderis damaged.	Replace a bad ring and cylinder.
	There are impurities in the spool Valve stuck.	Remove impurities, replace Damaged parts.
	the handle in a manual hand motor location.	Interchange
Slow Motion, Crawling	Supply pressure is not enough.	The increase of gas supply pressure(0 4–0.7mpa)
	Pneumatic actuator outputtorque is Too small.	Increase the pneumatic actuator Production.
	The valve spool or valve assembly too tight.	Re–assembly adjustments.
	Air supply pipe plug, flow is toosmall.	Exclude plug, replace the filter cartridge.
Reply Devices Without Signal	power line short circuit or open circuit.	Maintenance of power lines.
	reply within the cam position is not accurate.	Adjust the cam to the correct location
	Micro switch damaged.	Replacement micro switch

SOLENOID VALVE

ELECTRIC VALVE

PNEUMATIC VALVE

SPECIALIZED FLUID CONTROL VALVE MANUFACTURER

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www.covnaactuator.com

High Pressure Piston Pilot Operated

Characteristic: 1. High pressure solenoid valve with Pilot operated piston construction for compress air machine, injecting plastic machine
2. With PARKER seals to improve the quality

Medium: Water, Hot Water, Compressed Air, Oil, <20CST,GAS>
Temperature: PTFE Seal:-10℃ to 180℃
Pressure: 0.1MPa~25.0Mpa
Port Size: 1/4",3/8" , 1/2",
Port Thread: BSPP, BSPT, NPT
Orifice(mm): 1.2, 2.0, 2.5, 3.0
Voltage: DC-12V, 24V
AC-24V, 120V, 240V/60Hz; 110V, 220V/50Hz
Tolerance: ±10%
Coils: S21B, 24VA(AC), 18W(DC), Ip65, 100%ED
Material: Body - Stainless Steel 304
Seal - PTFE
Armature Tube - Stainless Steel304
Plunger - Stainless Steel 430F
Stop - SUS 403F
Springs - SUS 304
Shading Rings - Stainless Steel 304

Determine Valve Body Code

Type	Orifice mm	Port size	Port thread	Body	Seal	Voltage
HKKB	1.2, 2.0 2.5, 3.0	1/4" 3/8" 1/2"	G - G/BSP N - NPT thread	S - Stainless steel	T - PTFE	1.AC220V 2.DC24V 3.AC110V 4.DC12V 5.AC24V 6.DC6V

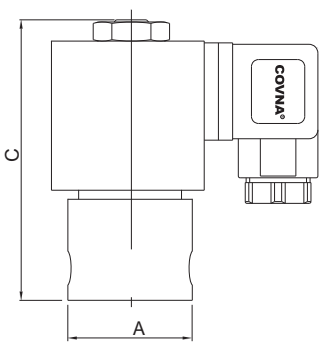
EXMAPLE: NC, 3.0MM ORIFICE, 1/4"G, STAINLESS STEEL BODY, PET SEAL, COIL S21B, AC220V, DIN

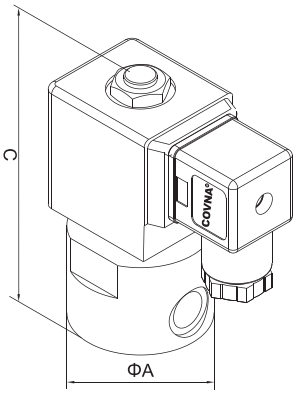
Technical Parameters

Size	Port Size	Orifice mm	Cv	Min Pressure	Max Presuure		Seals Material	Body Material	Coil
					AC(24VA)	DC(18W)			
HKKB-08	1/4"	1.2	0.03	0.1MPa	25MPa	25MPa	PTFE	SS304	S21B
HKKB-08	1/4"	2.0	0.09	0.1MPa	25MPa	25MPa			
HKKB-10	3/8"	2.5	0.15	0.1MPa	25MPa	25MPa			
HKKB-15	1/2"	3.0	0.24	0.1MPa	25MPa	10MPa			

Outline Size Drawing

Size	A	C
HKKB-1/4"	53	148
HKKB-3/8"	53	148
HKKB-1/2"	53	148





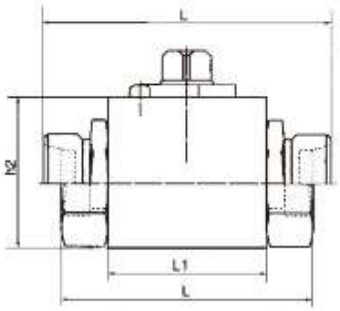
COVNA®

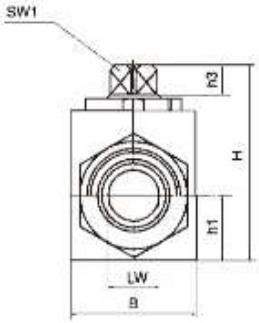
High pressure block ball valve

socket connection on both side

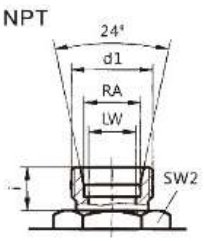
in accordance with

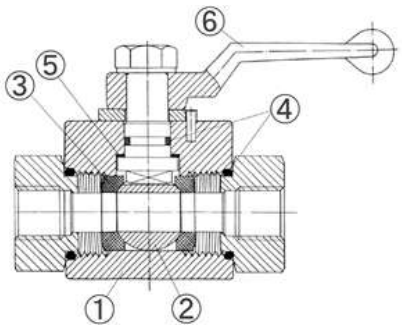
DIN-ISO 228/1





technical product sheet

连接形式/Lever Type	型 号/Model	PN	DN	LW	RA	d1	i	L	L1	B	H	h1	h2	h3	SW1	SW2
NPT 	KHB-NPT1/8	500	6	6	-	NPT1/8	10	69	35	25	48	13	35	8	9	19
	KHB-NPT1/4	500	8	6	-	NPT1/4	14	69	35	25	48	13	35	8	9	22
	KHB-NPT3/8	500	10	10	-	NPT3/8	14	72	42	32	53	17	40	8	9	27
	KHB-NPT1/2	500	15	12	-	NPT1/2	16	82	47	35	53	17	40	8	9	30
	KHB-NPT1/2	400	15	15	-	NPT1/2	16	82	47	38	62	19	45	11	12	32
	KHB-NPT3/4	315	20	20	-	NPT3/4	18	95	60	48	75.2	24.5	57	11	14	41
	KHB-NPT1	315	25	25	-	NPT1	20.5	113	65	57	82.2	28.5	64	11	14	50
	KHB-NPT1¼	315	32	30	-	NPT1¼	22	110	84	75	102.7	37.5	84.2	12	17	60
	KHB-NPT1½	315	40	38	-	NPT1½	24	130	91	85	113.7	42.5	85.2	12	17	70
	KHB-NPT2	315	50	48	-	NPT2	26	140	100	105	131.7	52.5	112.7	12	17	80



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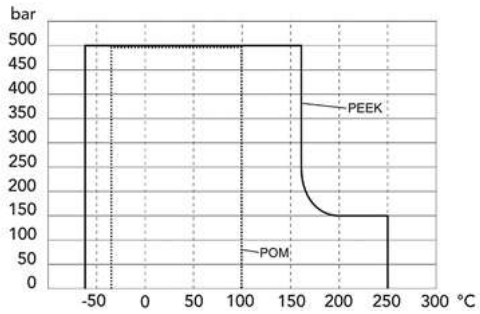

Parts list

No.	Designation	Material
1.	Housing	SS316
2.	Ball	SS316
3.	Shell seal	POM (optional PEEK)
4.	Seal	O-ring FPM (Viton)
5.	Spindle gasket	PTFE
6.	Lever	SS316

Seal material	Temperature
POM (standard)	max. +100°C
PEEK (optional)	max. +180°C