











SMART SHAPE

Smaller actuator footprint directly mounted on valves enables installation in confined spaces reducing the mounting space requirement.

ONE-FINGER MOUNTING SYSTEM

NO screws are necessary to mount the CP series on *RuB* ball valves.

Easy installation and commissioning on *RuB* valves through a one-finger mounting system with a perfect shaft alignment.

The CP actuator is easily removable for maintenance purpose.





IP65 (NEMA4X) ENCLOSURE

The IP65 (NEMA 4x) corrosion resistant enclosure allows for a larger range of rough environments applications without the need for adding supplementary protection extending your application coverage.



Valve options:



Full port up to 1 ¹/₄"

Diverting up to 1"



Assembly instructions:

Quick direct assembly on *RuB* s.31 mini valve:

- 1. Push the spring clip in order to set the actuator in open position
- 2. Assemble the actuator on top of valve
- 3. Pull spring clip to lock actuator on valve



Assembly on *RuB* s.64 and s.76 valves:

- 1. Position the ball of the valve to match the position (open / closed) of the actuator
- 2. Mount stem adaptor (B) and F03 adaptor (A) on top of valve flange and fix it with two screws and nuts (C)
- 3. Push the spring clip in order to set the actuator in open position
- 4. Assemble the actuator on top of adaptor
- 5. Pull spring clip to lock actuator on valve







Technical features:

- Suitable for **RuB** actuatable valves up to 1 ¹/₄" size (only for s.64 LT)
- Compact package to fit in restricted spaces
- Power supply variants:
 - 12 V DC, 24V DC;
 - 24V AC 50-60Hz;
- 110-120V AC 50/60Hz;
- 230V AC 50/60Hz;
- Motor power consumption:
- 4W for 12 VDC and 24V DC, 6W for 230V AC, 8W for 24V AC and 110-120V AC
- Torque output up to 5 Nm (44 in-lb)
- Operation time:
- 5 sec for 12 V DC, 24V DC
- 20 sec for 24V AC, 110-120V AC and 230V AC at 50 Hz (15 sec at 60 Hz)

How to order:

Model	Torque (Nm)	Seconds 90°	Power	Electric control
CP5A2	5	20s	230V AC	2 wires
CP5A3	5	20s	230V AC	3 wires
CP5B2	5	20s	110V AC	2 wires
CP5B3	5	20s	110V AC	3 wires
CP5C2	5	20s	24 V AC	2 wires
CP5C3	5	20s	24 V AC	3 wires
CP5D2A	5	5s	24 V DC	2 wires
CP5E2A	5	5s	12 V DC	2 wires

Dimension mm:





- Working temperature $-20^{\circ}C(-4^{\circ}F) + 80^{\circ}C(+180^{\circ}F)$
- Protection class IP65 comparable to NEMA 4X
- Micro-switches for open-close signals
- Micro-switches can pass up to 1A
- Reversing motor
- Direct mount on valve for perfect shaft alignment
- Positive orientation between ball valve and actuator
- Actuator easily removable for manual operating
- Visual position indicator
- Corrosion resistant plastic housing
- Actuator has successfully passed 100,000 cycle life tests
- Duty cycle 60%







DIAGRAM FOR 2-WIRE CONTROL - VDC model



DIAGRAM FOR 2-WIRE CONTROL - VAC model





2 point command : the command is made by a simple switch or button (manually or automatically operated e.g. traditional thermostat). Closing the control switch will cause the actuator to travel to the full CCW position. Opening the control switch will cause the actuator to travel to the full CCW position. If the actuator is mounted on a ball valve, closing the control switch will open the ball valve, and vice versa. Upon request, the command voltage may differ from the motor power voltage.

DIAGRAM FOR 3-WIRE CONTROL - VAC model



Note: if the limit switch signals are not to be used the yellow and pink wires must be capped to prevent accidental short circuits

3 point command: the command is made by a switch (manually or automatically operated e.g. 3 points thermostat), which diverts the voltage to the opening wire or to the closing wire reaching the actuator; the switch may be on open or on closed position; using a specific control, engine can stop in any intermediate position.





This newly engineered valve features all the good characteristics of the s.31 *RuB* mini valve, in particular:



RoHS

Quality:

- 100% seal test guaranteed in according to EN12266-1 RATE A in either direction
- Compatible with most industrial fluids including those too viscous for pilot operated valves
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant
- Chrome plated ball for longer life
- Can operate also in vacuum line

Body:

- Finest brass according to EN 12165 and EN 12164 specifications
- Strong one piece body construction

Stem:

- Blowout-proof brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety

Sealing:

• Pure PTFE self-lubricating seats

Threads:

• EN 10226-1, ISO 228 parallel female by female threads

Working pressure and temperature:

- Shell rating: 40 bar non-shock cold working pressure
- Seat rating: Delta P max permissible 16 bar
- -20°C to +120°C (-4°F to +250°F)
- **WARNING**: freezing of the fluid in the installation may severely damage the valve

Options:

- ISO 7/1, BS 21 BSPT taper threads
- NPT taper ANSI B.1.20.1 threads

PED directive:

• The product meets the requirements of PED Directive 2014/68/ UE and according to art.4 par.3, it does not require CE marking

Approved by or in compliance with:

- RoHS Compliant (EU)
- EAC Declaration of conformity (Russia, Kazakhstan, Belarus)

NOTE: approvals apply to specific configurations/sizes only.







	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Unplated retainer nut	1	CW617N
3	Retainer seat	1	PTFE
4	Chrome plated ball	1	CW617N
5	Body seat	1	PTFE
6	Unplated stem O-Ring design	1	CW617N
7	O-Ring	2	FPM
8	Compact power electric actuator (VDC or VAC models)	1	-
9	Spring clip	1	1.4301 / AISI 304



Torque for actuator sizing N.m

Delta P>	0 ÷16 bar
Valve size	N.m
1/4" ÷ 1/2"	1.8
3/4"	2.5

Pressure-temperature chart



D (valve size)	1/4"	3/8"	1/2"	3/4"
dn (mm)	8	10	10	12.7
l (mm)	12	12	15.5	17
G (mm)	24	23.8	25.5	29
L (mm)	45.5	45.5	54	61.5
E (mm)	72.5	72.5	72.5	75.5
H (mm)	88.5	88.5	88.5	91.5
B (mm)	20.5	20.5	20.5	20.5
A (mm)	81.5	81.5	81.5	81.5
C (mm)	74.5	74.5	74.5	74.5
N (mm)	85	85	85	91
M (mm)	99.5	99.5	100	105.5
CH (mm)	25	25	25	31
F (mm)	800	800	800	800
Kv (m³/h)	5.8	9.5	9.5	25.4

Torque correction factors

N (actuator AC) M (actuator DC)

Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.

If media has more or less friction than water, multiply torque by the following factors:

Lubricating oils or liquids	0.8
Dry gases, natural gas	1.5

Slurries or liquio	ls bearing	abrasive particles	1.5÷2.5
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Pressure drop chart







This *RuB* ball valve is specifically designed for heavy duty actuation and offers upmost reliability and performance, in particular:





Quality:

- 100% seal test guaranteed in according to EN12266-1 RATE A
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life

Body:

- Hot forged sand blasted, nickel plated brass body and cap sealed with Loctite® or equivalent thread sealant
- Finest brass according to EN 12165 and EN 12164 specifications
- Integrated ISO 5211 and DIN 3337 mounting flange for universal connection to actuator

Stem:

- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety

Sealing:

Reinforced PTFE self-lubricating seats with flexible-lip and wear
compensation design

Threads:

• EN 10226-1, ISO 228 parallel female by female threads

Flow:

• 100% full port for maximum flow

Working pressure and temperature:

- Shell rating: 40 bar non-shock cold working pressure
- Seat rating: Delta P max permissible 16 bar only for 1" and 1 ¼" sizes
- -20°C to +170°C
- **WARNING**: freezing of the fluid in the installation may severely damage the valve

Options:

- Special valve configurations available upon request
- s.64 configuration featuring NPT taper ANSI B.1.20.1 female by female threads, unplated body, reinforced seats, stainless steel ball and stem
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact Power electric actuator

PED directive:

According to 2014/68/UE module A: it cannot be used with dangerous gases in sizes larger than 25mm

Approved by or in compliance with:

- Water Regulations Advisory Scheme (United Kingdom)
- RoHS Compliant (EU)
- EAC Declaration of conformity (Russia, Kazakhstan, Belarus)
- GOST-R (Russia)

NOTE: approvals apply to specific configurations/sizes only.





		Part description		Qty	Mater	ial	
	1	Nickel plated body	,	1	CW617	'N	
	2 Ball seat		2	PTFE graphite*	filled 15%		
	3	Chrome plated bal		1	CW617	'N	
	4	Nickel plated end-ca	ар	1	CW617	'N	
	5	Washer		1	PTFE carbon f	illed 25%	
	6	Nickel plated stem O-Ring	design	1	CW617	'N	
	7	O-Ring		2	FPM		
	8	O-Ring		2	FPM		
	9	Compact power electric a (VDC or VAC models)	ctuator s)	1	-		
	10	Spring clip		1	1.4301 / Al	SI 304	
	11	Adaptor ISO 5211 FC)3	1	Polycarbo	onate	
(4) (3) (2) (1)	12 Transmission motion		1	CW617	'N		
	*For 1" and 1 ¼" siz			sizes m	zes material seats is carbographite		
		D (valve size)	1/2"	3/	(4" 1"	1 ¼"	
		dn (mm)	15	2	0 25	32	
		l (mm)	15.5	18	8 22.5	25	
	1	G (mm)	43.5	4	3 45	58	
		L (mm)	75	8	0 90	110	
		E (IIIII)	103	1	11 115	122	
		B (mm)	20.5	20	27 131	20.5	
		A (mm)	81.5	81	.5 81.5	81.5	
	1	C (mm)	74.5	74	.5 74.5	74.5	
	#)-	CH (mm)	27	3	2 41	50	
	//	F (mm)	800	80	00 800	800	
		Kv (m³/h)	28	6	0 100	155	

Ball valves are marked CE on end-cap for 1 ¼" as follow: Œ XXCODEXX Cat I-A

ΔP>	0 ÷15 bar		0 ÷6 bar		> 6 ÷16 bar	
Valve size	to open	to close	to open	to close	to open	to close
1/2″	2.8	1.7	-	-	-	-
3/4″	3.8	2.3	-	-	-	-
1″	-	-	2.2	2.2	3.5	3.5
1 1⁄4″	-	-	2.5	2.5	4	4

Torque for actuator sizing N.m

Pressure-temperature chart



Torque correction factors

Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.

If media has more or less friction than water, multiply torque by the following factors:

Lubricating oils or liquids	0.8
Dry gases, natural gas	1.5
Slurries or liquids bearing abrasive particles	1.5÷2.5

Pressure drop chart



+ s.7600 3-way L-port diverting brass valve EN 10226-1

RuB s.7600 range is the right choice for fluid diversion. It is designed with robust maintenance-free components ensuring ease of operation and safety.





Quality:

- Electronic 100% seal test guaranteed
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life

Body:

- Hot forged sand blasted, nickel plated brass body and cap sealed with Loctite® or equivalent thread sealant
- Integrated ISO 5211 and DIN 3337 mounting flange for universal connection to actuator
- Finest brass according to EN 12165 and EN 12164 specifications
- 3-way L-design for flow diversions

Stem:

- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety

Sealing:

• Reinforced PTFE self-lubricating seats with flexible-lip and wear compensation design

Threads:

• EN 10226-1, ISO 228 parallel female by female threads

Flow:

• 100% full port for maximum flow



Working pressure and temperature:

- 30 bar non-shock cold working pressure
- -20℃ to +170℃
- **WARNING**: freezing of the fluid in the installation may severely damage the valve

Options:

- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact Power electric actuator
- Lockable handle as accessory or already mounted (s.7600L)
- Various actuator linkage kit
- Special valve configurations available upon request
- NPT taper ANSI B.1.20.1 female threads
- ISO7/1, BS 21 BSPT taper threads

PED directive:

•The product meets the requirements of PED Directive 2014/68/UE and according to art.4 par.3, it does not require CE marking

Approved by or in compliance with:

- RoHS Compliant (EU)
- EAC Declaration of conformity (Russia, Kazakhstan, Belarus)

NOTE: approvals apply to specific configurations/sizes only.

S.76 3-way "L" port operating positions







	Part description	Qty	Material
1	Nickel plated body (external nickel plated, unplated inside)	1	CW617N
2	Seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Nickel plated end cap (external nickel plated, unplated inside)	1	CW617N
5	Washer	1	PTFE carbon filled 25%
б	Nickel plated stem O-Ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM
9	Compact power electric actuator (VDC or VAC models)	1	-
10	Spring clip	1	1.4301 / AISI 304
11	Adaptor ISO 5211 F03	1	Polycarbonate
12	Transmission motion	1	CW617N





D (valve size)	1/2"	3/4"	1"
dn (mm)	15	20	25
l (mm)	16.5	19	22.5
G (mm)	32.5	39.5	46.5
L (mm)	65	79	92.5
E (mm)	103.5	112.0	115
H (mm)	119.5	128.0	131
B (mm)	20.5	20.5	20.5
A (mm)	81.5	81.5	81.5
C (mm)	74.5	74.5	74.5
CH (mm)	27	32	41
F	800	800	800

Torque for actuator sizing N.m

Delta P>	0 ÷16 bar			
Valve size	to open	to close		
1/2″	3.5	3.5		
3/4″	4.0	4.0		
1″	4.5	4.5		

Torque correction factors

Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.

If media has more or less friction than water, multiply torque by the following factors:

Lubricating oils or liquids	0.8
Dry gases, natural gas	1.5
Slurries or liquids bearing abrasive particles	15÷25



NOTES:



Ask for additional information on the whole range of **BONOMI INDUSTRIES** products and consult with your supplier for special applications.

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