ACTUATION
CATALOG

Started in 1954 by a young Silvio Bonomi, Bonomi Industries Srl led product and process innovations of the brass valve industry for over 70 years

Our founder's motto was "Quality and trust". This is the legacy we bring forward every day.

About us

Bonomi Industries Srl is an Italian manufacturer of high quality shut-off brass valves, actuators and custom-engineered solutions. Under the RuB brand, its products are globally trusted for their reliability and performance in a variety of applications.

Bonomi Industries Srl is part of Hadron group — a private holding company established in 2018 during the strategic reorganization of Rubinetterie Utensilerie Bonomi (RuB), which also led to the creation of Shedstone, a real estate company — Bonomi Industries Srl continues to grow and innovate. Started in 1954, with entrepreneurial roots tracing back to 1828, the company upholds the values and tradition of a family business while embracing a vision focused towards the future.

Growth at Bonomi Industries Srl is driven by continuous investments in product improvements, advanced machining, assembly, and logistics technologies, as well as expanded manufacturing capabilities, enhanced system interconnectivity, database analysis and strengthened engineering and R&D efforts. At the same time, sustainability — encompassing environmental, social, and governance topics — has always been part of the company's DNA and inspires meaningful actions.

For Bonomi Industries Srl, innovation and responsibility go hand in hand. This commitment shapes a journey aimed at safeguarding the environment, empowering people, and fostering resilient governance for a better tomorrow.

Bonomi Industries Srl turns words into actions for all stakeholders

Scan the QR code to discover our values

Companies

RuB valves and actuators are trusted worldwide, installed across five continents and proven in the most demanding applications.

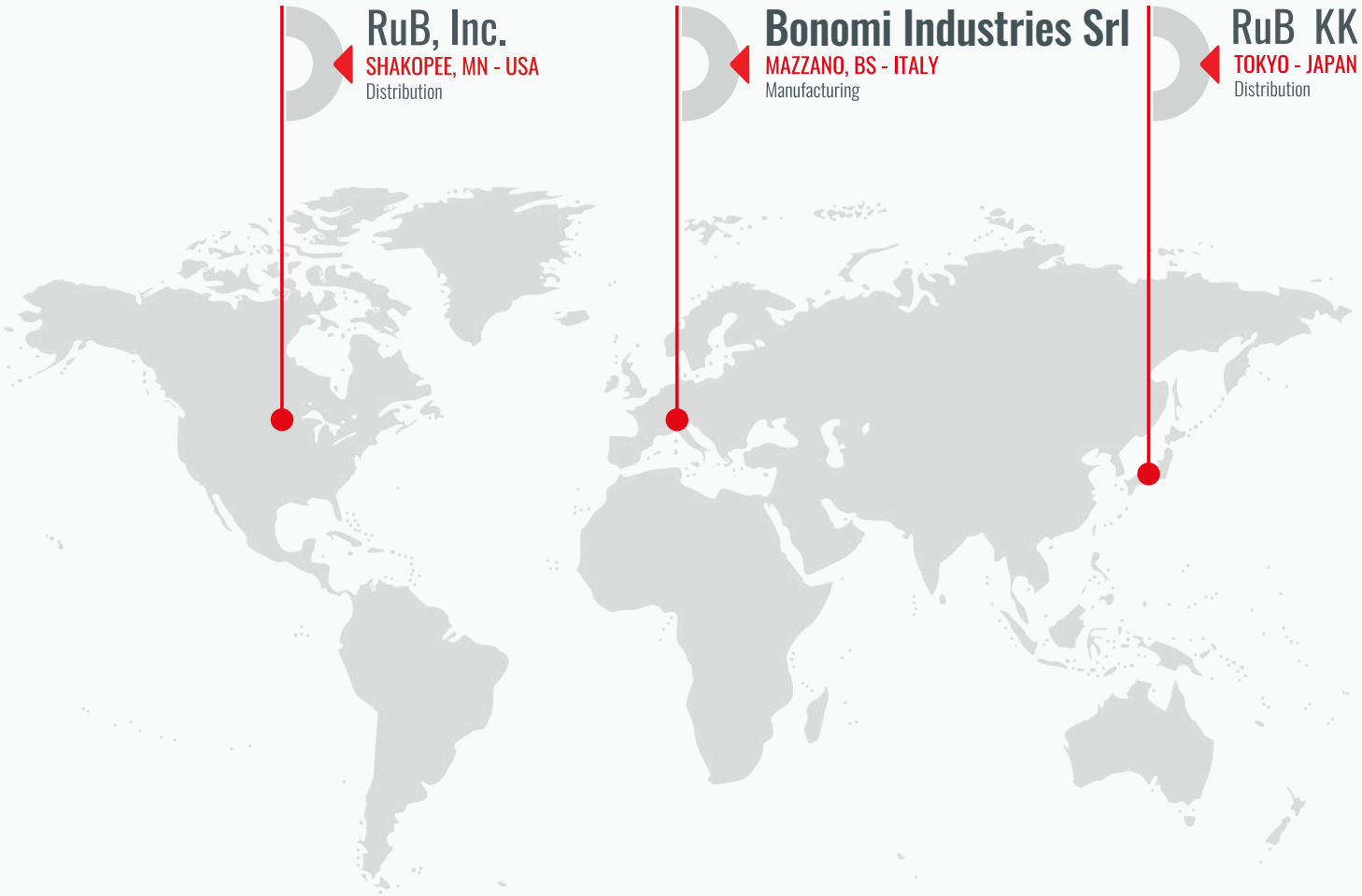
Production takes place entirely at our headquarters, Bonomi Industries Srl, in Mazzano (Brescia), Italy. Finished products are then distributed globally from Italy and through our international branches. In North America, ***RuB, Incorporated*** operates from a modern 5.000 sqm (50,000 sqf) facility, handling both assembly and distribution. In Japan, ***RuB kk*** serves as a strategic presence in a peculiar market.

With a strong global presence, we provide proximity, reliability, and outstanding service to our customers. Our sales team builds lasting partnerships with distributors and OEMs by offering responsive support and technical expertise. Certified, high-quality products, combined with deep knowledge of local cultures and regulations, make Bonomi Industries Srl the trusted partner in fluid control solutions.

Bonomi Industries srl
MAZZANO, BS - ITALY
Manufacturing

RuB, Inc.
SHAKOPEE, MN - USA
Distribution

RuB KK
TOKYO - JAPAN
Distribution


RuB, Inc.
SHAKOPEE, MN - USA
Distribution
Bonomi Industries Srl
MAZZANO, BS - ITALY
Manufacturing
RuB KK
TOKYO - JAPAN
Distribution

Quality

Quality you can trust, proven through generations of experience.

From rigorous incoming goods inspections to double leak testing, 24-72 hour valve assessments, and visual inspections for top markets/applications, Bonomi Industries Srl ensures consistent reliability and precision in every product. Advanced traceability systems, calibrated instruments, and statistical software enhance quality control throughout the production process.

Our dedicated Quality Control team supports continuous monitoring and improvement, ensuring that each production batch meets exactly applicable standards. Paired with robust testing protocols and expert technical support, we deliver solutions designed to meet the most challenging applications.

Approved by Lloyd's Register Quality Assurance:
ISO 9001:2015 (Quality Management) since 1998.
ISO 14001:2018 (Environmental Management System) since 2021.
ISO 45001:2018 (Occupational Health & Safety) since 2021.

Environment: Air and water are filtered and recovered. Use of recycled environment-friendly packaging materials. Scrap is recycled.

Product Quality Assessment: recognized by certifying bodies in all major industrialized countries worldwide

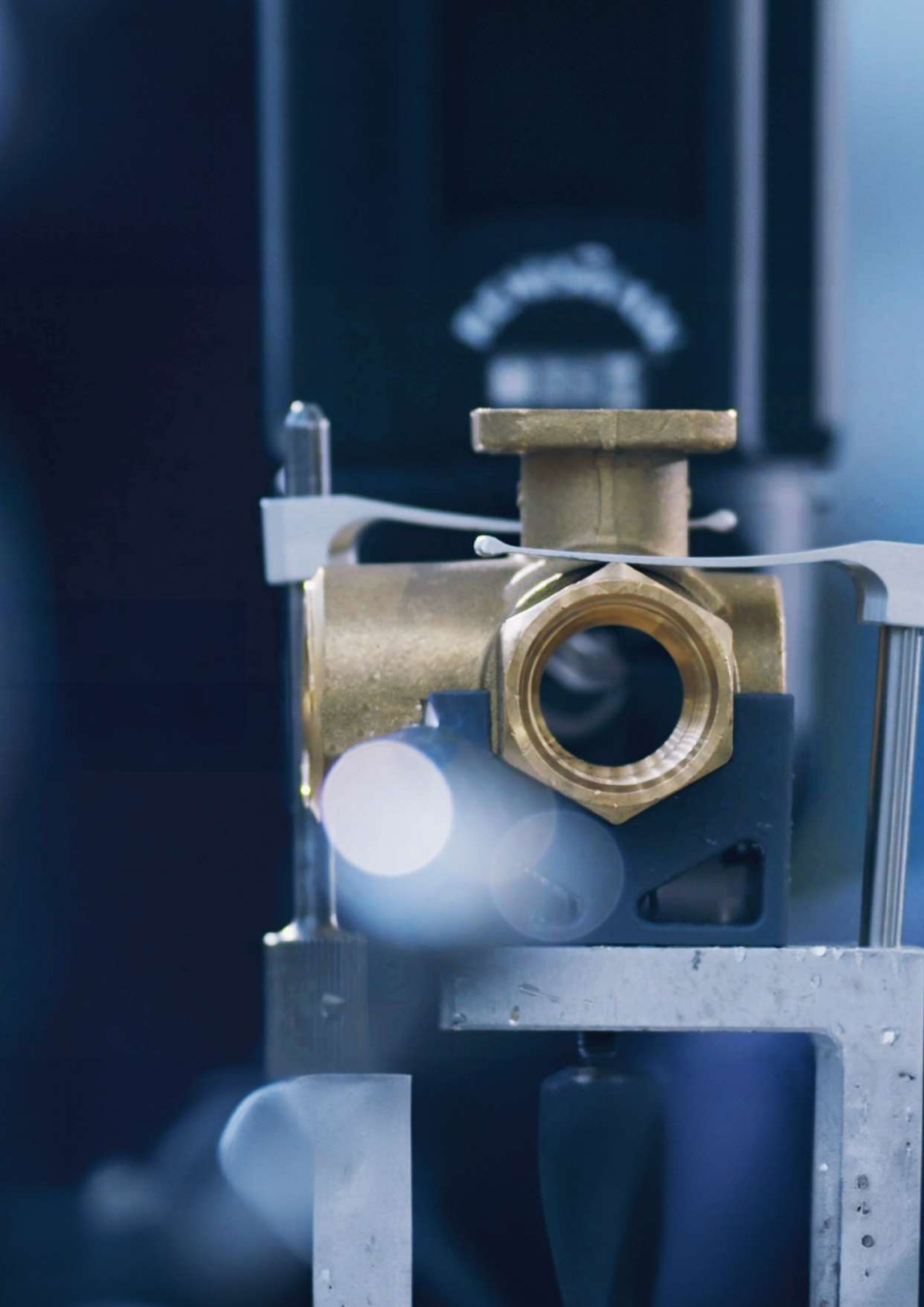
Safety: compliance with the provisions of decree 81/2008 for the safety system, extensive staff training, and continuous monitoring

Customized products developed by the Engineering Center

In compliance with the **PED Directive** since 2002

Quality you can trust

See our quality process in action/Experience every step of our quality process



Sustainability

Sustainability has always been a necessity, not a choice. The adoption of sustainable practices at corporate level lays the foundation for creating virtuous cycles that inspire future generations.

Our commitment is stronger than ever, and we're proud to share with you here below figures that mark the tasks we focus on our actions, achievements, and the vision we have for the future. Localized production of electricity is now a reality and we have not been shy with our investments towards clean renewable energy.

Companies are finally waking up to producing their own electricity. Aside from covering the needs of our production manufacturing facility with through solar panels, we constantly reduce energy consumption by investing in smart technology and minimizing heavy material handling.

The diligence with which we strive to make our process and products less impactful on the environment is confirmed by the certifications awarded by international bodies, in particular ISO 14001:2018 and the "silver" medal in the EcoVadis sustainability assessment.

HOW WE WALK THE TALK.

100% of our brass ball valves prevent unnecessary waste – lifetime guaranteed

96% manufacturing scrap is reused

30% of energy comes from our own renewable sources

100% cooling waters are recovered and reused

Together, safeguarding our Planet
Learn more about our initiatives.


1"
DN25

OEM

Every year, OEMs all over the world rely on RuB custom solutions to reduce leaks, equipment breakages and production downtime. We're heavily invested in OEM customizations with custom-made machinery for innovative products and solutions.

We have proven expertise in solving technical and operational challenges for leading boilers, heat pumps and burners manufacturers, LPG gas tank and system manufacturers, manufacturers of watering systems, fire protection, refrigeration, HVAC manufacturers, marine applications with shipbuilders, compressors, tanks, machine tools manufacturers, filtration, chemical, food processing and pharmaceutical companies.

We are intrigued to learn about your obstacles and bring your custom, top shelf solution to life.

PRIVATE LABEL

We strive to meet the needs of our customers in every way possible. And we do so not only through specifically designed, engineered and manufactured OEM products, but also by customizing standard RuB ball valves.

The possible branding options to choose from include:

- Changing the lever marking to the customer's trademark
- Packing with a custom label
- Customized handle colors and materials
- Customized valve fittings
- Dedicated valve body stamping
- Special marking on the valve body
- Custom installation instructions

OEM solutions, custom made for you

OEMs have a Partner to solve their challenges and develop new products

Certifications

We are proud to offer 100% made-in-Italy shut-off brass valves, actuators, and OEM-engineered products, all manufactured in our ISO 9001:2015 certified headquarters in Brescia, Italy. Since adopting this quality management system in 1992 under Lloyd's Register, we have continuously improved product reliability, performance and traceability.
Our certifications, granted by leading global laboratories and agencies, demonstrate compliance with the highest standards for major applications and markets. Supported by rigorous testing and state of art technology, our products meet the demanding requirements of top manufacturers and distributors worldwide.

PRODUCT TYPE APPROVALS

- Deutsche Vereinigung des Gas und Wasserfaches e.V. Technisch-wissenschaftlicher Verein
- Deutsche Vereinigung des Gas und Wasserfaches
- Deutsche Vereinigung des Gas und Wasserfaches Hygiene
- Schweizerischer Verein des Gas und Wasserfaches
- Attestation de Conformitè Sanitarie
- ARGB-KVBG
- Water Regulations Advisory Scheme
- British Standards Institution
- Kiwa KUKreg4
- Ri.se. / Boverket
- Kiwa - Swedcert
- General Directorate of Civil Defence
- The Australian Gas Association
- OSHA Compliant
- Factory Mutual Research Corporation
- Underwriter Laboratories Inc.
- CRN-TSSA
- CSA International for Drinking Water to NSF/ANSI 61- NSF/ANSI 372
- CSA - Canadian Standards Association
- KSFD -Kuwait Fire Service Directorate
- LIA - L.P Gas Instruments Inspections Association

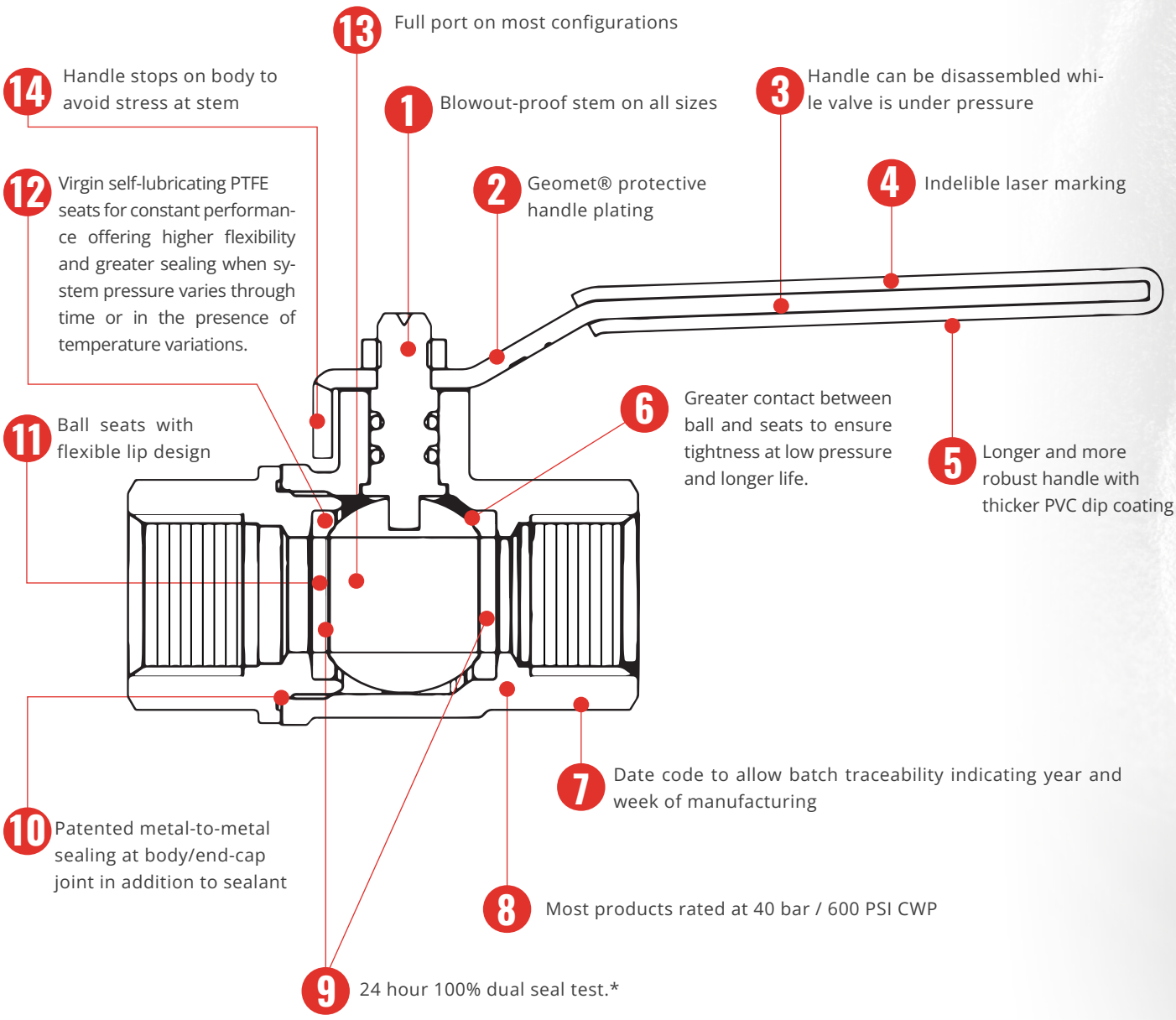
COMPLIANCES

- ROHS
- Reach declaration
- PED 2014/68/UE by ICIM (0425)
- Декларация соответствия

We developed and constantly innovate strict protocols and processes
Discover all the certifications and awards received from international bodies


OPEN
SHUT
PATENTED
NO.1421306

RuB valve features



RuB seal test

Valve in half open position is pressurized at 6 bar (87 psig), then closed, trapping compressed air in between ball seats and stem sealing. After adequate preset time, based upon valve size, any leaks are verified using extremely accurate electronic sensors and any defective valve is automatically rejected; all valves passing this initial seal test are filled with compressed air again and remain closed and under pressure for minimum 24 hours; after 24 hours, the valves go back again under the same accurate a new set of electronic pressure sensors and any leaking valve is automatically rejected.

* Certain products are not suitable for double seal test

ACTUATION

Reliable valve automation requires precision and durability. RuB electric and pneumatic actuators, designed for 100,000 cycles, deliver consistent performance across diverse applications, including energy, HVAC, and water treatment systems.

Trusted by leading food, pharmaceutical, and chemical manufacturers, they streamline processes like automated dosing, ensuring efficiency, quality, and cost savings.

ACTUATION

Scan the QR code to discover our products

2 YEARS WARRANTY

COMPACT POWER

Electric actuator

The CP series Electric actuator provide an output torque to suit up to 1" valves, and it is available in AC and DC voltage.
Compact package to fit in restricted spaces. The CP series has an ISO 5211mounting interface for direct assembly.

CE cULus LISTED

QUALITY

- Bidirectional motor
- DC brushless motor
- Over 100.000 cycle life tests made
- Duty cycle 60%
- Direct mount on valve for perfect shaft alignment
- Positive orientation between ball valve and actuator
- Actuator easily removable for manual operating by screwdriver (s.31)
- Visual position indicator
- Standard power cable lenght: 0,8 m (31")
- Micro-switches can pass up to 1A

BODY

- Corrosion resistant PC plastic housing
- The gearbox structure is made of steel

WORKING TEMPERATURE

- -20°C (-4°F) to +80°C (+180°F)*

*UL approval up to +70°C (+160°F)

UPON REQUEST

- DC models with negative command
- Custom cable length
- Terminal with connector

APPROVED BY OR IN COMPLIANCE WITH

- UL-listed Class XABE/XABE7
- IEC/CE:

- Low voltage directive (LVD) 2014/35/EU
- Electromagnetic Compatibility Directive (EMCD) 2014/30/EU
- IEC/EN 60730-1 Automatic electrical controls for household and similar use - Part 1: General requirements
- IEC/EN 60730-2-14 Automatic electrical controls for household and similar use - Part 2-14: Particular requirements for electric actuators

- IEC 60529: IP65 degrees
- ANSI/NEMA 250: Enclosures for Electrical Equipment NEMA 4X
- IEC/EN 60730-1: IEC Electric Protection Class

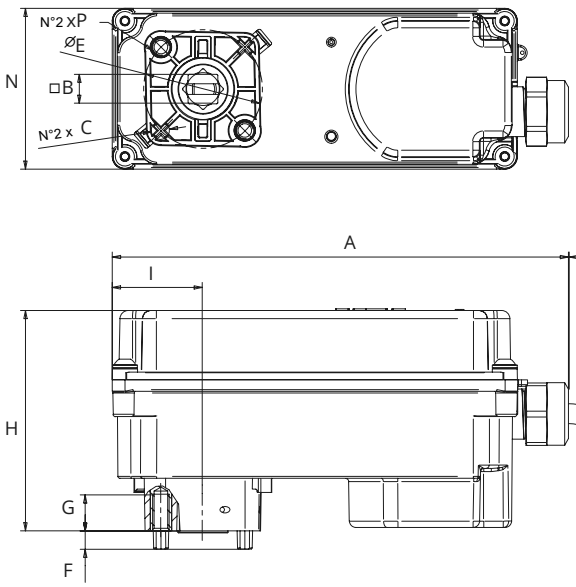
- 110VAC e 220VAC: Class 2 (II)
- Other voltage: Class 3 (III)

HOW TO ORDER:

POWER SUPPLY	CONTROL TYPE	OPERATING TIME 90°	POWER CONSUMPTION	CODE		UL APPROVAL
				with 2 Motor-voltage Switches	with 2 Free Auxiliary Switches	
220 - 240V AC	2 wires	15/20 sec*	8W	-	CP08A2K00100	-
220 - 240V AC	3 wires	15/20 sec*	8W	-	CP08A3K00100	-
110 - 120V AC	2 wires	15/20 sec*	8W	-	CP08B2K00100	-
110 - 120V AC	3 wires	15/20 sec*	8W	-	CP08B3K00100	-
24V AC	2 wires	15/20 sec*	8W	-	CP08C2K00100	-
24V AC	3 wires	15/20 sec*	8W	-	CP08C3K00100	-
24V DC	2 wires	3 sec	5.5W	CP08D2J00200	CP08D2K00200	•
24V DC	3 wires	3 sec	5.5W	CP08D3J00200	CP08D3K00200	•
24V AC DC	2 wires	3 sec	5.5W	-	CP08E2K00300	-
24V AC DC	3 wires	3 sec	5.5W	-	CP08E3K00300	-
12V DC	2 wires	3 sec	5.5W	CP08F2J00200	CP08F2K00200	-
12V DC	3 wires	3 sec	5.5W	CP08F3J00200	CP08F3K00200	-
3.5 - 12V DC	2 wires	3 sec	5.5W	-	CP08G2K00200	-
3.5 - 12V DC	3 wires	3 sec	5.5W	-	CP08G3K00200	-

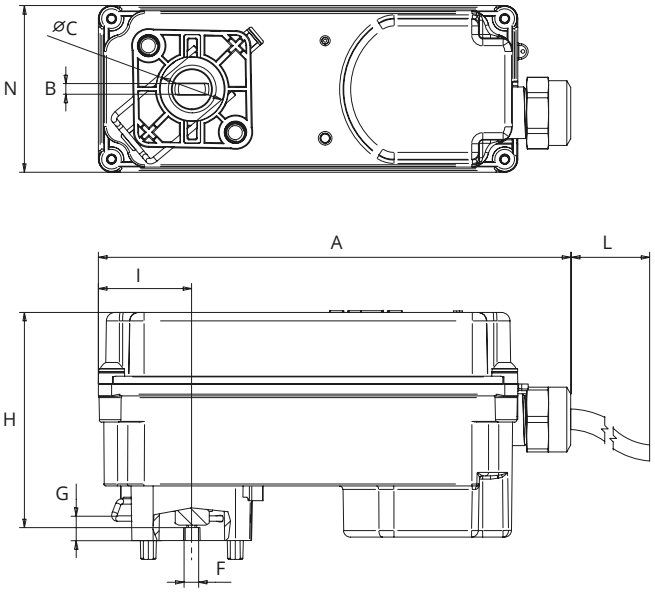
*AC 50Hz: 20 sec; AC 60Hz: 15 sec

FLANGE ISO 5211 F03



	Size mm	Size inch
A	138.5	5.45
L	~800	~31.50
I	27.5	1.08
H	67	2.64
G	11	0.43
F	5.5	0,22
N	49	1.93
Square B	9	0.35
ØC	5.5	0.22
ØE	36	1.42
P	M5	M5

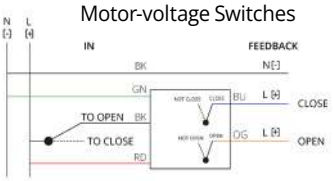
S.31



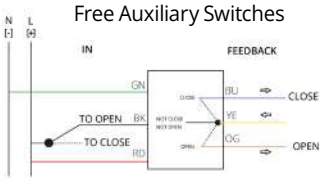
	Size mm	Size inch
A	138.5	5.45
L	~800	~31.50
I	27.5	1.08
H	63.2	2.49
G	7.3	0.29
F	4.3	0.17
N	49	1.93
B	3.18	0.13
ØC	18.7	0.74

WIRING DIAGRAM FOR 2 WIRES CONTROL - V AC / V DC MODEL

Motor-voltage Switches

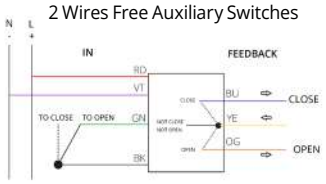


Free Auxiliary Switches



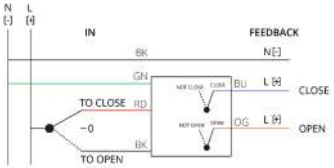
WIRING DIAGRAM FOR 2 AND 3 WIRES CONTROL - V AC-DC MODEL

2 Wires Free Auxiliary Switches

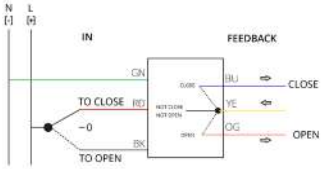


WIRING DIAGRAM FOR 3 WIRES CONTROL - V AC / V DC MODEL

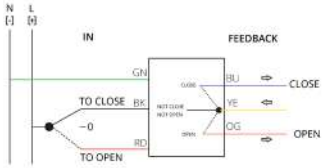
Motor-voltage Switches DC



Free Auxiliary Switches DC

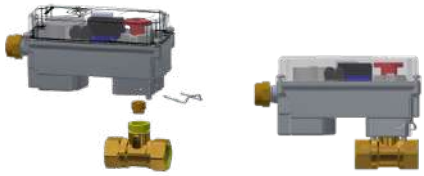


Free Auxiliary Switches AC



CP8 VALVES COMBINATIONS

Simple assembly operation
DUAL ACTUATOR-VALVE INTERFACE



QUICK CONNECT
MOUNTING KIT TO BE ORDERED SEPARATELY "KCPA0AA00100"

	ΔP	1/4" AV31BF3	3/8" AV31CF3	1/2" AV31DF3	3/4" AV31EF3
S.31	0 ÷ 16 Bar (0 ÷ 232 PSI)	•	•	•	•

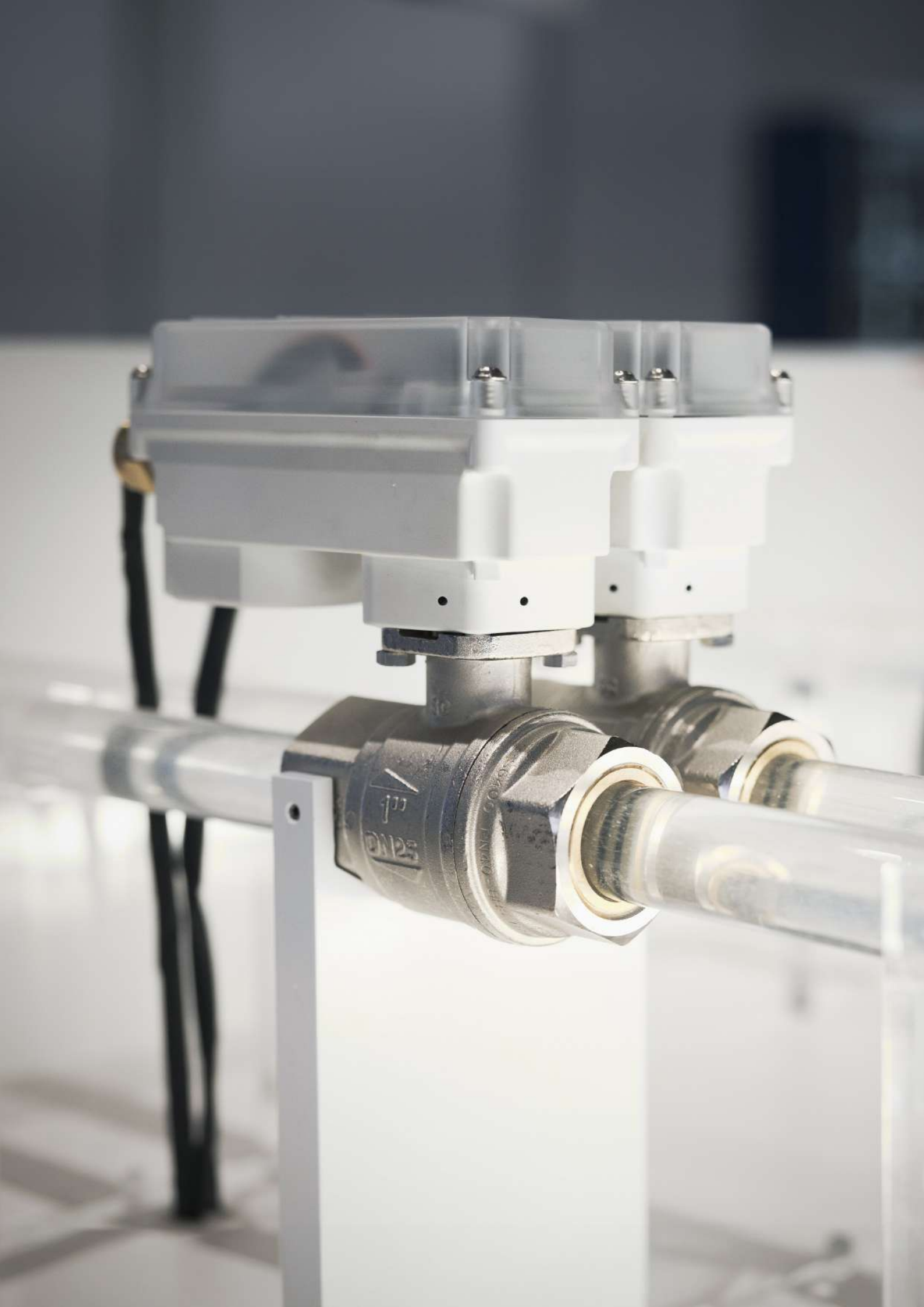
INTEGRATED ISO 5211 FLANGE
MOUNTING KIT INCLUDED

	ΔP	1/2" S64DxxA	3/4" S64ExxA	1" S64FxxA
S.64 Low Torque	0 ÷ 6 Bar (0 ÷ 87 PSI)	-	-	•
	6 ÷ 16 Bar (87 ÷ 232 PSI)	-	-	•

	ΔP	1/2" S64Dxx	3/4" S64Exx	1" S64Fxx
S.64 K.64	0 ÷ 15 Bar (0 ÷ 217 PSI)	•	•	•
	15 ÷ 40 Bar (217 ÷ 580 PSI)	•	•	•

	ΔP	1/2" S65Dxx	3/4" S65Exx	1" S65Fxx
S.65	0 ÷ 16 Bar (0 ÷ 232 PSI)	•	•	•

	ΔP	1/2" S76Dxx	3/4" S76Exx	1" S76Fxx
S.76	0 ÷ 16 Bar (0 ÷ 232 PSI)	•	•	•


1"
DN25

C-Tork Actuator

Compact lightweight electric actuator

The CT electric actuators are designed to drive ball and butterfly valves with ISO5211 mounting pad, providing a quarter turn motion.
In combination with ***RUB*** valves are used in wastewater treatment plants, power plants, refineries, mining processes, food factories and in the fluid automated control in HVAC.

THE CT FAMILY PROVIDES THE FOLLOWING OUTPUT TORQUES:

Model	Nominal Torque
CT1	8 Nm (71 lb-in)
CT2	11 Nm (97.5 lb-in)
CT3	22 Nm (195 lb-in)
CT4	40 Nm (354 lb-in)

TECHNICAL FEATURES & BENEFITS:

- **Direct ISO 5211 mount on valves.**

Requires no separate linkage because the CT Series Actuators (CT2, CT3 & CT4) are ready for direct attachment to ISO5211 mounting pad.

- **Compact package with perfect shaft alignment.**

Smaller actuator footprint enables installation in confined spaces; direct mount on ball valves reduces the mounting space requirement.

- **Several voltage ratings available.**

Available with the most common power supplies around the globe.

- **Fire retardant plastic with high IP ratings enclosure.**

Provides a high degree of protection from dust, splashing water, rough handling and tough environments.

- **Auxiliary Switches.**

Provides line voltage capable switch up to 1 A Resistive.

- **Special models available.**

The CT family fits the customer needs extending the application coverage on request.

KEY CODES:

For available options see single model sheet.

CT	X	X	X	X	X	X	
						Option:	R = Anti-condensation Resistance***
							FO = Failsafe Valve Open
							FC = Failsafe Valve Close
					Auxiliary Switches:		0 = No Micro
							1 = 1 Aux. Switch
							2 = 2 Aux. Switches
				Manual Override:			M = Manual Override
							N = No Manual
			Control Type:				A = 2 Wires
							B = 3 Wires
							C = 2 and 3 Wires
							D = Prop. 0 - 10 Vdc
							E = Prop. 2 - 10 Vdc
							F = Prop. 0 - 20 mA
							G = Prop. 4 - 20 mA
		Power Supply:					A = 230Vac 50/60 Hz *
							B = 110Vac 50/60 Hz *
							C = 24Vac 50/60 Hz *
							D = 24Vdc
							E = 12Vdc
							F = 24Vac/dc
							G = 100 - 230Vac
							H = 230Vac 60 Hz **
							I = 110Vac 60Hz **
							L = 24Vac 60Hz **
	Model:						CT1 = 8Nm (71 lb-in)
							CT2 = 11Nm (97.5 lb-in)
							CT3 = 22Nm (195 lb-in)
							CT4 = 40Nm (354 lb-in)

Note: * Not valid for CT4 (50 Hz only), ** Valid for CT4 only, *** Not available for CT1

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

CT1

8 N.m (71 lb-in)

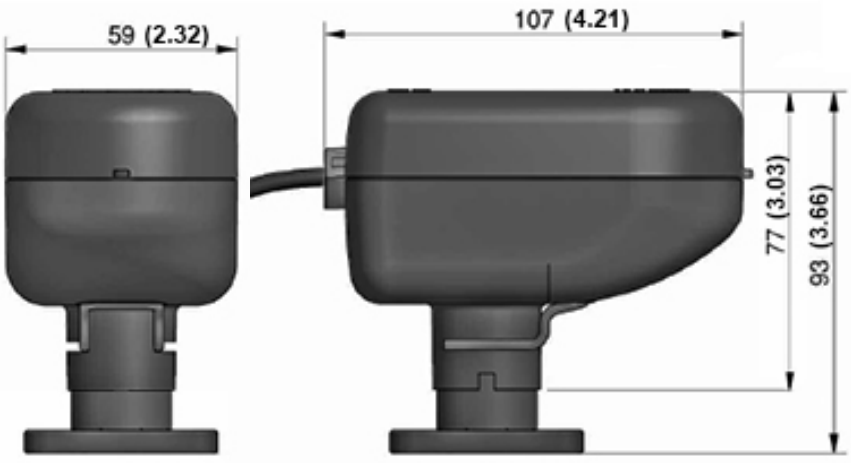
ORDERING CODES

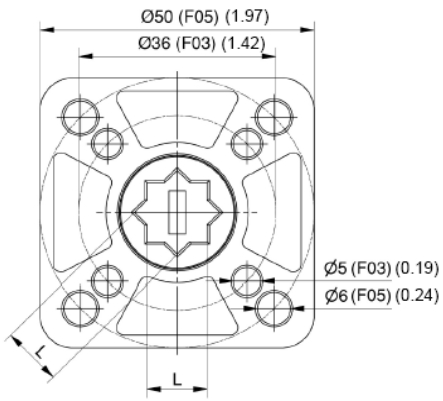
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	UL approval
CT1AAN1	230 Vac 50/60 Hz	2 Wires	45 sec @ 50Hz 38 sec @ 60Hz	1 microswitch opened position & 1 output phase opened position	-
CT1BAN1	110 Vac 50/60 Hz	2 Wires	45 sec @ 50Hz 38 sec @ 60Hz		-
CT1CAN1	24 Vac 50/60 Hz	2 Wires	45 sec @ 50Hz 38 sec @ 60Hz		-
CT1ABN1	230 Vac 50/60 Hz	3 wires	35 sec @ 50Hz 30 sec @ 60Hz		-
CT1BBN1	110 Vac 50/60 Hz	3 wires	35 sec @ 50Hz 30 sec @ 60Hz		-
CT1CBN1	24 Vac 50/60 Hz	3 wires	35 sec @ 50Hz 30 sec @ 60Hz		-
CT1DCN0	24V DC	2/3 Wires	60 sec.	2 output phases	-
CT1FDN0	24V DC / AC ± 20% 50/60 Hz	Modulating 0-10Vdc	60 sec.	2 -10 Vdc	-

OPTIONAL MODELS ON REQUEST:

- 5Nm with 15 sec running time, Vac only
- Vdc 2/3 wires 30 sec running time
- 12 Vdc power supply, 2/3 wires 60 secs running time
- Different Input signal on modulating: 0(2)-10 Vdc, 0(4)-20 mA
- Modbus Communication (only with 24V AC/DC power supply)
- On/Off 3 positions (0°, 45° and 90°) (only with 12/24 V DC power supply)

DIMENSIONS MM (INCHES)

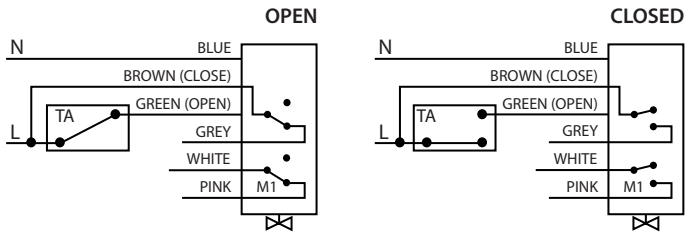




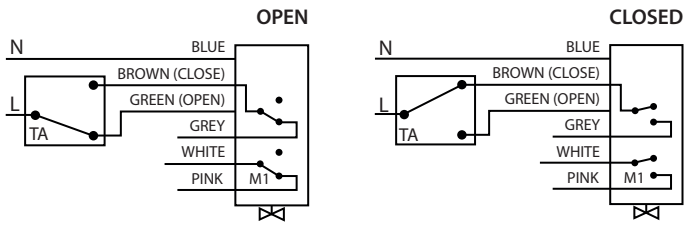
ISO 5211	L
F03	9 mm with adapter (0.35 inch)
F05	11 mm (0.43 inch)
Hole depth	11 mm (0.43 inch)

Wiring diagrams

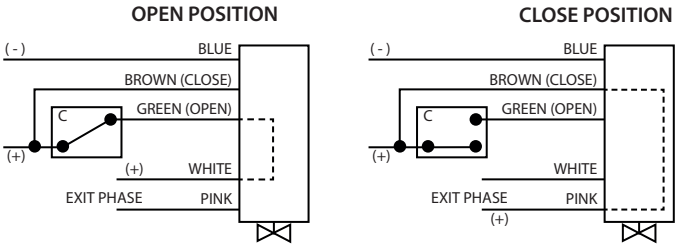
VAC MODELS 2 WIRES CONTROL



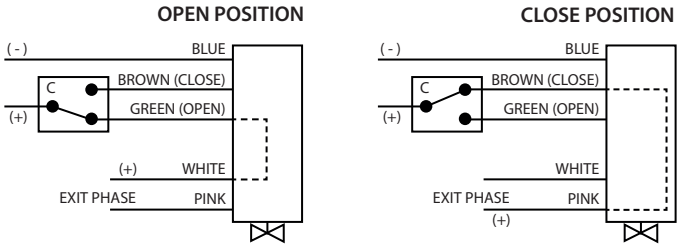
VAC MODELS 3 WIRES CONTROL



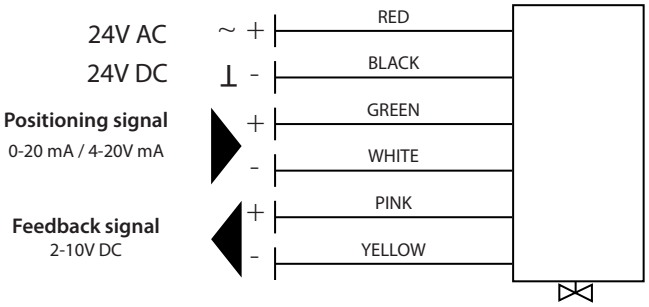
VDC MODELS 2 WIRES CONTROL



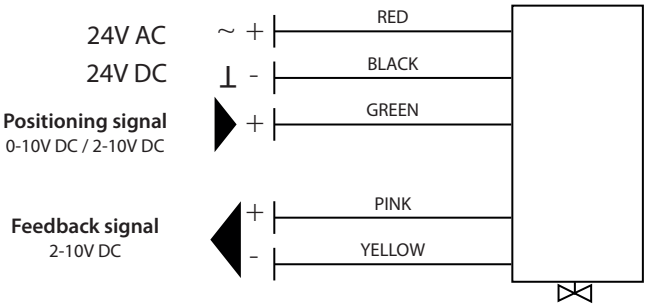
VDC MODELS 3 WIRES CONTROL



PROPORTIONAL MODELS
0-20MA / 4-20MA



PROPORTIONAL MODELS
0-10V DC / 2-10V DC



TECHNICAL SPECIFICATION

	2 wires Vac	3 wires Vac	2/3 wires Vdc	Modulating
Position indicator	Rotating arrow, indicating the position of the ball			
Power supply	230 V - 50/60 Hz		24Vdc	24V DC / AC ± 20% 50/60 Hz
	24 V - 50/60 Hz			
	110 V - 50/60 Hz		12Vdc	
Power cable length	80 cm (31.5 inches) (other sizes on request)			
Operating time (90°) and related starting torque	45 sec @ 50Hz 38 sec @ 60Hz	35 sec @ 50Hz 30 sec @ 60Hz	60 sec	60 sec
Absorbed power	3.9 VA		2 VA	3.5 W
Electrical capacity of the additional microswitch	1 A resistive - 250V		Not available	
Maximum noise (1 meter away)	40 dB (A)			
Operating ambient temperature	+5 °C ÷ +50°C (41°F ÷ 122°F)			
Degree of protection	IP 54 (Equivalent to NEMA3)			
Insulation class	⧦ - double insulation ⧈			
Outer shell material	Polyamide PA 6 - 30% glass fibers			
Certification	CE			

CT2

11 N.m (97.5 lb-in)

ORDERING CODES

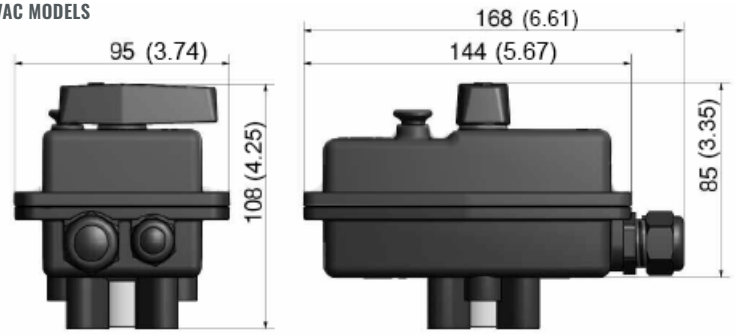
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	UL approval
CT2ACM2	230 Vac - 50/60 Hz	2/3 Wires	35 sec @ 50Hz 30 sec @ 60Hz	2 x Free auxiliary switches	•
CT2BCM2	110 Vac - 50/60 Hz	2/3 Wires	35 sec @ 50Hz 30 sec @ 60Hz		•
CT2CCM2	24 Vac - 50/60 Hz	2/3 Wires	35 sec @ 50Hz 30 sec @ 60Hz		•
CT2DCN2	24V DC	2/3 Wires	12 sec.		-
CT2ADN0	230 Vac - 50/60 Hz	Proportional 0-10V	30 sec	2 x Free auxiliary switches 2 -10 Vdc	-
CT2FDN0	24V DC / AC ± 10% 50/60 Hz	Proportional 0-10V	30 sec.		-
CT2GCM2FC	100-230 Vac	2/3 Wires fail safe close	15 sec.		-

OPTIONAL MODELS ON REQUEST:

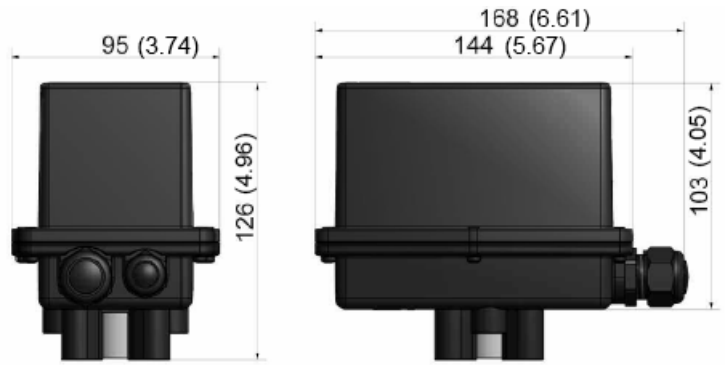
- 12 Vdc power supply
- Optional speed: - Vac only : 12 sec or 4 sec (5Nm)
  - Vdc only : 8 sec and 5 sec (11Nm);
  3 sec (8Nm); 1 sec (5Nm)
- Proportional models: 2-10 Vdc, 0(4)-20 mA, Modbus
- Electronic fail safe (see pag 41)

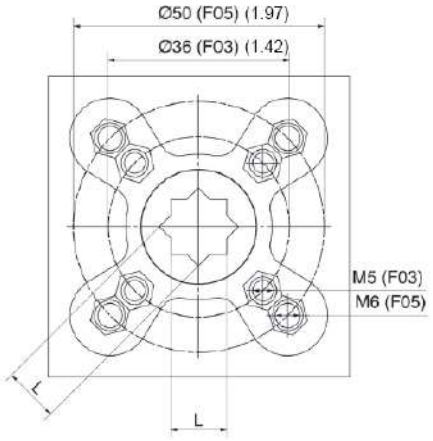
DIMENSIONS MM (INCHES)

VAC MODELS



VDC MODELS

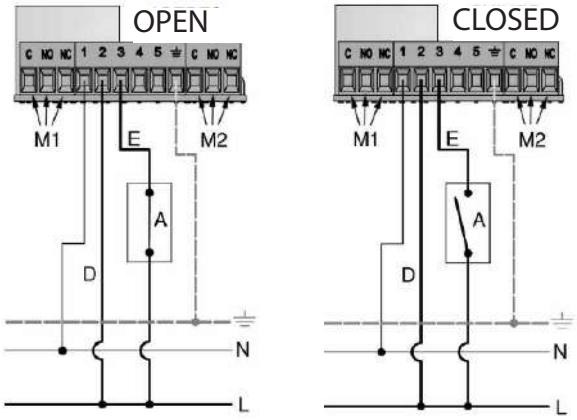




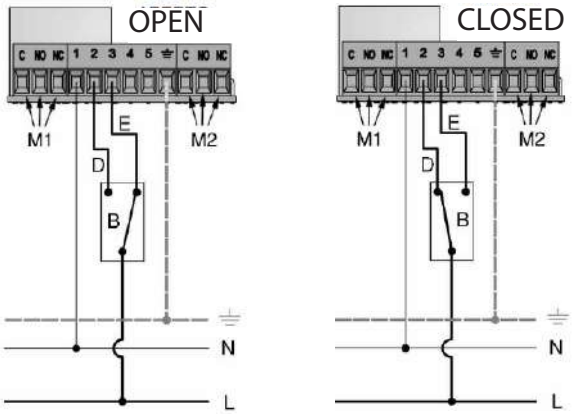
ISO 5211	L
F03	9 mm with adapter (0.35 inch)
F05	11 mm (0.43 inch)
Hole depth	13 mm (0.51 inch)

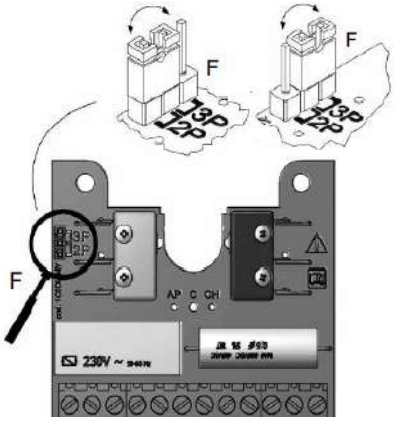
Wiring diagrams

2 WIRES



3 WIRES

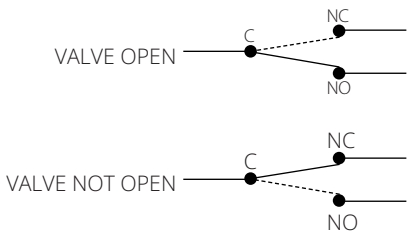




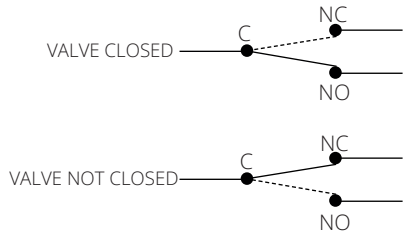
Vac models: Move the jumper to have the desired electrical connection.
Vdc models: No jumper change is needed

Auxiliary switches

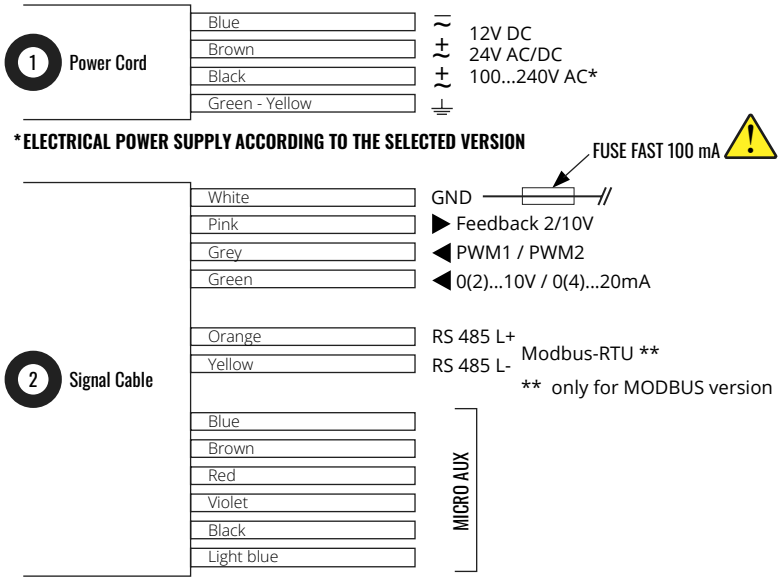
M1 (additional opening microswitch)

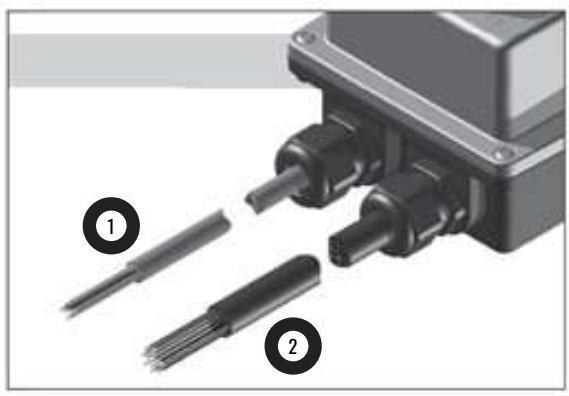


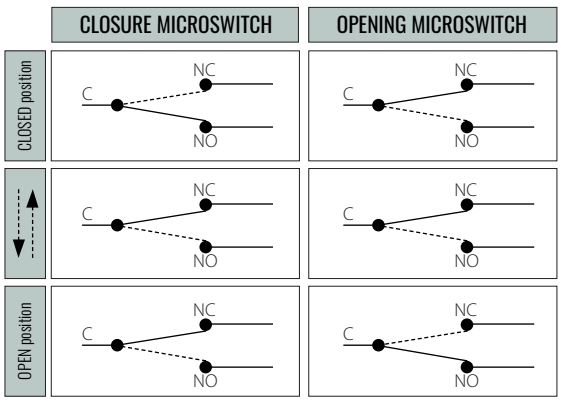
M2 (additional closing microswitch)



PROPORTIONAL CONTROL







AUXILIARIES

OPENING	C	BROWN
	NC	BLUE
	NO	RED
CLOSING	C	BLACK
	NC	VIOLET
	NO	LIGHT BLUE

TECHNICAL SPECIFICATION

	ALL IN ONE - 2/3 wires Vac	Proportional	Fail safe
Position indicator and manual override	Manual lever with arrow indicating the position of the ball (not available for Vdc models)		
Power supply	230 V - 50/60 Hz	230 Vac - 50/60 Hz	100-230 Vac - 50/60 Hz
	110 V - 50/60 Hz	24V Vdc / Vac ± 10% 50/60 Hz	
	24 V - 50/60 Hz		
	24 Vdc		
	12 Vdc		
Electric connections	Via terminal board inside the actuator		
Operating time (90°)	35 sec @ 50Hz	30 sec	15 sec (20 sec fail safe)
	30 sec @ 60Hz		
	12 sec Vdc		
Absorbed power	7,5 VA (Vac 30/35 sec) 13 VA (Vac 1/12 sec) 1A (24 Vdc) 1,5A (12 Vdc)	10W	10W
Maximum current supported by the additional microswitches	1 A resistive	max 30Vdc - 0,1 A resistive	max 30Vdc - 0,1 A resistive
Maximum noise (1 meter away)	35 dB (A) standard version 47 dB (A) Vdc standard version	45 dB (A)	45 dB (A)
Operating ambient temperature	-10 °C ÷ +50°C (14°F ÷ 122°F)		
Degree of protection	IP 67 (Equivalent to NEMA6)		
Outer case	Characterized by a ribbed shape made of glass-filled "polyarylamide" technopolymer, particularly robust and impermeable to humidity		
Certification	CE / UL (where applicable)		

CT3 - 22Nm

22 N.m (195 lb-in)

ORDERING CODES

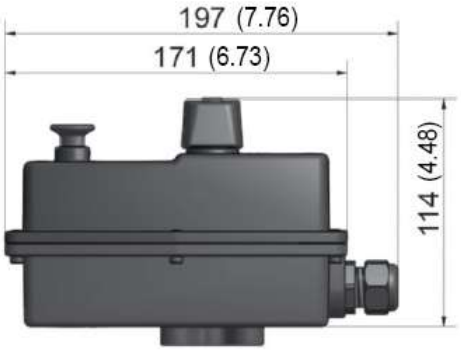
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	UL approval
CT3ACM2	230 Vac - 50/60 Hz	2/3 Wires	45 sec @ 50Hz 38 sec @ 60Hz	2 x Free auxiliary switches	•
CT3BCM2	110 Vac - 50/60 Hz	2/3 Wires	45 sec @ 50Hz 38 sec @ 60Hz		•
CT3CCM2	24 Vac - 50/60 Hz	2/3 Wires	45 sec @ 50Hz 38 sec @ 60Hz		•
CT3DCN2	24V DC	2/3 Wires	30 sec.		-
CT3ADN0	230 Vac - 50/60 Hz	Proportional 0-10V	35 sec @ 60Hz	2 x Free auxiliary switches 2 -10 Vdc	-
CT3FDN0	24V DC / AC ± 20% 50/60 Hz	Proportional 0-10V	30 sec.		-

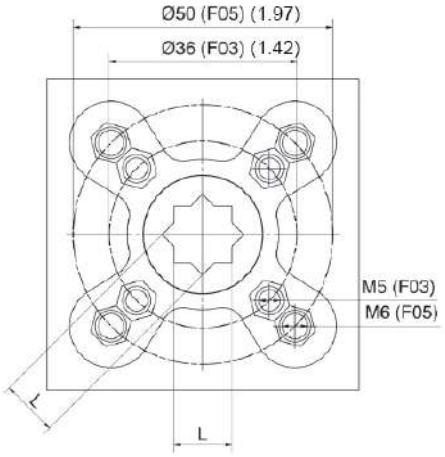
OPTIONAL MODELS ON REQUEST:

- 12 Vdc power supply
- Optional speed: - Vac only : 9 sec
  - Vdc only: 10 sec
- Proportional models: 2-10 Vdc, 0(4)-20 mA, Modbus
- Electronic fail safe (see pag 41)

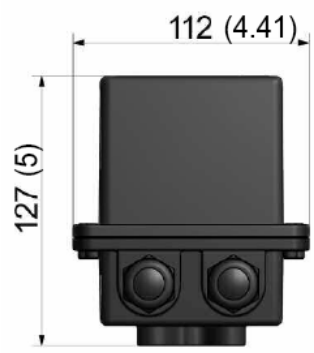
DIMENSIONS MM (INCHES)

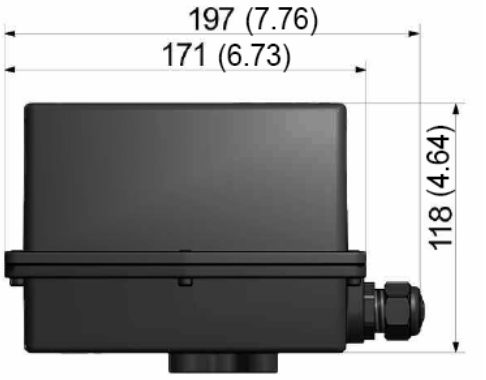
VAC MODELS





VDC MODELS

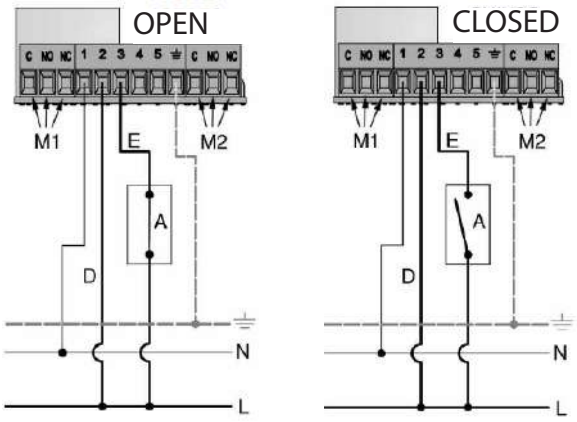




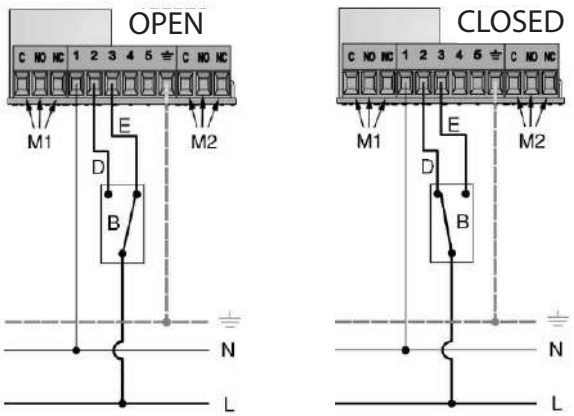
ISO 5211	L
F03	9 mm with adapter (0.35 inch)
F05	11 mm (0.43 inch)
Hole depth	18 mm (0.71 inch)

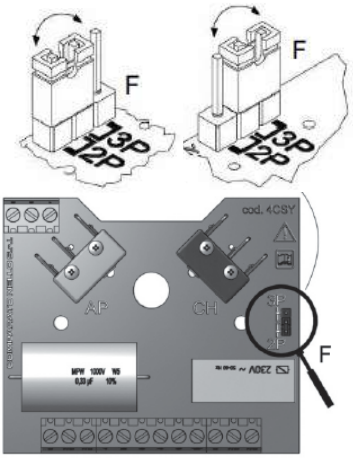
Wiring diagrams

2 WIRES CONTROL



3 WIRES CONTROL

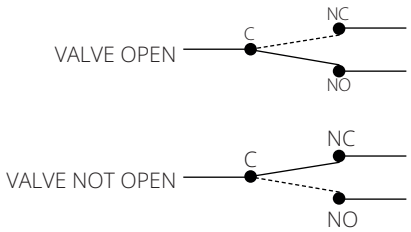




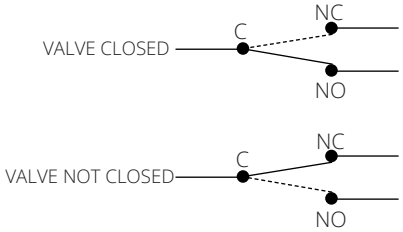
Vac models: Move the jumper to have the desired electrical connection.
Vdc models: No jumper change is needed

Auxiliary switches

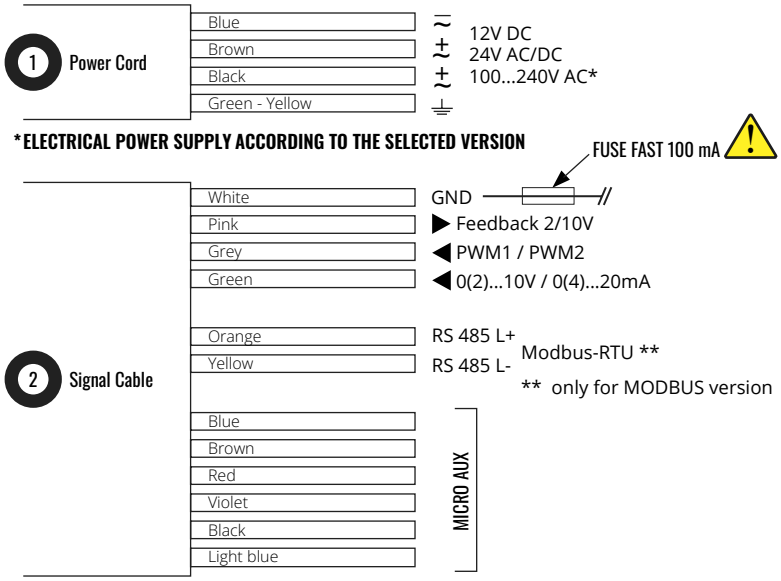
M1 (additional opening microswitch)

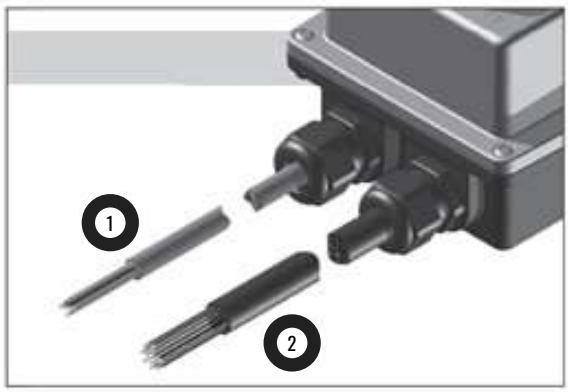


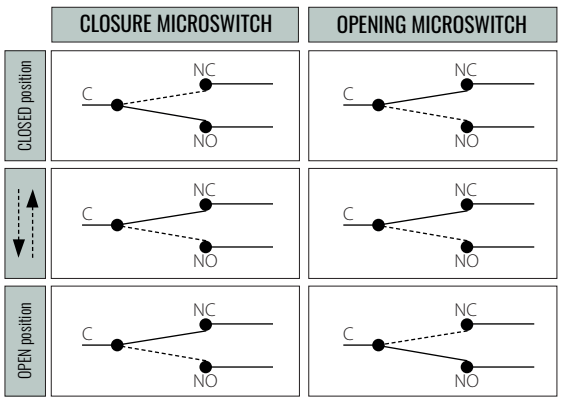
M2 (additional closing microswitch)



PROPORTIONAL CONTROL







AUXILIARIES

OPENING	C	BLACK
	NC	LIGHT BLUE
	NO	VIOLET
CLOSING	C	BROWN
	NC	RED
	NO	BLUE

TECHNICAL SPECIFICATION

	ALL IN ONE - 2/3 wires Vac	Proportional
Position indicator and manual override	Manual lever with arrow indicating the position of the ball (not available for Vdc models)	
Power supply	230 V - 50/60 Hz	230 Vac - 50/60 Hz
	110 V - 50/60 Hz	24V Vdc / Vac ± 10% 50/60 Hz
	24 V - 50/60 Hz	
	24 Vdc	
Electric connections	Via terminal board inside the actuator	
Operating time (90°)	45 sec @ 50Hz Vac	35 sec Vac 30 sec Vdc
	38 sec @ 60Hz Vac	
	30 sec Vdc	
Absorbed power	24 VA (Vac) 1A (24 Vdc)	25 W
Maximum current supported by the additional microswitches	1 A resistive	max 30Vdc - 0,1 A resistive
Maximum noise (1 meter away)	42 dB (A) Vac standard version 52 dB (A) Vdc standard version	60 dB (A)
Operating ambient temperature	-10 °C ÷ +50°C (14°F ÷ 122°F)	
Degree of protection	IP 67 (Equivalent to NEMA6)	
Outer case	Characterized by a ribbed shape made of glass-filled "polyarylamide" technopolymer, particularly robust and impermeable to humidity	
Certification	CE / UL (where applicable)	

CT4

40 N.m (354 lb-in)

ORDERING CODES

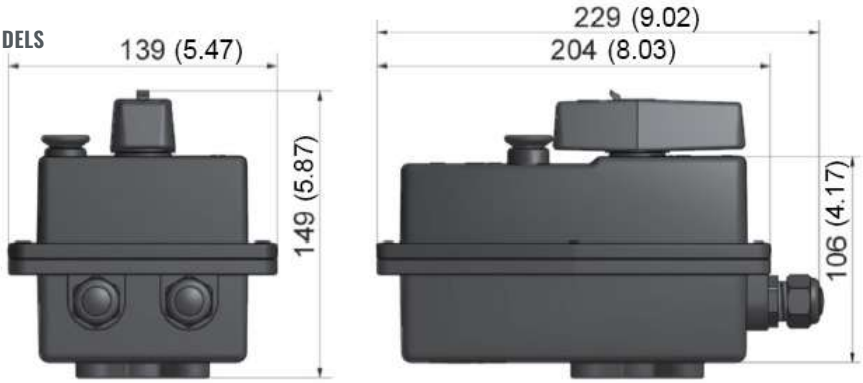
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	UL approval
CT4ACM2	230 Vac 50 Hz	2/3 Wires	55 sec.	2 x Free auxiliary switches	•
CT4BCM2	110 Vac 50 Hz	2/3 Wires	55 sec.		•
CT4CCM2	24 Vac 50 Hz	2/3 Wires	55 sec.		•
CT4HCM2	230 Vac 60Hz	2/3 Wires	45 sec.		-
CT4ICM2	110 Vac 60Hz	2/3 Wires	45 sec.		-
CT4LCM2	24 Vac 60Hz	2/3 Wires	45 sec.		-
CT4HDN0	230 Vac - 50/60 Hz	Proportional 0-10V	30 sec @ 60Hz	2 x Free auxiliary switches 2 -10 Vdc	-
CT4FDN0	24V DC / AC ± 20% 50/60 Hz	Proportional 0-10V	30 sec.		-

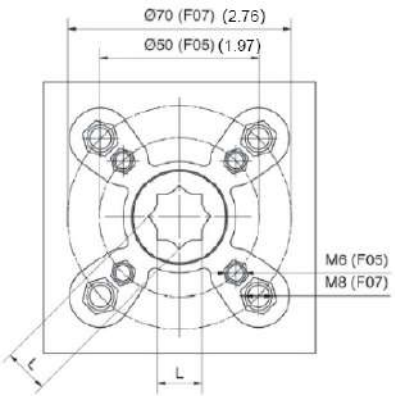
OPTIONAL MODELS ON REQUEST:

- 24Vdc and 12 Vdc power supply
- Optional speed: - Vac only : 14 sec and 32 sec
- Proportional models: 2-10 Vdc, 0(4)-20 mA, Modbus
- Electronic fail safe (see pag 41)

DIMENSIONS MM (INCHES)

VAC MODELS

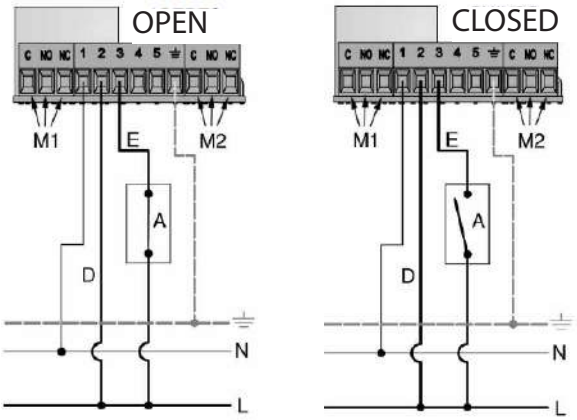




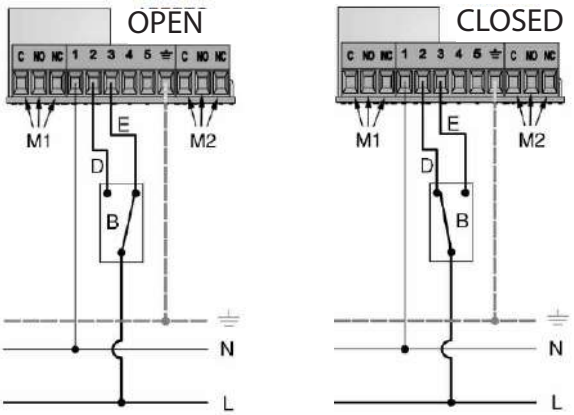
ISO 5211	L
F05	11 mm with adapter (0.43 inch)
F07	14 mm (0.55 inch)
Hole depth	18 mm (0.71 inch)

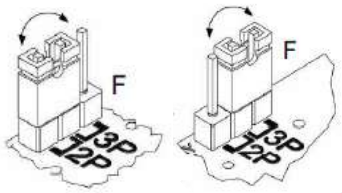
Wiring diagrams

2 WIRES CONTROL

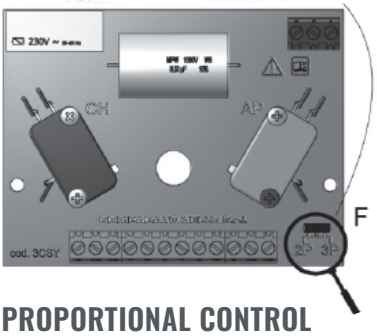


3 WIRES CONTROL



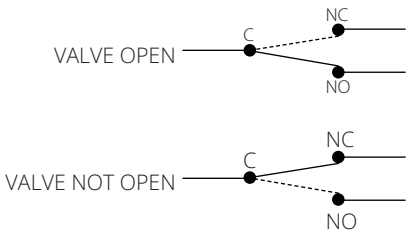


Vac models: Move the jumper to have the desired electrical connection.
Vdc models: No jumper change is needed

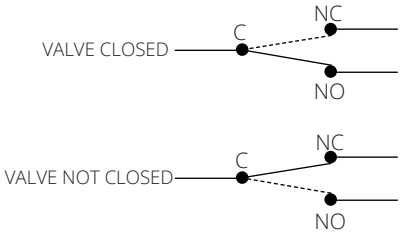


Auxiliary switches

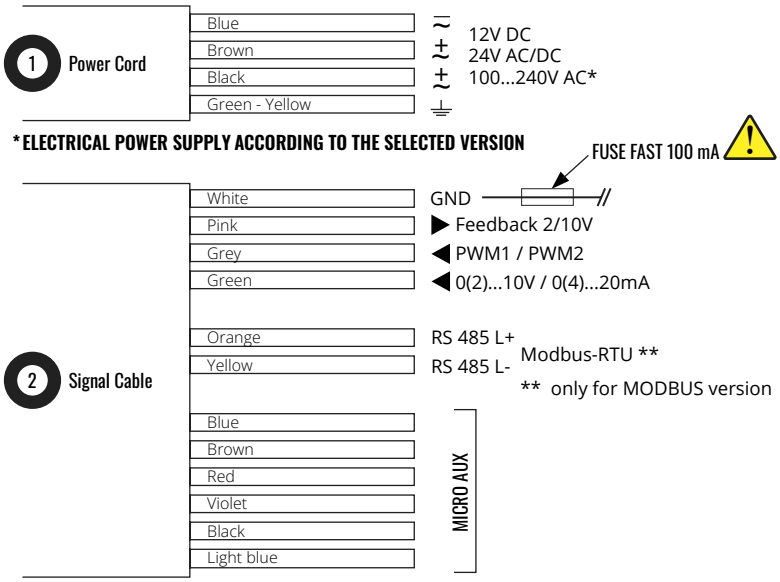
M1 (additional opening microswitch)

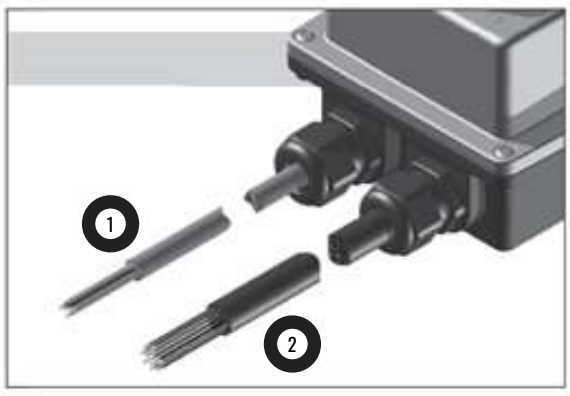


M2 (additional closing microswitch)



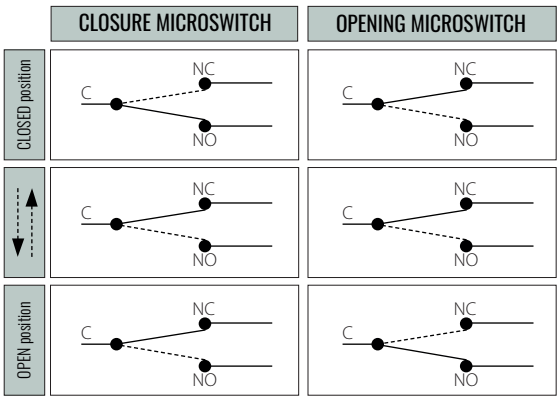
PROPORTIONAL CONTROL





AUXILIARIES

OPENING	C	BLACK
	NC	LIGHT BLUE
	NO	VIOLET
CLOSING	C	BROWN
	NC	RED
	NO	BLUE



TECHNICAL SPECIFICATION

	ALL IN ONE - 2/3 wires Vac	Proportional
Position indicator and manual override	Manual lever with arrow indicating the position of the ball	
Power supply	230 V - 50 Hz	230 Vac - 50/60 Hz
	110 V - 50 Hz	24V Vdc / Vac ± 10% 50/60 Hz
	24 V - 50Hz	
	230 V - 60 Hz	
	110 V - 60 Hz	
	24 V - 60 Hz	
Electric connections	Via terminal board inside the actuator	
Operating time (90°)	55 sec @ 50Hz Vac	30 sec
	45 sec @ 60Hz Vac	
Absorbed power	24 VA (Vac)	25 W
Maximum current on the output phase at terminals 4 and 5	1 A resistive	-
Maximum current supported by the additional microswitches	1 A resistive	max 30Vdc - 0,1 A resistive
Maximum noise (1 meter away)	50 dB (A) standard version	65 dB (A)
Operating ambient temperature	-10 °C ÷ +50°C (14°F ÷ 122°F)	
Degree of protection	IP 67 (Equivalent to NEMA6)	
Outer case	Characterized by a ribbed shape made of glass-filled "polyarylamide" technopolymer, particularly robust and impermeable to humidity	
Certification	CE / UL (where applicable)	

Super capacitors electronic Fail Safe actuators

Using the SuperCaps technology the CT2, CT3 and CT4 actuators can store the necessary energy to drive open or close the valve in a safety position during an electrical power supply interruption. Fail safe open or close position in valves is crucial to prevent serious damages in critical applications such as coils freezing or steam exchangers overpressure. By default they are all provided with a 2-10 Vdc feedback, two auxiliary switches and 1m cable lenght.

ORDERING CODES

Code	Torque (Nm)	Power supply
CT2FCM2Fx	11	24Vdc - 24V 50/60 Hz
CT2GCM2Fx	11	100...240V 50/60 Hz
CT3FCM2Fx	22	24Vdc - 24V 50/60 Hz
CT3GCM2Fx	22	100...240V 50/60 Hz
CT4FCM2Fx	40	24Vdc - 24V 50/60 Hz
CT4GCM2Fx	40	100...240V 50/60 Hz

Note: X=O for Fail safe valve open; C for Fail Safe valve close X

TECHNICAL SPECIFICATION - FAIL SAFE MODELS

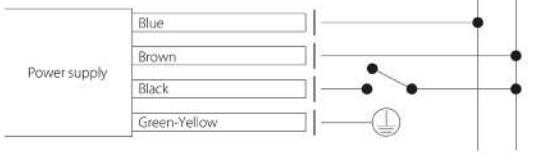
	CT2	CT3	CT4
Available power supply	24Vdc - 24V 50/60 Hz - 100...240V 50/60Hz		
Max. Running power consumption	10W	25W	25W
Power supply cable	1 m (40 in.) length AWG20		
Signal cable	1 m (40 in.) length AWG24		
Auxiliary switches rating	max 30V DC - 0.1 A	max 30V DC - 0.1 A	max 30V DC - 0.1 A
Nominal Torque	11 Nm	22 Nm	40 Nm
Available control type	On/off 3&2 wires - proportional		
Valve position feedback	2 -10V DC		
Manual Override	Manual lever with arrow indicating the position of the sphere		
Running Speed (90°)	30s		
Fail safe speed(90°)	20 s	26 s	30 s
Max Noise	45 dB (A)	60 dB (A)	65 dB (A)
Degree of protection	IP67		
SuperCaps recharging time	15 min (90°)	15 min (90°)	50 min (90°)
Operating ambient temperature	-10°C ÷ 50°C (14°F ÷ 122°F)		
Certification	CE / UL (where applicable)		

WIRING DIAGRAMS

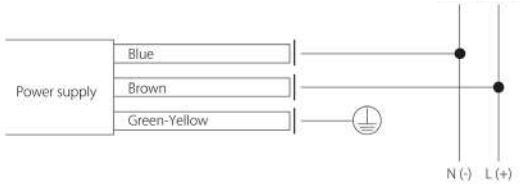
ON/OFF MODELS

3 point control

2 point control



Proportional models



VALVES COMBINATION




s.64 Low Torque	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	S64FxxA	1"	0 ÷ 6 Bar (0 ÷ 87 PSI)	•	•		
	S64GxxA	1 ¼"		•	•		
	S64HxxA	1 ½"		•	•		
	S64IxxA	2"		•	•		
	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	S64FxxA	1"	6 ÷ 16 Bar (87 ÷ 232 PSI)	•	•		
	S64GxxA	1 ¼"		•	•		
	S64HxxA	1 ½"		•	•		
	S64IxxA	2"			•		

s.64	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	S64Dxx	1/2"	0 ÷ 15 Bar (0 ÷ 217PSI)	•	•		
	S64Exx	3/4"		•	•		
	S64Fxx	1"		•	•		
	S64Gxx	1 ¼"			•		
	S64Hxx	1 ½"					•
	S64Ixx	2"					•
	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	S64Dxx	1/2"	15 ÷ 40 Bar (217 ÷ 580 PSI)	•	•		
	S64Exx	3/4"		•	•		
	S64Fxx	1"		•	•		
	S64Gxx	1 ¼"				•	
	S64Hxx	1 ½"					•
	S64Ixx	2"					•

s.65	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	S65Dxx	1/2"	0 ÷ 16 Bar (0 ÷ 232 PSI)	•	•		
	S65Exx	3/4"		•	•		
	S65Fxx	1"		•	•		
	S65Gxx	1 ¼"		•	•		

s.134	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	134Dxx	1/2"	0 ÷ 14 Bar (0 ÷ 203 PSI)	•	•		
	134Exx	3/4"		•	•		
	134Fxx	1"				•	
	134Gxx	1 ¼"				•	
	134Hxx	1 ½"					•
	134Ixx	2"					•

s.73 & s.76	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	S73Dxx	1/2"	0 ÷ 16 Bar (0 ÷ 232 PSI)		•	•	
	S73Exx	3/4"				•	
	S73Fxx	1"				•	
	S73Gxx	1 ¼"					•
	S73Hxx	1 ½"					•
	S73Ixx	2"					•
	code	size	ΔP	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm
	S76Dxx	1/2"	0 ÷ 16 Bar (0 ÷ 232 PSI)	•	•	•	
	S76Exx	3/4"		•	•	•	
	S76Fxx	1"		•	•	•	
	S76Gxx	1 ¼"				•	
	S76Hxx	1 ½"				•	
	S76Ixx	2"					•

CH Actuator

High Torque electric actuator

The CH valve actuators are used on ball or butterfly valves.

This quarter turn actuators are available from 50 Nm to 400Nm. As standard, this actuator offers an IP67 ABS housing, dome position indicator, end of travel limit switches, manual override and an internal heater.
The new Series offers multi-voltage capability and failsafe functionality utilizing a super-capacitor back-up system.

The CH family provides the following output running torques:

Model	Nominal Torque
CH1	50 Nm (443 lb-in)
CH2	80 Nm (708 lb-in)
CH3	110 Nm (974 lb-in)
CH4	200 Nm (1770 lb-in)
CH5	400 Nm (3540 lb-in)

TECHNICAL FEATURES & BENEFITS:

- **Multiple ISO 5211 mountings.**
The CH Series Actuators are ready for direct attachment on valves providing two size ISO 5211 and an octagonal female drive output.

- **Dome style local visual indicator.**
A clearly visible indicator allows intuitive indication of the valve position.

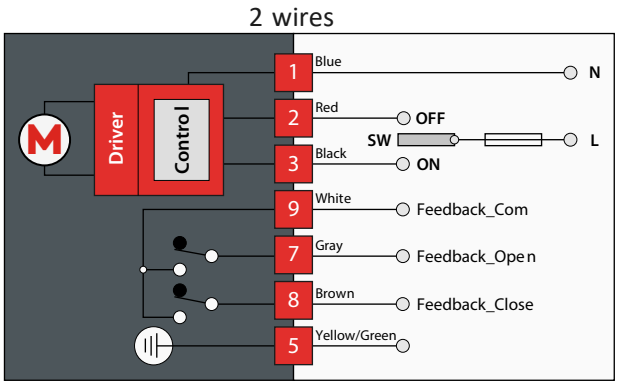
- **Hand operation.**
by hexagonal wrench,supplied in clip under the actuator, it's possible to do open/close operation when no power is being applied.

- **Fully weatherproof to IP67.**
Enhances the range of application environments.

- **End of travel confirmation switches.**
Provides line voltage capable switch up to 1 A Resistive.

- **Special models available.**
The CH family fits the customer needs extending the application coverage on request.

WIRING DIAGRAMS - ON/OFF MODELS



CH1

50 N.m (443 lb-in)

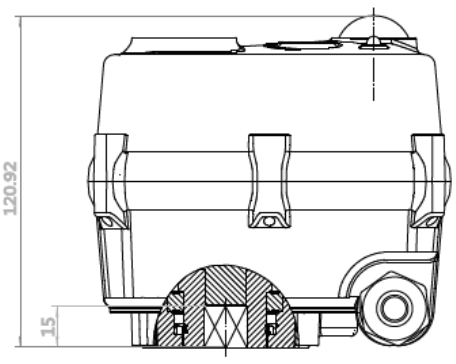
Available versions CH1 model				
Part number	**Voltage**	**Function**	**Torque (Nm)**	**Torque (lb-in)**
CH1FCM2	24VAC/DC	ON OFF	50 Nm	443 lb-in
CH1GCM2	95-265VAC	ON OFF	50 Nm	443 lb-in
CH1FCM2Fx	24VAC/DC	FAILSAFE	50 Nm	443 lb-in
CH1GCM2Fx	95-265VAC	FAILSAFE	50 Nm	443 lb-in
CH1GGM2	95-265VAC	4-20MA	50 Nm	443 lb-in
CH1FGM2	24VAC/DC	4-20MA	50 Nm	443 lb-in

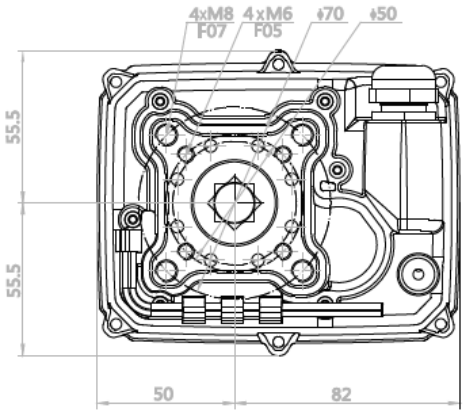
TECHNICAL SPECIFICATION

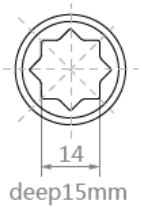
	ON-OFF ELECTRIC ACTUATOR		**ON-OFF FAILSAFE ELECTRIC ACTUATOR**	
Ordering code	CH1GCM2	CH1FCM2	CH1GCM2Fx*	CH1FCM2Fx*
Rated voltage	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)
Voltage range	AC: 95-265V DC: 100-300V	AC: 18-26V DC: 22-28V	AC: 95-265V DC: 100-300V	AC: 18-26V DC: 22-28V
Consumption	25 W	25 W	40 W	40 W
Peak current	6.25 A	6.25 A	6.25 A	6.25 A
Fuse	2 A	4 A	4 A	4 A
Maximum break Torque Nm	60 Nm		60 Nm	
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied.			
Run time	≈ 10 sec			
Operating frequency	Not continuous, allow ≥ 1 minute between cycles			
Position confirmation	Mechanically driven dome style visual 2 colour indicator			
Mounting restriction	Do not install underslung/upside down. Can install upright horizontally or vertically.			
End position indication	Micro-switches operated by adjustable internal cams , set slightly ahead of the final motor stop position.			
ISO 5211	F05 & F07			
Working angle	Factory set at 90° ± 2°, maximum angle of rotation 360° unless multi turn series.			
Female drive	14mm x 15mm deep			
Ingress protection	IP67			
Max media temperature	≤ 80° C			
Ambient temperature	-20° C to 60° C			
Non-operating temperature	-40° C to 80° C			
Ambient humidity	5-95% RH non-condensing			
Housing	Plastic (ABS) cover			

***Note:** x = O Failsafe Valve Open; C Failsafe Valve Closed

DIMENSIONS MM







CH 2

80 N.m (708 lb-in)

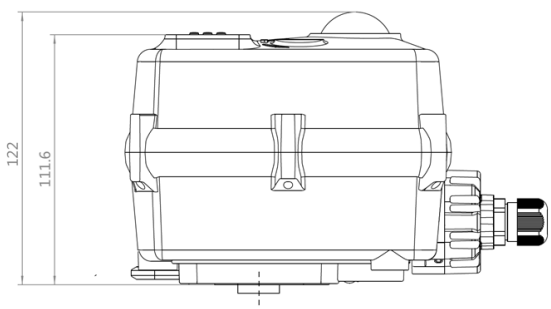
Available versions CH2 model				
Part number	**Voltage**	**Function**	**Torque (Nm)**	**Torque (lb-in)**
CH2FCM2	24VAC/DC	ON OFF	80 Nm	708 lb-in
CH2GCM2	95-265VAC	ON OFF	80 Nm	708 lb-in
CH2FCM2Fx	24VAC/DC	FAILSAFE	60 Nm	531 lb-in
CH2GCM2Fx	95-265VAC	FAILSAFE	60 Nm	531 lb-in
CH2GGM2	95-265VAC	4-20MA	80 Nm	708 lb-in
CH2FGM2	24VAC/DC	4-20MA	80 Nm	708 lb-in

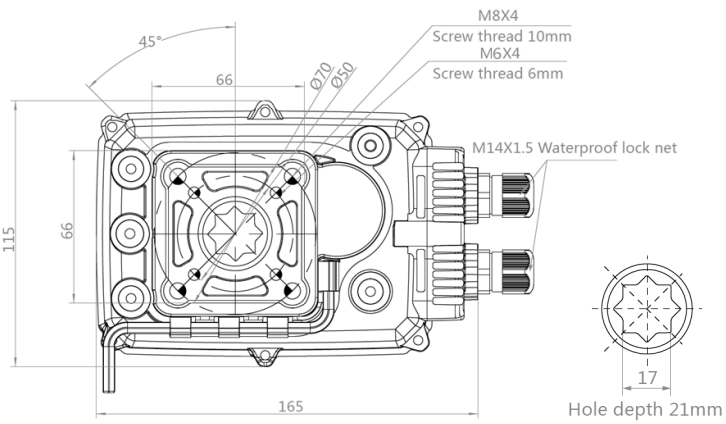
TECHNICAL SPECIFICATION

	ON-OFF ELECTRIC ACTUATOR		**ON-OFF FAILSAFE ELECTRIC ACTUATOR**	
Ordering code	CH2GCM2	CH2FCM2	CH2GCM2Fx*	CH2FCM2Fx*
Rated voltage	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)
Voltage range	AC: 95-265V DC: 100-300V	AC: 18-26V DC: 22-28V	AC: 95-265V DC: 100-300V	AC: 18-26V DC: 22-28V
Consumption	60 W	60 W	60 W	60 W
Peak current	3.75 A	3.75 A	3.75 A	3.75 A
Fuse	4 A	4 A	4 A	4 A
Maximum break Torque Nm	90 Nm	90 Nm	90 Nm	90 Nm
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied.			
Run time	≈ 10 sec			
Operating frequency	Not continuous, allow ≥ 1 minute between cycles			
Position confirmation	Mechanically driven dome style visual 2 colour indicator			
Mounting restriction	Do not install underslung/upside down. Can install upright horizontally or vertically.			
End position indication	Micro-switches operated by adjustable internal cams , set slightly ahead of the final motor stop position.			
ISO 5211	F05 & F07			
Working angle	Factory set at 90° ± 2°, maximum angle of rotation 360° unless multi turn series.			
Female drive	17mm x 21mm deep			
Ingress protection	IP67			
Max media temperature	≤ 80° C			
Ambient temperature	-20° C to 60° C			
Non-operating temperature	-40° C to 80° C			
Ambient humidity	5-95% RH non-condensing			
Housing	Plastic (ABS) cover			

***Note:** x=O Failsafe Valve Open; C Failsafe Valve Closed

DIMENSIONS MM





CH 3

110 N.m (974 lb-in)

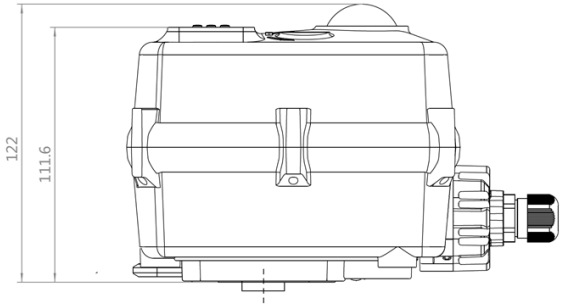
Available versions CH3 model				
Part number	**Voltage**	**Function**	**Torque (Nm)**	**Torque (lb-in)**
CH3FCM2	24VAC/DC	ON OFF	110 Nm	974 lb-in
CH3GCM2	95-265VAC	ON OFF	110 Nm	974 lb-in
CH3FCM2Fx	24VAC/DC	FAILSAFE	90 Nm	796 in-lb
CH3GCM2Fx	95-265VAC	FAILSAFE	90 Nm	796 in-lb
CH3GGM2	95-265VAC	4-20MA	110 Nm	974 lb-in
CH3FGM2	24VAC/DC	4-20MA	110 Nm	974 lb-in

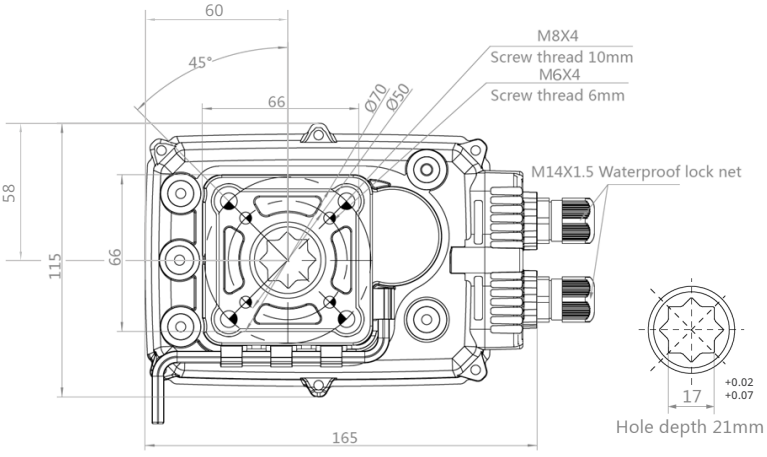
TECHNICAL SPECIFICATION

	ON-OFF ELECTRIC ACTUATOR		ON-OFF FAILSAFE ELECTRIC ACTUATOR	
Ordering code	CH3GCM2	CH3FCM2	CH3GCM2Fx*	CH3FCM2Fx*
Rated voltage	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)
Voltage range	AC 95-265V / DC 100-300V	AC 20-28 / DC 22-32V	AC 95-265V / DC 100-300V	AC 20-28 / DC 22-32V
Consumption	100 W	100 W	100 W	100 W
Peak current	6.25 A	6.25 A	6.25 A	6.25 A
Fuse	2 A	10 A	2 A	10 A
Maximum break Torque Nm	140 Nm		140 Nm	
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied Run time			
Run time	≈ 10 sec			
Operating frequency	AC not continuous, 75% duty cycle but recommend allowing ≥1 min between cycles. DC is continuous.			
Position confirmation	Mechanically driven dome style visual 2 color indicator			
Mounting restriction	None, it can be mounted at any angle. Leave space for manual operation and electrical connection.			
End position indication	Micro-switches operated by adjustable internal cams , set slightly ahead of the final motor stop position.			
ISO 5211	F05 & F07			
Working angle	Factory set at 90° ± 2°			
Female drive	17mm octagon x 21mm deep			
Ingress protection	IP67			
Max media temperature	≤ 80° C			
Ambient temperature	-20° C to 60° C			
Non-operating temperature	-40° C to 80° C			
Ambient humidity	5-95% RH non-condensing			
Housing	Plastic (ABS) cover			

***Note:** x=O Failsafe Valve Open; C Failsafe Valve Closed

DIMENSIONS MM





CH 4

200 N.m (1770 lb-in)

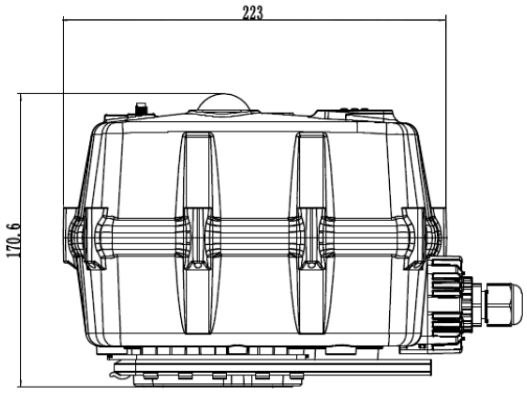
Available versions CH4 model				
Part number	**Voltage**	**Function**	**Torque**	**Torque (lb-in)**
CH4FCM2	24VAC/DC	ON OFF	200 Nm	1770 lb-in
CH4GCM2	95-265VAC	ON OFF	200 Nm	1770 lb-in
CH4FCM2Fx	24VAC/DC	FAILSAFE	200 Nm	1770 lb-in
CH4GCM2Fx	95-265VAC	FAILSAFE	200 Nm	1770 lb-in
CH4GGM2	95-265VAC	4-20MA	200 Nm	1770 lb-in
CH4FGM2	24VAC/DC	4-20MA	200 Nm	1770 lb-in

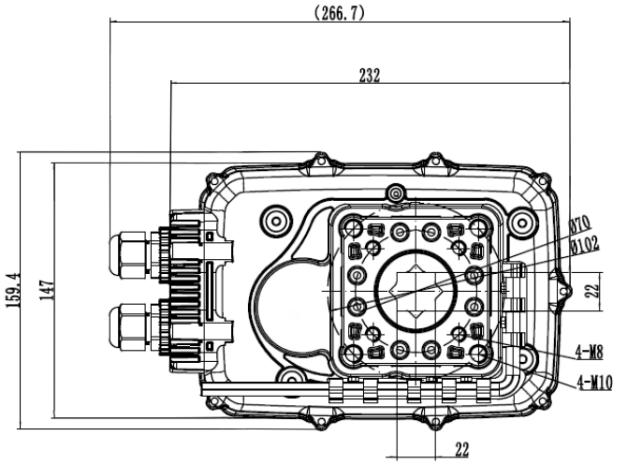
TECHNICAL SPECIFICATION

	ON-OFF ELECTRIC ACTUATOR		ON-OFF FAILSAFE ELECTRIC ACTUATOR	
Ordering code	CH4GCM2	CH4FCM2	CH4GCM2Fx*	CH4FCM2Fx*
Rated voltage	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)
Voltage range	AC: 95-265V DC: 100-300V	AC: 18-26V DC: 22-28V	AC: 95-265V DC: 100-300V	AC: 18-26V DC: 22-28V
Consumption	120 W	120 W	150 W	150 W
Peak current	7.5 A	7.5 A	7.5 A	7.5 A
Fuse	10 A	10 A	10 A	10 A
Maximum break Torque Nm	240 Nm		240 Nm	
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied. Must engage declutch button on cover first.			
Run time	≈ 25 sec			
Operating frequency	Not continuous, allow ≥ 1 minute between cycles			
Position confirmation	Mechanically driven dome style visual 2 colour indicator			
Mounting restriction	Do not install underslung/upside down. Can install upright horizontally or vertically.			
End position indication	Micro-switches operated by adjustable internal cams , set slightly ahead of the final motor stop position.			
ISO 5211	F07 & F10			
Working angle	Factory set at 90° ± 2°, maximum angle of rotation 360° unless multi turn series.			
Female drive	22mm x 27mm deep			
Ingress protection	IP67			
Max media temperature	≤ 80° C			
Ambient temperature	-20° C to 60° C			
Non-operating temperature	-40° C to 80° C			
Ambient humidity	5-95% RH non-condensing			
Housing	Plastic (ABS) cover			

***Note:** x=O Failsafe Valve Open; C Failsafe Valve Closed

DIMENSIONS MM





CH 5

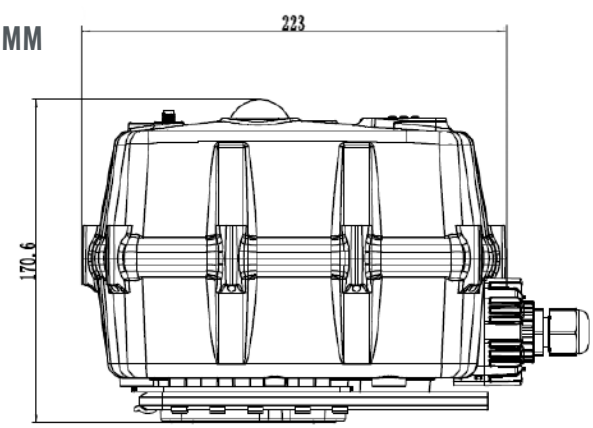
400 N.m (3540 lb-in)

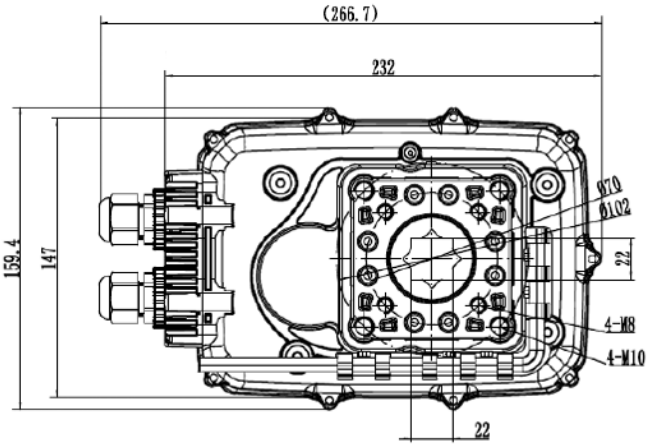
Available versions CH5 model				
Part number	**Voltage**	**Function**	**Torque**	**Torque (lb-in)**
CH5FCM2	24VAC/DC	ON OFF	400 Nm	3540 lb-in
CH5GCM2	95-265VAC	ON OFF	400 Nm	3540 lb-in
CH5GGM2	95-265VAC	4-20MA	400 Nm	3540 lb-in
CH5FGM2	24VAC/DC	4-20MA	400 Nm	3540 lb-in

TECHNICAL SPECIFICATION

	ON-OFF ELECTRIC ACTUATOR		ON-OFF FAILSAFE ELECTRIC ACTUATOR	
Ordering code	CH5GCM2	CH5FCM2	NA	NA
Rated voltage	95-265VAC/DC (50/60Hz)	24VAC/DC (50/60Hz)		
Voltage range	AC: 95-265V DC: 100-300V	AC: 18-26V DC: 22-28V		
Consumption	150 W	150 W		
Peak current	9.3 A	9.3 A		
Fuse	15 A	15 A		
Maximum break Torque Nm	450 Nm			
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied. Must engage declutch button on cover first			
Run time	≈ 25 sec			
Operating frequency	Not continuous, allow ≥ 1 minute between cycles			
Position confirmation	Mechanically driven dome style visual 2 colour indicator			
Mounting restriction	Do not install underslung/upside down. Can install upright horizontally or vertically			
End position indication	Micro-switches operated by adjustable internal cams , set slightly ahead of the final motor stop position			
ISO 5211	F07 & F10			
Working angle	Factory set at 90° ± 2°, maximum angle of rotation 360° unless multi turn series			
Female drive	22mm x 27mm deep			
Ingress protection	IP67			
Max media temperature	≤ 80° C			
Ambient temperature	-20° C to 60° C			
Non-operating temperature	-40° C to 80° C			
Ambient humidity	5-95% RH non-condensing			
Housing	Plastic (ABS) cover			

DIMENSIONS MM

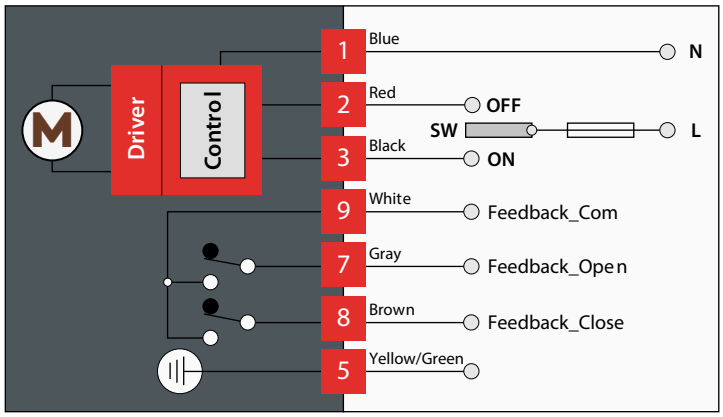




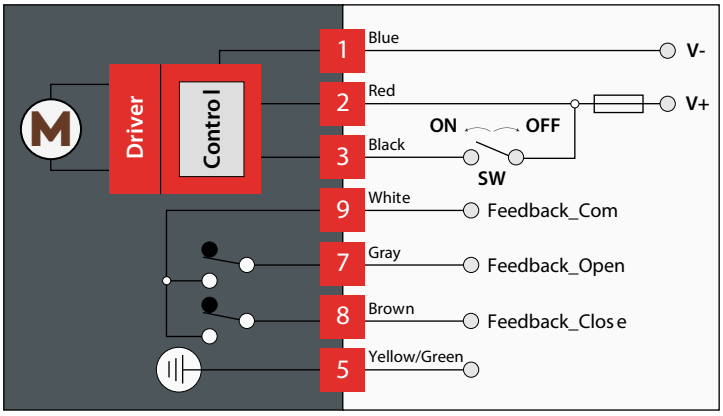
WIRING DIAGRAMS

On/Off models

2 wires



3 wires



VALVES COMBINATION

s.84 AM	code	size	ΔP	CH1 - 50Nm	CH2 - 80Nm	CH3 - 110Nm	CH4 - 200Nm	CH5 - 400Nm
	S84L00AM	2 ½"	0 ÷ 15 Bar 0 ÷ 200 PSI	•				
	S84M00AM	3"				•		
	S84N00AM	4"					•	

code	size	ΔP	CH1 - 50Nm	CH2 - 80Nm	CH3 - 110Nm	CH4 - 200Nm	CH5 - 400Nm
S84L00AM	2 ½"	15 ÷ 30 Bar 200 ÷ 450 PSI			•		
S84M00AM	3"					•	
S84N00AM	4"						•

s.95 AM	code	size	ΔP	CH1 - 50Nm	CH2 - 80Nm	CH3 - 110Nm	CH4 - 200Nm	CH5 - 400Nm
	S95L41AM	2 ½"	0 ÷ 15 Bar 0 ÷ 200 PSI	•				
	S95M41AM	3"				•		
	S95N41AM	4"					•	

code	size	ΔP	CH1 - 50Nm	CH2 - 80Nm	CH3 - 110Nm	CH4 - 200Nm	CH5 - 400Nm
S95L41AM	2 ½"	15 ÷ 30 Bar 200 ÷ 450 PSI			•		
S95M41AM	3"					•	
S95N41AM	4"						•

EA

Pneumatic actuator

The **EA actuators** series is designed for quarter turn applications on **RUB** ball valves in a compact and lightweight design. They can be supplied single (spring return) or double acting with a wide range of output torques offering a complete valve automation solution.

EA actuator has a patented guide bar which keeps the rack and pinion gear teeth in perfect engagement in all directions of operations. The contact between the teeth is pure rolling contact – no rubbing or friction which means minimum wear and long cycle life.

Superior appearance and better corrosion resistance. It has a dense jet black anodized finish which makes the EA line suitable for indoor and outdoor applications.

Actuators are designed in compliance with the following standards:

- ISO 5211 - Actuator to Valve Interface Standard
- VDI/VDE 3845 - Standard for Namur mounting of accessories (switchboxes, solenoid valves, positioners)
- ATEX - Explosive Atmosphere Directive (2014/34/EU)
- PED - Pressure Equipment Directive (97/23/CE)

TECHNICAL FEATURES

- ISO 5211 direct mount on valve
- Indoor or outdoor installation
- Pilot ring for perfect alignment of shaft and stem
- Nickel plated steel shaft
- Stainless steel fasteners
- High tensile long life return springs
- Visual position indicator
- Fast field conversion between double acting and spring return, fail open or fail closed
- Ambient and operating temperature range: -30°C (-22°F) / +100°C (+212°F)
- NAMUR pads for direct mount of solenoid and limit switch
- Extruded aluminum body hard anodized cylinder bore rock hard and glass smooth

ORDERING CODES:

Code	ISO5211 Flange	Square shaft
EAx-1	F03	9 mm
EAx-2	F03/05	9 mm
EAx-2A	F03/05	11 mm
EAx-2B	F04	11 mm
EAx-3	F05/07	14 mm
EAx-4	F05/07	14 mm
EAx-5	F05/07	17 mm
EAx-6	F07/10	17 mm
EAx-7	F07/10	22 mm

Code	ISO5211 Flange	Square shaft
EAx-1	F03	0.35 inch
EAx-2	F03/05	0.35 inch
EAx-3	F05/07	0.55 inch
EAx-4	F05/07	0.55 inch
EAx-5	F05/07	0.67 inch
EAx-6	F07/10	0.67 inch
EAx-7	F07/10	0.87 inch
EAx-9	F10/12	1.06 inch
EAx-10	F14	1.42 inch
EAx-12	F16	1.81 inch

Note for code:
x=2 for metric threads; 4 for Imperial threads

ACCESSORIES

- Limit switch box
- Solenoid valves
- Visual position indicator
- Link kit
- Springs


Limit switch box


Solenoid valve


Springs

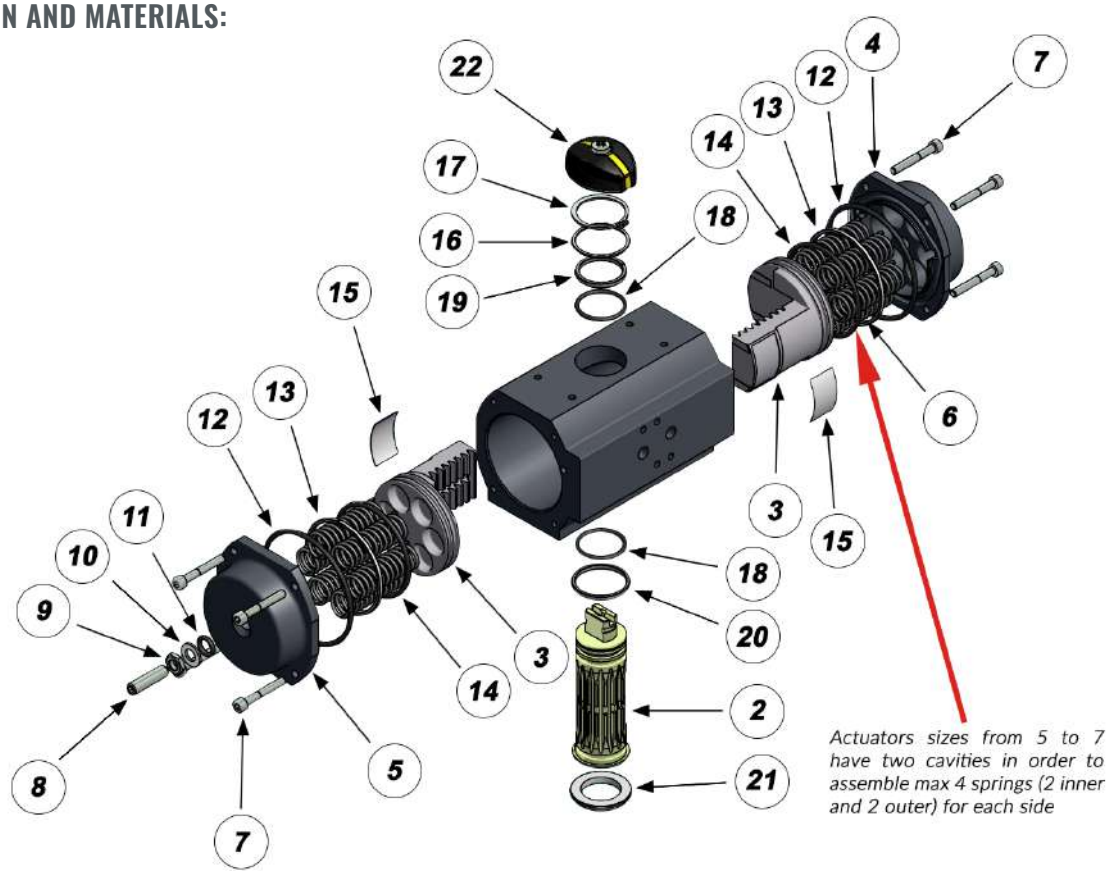

Link kit


Visual position indicator

Solenoid Valve Code	Description
AD-00001	AD-1 (UCI) COMPLETE
AD-00002	AD-1 DUAL COIL 120 VAC SOLENOID
AD-00003	SOLENOID VLV AD-1 5/2 3/2 110 VAC
AD-00009	COILS 12 DC (28)
AD-00012	COILS 24AC (16)
AD-00013	COILS 24 DC (12)
AD-00015	SINGLE PILOT SOLENOID
AD-00016	AD-1 DUAL COIL 24 AC SOLENOID
AD-00017	AD-1 (UCI) COMPLETE COIL 24 DC
AD-00018	AD-1 (UCI) COMPLETE COIL 24 AC
AD-00019	SOLENOID VLV AD-1 5/2 3/2 24 VAC
AD-00020	COILS 220 VAC

Auxiliary switches Code	Description
EA2-LS	Auxiliary switches box

CONSTRUCTION AND MATERIALS:



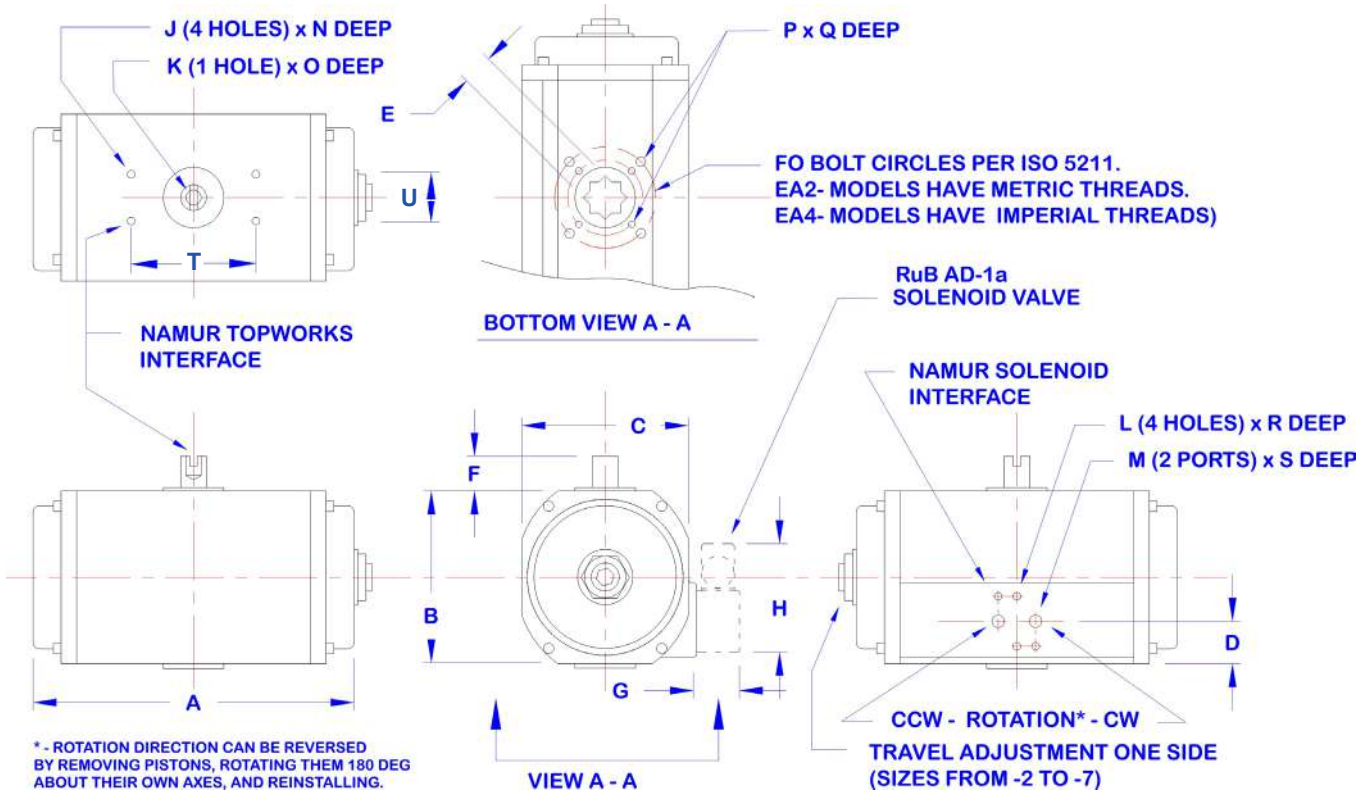
BILL OF MATERIALS

EA-4 is shown. Smaller sizes have similar construction except EA-1 that has Nylon endcaps and pistons

	Part description	Q.ty	Material
1	Body	1	Anod, aluminum
2	Shaft	1	Steel - zinc plated
3	Piston	2	Aluminum
4	End-cap	1	Anod, aluminum
5	End-cap (stop bolt)	1	Anod, aluminum
6	Spring	12 Max	Cr-Si steel
7	Cap bolt	8	St steel
8	Stop bolt	1	Hi tensile steel
9	Stop bolt nut	1	Hi tensile steel
10	Washer	1	Polyethylene
11	O-ring (end stop)	1	NBR
12	O-ring (end cover)	2	NBR
13	Piston ring	2	POM**
14	Piston ring	2	NBR
15	Wear pad	2	POM**
16	Shaft washer	1	Polyethylene
17	Snap ring	1	Steel
18	O-ring (drive shaft)	2	NBR
19	Shaft bearing upper	1	POM**
20	Shaft bearing lower	1	POM**
21	Alignment ring	1	POM**
22	Indicator	1	Nylon

** Polyoxymethylene commonly “Delrin”

DIMENSIONS:



Size	Metric system - mm																			
	F0	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U
1	F03	103	45	51	22,5	9	20	26	67	M5	M6	M5	G1/8	5	12	M5	8	8	7	80	30
2	F03/05	150	70	70	23	9	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10	80	30
2A	F03/05	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10	80	30
2B	F04	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10	80	30
3	F05/07	187	87	91	34,5	14	20	26	67	M5	M6	M5	G1/8	8	12	M6 / M8	10 / 13	8	10	80	30
4	F05/07	206	118	113	29,5	14	20	26	67	M5	M6	M5	G1/8	8	12	M6 / M8	10 / 13	8	10	80	30
5	F05/07	194	118,5	121	29,5	17	20	26	67	M5	M6	M5	G1/4	5	12	M6 / M8	10 / 10	8	12	80	30
6	F07/10	218	140,5	136,5	29,5	17	20	26	67	M5	M6	M5	G1/4	5	12	M8 / M10	10 / 16	8	12	80	30
7	F07/10	266	166,5	156	30	22	20	26	67	M5	M6	M5	G1/4	5	12	M8 / M10	13 / 16	8	12	80	30

Size	Imperial system - inch																		
	ISO5211	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
1	F03	4.06	1.77	2.01	0.89	0.35	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.20	0.47	10-32	0.31	0.31	0.28
2	F03/05	5.91	2.76	2.76	0.91	0.35	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.31	0.47	10-32 / 1/4"-20	0.31 / 0.39	0.31	0.39
3	F05/07	7.36	3.43	3.58	1.36	0.55	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.31	0.47	1/4"-20 / 5/16"-18	0.39 / 0.51	0.31	0.39
4	F05/07	8.11	4.65	4.45	1.16	0.55	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.31	0.47	1/4"-20 / 5/16"-18	0.39 / 0.51	0.31	0.39
5	F05/07	7.64	4.67	4.76	1.16	0.67	0.79	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	1/4"-20 / 5/16"-18	0.47 / 0.47	0.31	0.50
6	F07/10	8.58	5.53	5.37	1.16	0.67	0.79	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	5/16"-18 / 3/8"-16	0.51 / 0.63	0.31	0.50
7	F07/10	10.47	6.56	6.14	1.18	0.87	0.79	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	5/16"-18 / 3/8"-16	0.51 / 0.63	0.31	0.50
9	F10/F12	13.39	8.17	7.52	1.65	1.06	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	1-2	0.79	0.31	0.50
10	F14	14.21	9.84	8.94	2.4	1.42	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	3-4	0.98	0.31	0.50
12	F16	19.52	13.31	11.81	-	1.81	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.47	0.47	3-4	1.26	0.31	0.50

TORQUE RATING CHARTS FOR EA2 ACTUATORS - METRIC THREADS

Double acting - torque in Nm						
		Air pressure supply (bar)				
EA2-	Springs	3	4	5	6	7
1	0	4.4	5.9	7.3	8.8	10.3
2-2A	0	11.9	15.8	19.8	23.7	27.7
3	0	25.4	33.8	42.3	50.7	59.2
4	0	50.7	67.6	84.5	101.4	118.3
5	0	61.3	81.7	102.1	122.5	142.9
6	0	101.0	134.6	168.3	201.9	235.6
7	0	187.0	249.3	311.7	374.0	436.3

Spring return - Torque in Nm															
						air stroke - start					air stroke - end				
	Springs	Springs		Spring stroke		Air pressure supply (bar)					Air pressure supply (bar)				
EA2-	total	outer	inner	start	end	3	4	5	6	7	3	4	5	6	7
2-2A	2			2.62	1.34	10.5	14.4	18.4	22.3	26.3	9.2	13.2	17.1	21.1	25.0
	3			3.93	2.01	9.8	13.8	17.7	21.7	25.6	7.9	11.9	15.8	19.7	23.7
	4			5.24	2.68	9.2	13.1	17.0	21.0	24.9	6.6	10.5	14.5	18.4	22.4
	5			6.55	3.35	8.5	12.4	16.4	20.3	24.3	5.3	9.2	13.2	17.1	21.1
	6			7.86	4.02	7.8	11.8	15.7	19.7	23.6	4.0	7.9	11.9	15.8	19.8
	7			9.17	4.69		11.1	15.0	19.0	22.9		6.6	10.6	14.5	18.4
	8			10.48	5.36		10.4	14.4	18.3	22.3		5.3	9.2	13.2	17.1
	9			11.79	6.03			13.7	17.6	21.6			7.9	11.9	15.8
	10			13.1	6.7			13.0	17.0	20.9			6.6	10.6	14.5
	11			14.41	7.37				16.3	20.2				9.3	13.2
	12			15.72	8.04				15.6	19.6				8.0	11.9
3	2			5.44	3	22.4	30.8	39.3	47.7	56.2	19.9	28.4	36.8	45.3	53.7
	3			8.16	4.5	20.9	29.3	37.8	46.2	54.7	17.2	25.7	34.1	42.6	51.0
	4			10.88	6	19.4	27.8	36.3	44.7	53.2	14.5	22.9	31.4	39.8	48.3
	5			13.6	7.5	17.9	26.3	34.8	43.2	51.7	11.8	20.2	28.7	37.1	45.6
	6			16.32	9	16.4	24.8	33.3	41.7	50.2	9.0	17.5	26.0	34.4	42.9
	7			19.04	10.5		23.3	31.8	40.2	48.7		14.8	23.2	31.7	40.1
	8			21.76	12		21.8	30.3	38.7	47.2		12.1	20.5	29.0	37.4
	9			24.48	13.5			28.8	37.2	45.7			17.8	26.2	34.7
	10			27.2	15			27.3	35.7	44.2			15.1	23.5	32.0
	11			29.92	16.5				34.2	42.7				20.8	29.3
	12			32.64	18				32.7	41.2				18.1	26.5
4	2			10.24	6.68	44.0	61.0	77.9	94.8	111.7	40.5	57.4	74.3	91.2	108.1
	3			15.36	10.02	40.7	57.6	74.5	91.4	108.3	35.4	52.3	69.2	86.1	103.0
	4			20.48	13.36	37.4	54.3	71.2	88.1	105.0	30.2	47.2	64.1	81.0	97.9
	5			25.6	16.7	34.0	50.9	67.8	84.8	101.7	25.1	42.0	58.9	75.9	92.8
	6			30.72	20.04	30.7	47.6	64.5	81.4	98.3	20.0	36.9	53.8	70.7	87.6
	7			35.84	23.38		44.3	61.2	78.1	95.0		31.8	48.7	65.6	82.5
	8			40.96	26.72		40.9	57.8	74.7	91.6		26.7	43.6	60.5	77.4
	9			46.08	30.06			54.5	71.4	88.3			38.5	55.4	72.3
	10			51.2	33.4			51.1	68.1	85.0			33.3	50.3	67.2
	11			56.32	36.74				64.7	81.6				45.1	62.0
	12			61.44	40.08				61.4	78.3				40.0	56.9
5	4	4	0	52.4	28.8	32.5	52.9	73.3	93.7	114.1	8.9	29.3	49.7	70.1	90.5
	5	4	1	58.95	32.4		49.3	69.7	90.1	110.5		22.7	43.1	63.6	84.0
	6	4	2	65.5	36		45.7	66.1	86.5	106.9		16.2	36.6	57.0	77.4
	7	4	3	72.05	39.6			62.5	82.9	103.3			30.0	50.5	70.9
	8	4	4	78.6	43.2			58.9	79.3	99.7			23.5	43.9	64.3
6	4	4	0	86.8	47.7	53.3	86.9	120.6	154.2	187.9	14.2	47.8	81.5	115.1	148.8
	5	4	1	97.65	53.675		80.9	114.6	148.3	181.9		37.0	70.6	104.3	137.9
	6	4	2	108.5	59.65		75.0	108.6	142.3	175.9		26.1	59.8	93.4	127.1
	7	4	3	119.35	65.625			102.6	136.3	170.0			48.9	82.6	116.2
	8	4	4	130.2	71.6			96.7	130.3	164.0			38.1	71.7	105.4
7	4	4	0	160.8	88.4	98.7	161.1	223.4	285.8	348.1	26.3	88.7	151.0	213.4	275.7
	5	4	1	180.9	99.45		150.0	212.4	274.7	337.1		68.6	130.9	193.3	255.6
	6	4	2	201	110.5		139.0	201.3	263.7	326.0		48.5	110.8	173.2	235.5
	7	4	3	221.1	121.55			190.3	252.6	315.0			90.7	153.1	215.4
	8	4	4	241.2	132.6			179.2	241.6	303.9			70.6	133.0	195.3

TORQUE RATING CHARTS FOR EA4 ACTUATORS - IMPERIAL THREADS

Double acting - torque in lb							
	Air pressure supply (PSI)						
EA4-	40	50	60	70	80	90	100
1	32.6	40.7	48.8	57	65.1	73.2	81.4
2	96	120	144	168	192	216	240
3	206	257.5	309	360.5	412	463.5	515
4	413.5	516.9	620.3	723.6	827	930.4	1033.8
5	497	621.3	745.5	869.8	994	1118.3	1242.5
6	819	1023.8	1228.5	1433.3	1638	1842.8	2047.5
7	1527.5	1909.4	2291.3	2673.1	3055	3436.9	3818.8
9	3344.5	4180.6	5016.8	5852.9	6689.0	7525.1	8361.3
10	4552.5	5690.6	6828.8	7966.9	9105.0	10243.1	11381.3
12	10740.0	13425.0	16110.0	18795.0	21480.0	24165.0	26850.0

Spring return - Torque in lb																			
						air stroke - start							air stroke - end						
	Springs	Springs		Spring Torque		Air pressure supply (PSI)							Air pressure supply (PSI)						
EA4-	total	outer	inner	start	end	40	50	60	70	80	90	100	40	50	60	70	80	90	100
2	2			23	12	84	108	133	157	181	205	229	73	97	121	145	169	193	218
	3			35	18	78	103	127	151	175	199	223	62	86	110	134	158	182	206
	4			46	24	73	97	121	145	169	193	217	50	74	98	122	146	170	194
	5			58	30	67	91	115	139	163	187	211	38	82	86	111	135	159	183
	6			70	36		85	109	133	157	181	205		51	75	99	123	147	171
	7			81	41		79	103	127	151	175	199		39	63	87	111	135	160
	8			93	47			97	121	145	169	193			52	76	100	124	148
	9			104	53				115	139	163	187				84	88	112	136
	10			116	59				109	133	157	181				53	77	101	125
	11			127	65					127	151	175					65	89	113
	12			139	71						145	170						78	102
3	2			48	27	180	231	283	334	386	436	489	158	210	261	313	364	416	488
	3			72	40	166	218	270	321	373	424	476	134	186	237	289	340	392	444
	4			96	53	153	205	256	308	360	411	463	110	162	213	265	316	388	419
	5			120	66	140	192	243	295	346	398	449	86	138	189	241	292	344	395
	6			144	80		178	230	281	333	385	436		113	165	217	268	320	371
	7			188	93		165	217	268	320	371	423		89	141	193	244	296	347
	8			193	106			203	255	306	358	410			117	169	220	272	323
	9			217	119				242	293	345	396				144	196	248	299
	10			241	133				228	280	331	383				120	172	224	275
	11			265	146					267	318	370					148	199	251
	12			289	159						305	356						175	227
4	2			91	59	354	457	560	663	766	869	972	322	425	528	631	735	838	941
	3			136	89	324	427	530	633	737	840	943	277	380	483	586	689	792	896
	4			181	118	294	398	501	604	707	810	913	231	335	438	541	644	747	850
	5			227	148	265	368	471	574	677	781	884	186	289	392	496	599	702	805
	6			272	177		338	442	545	648	751	854		244	347	450	553	657	760
	7			317	207		309	412	515	618	722	825		199	302	405	508	611	714
	8			362	236			382	486	589	692	795			257	360	463	566	669
	9			408	266				466	559	662	766				314	418	521	624
	10			453	296				427	530	633	736				269	372	475	579
	11			498	325					500	603	706					327	430	533
	12			544	355						574	677						385	488
5	4	4	0	464	255		368	493	617	742	866	991		159	284	408	533	657	782
	5	4	1	522	287			461	585	710	834	959			226	350	475	599	724
	6	4	2	580	319			429	553	678	803	927			168	292	417	541	666
	7	4	3	637	350				522	646	771	895				234	359	484	608
	8	4	4	695	382					614	739	863					301	426	550
6	4	4	0	769	422		604	810	1015	1220	1426	1631		259	464	669	874	1080	1285
	5	4	1	864	475			757	962	1168	1373	1578			368	573	778	984	1189
	6	4	2	960	528			704	909	1115	1320	1525			272	477	682	888	1093
	7	4	3	1056	581				856	1062	1267	1472				381	586	792	997
	8	4	4	1152	634				804	1009	1214	1420				285	490	696	901
7	4	4	0	1423	782		1120	1500	1881	2261	2642	3022		479	860	1240	1621	2.001	2382
	5	4	1	1601	880		1022	1403	1783	2164	2544	2924		302	682	1063	1443	1823	2.204
	6	4	2	1778	978			1305	1685	2.066	2446	2827			504	885	1265	1646	2026
	7	4	3	1956	1075			1207	1568	1968	2349	2729			326	707	1087	1468	1648
	8	4	4	2134	1173				1490	1870	2251	2631				529	909	1290	1670
9	4	4	0	3133	1726			3282	4116	4951	5785				1877	2712	3548	4383	
	6	4	2	3921	2151			2858	3692	4527	5362				1098	1935	2771	3607	
	7	4	3	4310	2372				3472	4306	5141					1538	2374	3209	
	8	4	4	4699	2584					4095	4929						1986	2821	
10	4	4	0	4266	2345			4470	5606	6742	7878				2554	3690	4827	5964	
	6	4	2	5337	2929			3881	5016	6151	7286				1485	2622	3759	4896	
	7	4	3	5868	3230				4723	5860	6996					2093	3230	4367	
	8	4	4	6399	3522					5568	6705						2700	3838	
12	6			8284	5363			10711	13391	16070	18749				7797	10477	13158	15838	
	8			11045	7151			8928	11607	14287	16967				5042	7723	10404	13085	
	10			13806	8939				9824	12505	15185					4969	7651	10333	
	12			16567	10726					10722	13403						4898	7581	

For service with pipeline ΔP lower than the maximum limits shown below, and for media having friction characteristics similar to clean water or moist/lubricated gases the following actuator selections can be used. For higher pipeline pressures or more difficult media the selection must be made using the valve torque charts found on each valve data sheet, and the actuator torque rating chart found on the following page. For assistance in actuator selection please contact ***RuB*** at the following email address: sales@rubvalves.com or your ***RuB*** distributor.

		Air pressure supply (bar)														
VALVE		3	4	5	6	7	3	4	5	6	7	3	4	5	6	7
s64 LT	ΔP Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-					Spring-to-Open Actuators EA2-				
1"	6	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2
1 ¼"	6	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3
1 ½"	6	2A	2A	2A	2A	2A	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6
2"	6	2A	2A	2A	2A	2A	3s4	2As8	2As8	2As8	2As8	3s4	2As8	2As8	2As8	2As8
1"	16 Max	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1 ¼"	16 Max	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1 ½"	16 Max	2A	2A	2A	2A	2A	3s4	3s4	2As9	2As9	2As9	3s4	3s4	2As9	2As9	2As9
2"	16 Max	3	2A	2A	2A	2A	3s6	3s6	3s6	2As12	2As12	3s6	3s6	3s6	2As12	2As12

		Air pressure supply (bar)														
VALVE		3	4	5	6	7	3	4	5	6	7	3	4	5	6	7
s64	ΔP* Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-					Spring-to-Open Actuators EA2-				
1/2"	15	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s3	2s3	2s3	2s3	2s3
3/4"	15	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4
1"	15	2	2	1	1	1	2s4	2s4	2s4	2s4	2s4	2s7	2s7	2s7	2s7	2s7
1 ¼"	15	2A	2A	2A	2A	2A	3s6	3s6	3s6	2As12	2As12	3s5	3s5	3s5	2As11	2As11
1 ½"	15	3	3	3	3	2A	4s4	4s4	3s9	3s9	3s9	4s5	4s5	3s10	3s10	3s10
2"	15	4	3	3	3	3	4s5	4s5	4s5	3s11	3s11	4s6	4s6	4s6	3s12	3s12
2 ½"	15	5	5	5	5	5	7s4	5s4	5s4	5s4	5s4	7s4	5s4	5s4	5s4	5s4
3"	15	7	6	5	5	5		7s4	7s4	6s7	6s7		7s4	7s4	6s7	6s7
4"	15	7	7	7	6	6				7s7	7s7				7s7	7s7

* Selections apply for valves used with ΔP up to 15 bar Max. For ΔP over 15 bar and up to 40 bar (30 bar for sizes over 2"), please consult **Bonomi Industries Srl** for sizing recommendations.

		Air pressure supply (bar)														
VALVE		3	4	5	6	7	3	4	5	6	7	3	4	5	6	7
s65	ΔP Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-					Spring-to-Open Actuators EA2-				
1/2"	16 Max	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4
3/4"	16 Max	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1"	16 Max	2	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s5	2s5	2s5	2s5	2s5
1 ¼"	16 Max	2	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5

		Air pressure supply (bar)														
VALVE		3	4	5	6	7	3	4	5	6	7	3	4	5	6	7
s73	ΔP Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-					Spring-to-Open Actuators EA2-				
1/2"	16	2	2	2	2	2	4s3	3s7	3s7	3s7	3s7	4s3	3s7	3s7	3s7	3s7
3/4"	16	3	2	2	2	2	4s4	3s8	3s8	3s8	3s8	4s4	3s8	3s8	3s8	3s8
1"	16	3	3	3	2	2	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6
1 ¼"	16	3	3	3	3	3	4s4	4s4	3s9	3s9	3s9	4s4	4s4	3s9	3s9	3s9
1 ½"	16	3	3	3	3	3		4s7	4s7	4s7	4s7		4s7	4s7	4s7	4s7
2"	16	4	4	3	3	3		6s4	5s6	4s11	4s11		6s4	5s4	4s11	4s11

* Selections apply for valves used with ΔP up to 16 bar Max. For ΔP over 16 bar and up to 20 bar, please consult **Bonomi Industries Srl** for sizing recommendations.

		Air pressure supply (bar)														
VALVE		3	4	5	6	7	3	4	5	6	7	3	4	5	6	7
s76	Δp Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-					Spring-to-Open Actuators EA2-				
1/2"	16	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
3/4"	16	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1"	16	2	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1 ¼"	16	2A	2A	2A	2A	2A	3s5	3s5	3s5	2As11	2As11	3s5	3s5	3s5	2As11	2As11
1 ½"	16	3	3	3	2A	2A	4s5	4s5	3s9	3s9	3s9	4s5	4s5	3s9	3s9	3s9
2"	16	4	3	3	3	3	4s6	4s6	4s6	3s12	3s12	4s6	4s6	4s6	3s12	3s12

* Selections apply for valves used with ΔP up to 16 bar. For ΔP over 16 bar and up to 20/30 bar, please consult Bonomi Industries Srl for sizing recommendations.

Red font = selection driven by valve stem size

LINKAGE KIT SELECTION TABLE

Valve	Valve size	Actuator size								
		EA2	-1	-2	-2A	-3	-4	-5	-6	-7
s64	1/2" ~ 1"	LK-	1	1	-	3	3	-	-	-
	1 ¼" ~ 1 ½"	LK-	-	-	4	6	6	13	7	-
	2"	LK-	-	-	-	4	4	14	5	21
	2 ½" ~ 4"	LK-	-	-	-	-	-	15	15	12
s64 LT	1" ~ 1 ¼"	LK-	1	1	-	3	3	-	-	-
	1 ½" ~ 2"	LK-	-	-	4	6	6	-	-	-
s65	1/2" ~ 1 ¼"	LK-	1	1	-	3	-	-	-	-
s73	1/2" ~ 1"	LK-	1	1	-	3	3	-	-	
	1 ¼" ~ 2"	LK-	-	-	-	4	4	14	5	-
s76	1/2" ~ 1"	LK-	1	1	-	3	3	-	-	-
	1 ¼" ~ 1 ½"	LK-	-	-	4	6	6	13	7	-
	2"	LK-	-	-	-	4	4	14	5	-

QUICK PICK CHART FOR EA4 (IMPERIAL) PNEUMATIC ACTUATORS ASSEMBLED ON S64, S65, S134, AND S73, S76 RUB BALL VALVES

For service with pipeline ΔP lower than the maximum limits shown below, and for media having friction characteristics similar to clean water or moist/lubricated gases the following actuator selections can be used. For higher pipeline pressures or more difficult media the selection must be made using the valve torque charts found on each valve data sheet, and the actuator torque rating chart found on the following page.

		Air pressure supply (PSI)																		
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s64 LT	ΔP Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1"	90	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2
1-1/4"	90	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3
1-1/2"	90	3	3	3	3	3	3	3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3
2"	90	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4
1"	230 Max	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/4"	230 Max	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/2"	230 Max	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4
2"	230 Max	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	4s3	3s6	3s6	3s6	3s6	3s6	3s6

		Air pressure supply (PSI)																		
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s64	ΔP* Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	200	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s3	2s3	2s3	2s3	2s3	2s3	2s3
3/4"	200	2	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1"	200	2	2	2	2	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	3s3	2s7	2s7	2s7	2s7	2s7	2s7
1-1/4"	200	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	3s5	3s5	3s5	3s5	3s5	3s5	3s5
1-1/2"	200	4	3	3	3	3	3	3	4s4	4s4	4s4	3s9	3s9	3s9	3s9	4s5	4s5	4s5	3s10	3s10	3s10	3s10
2"	200	4	4	3	3	3	3	3	4s5	4s5	4s5	4s5	4s5	3s11	3s11	4s6	4s6	4s6	4s6	4s6	3s12	3s12
2-1/2"	200	5	5	5	5	5	5	5		6s4	5s4	5s4	5s4	5s4	5s4		6s4	5s4	5s4	5s4	5s4	5s4
3"	200	7	6	6	6	5	5	5			7s4	7s4	6s7	6s7	6s7			7s4	7s4	6s7	6s7	6s7
4"	200	7	7	7	7	7	6	6					7s7	7s7	7s7					7s7	7s7	7s7

* Selections apply for valves used with ΔP up to 200 PSI Max. For ΔP over 200 PSI and up to 600 PSI (450 PSI for sizes over 2"), please consult **Bonomi Industries Srl** for sizing recommendations.

		Air pressure supply (PSI)																		
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s134	ΔP* Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	200	2	2	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s5	2s5	2s5	2s5	2s5	2s5	2s5
3/4"	200	2	2	2	2	2	1	1	3s4	2s7	2s7	2s7	2s7	2s7	2s7	3s4	3s4	2s7	2s7	2s7	2s7	2s7
1"	200	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s6	3s6	3s6	3s6	3s6	3s6	3s6
1-1/4"	200	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	4s4	3s7	3s7	3s7	3s7	3s7	3s7
1-1/2"	200	4	3	3	3	3	3	3	4s4	4s4	4s4	3s8	3s8	3s8	3s8	4s6	4s6	4s6	4s6	3s11	3s11	3s11
2"	200	4	4	3	3	3	3	3		4s6	4s6	4s6	4s6	4s6	3s12		4s7	4s7	4s7	4s7	4s7	4s7

* Selections apply for valves used with ΔP up to 200 PSI Max. For ΔP over 200 PSI and up to 1000 PSI, please consult **Bonomi Industries Srl** for sizing recommendations.

		Air pressure supply (PSI)																		
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s65	ΔP Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	230 max	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4	2s4	2s4
3/4"	230 max	2	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1"	230 max	2	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1-1/4"	230 max	2	2	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5

		Air pressure supply (PSI)																		
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s73	ΔP* Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	230	2	2	2	2	2	2	2	4s3	3s7	3s7	3s7	3s7	3s7	3s7	4s3	3s7	3s7	3s7	3s7	3s7	3s7
3/4"	230	3	2	2	2	2	2	2	4s4	4s4	3s8	3s8	3s8	3s8	3s8	4s4	4s4	3s8	3s8	3s8	3s8	3s8
1"	230	3	3	3	3	3	2	2		4s6	4s6	4s6	4s6	4s6	4s6		4s6	4s6	4s6	4s6	4s6	4s6
1-1/4"	230	3	3	3	3	3	3	3	4s4	4s4	3s9	3s9	3s9	3s9	3s9	4s4	4s4	3s9	3s9	3s9	3s9	3s9
1-1/2"	230	3	3	3	3	3	3	3		4s7	4s7	4s7	4s7	4s7	4s7		4s7	4s7	4s7	4s7	4s7	4s7
2"	230	4	4	4	3	3	3	3			6s4	6s4	4s11	4s11	4s11			6s4	6s4	4s11	4s11	4s11

* Selections apply for valves used with ΔP up to 230 PSI Max. For ΔP over 230 PSI and up to 300 PSI, please consult **Bonomi Industries Srl** for sizing recommendations.

		Air pressure supply (PSI)																		
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s76	Δp Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	230	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
3/4"	230	2	1	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1"	230	2	1	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1-1/4"	230	3	3	3	3	3	3	3	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5
1-1/2"	230	3	3	3	3	3	3	3	4s5	4s5	4s5	3s9	3s9	3s9	3s9	4s5	4s5	4s5	3s9	3s9	3s9	3s9
2"	230	4	3	3	3	3	3	3		4s6	4s6	4s6	4s6	3s12	3s12		4s6	4s6	4s6	4s6	3s12	3s12

* Selections apply for valves used with ΔP up to 230 PSI. For ΔP over 230 PSI and up to 300/450 PSI, please consult **Bonomi Industries Srl** for sizing recommendations.

Red font = selection driven by valve stem size

LINKAGE KIT SELECTION TABLE

Valve	Valve size	Actuator size							
		EA4	-1	-2	-3	-4	-5	-6	-7
s64	1/2" ~ 1"	LK-	8	8	9	9	-	-	-
	1 ¼" ~ 2"	LK-	-	-	10	10	16	17	23
	2 ½" ~ 4"	LK-	-	-	-	-	18	18	24
s64 LT	1" ~ 1 ¼"	LK-	8	8	9	-	-	-	-
	1 ½" ~ 2"	LK-	-	-	10	-	-	-	-
s65	1/2" ~ 1 ¼"	LK-	8	8	9	-	-	-	-
s73 - s76	1/2" ~ 1"	LK-	8	8	9	9	-	-	-
	1 ¼" ~ 2"	LK-	-	-	10	10	16	-	-
s134	1/2" ~ 3/4"	LK-	8	8	9	9	-	-	-
	1" ~ 1 ½"	LK-	-	-	11	11	19	20	-
	2"	LK-	-	-	18	18	16	17	23

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VALVES COMBINATION WITH EA2 ACTUATORS - METRIC THREADS

s.6400		code	s64D00	s64E00	s64F00	s64G00	s64H00	s64I00
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
	Double Acting	Actuator		EA2-1		EA2-2A	EA2-3	EA2-4
		Actuation Kit	EA1D64D00	EA1D64E00	EA1D64F00	EA2AD64G00	EA3D64H00	EA4D64I00
	Spring return	Actuator		EA2-2			EA2-3	
		Actuation Kit	EA2R64D00	EA2R64E00	EA2R64F00	EA3R64G00	EA3R64H00	EA3R64I00

s.6400 LT		code			s64F00A	s64G00A	s64H00A	s64I00A
		size			1"	1 ¼"	1 ½"	2"
	Double Acting	Actuator	-	-	EA2-1		EA2-2A	
		Actuation Kit	-	-	EA1D64F00A	EA1D64G00A	EA2AD64H00A	EA2AD64I00A
	Spring return ΔP < 6 bar	Actuator	-	-	EA2-2	EA2-2A	EA3	
		Actuation Kit	-	-	EA2R64F00A	EA2AR64G00A	EA3R64H00A	EA3R64I00A
	Spring return ΔP 6 to 16 bar	Actuator	-	-	EA2-2	EA2-2A	EA3	
		Actuation Kit	-	-	EA2R64F00AC	EA2AR64G00AC	EA3R64H00AC	EA3R64I00AC

k.6405		code	s64D05	s64E05	s64F05	s64G05	s64H05	s64I05
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
	Double Acting	Actuator	EA2-1		EA2-2	EA2-2A	EA2-3	
		Actuation Kit	EA1D64D05	EA1D64E05	EA2D64F05	EA2AD64G05	EA3D64H05	EA3D64I05
	Spring return	Actuator		EA2-2*		EA2-2A*	EA2-3*	
		Actuation Kit	EA2R64D05*	EA2R64E05*	EA2R64F05*	EA2AR64G05*	EA3R64H05*	EA3R64I05*

s.6500		code	s65D00	s65E00	s65F00	s65G00		
		size	1/2"	3/4"	1"	1 ¼"		
	Double Acting	Actuator		EA2-1			-	-
		Actuation Kit	EA1D65D00	EA1D65E00	EA1D65F00	EA1D65G00	-	-
	Spring return	Actuator		EA2-2			-	-
		Actuation Kit	EA2R65D00	EA2R65E00	EA2R65F00	EA2R65G00	-	-

s.465		code	s465D00	s465E00	s465F00			
		size	1/2"	3/4"	1"			
	Double Acting	Actuator		EA2-1		-	-	-
		Actuation Kit	EA1D465D00	EA1D465E00	EA1D465F00	-	-	-
	Spring return	Actuator		EA2-2		-	-	-
		Actuation Kit	EA2R465D00	EA2R465E00	EA2R465F00	-	-	-

s.7300		code	s73D00	s73E00	s73F00	s73G00	s73H00	s73I00
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
	Double Acting	Actuator	EA2-2*			EA2-3		
		Actuation Kit	EA2D73D00*	EA2D73E00*	EA3D73F00	EA3D73G00*	EA3D73H00*	EA3D73I00*
	Spring return	Actuator	EA2-3*		EA2-4*	EA2-3*	EA2-4*	
		Actuation Kit	EA3R73D00*	EA3R73E00*	EA4R73F00*	EA3R73G00*	EA4R73H00*	EA4R73I00*

s.7600		code	s76D00	s76E00	s76F00	s76G00	s76H00	s76I00
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
	Double Acting	Actuator		EA2-1*			EA2-3	
		Actuation Kit	EA1D76D00*	EA1D76E00*	EA1D76F00*	EA3D76G00*	EA3D76H00	EA3D76I00*
	Spring return	Actuator		EA2-2		EA2-3		EA2-4
		Actuation Kit	EA2R76D00*	EA2R76E00	EA2R76F00	EA3R76G00	EA3R76H00*	EA4R76I00*

s.84 AM		code	s84L00AM	s84M00AM	s84N00AM			
		size	2 ½"	3"	4"			
	Double Acting	Actuator	EA2-5		EA2-6*	-	-	-
		Actuation Kit	EA5D84L00AM	EA5D84M00AM	EA6D84N00AM*	-	-	-
	Spring return	Actuator	EA2-5*	EA2-6*	EA2-7*	-	-	-
		Actuation Kit	EA5R84L00AM*	EA6R84M00AM*	EA7R84N00AM*	-	-	-

* The combination may vary based on the supply pressure of your system. Ask for additional information and consult with your supplier for special applications.

VALVES COMBINATION WITH EA4 ACTUATORS - IMPERIAL THREADS

s.6439 NPT		code	s64D39	s64E39	s64F39	s64G39	s64H39	s64I39
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
Double Acting	Actuator			EA4-1			EA4-3	
	Actuation Kit		EA1D64D39	EA1D64E39	EA1D64F39	EA3D64G39	EA3D64H39	EA3D64I39
Spring return	Actuator			EA4-2		EA4-3		EA4-4
	Actuation Kit		EA2R64D39	EA2R64E39	EA2R64F39	EA3R64G39	EA3R64H39	EA4R64I39

s.6439 LT NPT		code			s64F39A	s64G39A	s64H39A	s64I39A
		size			1"	1 ¼"	1 ½"	2"
Double Acting	Actuator		-	-	EA4-1		EA4-3	
	Actuation Kit		-	-	EA1D64F39A	EA1D64G39A	EA3D64H39A	EA3D64I39A
Spring return ΔP < 90 PSI	Actuator		-	-	EA4-2		EA4-3	
	Actuation Kit		-	-	EA2R64F39A*	EA2R64G39A*	EA3R64H39A*	EA3R64I39A
Spring return ΔP 90 to 230 PSI	Actuator		-	-	EA4-2		EA4-3	
	Actuation Kit		-	-	EA2R64F39AC	EA2R64G39AC*	EA3R64H39AC*	EA3R64I39AC

s.6441 NPT		code	s64D41	s64E41	s64F41	s64G41	s64H41	s64I41
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
Double Acting	Actuator			EA4-1			EA4-3	
	Actuation Kit		EA1D64D41	EA1D64E41	EA1D64F41	EA3D64G41	EA3D64H41	EA3D64I41
Spring return	Actuator			EA4-2		EA4-3		EA4-4
	Actuation Kit		EA2R64D41	EA2R64E41	EA2R64F41	EA3R64G41	EA3R64H41	EA4R64I41

s.6541 NPT		code	s65D41	s65E41	s65F41	s65G41		
		size	1/2"	3/4"	1"	1 ¼"		
Double Acting	Actuator			EA4-1			-	-
	Actuation Kit		EA1D65D41	EA1D65E41	EA1D65F41	EA1D65G41	-	-
Spring return	Actuator			EA4-2			-	-
	Actuation Kit		EA2R65D41	EA2R65E41	EA2R65F41	EA2R65G41	-	-

Puri-T 264 NPT		code	T264D41	T264E41	T264F41	T264G41	T264H41	
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	
Double Acting	Actuator			EA4-1		EA4-2A*	EA4-3	-
	Actuation Kit		EA1D264D41	EA1D264E41	EA1D264F41	EA2AD264G41*	EA3D264H41	-
Spring return	Actuator			EA4-2		EA4-2A*	EA4-3	-
	Actuation Kit		EA2R264D41	EA2R264E41	EA2R264F41	EA2AR264G41*	EA3R264H41	-

s.7341 NPT		code	s73D41	s73E41	s73F41	s73G41	s73H41	s73I41
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
Double Acting	Actuator		EA4-2			EA4-3*		
	Actuation Kit		EA2D73D41*	EA2D73E41*	EA3D73F41	EA3D73G41*	EA3D73H41*	EA3D73I41*
Spring return	Actuator		EA4-3*		EA4-4*	EA4-3*	EA4-4*	
	Actuation Kit		EA3R73D41*	EA3R73E41*	EA4R73F41*	EA3R73G41*	EA4R73H41*	EA4R73I41*

s.7641 NPT		code	s76D41	s76E41	s76F41	s76G41	s76H41	s76I41
		size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
Double Acting	Actuator			EA4-1			EA4-3	
	Actuation Kit		EA1D76D41*	EA1D76E41*	EA1D76F41*	EA3D76G41*	EA3D76H41	EA3D76I41*
Spring return	Actuator			EA4-2		EA4-3		EA4-4
	Actuation Kit		EA2R76D41	EA2R76E41	EA2R76F41	EA3R76G41	EA3R76H41*	EA4R76I41*

s.95 AM NPT		code	s95L41AM	s95M41AM	s95N41AM			
		size	2 ½"	3"	4"			
Double Acting	Actuator		EA4-5		EA4-7	-	-	-
	Actuation Kit		EA5D95L41AM	EA5D95M41AM	EA7D95N41AM	-	-	-
Spring return	Actuator		EA4-5	EA4-6	EA4-7	-	-	-
	Actuation Kit		EA5R95L41AM	EA6R95M41AM	EA7R95N41AM	-	-	-

* The combination may vary based on the supply pressure of your system. Ask for additional information and consult with your supplier for special applications.

BONOMI INDUSTRIES SRL - www.rubvalves.com

s.31 Mini Valve

Female/Female
1/4” - 3/4”

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

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
- Mounting kit to be ordered sperately "KCPA0AA00100"

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

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

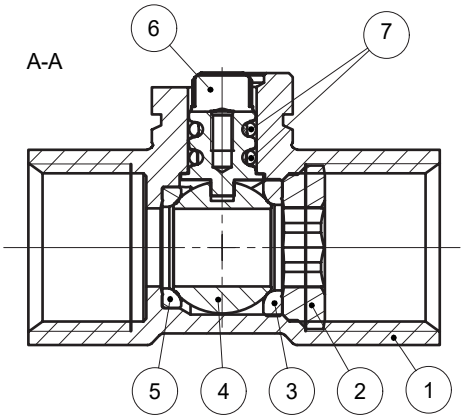
WORKING PRESSURE AND TEMPERATURE:
- Shell rating: 40 bar (600 PSI) non-shock cold working pressure
- Seat rating: Delta P max permissible 16 bar (230 PSI)
- -20°C to +120°C (-4°F to +250°F)
- **WARNING**: freezing of the fluid in the installation may severely damage the valve

APPROVED BY OR IN COMPLIANCE WITH:
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)

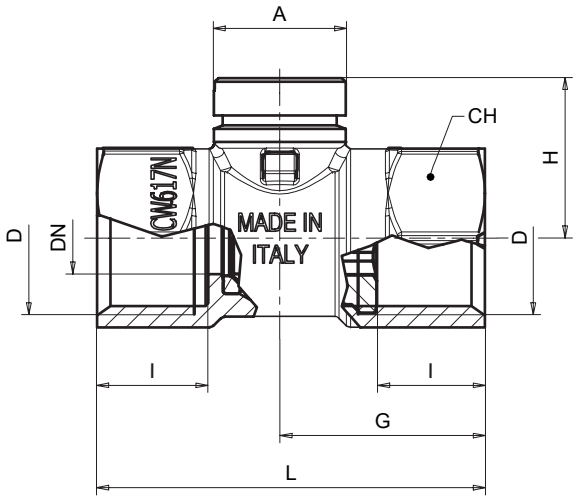
NOTE: approvals apply to specific configurations/sizes only.

Quick Connection with CP actuators

	Part description	Q.ty	Material
1	Sand blasted unplated NPT 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



Code	AV31BF3	AV31CF3	AV31DF3	AV31EF3
D (inch)	1/4"	3/8"	1/2"	3/4"
DN (mm)	8	10	10	12.7
I (mm)	12	12	15.5	17
L (mm)	45.5	45.5	53.5	61.5
G (mm)	23.8	23.8	28	32.5
A (mm)	18.5	18.5	18.5	18.5
H (mm)	22.5	22.5	22.5	25.5
CH (mm)	25	25	25	31
Kv (m3/h)	5.8	9.5	9.5	25.4



TORQUE FOR ACTUATOR SIZING N.M

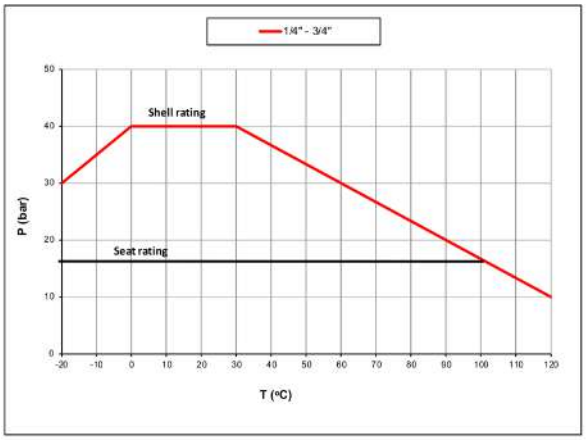
Delta P -->	0 ÷16 bar
Valve size	N.m
1/4" ÷ 1/2"	1.8
3/4"	2.5

TORQUE CORRECTION FACTORS

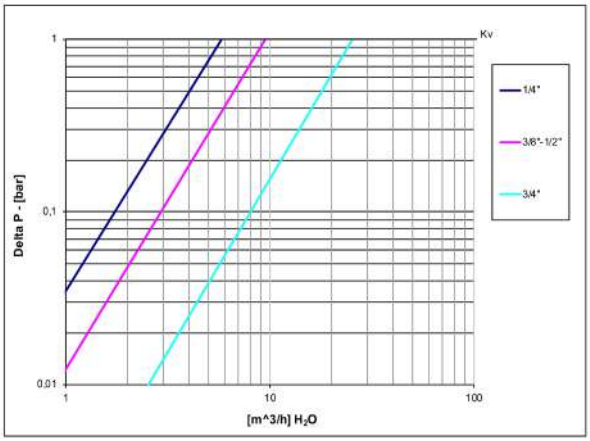
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.31 NPT Mini Valve

Female/Female
1/4” - 3/4”

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

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
- Mounting kit to be ordered sperately "KCPA0AA00100"

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

SEALING:
- Pure PTFE self-lubricating seats

THREADS:
- NPT taper ANSI B.1.20.1 threads

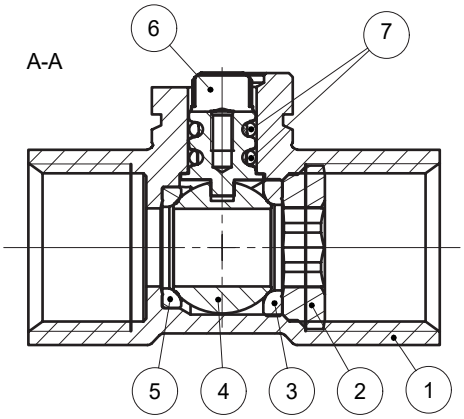
WORKING PRESSURE AND TEMPERATURE:
- Shell rating: 600 PSI (40 bar) non-shock cold working pressure
- Seat rating: Delta P max permissible 230 PSI (16 bar)
- -4°F to +250°F (-20°C to +120°C)
- **WARNING**: freezing of the fluid in the installation may severely damage the valve

APPROVED BY OR IN COMPLIANCE WITH:
- RoHS Compliant (EU)

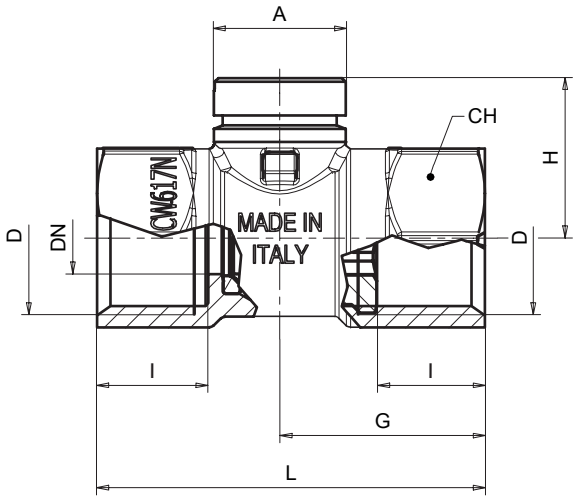
NOTE: approvals apply to specific configurations/sizes only.

Quick Connection with CP actuators

	Part description	Q.ty	Material
1	Sand blasted unplated NPT 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



Code	AV31BX3	AV31CX3	AV31DX3	AV31EX3
D (inch)	1/4"	3/8"	1/2"	3/4"
DN (inch)	0.31	0.39	0.39	0.50
I (inch)	0.47	0.47	0.61	0.67
L (inch)	1.79	1.79	2.11	2.42
G (inch)	0.94	0.94	1.10	1.28
A (inch)	0.73	0.73	0.73	0.73
H (inch)	0.89	0.89	0.89	1.00
CH (inch)	0.98	0.98	0.98	1.22



TORQUE FOR ACTUATOR SIZING LB-IN

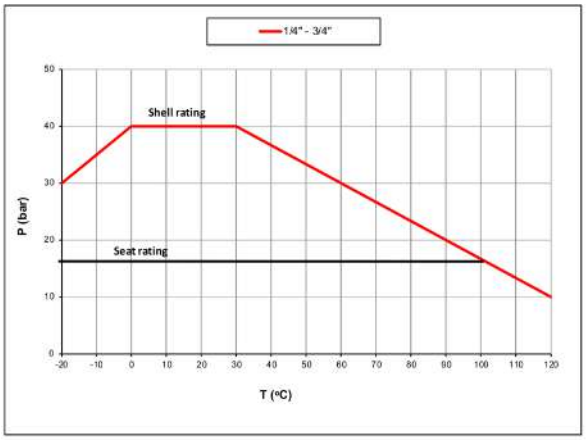
Delta P -->	0 ÷230 PSI
Valve size	lb-in
1/4" ÷ 1/2"	16
3/4"	22

TORQUE CORRECTION FACTORS

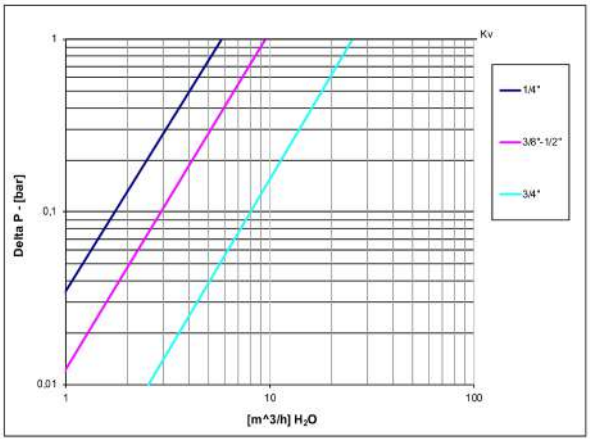
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.31 BSPT Mini Valve

Female/Female
1/4” - 3/4”

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

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
- Mounting kit to be ordered sperately "KCPA0AA00100"

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

SEALING:
- Pure PTFE self-lubricating seats

THREADS:
- ISO 7/1, 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

WORKING PRESSURE AND TEMPERATURE:
- Shell rating: 40 bar (600 PSI) non-shock cold working pressure
- Seat rating: Delta P max permissible 16 bar (230 PSI)
- -20°C to +120°C (-4°F to +250°F)
- **WARNING**: freezing of the fluid in the installation may severely damage the valve

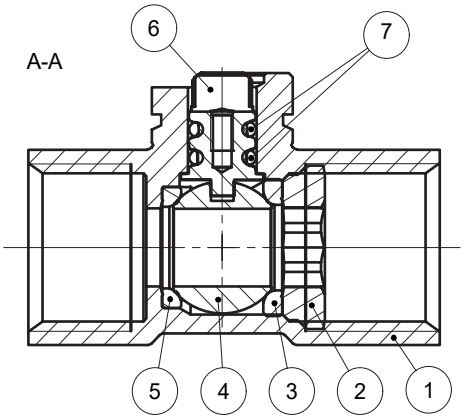
APPROVED BY OR IN COMPLIANCE WITH:
- RoHS Compliant (EU)

NOTE: approvals apply to specific configurations/sizes only.

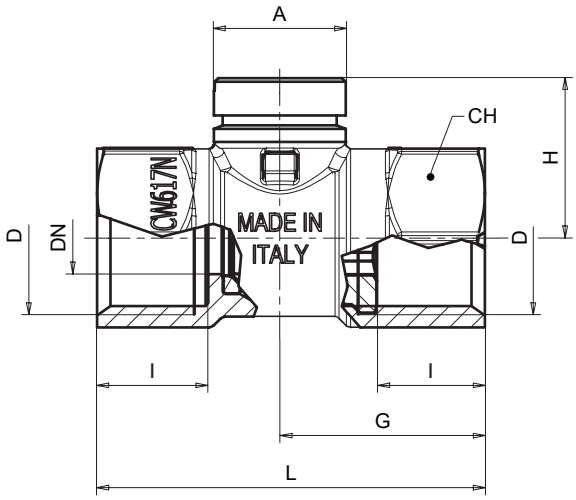
Quick Connection with CP actuators

s.31 BSPT XCE3150 - 6012

	Part description	Q.ty	Material
1	Sand blasted unplated NPT 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



Code	AV31BW3	AV31CW3	AV31DW3	AV31EW3
D (inch)	1/4"	3/8"	1/2"	3/4"
DN (mm)	8	10	10	12.7
I (mm)	12	12	15.5	17
L (mm)	45.5	45.5	53.5	61.5
G (mm)	23.8	23.8	28	32.5
A (mm)	18.5	18.5	18.5	18.5
H (mm)	22.5	22.5	22.5	25.5
CH (mm)	25	25	25	31
Kv (m3/h)	5.8	9.5	9.5	25.4



TORQUE FOR ACTUATOR SIZING N.M

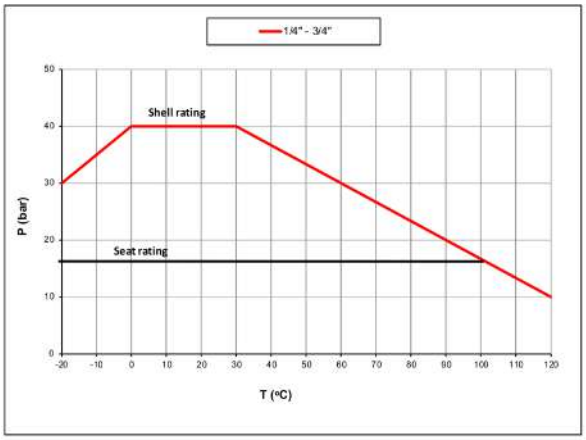
Delta P -->	0 ÷16 bar
Valve size	N.m
1/4" ÷ 1/2"	1.8
3/4"	2.5

TORQUE CORRECTION FACTORS

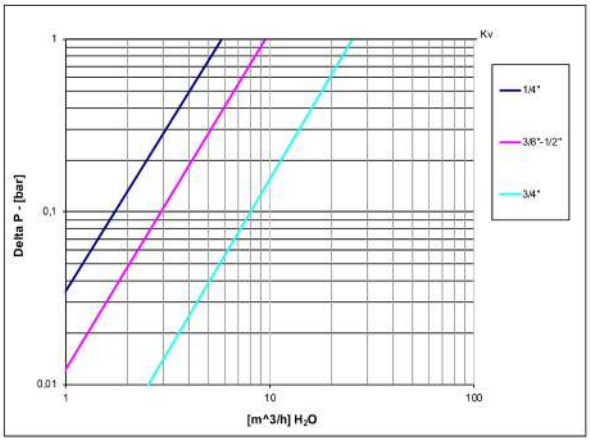
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.465

Female/Female
ISO 5211
full port 1/2”- 1”
hot forged lead free brass ball valve

QUALITY
- 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
- 100% seal test guaranteed in according to EN 12266-1 RATE A (intended when the product is in brand new condition)

BODY
- Hot forged sand blasted, unplated lead free 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

STEM
- Blowout-proof unplated lead free brass stem
- Maintenance- free, double EPDM O-rings at the stem for maximum safety

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

THREADS
- EN 10226-1 parallel female by female threads

OPERATING MECHANISM
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See RuB line of electric and pneumatic actuators

FLOW
- Full port to DIN 3357 for maximum flow

WORKING PRESSURE & TEMPERATURE
- Shell rating: 40 bar (600 PSI) non shock cold working pressure
- Seat rating: Delta P max permissible 16 bar (230 PSI) non shock cold working pressure
- -20°C to +150°C (-4°F to +302°F)
- * Limitations for potable water use: 10 bar (Kg/cm^2) non- shock cold working pressure and +2°C / +65°C temperature (occasional excursions up to 85°C are permitted for a period of 1 h maximum)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design
- NPT taper ANSI B.1.20.1 female by female threads, unplated body

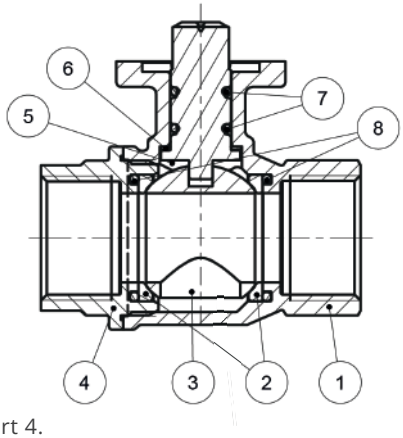
PED DIRECTIVE
- The product meets the requirements of PED Directive 2014/68/UE and according to art.4 par.3, it does not require CE marking

APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)

NOTE: approvals apply to specific configurations/sizes only.

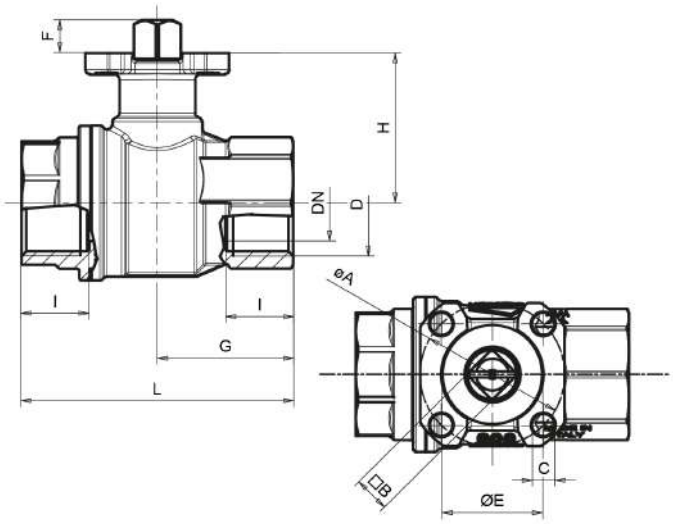
OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator

	Part description	Q.ty	Material
1	Unplated body	1	CW511L
2	Seat	2	PTFE
3	Chrome plated ball with rinse hole (rinse hole on sizes from 3/4" up to 1")	1	CW511L
4	Unplated end-cap	1	CW511L
5	Unplated stem O-ring design	1	CW511L
6	Washer	1	PTFE carbon filled 25%
7	O-Ring	2	EPDM
8	O-Ring	2	EPDM



DN shows the nominal flow diameter.Actual flow diameter complies with full port DIN 3357 part 4.

Code	S465D00	S465E00	S465F00
D (inch)	1/2"	3/4"	1"
DN (mm)	15	20	25
I	15.5	17	21
L	63.5	68	85
G	31.5	34	42.5
ØA	36	36	36
□B (mm)	9	9	9
C	5.6	5.6	5.6
ØE	25	25	25
F	7.3	8.3	8.3
H	31	38	41.3
CH	25	31	40
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03
Kv (m3/h)	28	36	62



TORQUE FOR ACTUATOR SIZING N.M

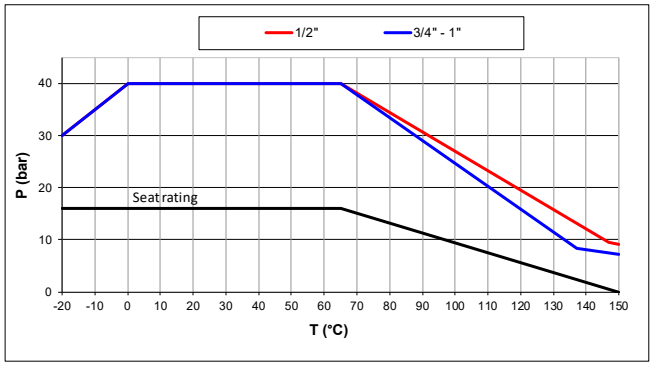
Delta P -->	0÷16 bar	
Valve size	to open	to close
1/2"	3,5	3
3/4"	4,2	3,7
1"	4,5	4

TORQUE CORRECTION FACTORS

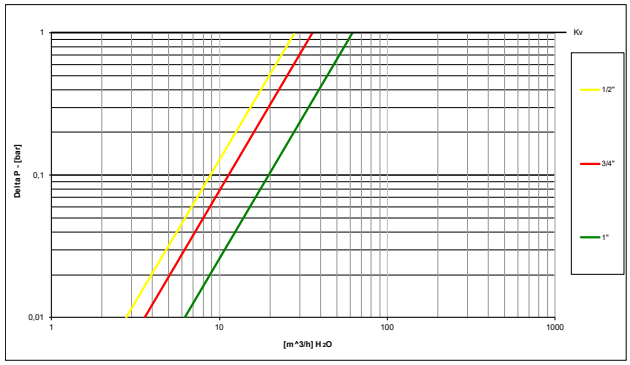
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.6400

Female/Female
1” - 2”
EN 10226-1, ISO 5211, heavy duty

QUALITY
- 24h 100% seal test guaranteed
- 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 wit 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

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

OPERATING MECHANISM
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See RuB line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- 40 bar (600 PSI) up to 2”, 30 bar (450 PSI) over 2” non-shock cold working pressure
- For use with dangerous fluids pressure rating is 5 bar
- -20°C to +170°C (-4°F to +350°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve
- For use with dangerous fluids temperature rating is -20°C +60°C

UPON REQUEST
- Custom design

PED DIRECTIVE
- Assessment according to Pressure Equipment Directive 2014/68/UE module B+D by ICIM (0425)

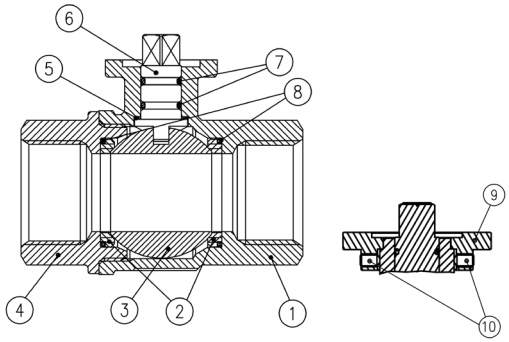
APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)
- Water Regulations Advisory Scheme (United Kingdom)

NOTE: approvals apply to specific configurations/sizes only.

OPTIONS
- CW511L brass (lead-free and DZR) for drinking water applications with compression ends
- Configuration for use with slurries or liquid bearing abrasive particles
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes
- Manual lockable handle

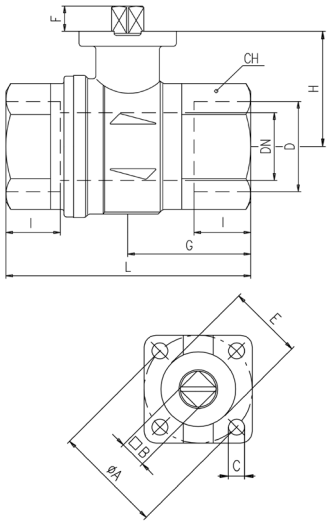
s.6400LT XCES6400LT - 5813

	Part description	Q.ty	Material
1	Nickel plated body	1	CW617N
2	Ball seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Nickel plated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM
9	Black anodized flange (only from 2 1/2" to 4")	1	Aluminum
10	Grub Screw (only from 2 1/2" to 4")	2	CB4FF



Valves configuration up to 2"
Valve ball seats and stem configuration of valves over 2" is different.

				Compliant to CE 2014/68/UE product Equipment category III Module B+D					
Code	**S64D00**	**S64E00**	**S64F00**	**S64G00**	**S64H00**	**S64I00**	**S84L00AM**	**S84M00AM**	**S84N00AM**
Size (mm)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"	2 ½"	3"	4"
DN (mm)	15	20	25	32	40	50	65	80	100
I (mm)	15,5	18	21	23	24,5	26,5	32	35	41,5
L (mm)	75	80	90	110	120	140	156	177	216
G (mm)	30,5	37	45,5	52	59	67,5	78	88,5	108
H (mm)	31	38,5	42,5	55,5	62	69	89	96	111
CH (mm)	27	32	41	50	55	70	85	99	125
ØA (mm)	36	36	36	50	50	50	70	70	70
□B (mm)	9	9	9	11	11	11	17	17	17
C (mm)	5,6	5,6	5,6	6,6	6,6	6,6	8,5	8,5	8,5
E (mm)	25	25	25	35	35	35	55	55	55
F (mm)	7,5	8,5	8,5	10	10	14,5	18	18	18
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03	F05	F05	F05	F07	F07	F07
Kv (m^3/h)	28	60	100	155	245	290	516	770	1120



Ball valves are marked CE on end-cap from 11/4" to 4" as follow: CE 0425 cat IIIB+D PS: 5 GAS TS1:-20°C TS2:+60°C

TORQUE FOR ACTUATOR SIZING N.M

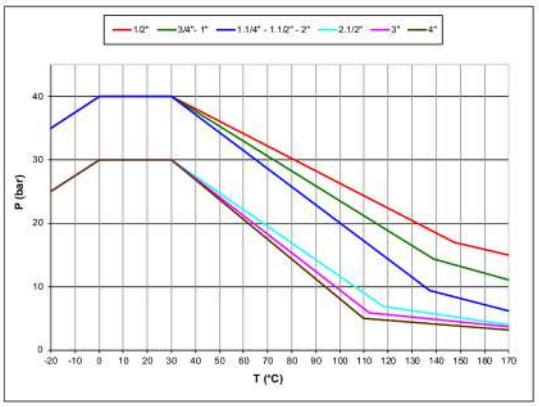
Delta P -->	0÷15 bar		40 bar (30 bar over 2")	
Valve size	to open	to close	to open	to close
1/2"	2,8	1,7	2,8	1,7
3/4"	3,8	2,3	3,8	2,3
1"	7,1	4,2	7,1	4,2
1 ¼"	11,7	12,6	13,6	12,6
1 ½"	24,9	20,3	30,9	20,3
2"	29,6	25,1	37	25,1
2 ½"	42	42	105	105
3"	102	102	120	120
4"	186	186	225	225

TORQUE CORRECTION FACTORS

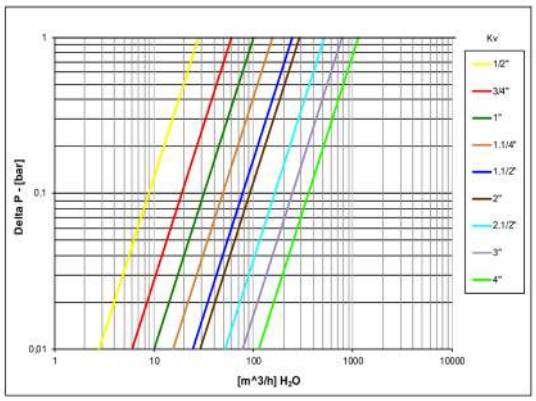
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media. If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.6400LT

Female/Female
1” - 2”
EN 10226-1, ISO 5211, low torque

QUALITY
- 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
- 100% seal test guaranteed in according to EN 12266- 1 RATE A

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

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

OPERATING MECHANISM
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- Shell rating: 40 bar (600 PSI) non shock cold working pressure
- Seat rating: Delta P max permissible 16 bar (230 PSI)
- -20°C to +170°C (-4°F to +350°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design

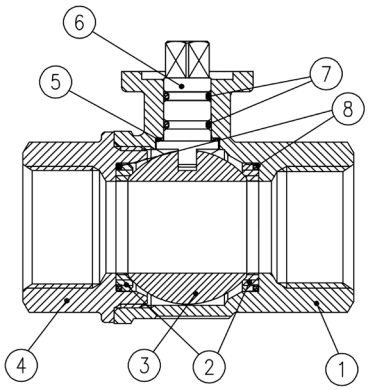
PED DIRECTIVE
- According to 2014/68/UE module A: it cannot be used with dangerous gases in sizes larger than 25mm

APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)
- Water Regulations Advisory Scheme (United Kingdom)

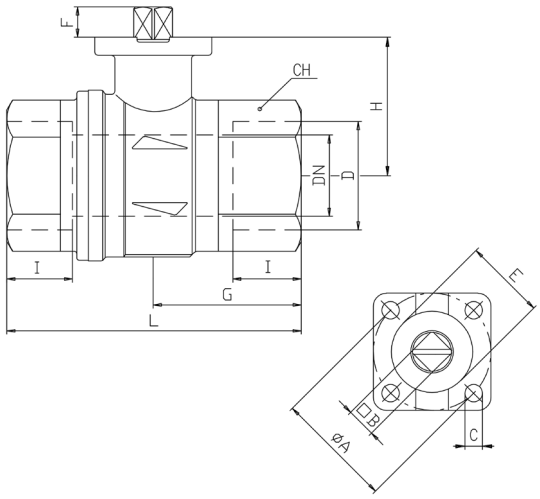
NOTE: approvals apply to specific configurations/sizes only.

OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes

	Part description	Q.ty	Material
1	Nickel plated body	1	CW617N
2	Ball seat	2	PTFE carbo-graphite filled
3	Chrome plated ball	1	CW617N
4	Nickel plated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM



	Compliant to CE 2014/68/UE product Equipment category I Module A			
Code	**S64F00A**	**S64G00A**	**S64H00A**	**S64I00A**
D (inch)	1″	1 ¼″	1 ½″	2″
DN (mm)	25	32	40	50
I (mm)	22.5	25	26	29
L (mm)	90	110	120	140
G (mm)	45.5	52	59	67.5
H (mm)	42.5	55.5	62	69
CH (mm)	41	50	55	70
ØA (mm)	36	36	50	50
□B (mm)	9	9	11	11
C (mm)	5.6	5.6	6.6	6.6
E (mm)	25	25	35	35
F (mm)	8.5	8.5	10	10
Flange connection DIN ISO 522 DIN 3337	F03	F03	F05	F05
Kv (m3/h)	100	155	245	290



Ball valves are marked CE on end-cap from 1 ¼″ to 2″ as follow: CE XXCODEXX Cat I-A

TORQUE FOR ACTUATOR SIZING N.M

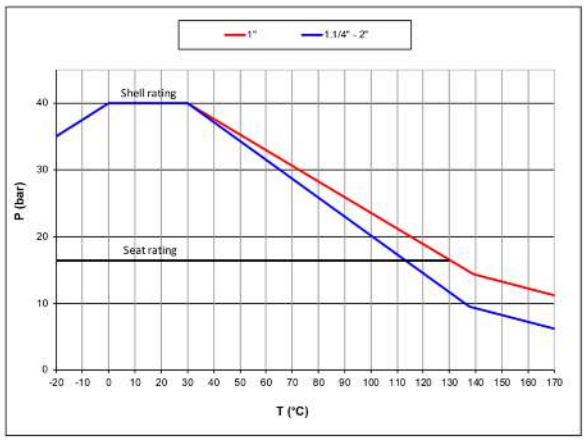
Delta P -->	0÷6 bar		>6÷16 bar	
Valve size	to open	to close	to open	to close
1″	2,2	2,2	3,5	3,5
1 ¼″	2,5	2,5	4	4
1 ½″	5,8	5,8	9,5	9,5
2″	7,9	7,9	13	13

TORQUE CORRECTION FACTORS

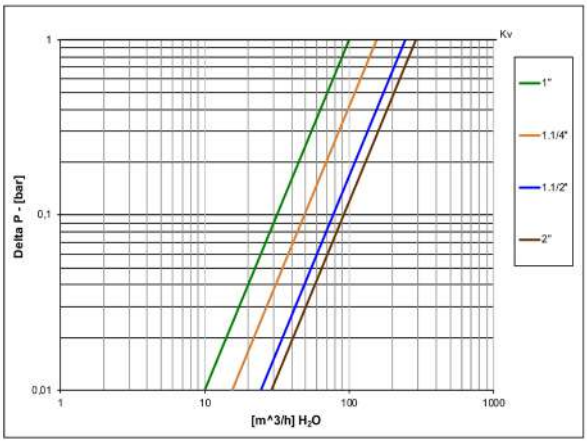
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



k.6405

Female/Female
1/2” - 2” EN 10226-1, ISO 5211, pure PTFE seats, DIN 16722 M3

More and more automation is required at all levels in our society and the k.64 ***RuB*** range is the answer to all needs for reliable actuated ball valve. The line has successfully passed 100,000 cycle life tests and is available in a variety of standard and customized configurations some with special seat design to compensate for wear.

HIGH TEMPERATURE RESISTANCE

Now approved for **HTB** use (Hochtemperaturbeständigkeit) Class B 0,1 (0,1 bar @650°C for at least 30 minutes).

H2 READY: product approved in EU acc.to EN331 (sizes ¼” to 2”) for the 1st, 2nd and 3rd gas families, therefore compatible with hydrogen use up to 50% in the gas mixture, as established in the 1st gas family of the EN437 (ref. G110)

QUALITY
- 24h 100% seal test guaranteed
- 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
- Integrated ISO 5211 and DIN 3337 mounting flange for universal connection to actuator
- Finest brass according to EN 12165 and EN 12164 specifications
- Valve length according to DIN 16722 M3

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

SEALING
- Pure PTFE self-lubricating seats with flexible-lip design

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

FLOW
- 100% full port for maximum flow

OPERATING DEVICE
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- 40 bar (600 PSI) non-shock cold working pressure
- For use with dangerous fluids pressure rating is 5 bar (72 PSI) / **HTB** Class B 0,1
- -40°C to +170°C (-40°F to +350°F)
- **WARNING**: freezing of the fluid in the installation may severely damage the valve
- For use with dangerous fluids temperature rating is -20°C to +60°C (-4°F to +140°F)

PED DIRECTIVE
- Assessment according to Pressure Equipment Directive 2014/68/UE module B+D by ICIM (0425)

APPROVED BY OR IN COMPLIANCE WITH
- DVGW (Germany) – MOP 5 B 0,1
- SVGW (Switzerland)
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)

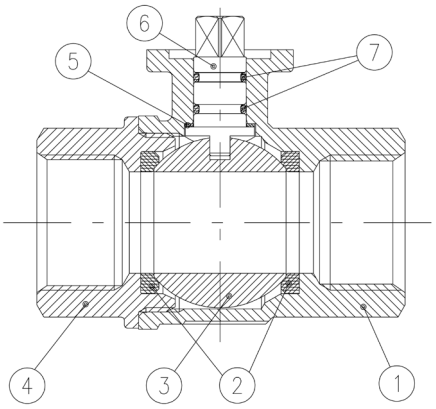
NOTE: approvals apply to specific configurations/sizes only.

You can purchase the valve alone or with the ***RuB*** actuator already mounted.

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 and brass or stainless stem and ball
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes
- Manual lockable handle

k.6405 XCEK6405 - 5813

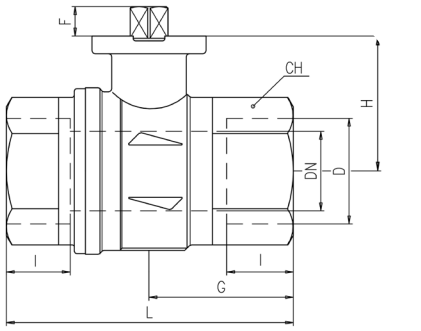
	Part description	Q.ty	Material
1	Nickel plated body	1	CW617N
2	Ball seat	2	PTFE
3	Chrome plated ball	1	CW617N
4	Nickel plated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM

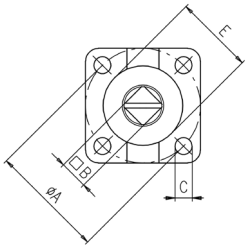


Ball valves are marked CE on body from 1 ¼" to 2" as follow:
CE 0425 cat IIIB+D PS: 5 GAS TS1: -20°C TS2: +60°C

Compliant to CE 2014/68/UE product Equipment category III Module B+D

Code	S64D05	S64E05	S64F05	S64G05	S64H05	S64I05
D (Size)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (mm)	15	20	25	32	40	50
I (mm)	16.5	19	22.5	25	26	29
L (mm)	75	80	90	110	120	140
G (mm)	30.5	37	45.5	52	59	67.5
H (mm)	31	38.5	42.5	55.5	62	69
CH (mm)	27	32	41	50	55	70
ØA (mm)	36	36	36	50	50	50
□B (mm)	9	9	9	11	11	14
C (mm)	5.6	5.6	5.6	6.6	6.6	6.6
E (mm)	25	25	25	35	35	35
F (mm)	7.5	8.5	8.5	10	10	14.5
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03	F05	F05	F05
Kv (m^3/h)	28	60	100	155	245	290





TORQUE FOR ACTUATOR SIZING N.M

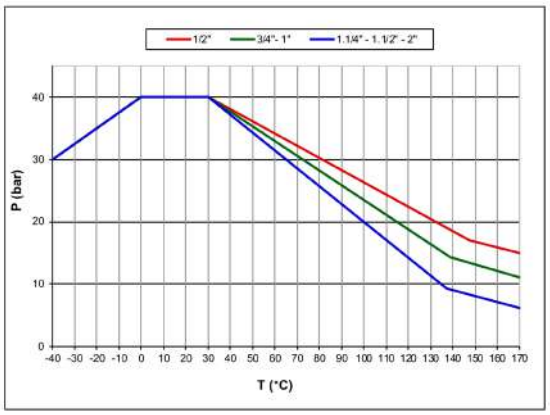
Delta P -->	0÷15 bar		40 bar	
Valve size	to open	to close	to open	to close
1/2"	3,2	2,4	3,2	2,4
3/4"	4,6	3,5	4,6	3,5
1"	11	8,2	11	8,2
1 ¼"	16	14,4	16	14,4
1 ½"	28,2	25,4	31	28
2"	38,9	35	49,5	44,5

TORQUE CORRECTION FACTORS

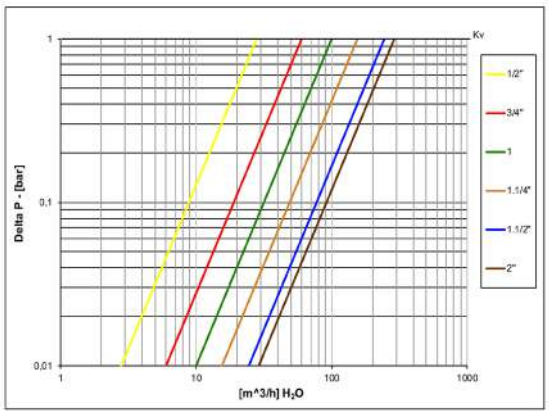
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.6439 NPT

Female/Female
1/2” - 2”
SS trim, ISO 5211

More and more automation is required at all levels in our society and the s.64 ***RuB*** range is the answer to all needs for reliable actuated ball valve.
It features special seat design to automatically compensate for wear and it has successfully passed 100,000 cycle life tests.
You can purchase the valve alone or with ***RuB*** actuator already mounted.

QUALITY
- 24h 100% seal test guaranteed
- 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
- Stainless steel ball for longer life

BODY
- Hot forged sand blasted, unplated 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

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

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

THREADS
- NPT taper ANSI B.1.20.1 female by female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- 600 PSI non-shock cold working pressure
- -4°F to +350°F
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design

PED DIRECTIVE
- Assessment according to Pressure Equipment Directive 2014/68/UE- module B+D by ICIM (0425)

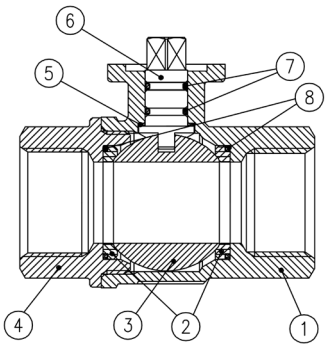
APPROVED BY OR IN COMPLIANCE WITH
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)
- RoHS Compliant (EU)
- Water Regulations Advisory Scheme (United Kingdom)

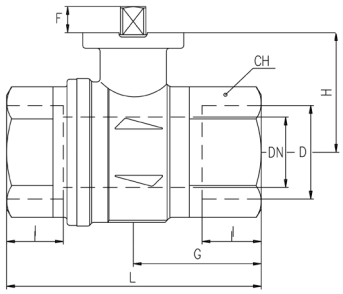
NOTE: approvals apply to specific configurations/sizes only.

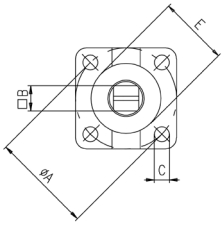
OPTIONS
- k.64 configuration featuring EN 10226-1, ISO 228 parallel female by female threads, plated body, valve length according to DIN 3357 specification, pure PTFE seats
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes
- Manual lockable handle
- Brass trim (s.6441)

s.6439 NPT XCES6439 - 6012

	Part description	Q.ty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE carbographite filled
3	Stainless steel ball	1	1.4401 / AISI 316
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Stainless steel stem O-ring design	1	1.4401 / AISI 316
7	O-Ring	2	FPM
8	O-Ring	2	FPM







	For sales within EU: CE marking needed, use following codes: S64G39CE	S64H39CE	S64I39CE			
Code	**S64D39**	**S64E39**	**S64F39**	**S64G39**	**S64H39**	**S64I39**
Size (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (inch)	0.59	0.787	0.984	1.259	1.575	1.968
I (inch)	0.61	0.708	0.826	0.905	0.964	1.043
L (inch)	2.598	2.933	3.562	4.094	4.606	5.314
G (inch)	1.201	1.456	1.791	2.047	2.322	2.657
H (inch)	1.22	1.515	1.673	2.185	2.441	2.716
CH (inch)	1.063	1.259	1.614	1.968	2.165	2.756
ØA (inch)	1.417	1.417	1.417	1.968	1.968	1.968
□B (inch)	0.354	0.354	0.354	0.551	0.551	0.551
C (inch)	0.22	0.22	0.22	0.259	0.259	0.259
E (inch)	0.984	0.984	0.984	1.378	1.378	1.378
F (inch)	0.295	0.334	0.334	0.57	0.57	0.57
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03	F05	F05	F05
Cv (GPM)	32.3	69.3	115.5	179.1	283.1	335

For sales within EU: ball valves are marked CE on end-cap from 11/4" to 2" as follow:
CE 0425 cat IIIB+D PS: 5
GAS TS1:-20°C TS2:+60°C

TORQUE FOR ACTUATOR SIZING IN-LB

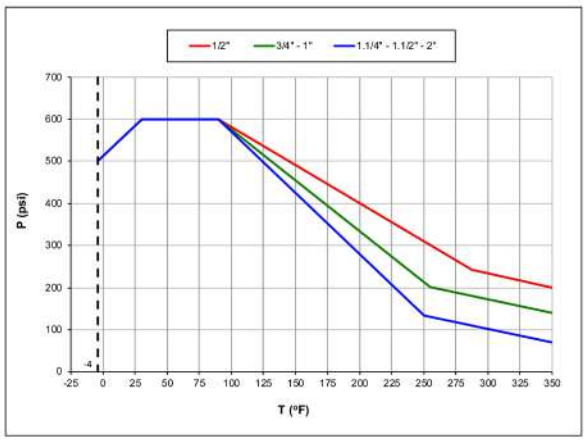
Delta P -->	0÷200 PSI		600 PSI	
Valve size	to open	to close	to open	to close
1/2"	25	15	25	15
3/4"	33	20	33	20
1"	62	37	62	37
1 ¼"	104	111	121	111
1 ½"	220	180	273	180
2"	262	222	327	222

TORQUE CORRECTION FACTORS

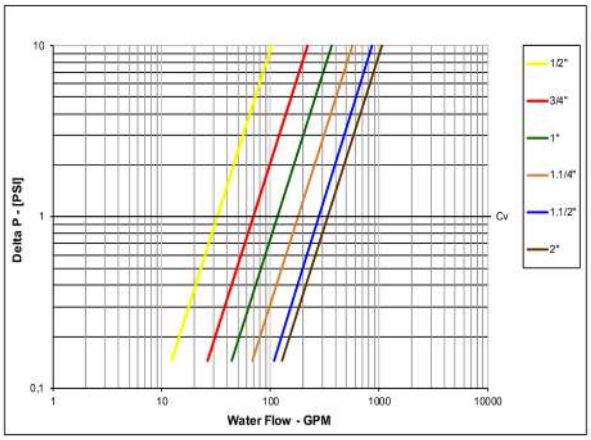
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART

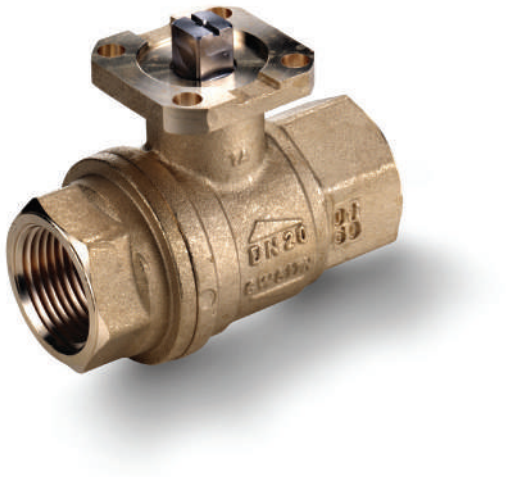


PRESSURE DROP CHART



s.6439LT NPT

Female/Female
1” - 2”
SS trim, ISO 5211, low torque



More and more automation is required at all levels in our society and the s.64 ***RuB*** range is the answer to all needs for reliable actuated ball valve.
It features special seat design to automatically compensate for wear and it has successfully passed 100,000 cycle life tests.
You can purchase the valve alone or with ***RuB*** actuator already mounted.

QUALITY
- 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
- Stainless steel ball for longer life
- 100% seal test guaranteed in according to EN 12266-1 RATE A

BODY
- Hot forged sand blasted, unplated 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

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

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

THREADS
- NPT taper ANSI B.1.20.1 female by female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- Shell rating: 600 PSI
- Seat rating: Delta P max permissible 230 PSI non-shock cold working pressure
- -4°F to +350°F
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

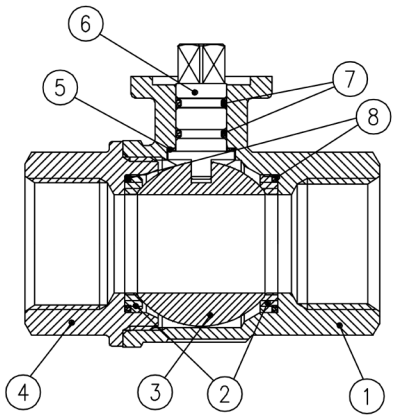
UPON REQUEST
- Custom design
- * For sales within EU: CE marking needed, please contact us

APPROVED BY OR IN COMPLIANCE WITH
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)
- RoHS Compliant (EU)

NOTE: approvals apply to specific configurations/sizes only.

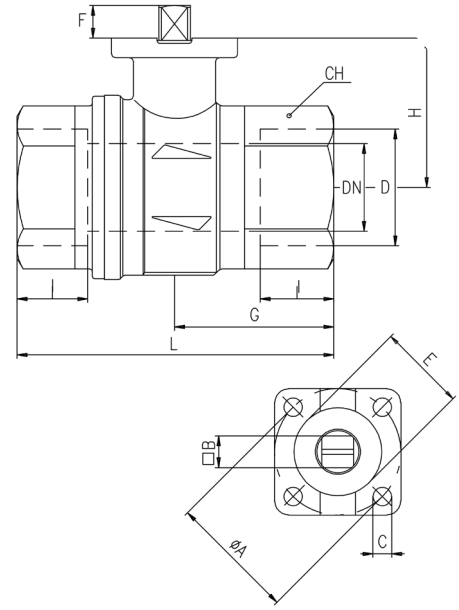
OPTIONS
- Brass trim
- k.64 configuration featuring EN 10226-1, ISO 228 parallel female by female threads, plated body, valve length according to DIN 3357 specification, pure PTFE seats
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes

	Part description	Q.ty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE carbographite filled
3	Stainless steel ball	1	1.4401 / AISI 316
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Stainless steel stem O-ring design	1	1.4401 / AISI 316
7	O-Ring	2	FPM
8	O-Ring	2	FPM



For sales within EU: CE marking needed, please contact us

Code	S64F39A	S64G39A	S64H39A	S64I39A
Size (inch)	1"	1 ¼"	1 ½"	2"
DN (inch)	0.984	1.259	1.575	1.968
I (inch)	0.827	0.906	0.965	1.043
L (inch)	3.563	4.094	4.606	5.315
G (inch)	1.791	2.047	2.323	2.657
H (inch)	1.673	2.185	2.441	2.717
CH (inch)	1.614	1.968	2.165	2.756
ØA (inch)	1.417	1.417	1.968	1.968
□B (inch)	0.354	0.354	0.551	0.551
C (inch)	0.220	0.220	0.260	0.260
E (inch)	0.984	0.984	1.378	1.378
F (inch)	0.335	0.335	0.571	0.571
Flange connection DIN ISO 522 DIN 3337	F03	F05	F05	F05
Cv (GPM)	115.5	179.1	283.1	335.0



TORQUE FOR ACTUATOR SIZING IN-LB

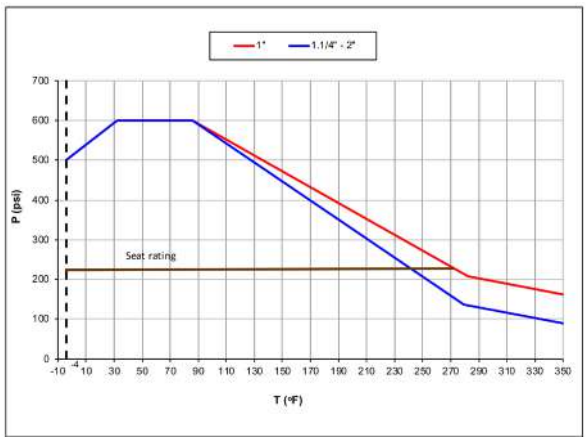
Delta P -->	0÷90 PSI		>90÷230 PSI	
Valve size	to open	to close	to open	to close
1"	19	19	31	31
1 1/4"	22	22	35	35
1 1/2"	51	51	84	84
2"	70	70	115	115

TORQUE CORRECTION FACTORS

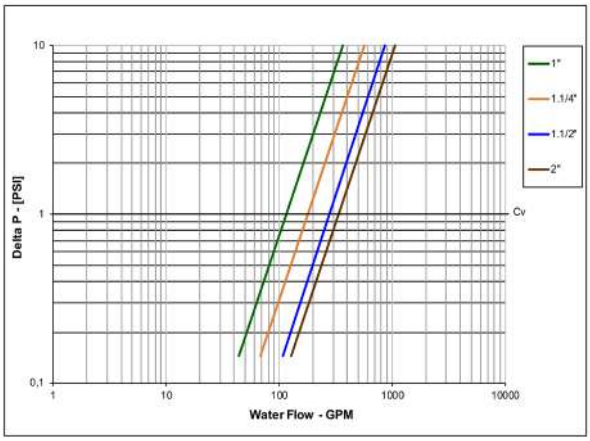
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.6441 NPT

Female/Female
1/2" - 4"
brass trim, ISO 5211

More and more automation is required at all levels in our society and the s.64 ***RuB*** range is the answer to all needs for reliable actuated ball valve.
It features special seat design to automatically compensate for wear and it has successfully passed 100,000 cycle* life tests.
You can purchase the valve alone or with the ***RuB*** actuator already mounted.
*All sizes up to 2" included

QUALITY
- 24h 100% seal test guaranteed
- 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, unplated 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

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
- NPT taper ANSI B.1.20.1 female by female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- 600 PSI up to 2", 450 PSI over 2" non-shock cold working pressure
- -4°F to +350°F
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design

PED DIRECTIVE
- Assessment according to Pressure Equipment Directive 2014/68/UE-module B+D by ICIM (0425)

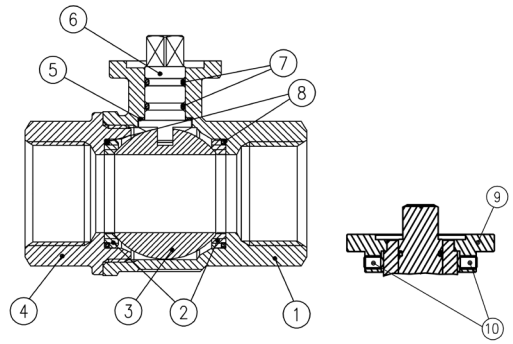
APPROVED BY OR IN COMPLIANCE WITH
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)
- RoHS Compliant (EU)
- Water Regulations Advisory Scheme (United Kingdom)

NOTE: approvals apply to specific configurations/sizes only.

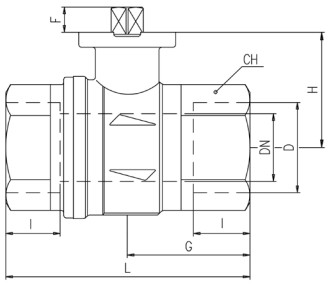
OPTIONS
- S.64 configuration featuring EN 10226-1, ISO 228 parallel female by female threads, plated body and brass trim
- Stainless steel trim (s.6439)
- Configuration for use with slurries or liquid bearing abrasive particles
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes
- Manual lockable handle

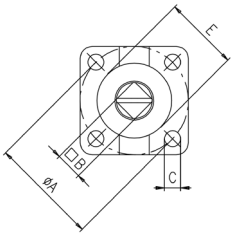
s.6441 NPT XCES6441 - 6012

	Part description	Q.ty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM
9	Black anodized flange (only from 2 ½" to 4")	1	Aluminum
10	Grub screw (only from 2 ½" to 4")	2	C4C (EN10263-2)



				For sales within EU: CE marking needed, use following codes: S64G41CE	S64H41CE	S64I41CE	S64L41AMCE	S64M41AMCE	S64N41AMCE
Code	**S64D41**	**S64E41**	**S64F41**	**S64G41**	**S64H41**	**S64I41**	**S95L41AM**	**S95M41AM**	**S95N41AM**
Size (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"	2 ½"	3"	4"
DN (inch)	0.59	0.787	0.984	1.259	1.575	1.968	2.520	2.992	3.937
I (inch)	0.61	0.708	0.826	0.905	0.964	1.043	1.26	1.378	1.634
L (inch)	2.598	2.933	3.562	4.094	4.606	5.314	6.142	6.969	8.504
G (inch)	1.201	1.456	1.791	2.047	2.322	2.657	3.071	3.484	4.252
H (inch)	1.22	1.515	1.673	2.185	2.441	2.716	3.502	3.779	4.366
CH (inch)	1.063	1.259	1.614	1.968	2.165	2.756	3.346	3.898	4.921
ØA (inch)	1.417	1.417	1.417	1.968	1.968	1.968	2.756	2.756	2.756
□B (inch)	0.354	0.354	0.354	0.551	0.551	0.551	0.669	0.669	0.669
C (inch)	0.22	0.22	0.22	0.259	0.259	0.259	0.335	0.335	0.335
E (inch)	0.984	0.984	0.984	1.378	1.378	1.378	2.165	2.165	2.165
F (inch)	0.295	0.334	0.334	0.57	0.57	0.57	0.709	0.709	0.709
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03	F05	F05	F05	F07	F07	F07
Cv (GPM)	32.3	69.3	115.5	179.1	283.1	335	596.2	896.5	1305.5





TORQUE FOR ACTUATOR SIZING IN-LB

Delta P -->	0÷200 PSI		600 PSI (450 PSI over 2")	
Valve size	to open	to close	to open	to close
1/2"	25	15	25	15
3/4"	33	20	33	20
1"	62	37	62	37
1 ¼"	104	111	121	111
1 ½"	220	180	273	180
2"	262	222	327	222
2 ½"	372	372	929	929
3"	902	902	1062	1062
4"	1646	1646	1991	1991

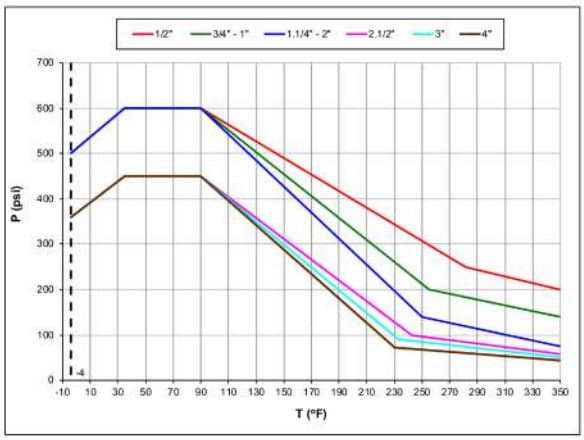
TORQUE CORRECTION FACTORS

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:

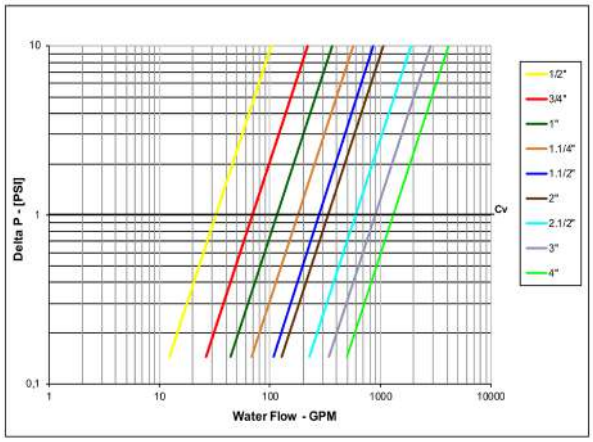
Lubricating oils or liquids	0.8
Dry gases, natural gas	1.5
Slurries or liquids bearing abrasive particles	1.5÷2.5

For sales within EU: ball valves are marked CE on end-cap from 11/4" to 4" as follow:
CE 0425 cat IIIB+D PS: 5 GAS TS1:-20°C TS2:+60°C

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.6500

Female/Female
ISO 5211
full port 1/2”- 1 1/4”
hot forged brass ball valve

QUALITY
- 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
- 100% seal test guaranteed in according to EN 12266-1 RATE A (intended when the product is in brand new condition)

BODY
- Hot forged sand blasted, external 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

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

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

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

OPERATING MECHANISM
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See RuB line of electric and pneumatic actuators

FLOW
- Full port to DIN 3357 for maximum flow

WORKING PRESSURE & TEMPERATURE
- Shell rating: 40 bar (600 PSI) non shock cold working pressure
- Seat rating: Delta P max permissible 16 bar (230 PSI) non shock cold working pressure
- -20°C to +150°C (-4°F to +302°F)
- * Limitations for potable water use: 10 bar (Kg/cm^2) non- shock cold working pressure and +2°C / +65°C temperature (occasional excursions up to 85°C are permitted for a period of 1 h maximum)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design
- NPT taper ANSI B.1.20.1 female by female threads, unplated body

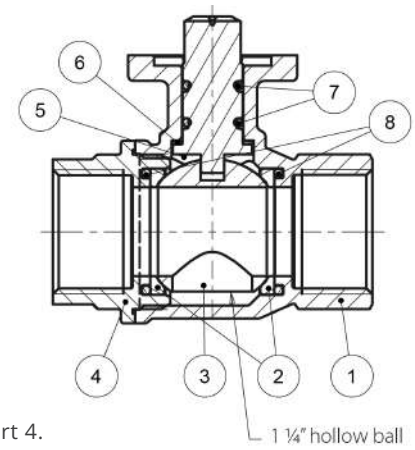
PED DIRECTIVE
- According to 2014/68/UE module A: it cannot be used with dangerous gases in sizes larger than 25mm

APPROVED BY OR IN COMPLIANCE WITH
- Attestation de Conformité Sanitaire (France)
- DVGW Hygienic suitability (Germany)
- Water Regulations Advisory Scheme (United Kingdom)
- RoHS Compliant (EU)

NOTE: approvals apply to specific configurations/sizes only.

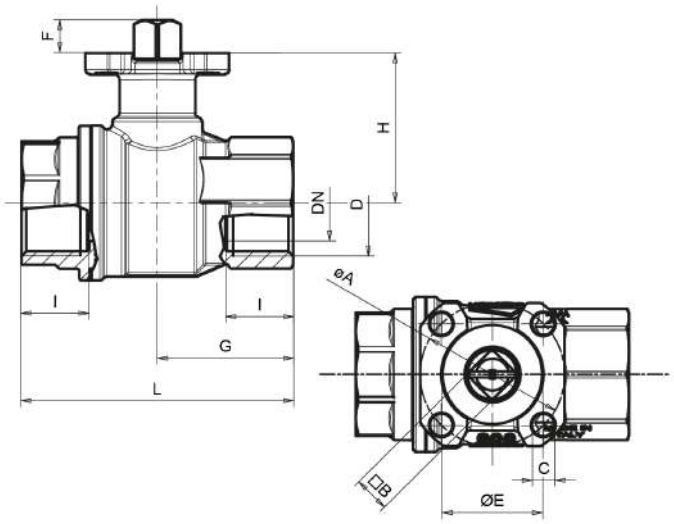
OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes

	Part description	Q.ty	Material
1	Nickel plated body (external treatment)	1	CW617N
2	Seat	2	PTFE
3	Chrome plated ball with rinse hole (rinse hole on sizes from 3/4" up to 1 1/4")	1	CW617N
4	Nickel plated end-cap (external treatment)	1	CW617N
5	Nickel plated stem O-ring design	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	O-Ring	2	EPDM
8	O-Ring	2	EPDM



DN shows the nominal flow diameter.Actual flow diameter complies with full port DIN 3357 part 4.
Ball valves s.65 size 1 ¼" are marked CE as follows: CE Cat I-A

Code	S65D00	S65E00	S65F00	S65G00
D (inch)	1/2"	3/4"	1"	1 ¼"
DN (mm)	15	20	25	32
I	15.5	17	21	23
L	63.5	68	85	97
G	31.5	34	42.5	48.5
ØA	36	36	36	36
□B (mm)	9	9	9	9
C	5.6	5.6	5.6	5.6
ØE	25	25	25	25
F	7.3	8.3	8.3	8.3
H	31	38	41.3	48
CH	25	31	40	49
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03	F03
Kv (m3/h)	28	36	62	79



TORQUE FOR ACTUATOR SIZING N.M

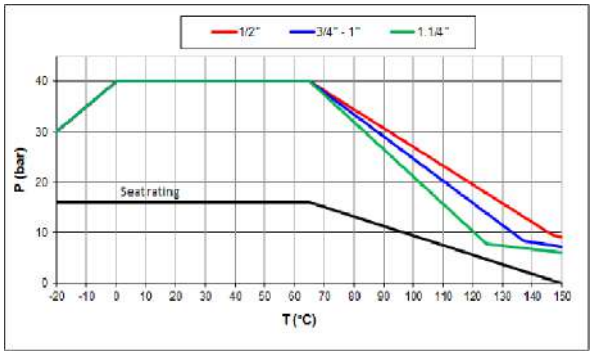
Delta P -->	0÷16 bar	
Valve size	to open	to close
1/2"	3,5	3
3/4"	4,2	3,7
1"	4,5	4
1 ¼"	5	4,5

TORQUE CORRECTION FACTORS

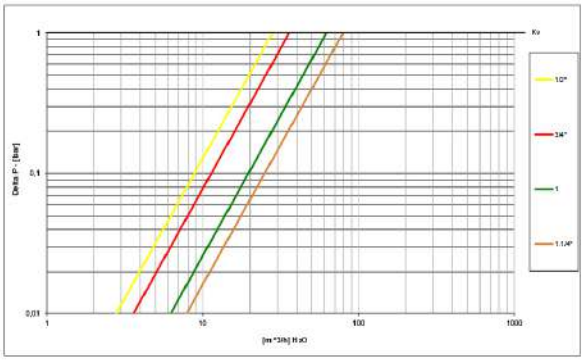
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



AVAILABLE ON DEMAND

LIFETIME WARRANTY

s.6541 NPT

Female/Female
ISO 5211
full port 1/2”- 1 1/4”
hot forged brass ball valve

RoHS compliant

QUALITY
- 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
- 100% seal test guaranteed in according to EN 12266-1 RATE A (intended when the product is in brand new condition)

BODY
- Hot forged sand blasted, external 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

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

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

THREADS
- NPT taper ANSI B.1.20.1 female by female threads

OPERATING MECHANISM
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See RuB line of electric and pneumatic actuators

FLOW
- Full port to DIN 3357 for maximum flow

WORKING PRESSURE & TEMPERATURE
- Shell rating: 40 bar (600 PSI) non shock cold working pressure
- Seat rating: Delta P max permissible 16 bar (230 PSI) non shock cold working pressure
- -20°C to +150°C (-4°F to +302°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design
- NPT taper ANSI B.1.20.1 female by female threads, unplated body
- * For sales within EU: CE marking needed, please contact us

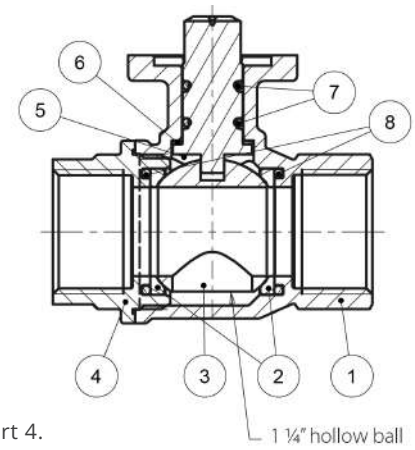
APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)

NOTE: approvals apply to specific configurations/sizes only.

OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes

s.6541 NPT XCES6541 - 6012

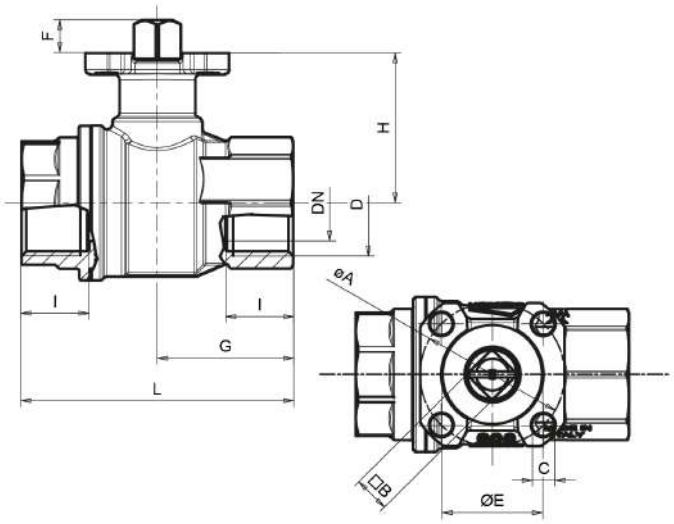
	Part description	Q.ty	Material
1	Unplated body	1	CW617N
2	Seat	2	PTFE
3	Chrome plated ball with rinse hole (rinse hole on sizes from 3/4" up to 1 1/4")	1	CW617N
4	Unplated end-cap	1	CW617N
5	Nickel plated stem O-ring design	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	O-Ring	2	EPDM
8	O-Ring	2	EPDM



DN shows the nominal flow diameter.Actual flow diameter complies with full port DIN 3357 part 4.

For sales within EU: CE marking needed, please contact us

Code	S65D41	S65E41	S65F41	S65G41
D (inch)	1/2"	3/4"	1"	1 ¼"
DN (inch)	0.59	0.79	0.98	1.26
I (inch)	0.61	0.67	0.83	0.91
L (inch)	2.5	2.68	3.35	3.82
G (inch)	1.24	1.34	1.67	1.91
ØA (inch)	1.42	1.42	1.42	1.42
□B (inch)	0.35	0.35	0.35	0.35
C (inch)	0.22	0.22	0.22	0.22
ØE (inch)	0.98	0.98	0.98	0.98
F (inch)	0.29	0.33	0.33	0.33
H (inch)	1.22	1.50	1.63	1.89
CH (inch)	0.98	1.22	1.57	1.93
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03	F03
CV (GPM)	32.30	41.60	71.60	91.30



TORQUE FOR ACTUATOR SIZING IN-LB

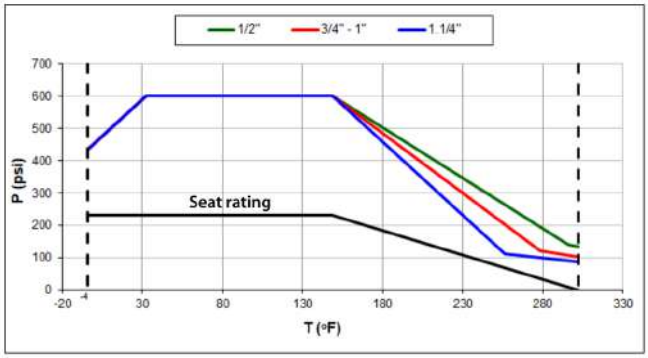
Delta P -->	0÷230 PSI	
Valve size	to open	to close
1/2"	31	27
3/4"	37.5	33
1"	40	35.5
1 ¼"	44.5	40

TORQUE CORRECTION FACTORS

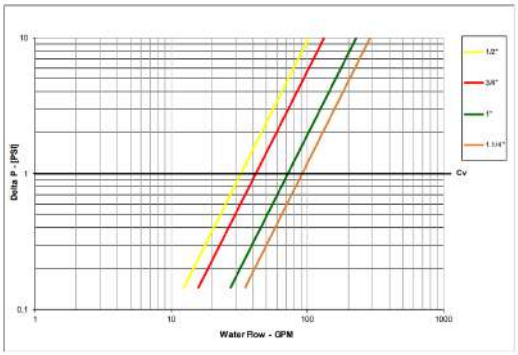
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.6550 BSPT

Female/Female
ISO 5211
full port 1/2”- 1”
hot forged brass ball valve

QUALITY
- 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
- 100% seal test guaranteed in according to EN 12266-1 RATE A (intended when the product is in brand new condition)

BODY
- Hot forged sand blasted, external 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

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

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

THREADS
- EN 10226-2, ISO 7/1, BS 21 BSPT taper female by female threads

OPERATING MECHANISM
- Integrated sturdy ISO 5211 flange allows direct mounting of electric and pneumatic actuators, with no bracket or coupling required. See RuB line of electric and pneumatic actuators

FLOW
- Full port to DIN 3357 for maximum flow

WORKING PRESSURE & TEMPERATURE
- Shell rating: 40 bar (600 PSI) non shock cold working pressure
- Seat rating: Delta P max permissible 16 bar (230 PSI) non shock cold working pressure
- -20°C to +150°C (-4°F to +302°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design
- NPT taper ANSI B.1.20.1 female by female threads, unplated body

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

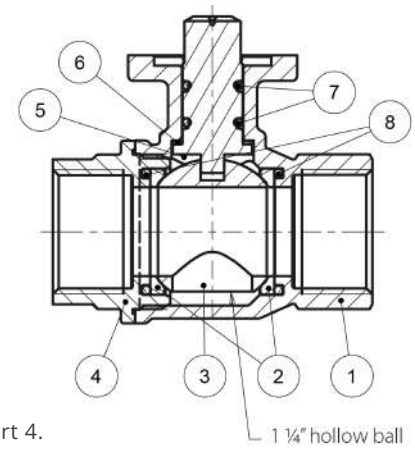
APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)

NOTE: approvals apply to specific configurations/sizes only.

OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact power electric actuator for some sizes

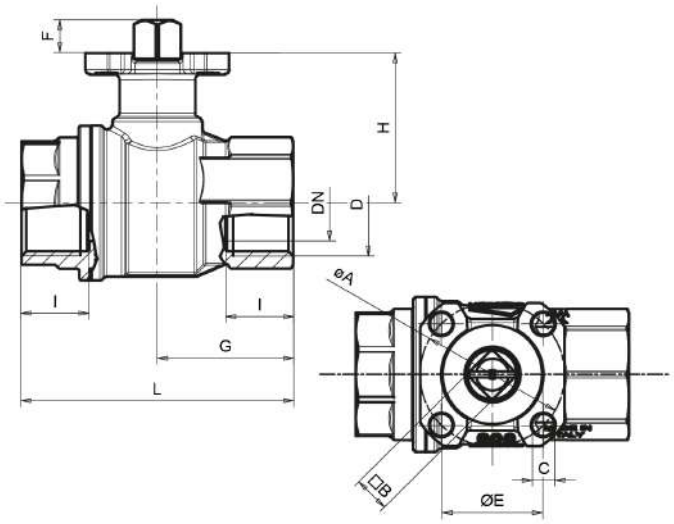
s.6550 BSPT XCES6550 - 5466

	Part description	Q.ty	Material
1	Nickel plated body (external treatment)	1	CW617N
2	Seat	2	PTFE
3	Chrome plated ball with rinse hole (rinse hole on sizes from 3/4" up to 1 1/4")	1	CW617N
4	Nickel plated end-cap (external treatment)	1	CW617N
5	Nickel plated stem O-ring design	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	O-Ring	2	EPDM
8	O-Ring	2	EPDM



DN shows the nominal flow diameter.Actual flow diameter complies with full port DIN 3357 part 4.

Code	S65D50	S65E50	S65F50
D (inch)	1/2"	3/4"	1"
DN (mm)	15	20	25
I	15.5	17	21
L	63.5	68	85
G	31.5	34	42.5
ØA	36	36	36
□B (mm)	9	9	9
C	5.6	5.6	5.6
ØE	25	25	25
F	7.3	8.3	8.3
H	31	38	41.3
CH	25	31	40
Flange connection DIN ISO 522 DIN 3337	F03	F03	F03
Kv (m3/h)	28	36	62



TORQUE FOR ACTUATOR SIZING N.M

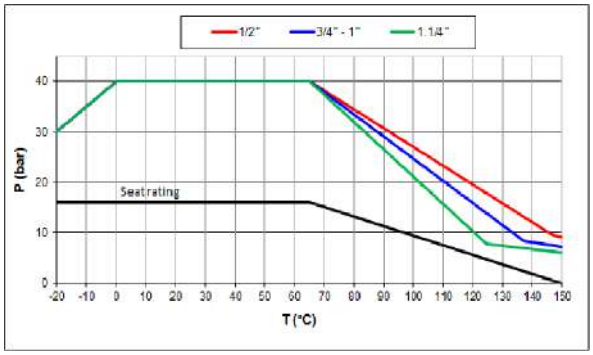
Delta P -->	0÷16 bar	
Valve size	to open	to close
1/2"	3,5	3
3/4"	4,2	3,7
1"	4,5	4

TORQUE CORRECTION FACTORS

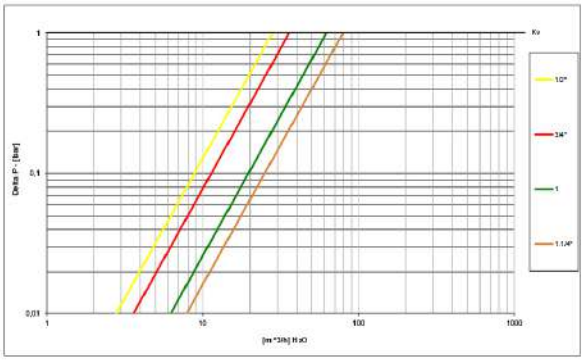
Valve torque can vary according to operating frequency, temperature and friction characteristics of the media.
If media has more or less friction than water, multiply torque by the following factors:

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

PRESSURE-TEMPERATURE CHART



PRESSURE DROP CHART



s.7200 3-way 4 seats L-port (diverting)

Female/Female/Female
1/2" - 1"
EN 10226-1, ISO 5211, Heavy duty

The RuB S.7200 is the right choice for fluid diversion and is designed with robust maintenance-free components ensuring ease of operation and safety. With a simple 90° turn, you can divert flow from one downstream outlet to the other. It combines traditional manual operation with modern automation. Our s.72 multi-port valves can reduce the number of valves required in piping systems and can significantly lower overall costs by allowing the replacement of two or three conventional straight-line valves, eliminating excess fittings and simplifying automation.

QUALITY
- Electronic 100% seal test guaranteed for maximum safety
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, external nickel plated brass body and cap sealed with Loctite® or equivalent thread sealant
- Integrated ISO5211 / DIN3337 mounting flange for universal connection to actuator
- Finest brass according to EN 12165 and EN 12164 specifications
- 3-way L-port design for flow diversion

STEM
- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety
- Stem slot shows ball position

SEALING
- Four seats design for mixing of various fluids in the system
- Pure PTFE self-lubricating seats with flexible-lip design

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

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- 20 bar (300 PSI) non-shock cold working pressure
- -20°C to +150°C (-4°F to +302°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve.

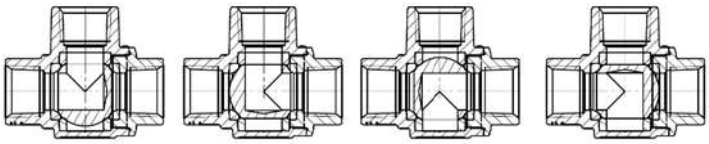
UPON REQUEST
- Custom design
- Stainless steel stem
- Configurations with 4 seats & T-port (s.7300) or 2 seats & L-port (s.7600)

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)

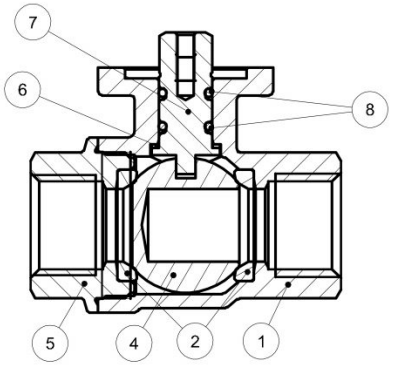
NOTE: approvals apply to specific configurations/sizes only.

S.72 3-way "L" port operating positions

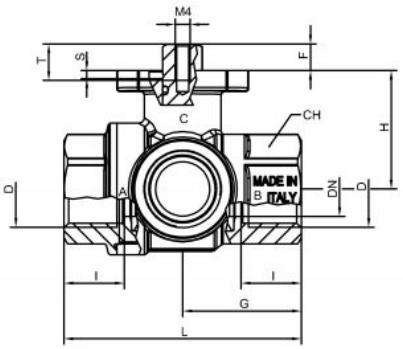


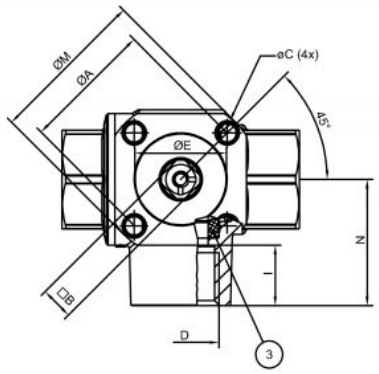
OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Lockable handle as accessory or already mounted (s.7200L)
- Various actuator linkage kit

	Part description	Q.ty	Material
1	Nickel plated body (external nickel plated, unplated inside)	1	CW617N
2	Seat	2	PTFE
3	Seat	2	PTFE
4	Chrome plated ball	1	CW617N
5	Nickel plated end-cap (external nickel plated, unplated inside)	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	Nickel plated stem O-ring design	1	CW617N
8	O-Ring	2	FPM



Code	S72D00	S72E00	S72F00
D (inch)	1/2"	3/4"	1"
DN (mm)	15	20	25
I (mm)	16.5	19	22.5
L (mm)	65	79	92.5
G (mm)	32.5	39.5	46.5
H (mm)	32.5	39.5	42.5
N (mm)	34.5	42	49.5
ØA (mm)	36	36	36
ØC (mm)	Ø5.6	Ø5.6	Ø5.6
ØE (mm)	25	25	25
Square B (mm)	9	9	9
ØM (mm)	43.4	43.4	43.4
S (mm)	2.2	2.2	2.2
T (mm)	10	10	10
F (mm)	7.3	8.3	8.3
CH (mm)	27	32	41
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03
P (ISO 262 Thread)	M4	M4	M4





TORQUE FOR ACTUATOR SIZING N.M

Delta P -->	0÷16 bar	
Valve size	to open	to close
1/2"	10.5	10.5
3/4"	13	13
1"	22	22

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

s.7241 NPT 3-way 4 seats L-port (diverting)

Female/Female/Female
1/2” - 1”
ISO 5211, Heavy duty

The ***RuB*** s.7641 is the right choice for fluid diversion and is designed with robust maintenance-free components ensuring ease of operation and safety. With a simple 90° turn, you can divert flow from one downstream outlet to the other. It combines traditional manual operation with modern automation. It is also very easy to convert from its sturdy lever handle to ISO 5211 actuator flange assembly. It features low operating torque and a special wear reducing self-compensating valve seat design that meets our 100,000 cycle life test requirement. The valve can be purchased separately, with handle or with a ***RuB*** actuator already mounted.

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
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, unplated brass body and cap sealed with Loctite® or equivalent thread sealant
- Integrated ISO5211 / DIN3337 mounting flange for universal connection to actuator
- Finest brass according to EN 12165 and EN 12164 specifications
- 3-way L- port design for flow diversion

STEM
- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety
- Stem slot shows ball position

SEALING
- Four seats design for mixing of various fluids in the system
- Pure PTFE self-lubricating seats with flexible-lip design

THREADS
- NPT taper ANSI B.1.20.1 female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

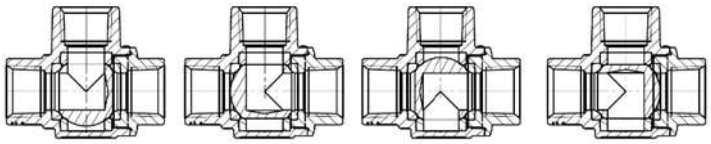
WORKING PRESSURE & TEMPERATURE
- 300 PSI non-shock cold working pressure
- -4°F to +302°F
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design
- Stainless steel stem
- Configurations with 4 seats & T-port (s.7341) or 2 seats & L-port (s.7641)

APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)

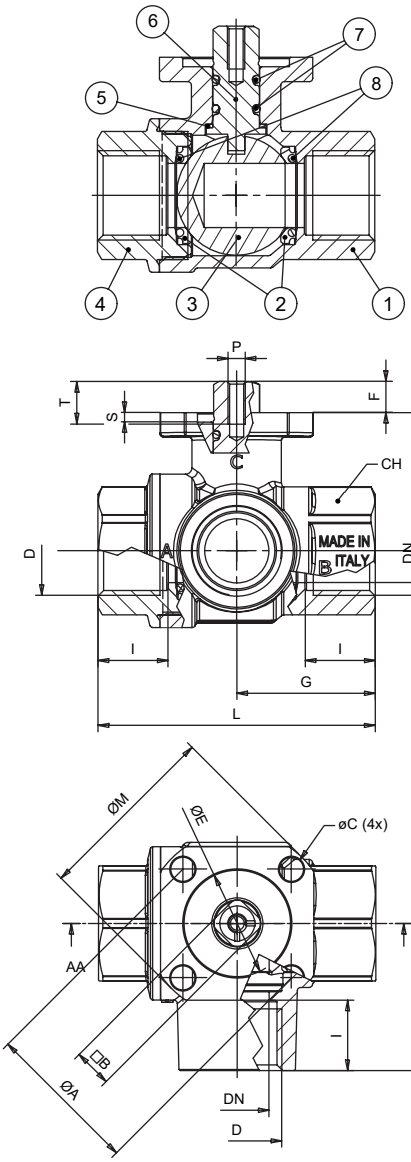
NOTE: approvals apply to specific configurations/sizes only.

S.72 3-way “L” port operating positions



OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Lockable handle as accessory or already mounted (s.7241L)
- Various actuator linkage kit

	Part description	Q.ty	Material
1	Sand blasted unplated body	1	CW617N
2	Seat	2	PTFE
3	Seat	2	PTFE
4	Chrome plated ball	1	CW617N
5	Sand blasted unplated end cap	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	Nickel plated stem O-ring design	1	CW617N
8	O-Ring	2	FPM



Code	S72D41	S72E41	S72F41
D (inch)	1/2"	3/4"	1"
DN (inch)	0.591	0.787	0.984
I (inch)	0.610	0.709	0.827
L (inch)	2.559	3.110	3.642
G (inch)	1.280	1.555	1.831
H (inch)	1.820	1.555	1.673
N (inch)	1.358	1.654	1.949
ØA (inch)	1.417	1.417	1.417
ØC (inch)	Ø 0.205 (M6)	Ø 0.205 (M6)	Ø 0.205 (M6)
ØE (inch)	0.984	0.984	0.984
Square B (inch)	0.354	0.354	0.354
ØM (inch)	1.709	1.709	1.709
S (inch)	0.087	0.087	0.087
T (inch)	0.394	0.394	0.394
F (inch)	0.287	0.327	0.327
CH (inch)	1.063	1.260	1.614
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03

TORQUE FOR ACTUATOR SIZING IN-LB

Delta P -->	0÷230 PSI	
Valve size	to open	to close
1/2"	93	93
3/4"	115	115
1"	261	261

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

s.7300 3-way 4 seats T-port

Female/Female/Female
1/4" - 2"
EN 10226-1, ISO 5211

The s.7300 series has a ball seal at every port, and offers a wide variety of possible flow configurations. Positive shut-off can be achieved at any of the exiting ports.
By specifying the appropriate ball port configuration, the T-port design allows flow direction to be adjusted for virtually any situation and is ideal for mixing applications.
Our s.73 multi-port valves can reduce the number of valves required in piping systems and can significantly lower overall costs by replacing two or three conventional 2-way valves, eliminating excess fittings, saving space and simplifying automation.

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
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, external 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 T- port design for flow mixing

STEM
- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety
- Stem slot shows ball position

SEALING
- Pure PTFE self-lubricating seats with flexible-lip design
- Four seats design for mixing of various fluids in the system

THREADS
- EN 10226-1/ ISO 228 parallel female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- 20 bar (300 PSI) non-shock cold working pressure
- -20°C to +150°C (-4°F to +302°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

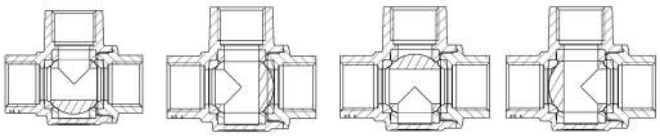
UPON REQUEST
- Custom design
- Stainless steel stem
- Configurations with 2 seats & L-port (s.7600)

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.

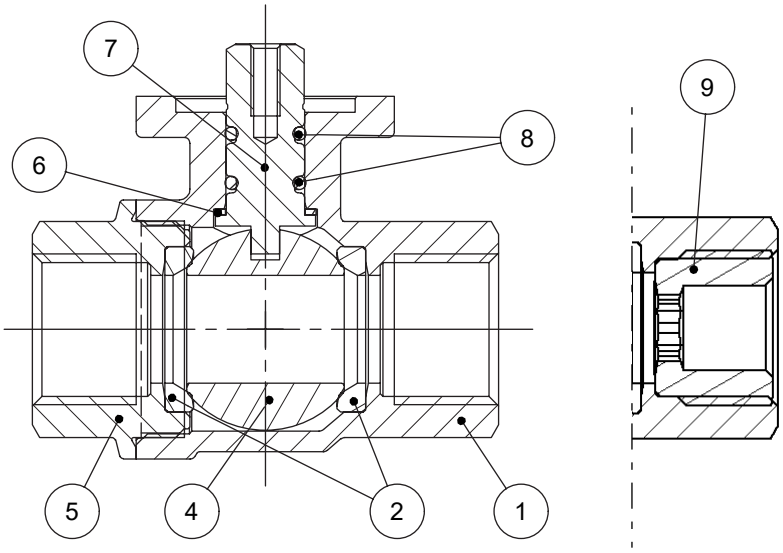
APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)

NOTE: approvals apply to specific configurations/sizes only.

s73 3-way "T" port operating positions



OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Lockable handle as accessory or already mounted (s.7300L)
- Various actuator linkage kit



	Part description	Q.ty	Material
1	Nickel plated body (external nickel plated, unplated inside)	1	CW617N
2	Seat	2	PTFE
3	Seat	2	PTFE
4	Chrome plated ball	1	CW617N
5	Nickel plated end cap (external nickel plated, unplated inside)	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	Nickel plated stem O-ring design	1	CW617N
8	O-Ring	2	FPM
9	Unplated reduction (only 1/4" and 3/8" sizes)	3	CW617N

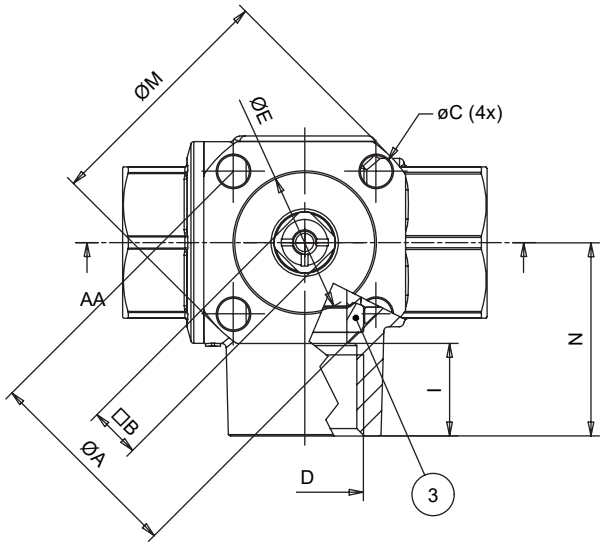
TORQUE FOR ACTUATOR SIZING N.M

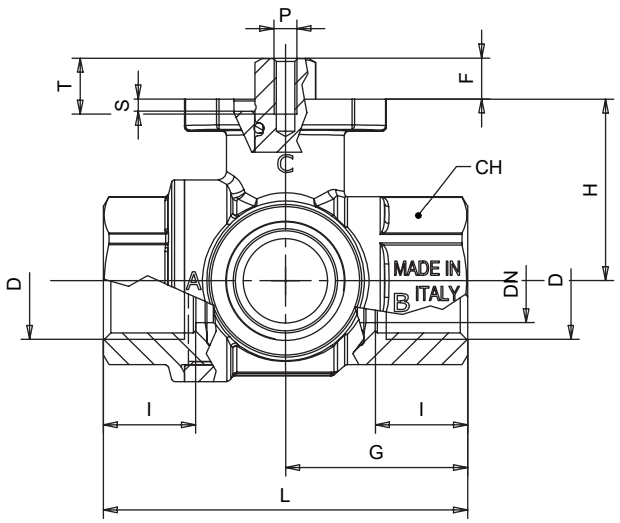
Delta P -->	0÷16 bar	
Valve size	to open	to close
1/4" - 3/8" - 1/2"	10,5	10,5
3/4"	13	13
1"	22,0	22,0
1 ¼"	14,0	14,0
1 ½"	23,0	23,0
2"	38,0	38,0

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:

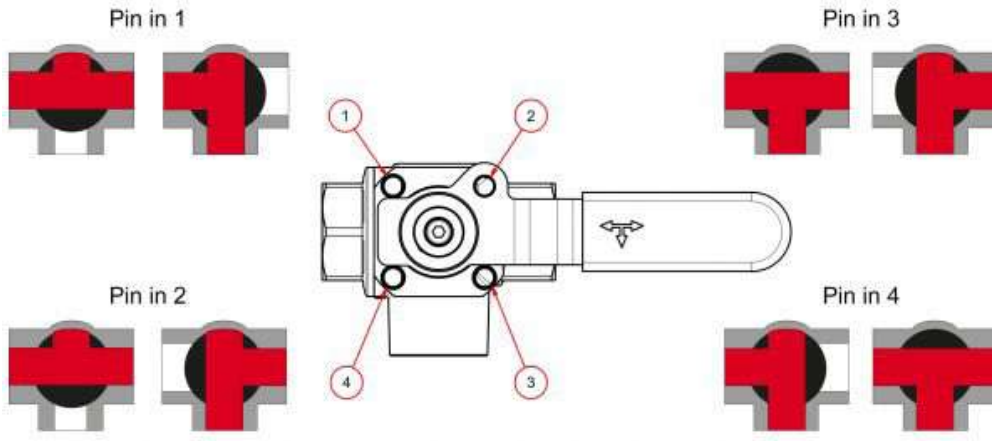
Lubricating oils or liquids	0.8
Dry gases, natural gas	1.5
Slurries or liquids bearing abrasive particles	1.5÷2.5

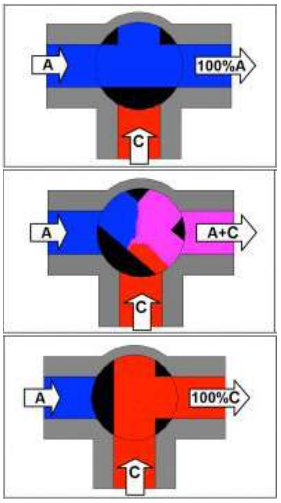




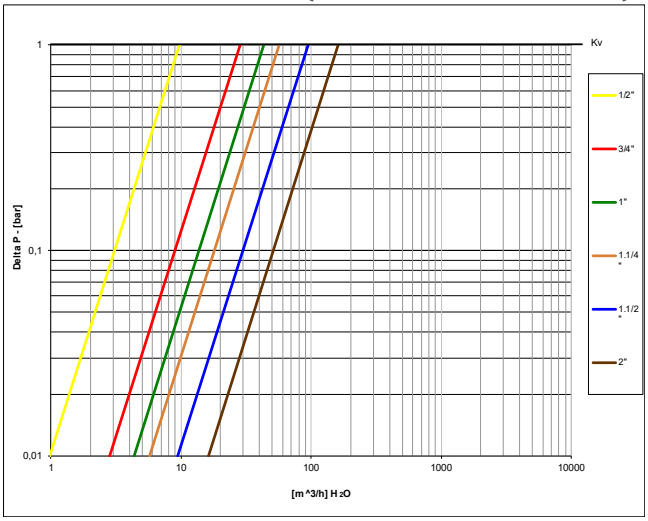
Code	S73B00	S73C00	S73D00	S73E00	S73F00	S73G00	S73H00	S73I00
D (inch)	1/4"	3/8"	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (mm)	8	10	15	20	25	30.4	38	48
I (mm)	12	12	16.5	19	22.5	25	26	29
L (mm)	65	65	65	79	92.5	109.5	126	150
G (mm)	32.5	32.5	32.5	39.5	46.5	55	63	75
H (mm)	32.5	32.5	32.5	39.5	42.5	56	62.5	72
N (mm)	34.5	34.5	34.5	42	49.5	60	69	82
ØA (mm)	36	36	36	36	36	50	50	50
ØC (mm)	Ø5.6	Ø5.6	Ø5.6	Ø5.6	Ø5.6	Ø6.6	Ø6.6	Ø6.6
ØE (mm)	25	25	25	25	25	35	35	35
Square B (mm)	9	9	9	9	9	14	14	14
ØM (mm)	43.4	43.4	43.4	43.4	43.4	60.8	60.8	60.8
S (mm)	2.2	2.2	2.2	2.2	2.2	3.2	3.2	3.2
T (mm)	10	10	10	10	10	14	14	14
F (mm)	7.3	7.3	7.3	8.3	8.3	14.5	14.5	14.5
CH (mm)	27	27	27	32	41	50	55	70
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F03	F03	F05	F05	F05
P (ISO 262 Thread)	M4	M4	M4	M4	M4	M5	M5	M5
Kv (m^3/h) straight pattern	TBD	TBD	9.7	28.2	43.3	57.0	94.5	161.0
Kv (m^3/h) 90° pattern	TBD	TBD	5.3	11.6	16.8	26.7	43.3	69.2

With the configuration of T-port a stop pin can be fixed in any position of the 4 provided in the flange (1, 2, 3 or 4) and the lever can be rotated freely through 90°, the flow assumes the directions indicated in the diagram; in case of need the lever can be pulled upwards and you can reach any of the four possible positions. An alternative is to mount 2 pins in 2 near holes (e.g. 1 and 2). In this case, the valve does not assume a predetermined position but can be actuated just by pulling the lever towards the top.
The valve allows also to block the lever thanks to the addition of a lock on the lever's protrusion (in the drawing you can see position 2). The mixing configuration is achieved by placing the pin in position 2. The flows to be mixed enter through A and C and exit through A+C.

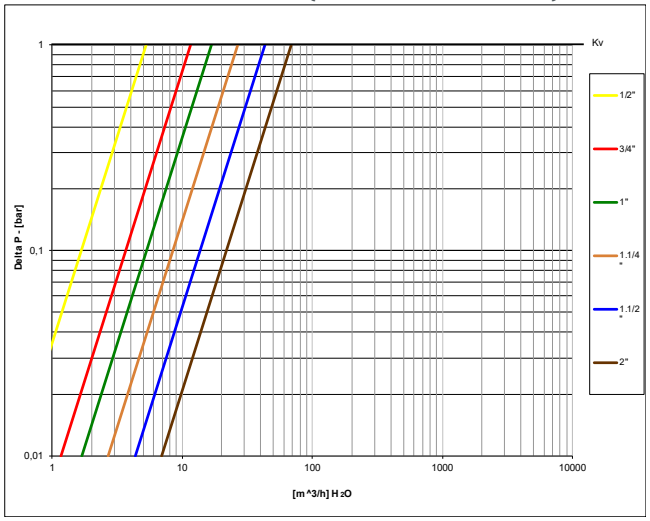




PRESSURE DROP CHART (STRAIGHT FLOW PATTERN)



PRESSURE DROP CHART (90° FLOW PATTERN)



s.7341 NPT 3-way 4 seats T-port

Female/Female/Female
1/2" - 2"
ISO 5211

The s.7341 series has a ball seal at every port, and offers a wide variety of possible flow configurations. Positive shut-off can be achieved at any of the exiting ports.
By specifying the appropriate ball port configuration, the T-port design allows flow direction to be adjusted for virtually any situation and is ideal for mixing applications.
Our s.73 multi-port valves can reduce the number of valves required in piping systems and can significantly lower overall costs by replacing two or three conventional 2-way valves, eliminating excess fittings, saving space and simplifying automation.

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
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, unplated 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 T- port design for flow mixing

STEM
- Blowout-proof nickel plated brass stem
- Maintenance- free, double FPM O-rings at the stem for maximum safety
- Stem slot shows ball position

SEALING
- Pure PTFE self-lubricating seats with flexible-lip design
- Four seats design for mixing of various fluids in the system

THREADS
- NPT taper ANSI B.1.20.1 female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

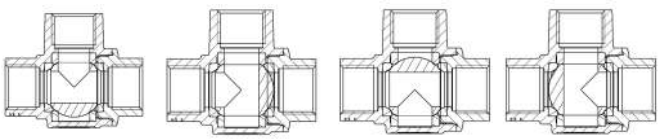
WORKING PRESSURE & TEMPERATURE
- 300 PSI non-shock cold working pressure
- -4°F to +302°F
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design
- Stainless steel stem
- Configuration with 2 seats & L-port (s.7641)

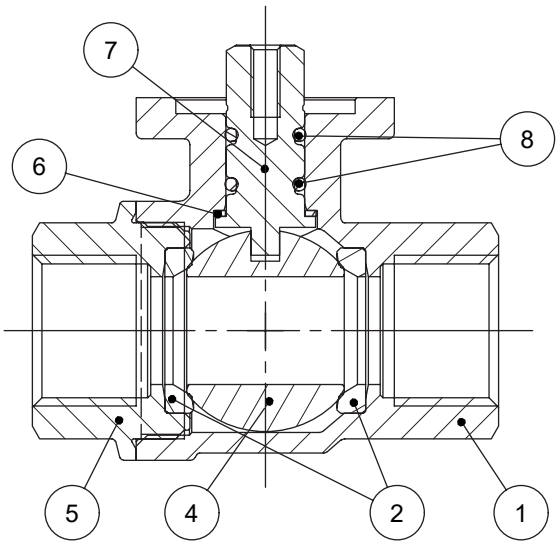
APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)

NOTE: approvals apply to specific configurations/sizes only.

s73 3-way "T" port operating positions



OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Lockable handle as accessory or already mounted (s.7341L)
- Various actuator linkage kit



	Part description	Q.ty	Material
1	Sand blasted unplated body	1	CW617N
2	Seat	2	PTFE
3	Seat	2	PTFE
4	Chrome plated ball	1	CW617N
5	Sand blasted unplated end-cap	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	Nickel plated stem O-ring design	1	CW617N
8	O-Ring	2	FPM

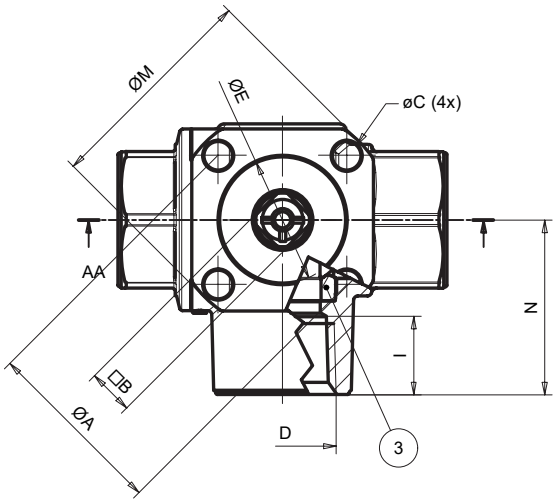
TORQUE FOR ACTUATOR SIZING IN-LB

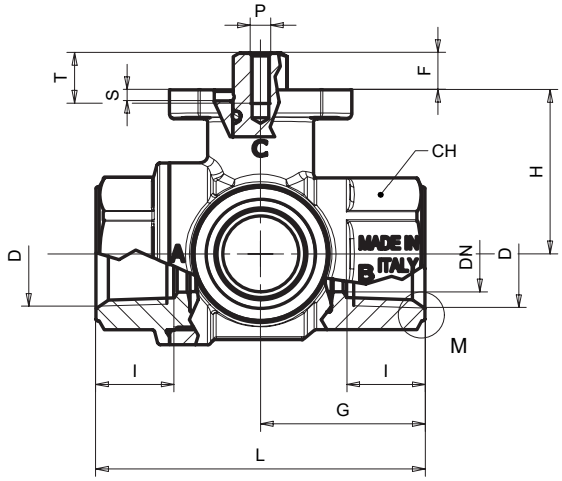
Delta P -->	0÷230 PSI	
Valve size	to open	to close
1/2"	93	93
3/4"	115	115
1"	195	195
1 ¼"	124	124
1 ½"	204	204
2"	336	336

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:

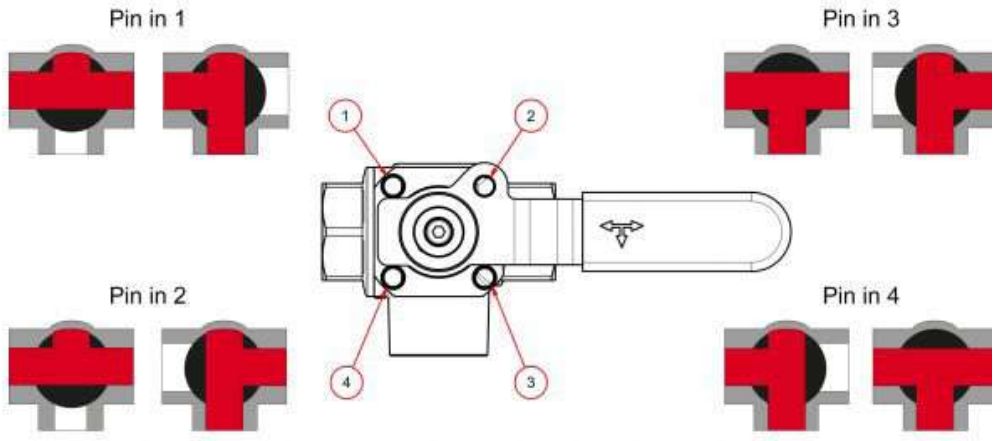
Lubricating oils or liquids	0.8
Dry gases, natural gas	1.5
Slurries or liquids bearing abrasive particles	1.5÷2.5

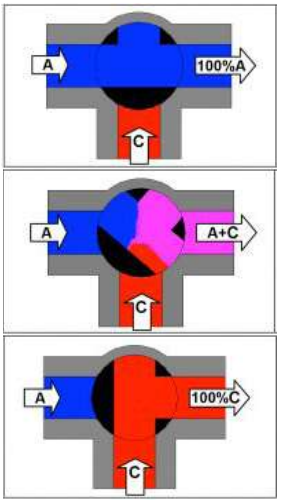




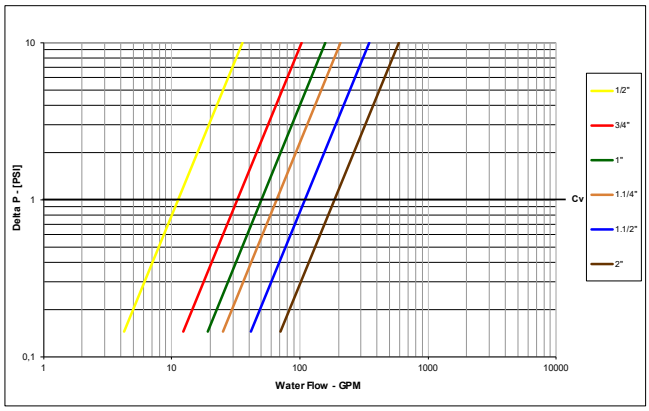
Code	S73D41	S73E41	S73F41	S73G41	S73H41	S73I41
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (inch)	0.591	0.787	0.984	1.197	1.496	1.890
I (inch)	0.610	0.709	0.827	0.906	0.965	1.043
L (inch)	2.559	3.110	3.642	4.311	4.961	5.906
G (inch)	1.280	1.555	1.831	2.165	2.480	2.953
H (inch)	1.280	1.555	1.673	2.205	2.460	2.854
N (inch)	1.358	1.654	1.949	2.362	2.717	3.228
ØA (inch)	1.417	1.417	1.417	1.969	1.969	1.969
ØC (inch)	Ø 0.22	Ø 0.22	Ø 0.22	Ø 0.26	Ø 0.26	Ø 0.26
ØE (inch)	0.984	0.984	0.984	1.378	1.378	1.378
Square B (inch)	0.354	0.354	0.354	0.551	0.551	0.551
ØM (inch)	1.709	1.709	1.709	2.394	2.394	2.394
S (inch)	0.087	0.087	0.087	0.126	0.126	0.126
T (inch)	0.394	0.394	0.394	0.551	0.551	0.551
F (inch)	0.287	0.327	0.327	0.571	0.571	0.571
CH (inch)	1.063	1.260	1.614	1.969	2.165	2.756
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F05	F05	F05
P (ISO 262 Thread)	M4	M4	M4	M5	M5	M5
Cv (GPM) straight pattern	11.2	32.5	50.0	65.8	109.2	186
Cv (GPM) 90° pattern	6.1	13.4	19.5	30.9	50.0	80.0

With the configuration of T-port a stop pin can be fixed in any position of the 4 provided in the flange (1, 2, 3 or 4) and the lever can be rotated freely through 90°, the flow assumes the directions indicated in the diagram; in case of need the lever can be pulled upwards and you can reach any of the four possible positions. An alternative is to mount 2 pins in 2 near holes (e.g. 1 and 2). In this case, the valve does not assume a predetermined position but can be actuated just by pulling the lever towards the top.
The valve allows also to block the lever thanks to the addition of a lock on the lever's protrusion (in the drawing you can see position 2). The mixing configuration is achieved by placing the pin in position 2. The flows to be mixed enter through A and C and exit through A+C.

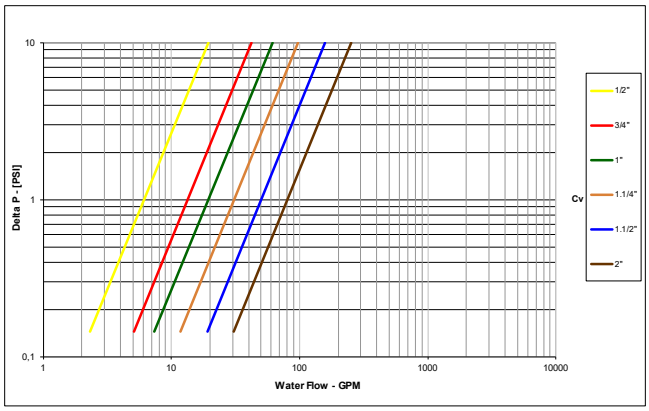




PRESSURE DROP CHART (STRAIGHT FLOW PATTERN)



PRESSURE DROP CHART (90° FLOW PATTERN)



s.7350 3-way 4 seats T-port

Female/Female/Female
1/2" - 2"
ISO 7/1, BS21

The s.7350 series has a ball seal at every port, and offers a wide variety of possible flow configurations. Positive shut-off can be achieved at any of the exiting ports.
By specifying the appropriate ball port configuration, the T-port design allows flow direction to be adjusted for virtually any situation and is ideal for mixing applications.
Our s.73 multi-port valves can reduce the number of valves required in piping systems and can significantly lower overall costs by replacing two or three conventional 2-way valves, eliminating excess fittings, saving space and simplifying automation.

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
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, external 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 T- port design for flow mixing

STEM
- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety
- Stem slot shows ball position

SEALING
- Pure PTFE self-lubricating seats with flexible-lip design
- Four seats design for mixing of various fluids in the system

THREADS
- ISO 7/1, BS 21 BSPT taper female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- 20 bar (300 PSI) non-shock cold working pressure
- -20°C to +150°C (-4°F to +302°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

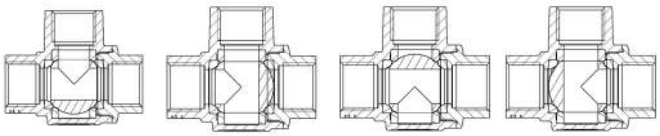
UPON REQUEST
- Custom design
- Stainless steel stem
- Configurations with 2 seats & L-port (s.7600)

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.

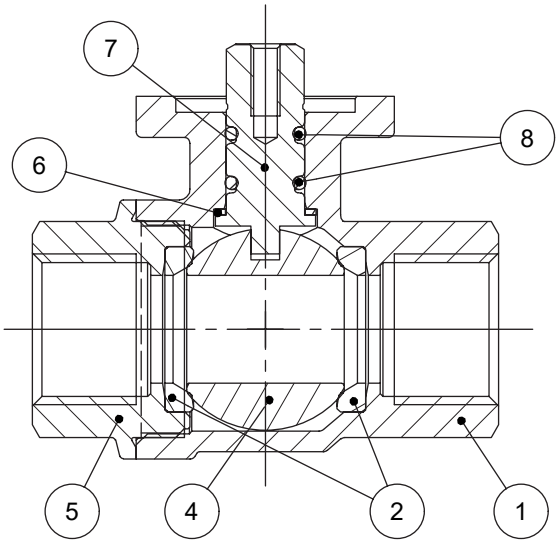
APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)

NOTE: approvals apply to specific configurations/sizes only.

s73 3-way "T" port operating positions



OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Lockable handle as accessory or already mounted (s.7350L)
- Various actuator linkage kit



	Part description	Q.ty	Material
1	Nickel plated body (external nickel plated, unplated inside)	1	CW617N
2	Seat	2	PTFE
3	Seat	2	PTFE
4	Chrome plated ball	1	CW617N
5	Nickel plated end cap (external nickel plated, unplated inside)	1	CW617N
6	Washer	1	PTFE carbon filled 25%
7	Nickel plated stem O-ring design	1	CW617N
8	O-Ring	2	FPM

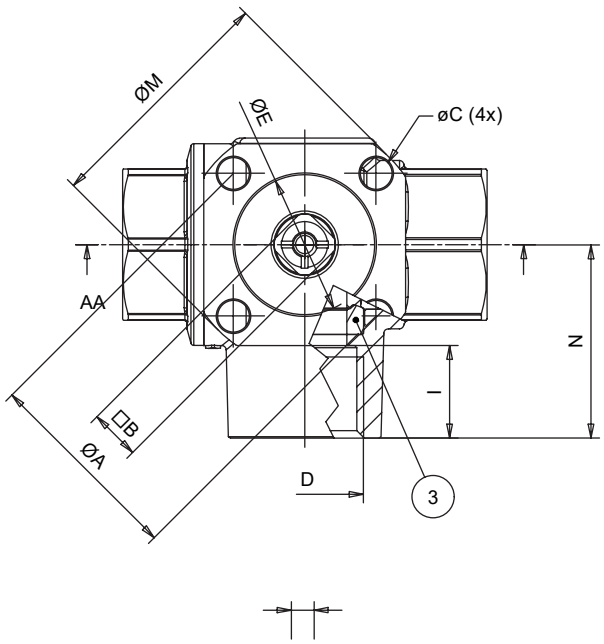
TORQUE FOR ACTUATOR SIZING N.M

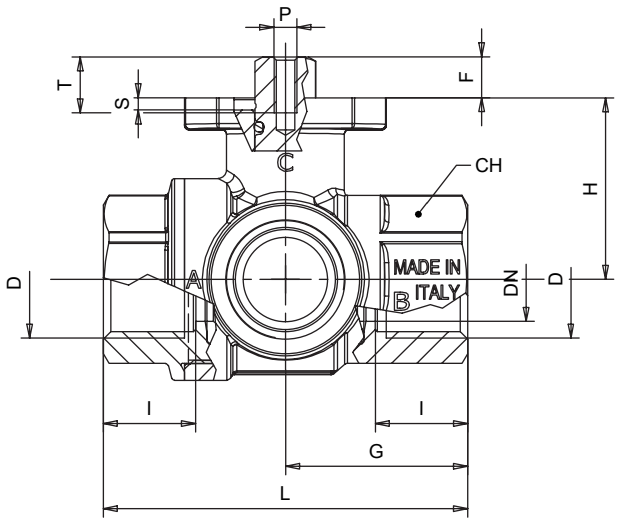
Delta P -->	0÷16 bar	
Valve size	to open	to close
1/2"	10,5	10,5
3/4"	13	13
1"	22,0	22,0
1 ¼"	14,0	14,0
1 ½"	23,0	23,0
2"	38,0	38,0

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:

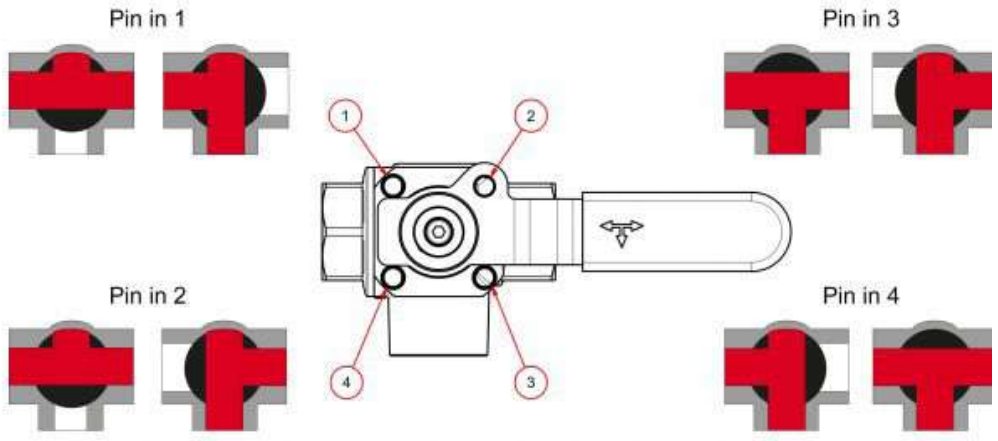
Lubricating oils or liquids	0.8
Dry gases, natural gas	1.5
Slurries or liquids bearing abrasive particles	1.5÷2.5

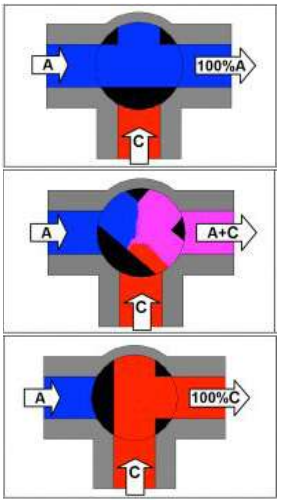




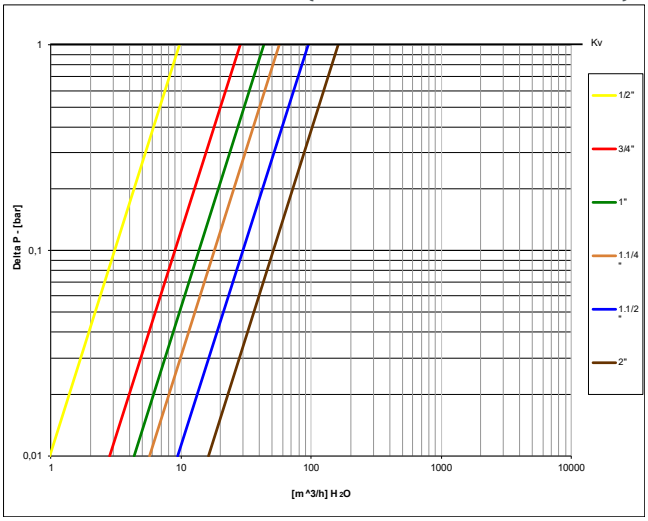
Code	S73D50	S73E50	S73F50	S73G50	S73H50	S73I50
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (mm)	15	20	25	30.4	38	48
I (mm)	16.5	19	22.5	25	26	29
L (mm)	65	79	92.5	109.5	126	150
G (mm)	32.5	39.5	46.5	55	63	75
H (mm)	32.5	39.5	42.5	56	62.5	72
N (mm)	34.5	42	49.5	60	69	82
ØA (mm)	36	36	36	50	50	50
ØC (mm)	Ø5.6	Ø5.6	Ø5.6	Ø6.6	Ø6.6	Ø6.6
ØE (mm)	25	25	25	35	35	35
Square B (mm)	9	9	9	14	14	14
ØM (mm)	43.4	43.4	43.4	60.8	60.8	60.8
S (mm)	2.2	2.2	2.2	3.2	3.2	3.2
T (mm)	10	10	10	14	14	14
F (mm)	7.3	8.3	8.3	14.5	14.5	14.5
CH (mm)	27	32	41	50	55	70
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F05	F05	F05
P (ISO 262 Thread)	M4	M4	M4	M5	M5	M5
Kv (m^3/h) straight pattern	9.7	28.2	43.3	57.0	94.5	161.0
Kv (m^3/h) 90° pattern	5.3	11.6	16.8	26.7	43.3	69.2

With the configuration of T-port a stop pin can be fixed in any position of the 4 provided in the flange (1, 2, 3 or 4) and the lever can be rotated freely through 90°, the flow assumes the directions indicated in the diagram; in case of need the lever can be pulled upwards and you can reach any of the four possible positions. An alternative is to mount 2 pins in 2 near holes (e.g. 1 and 2). In this case, the valve does not assume a predetermined position but can be actuated just by pulling the lever towards the top.
The valve allows also to block the lever thanks to the addition of a lock on the lever's protrusion (in the drawing you can see position 2). The mixing configuration is achieved by placing the pin in position 2. The flows to be mixed enter through A and C and exit through A+C.

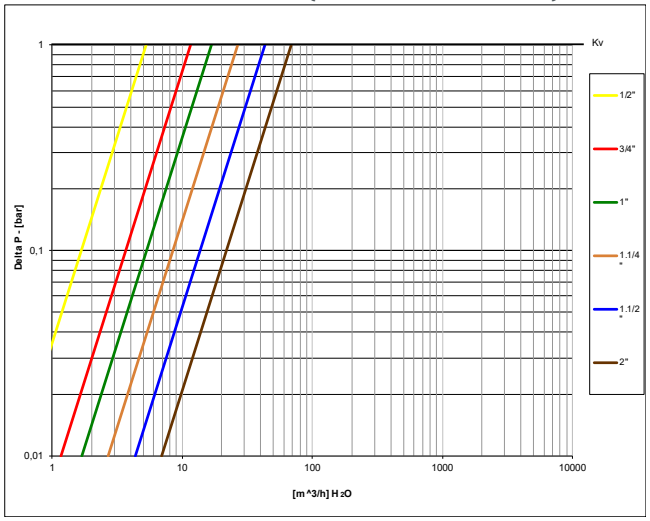




PRESSURE DROP CHART (STRAIGHT FLOW PATTERN)



PRESSURE DROP CHART (90° FLOW PATTERN)



s.7600 3-way 2 seats L-port (diverting)

Female/Female/Female
1/4" - 2"
EN 10226-1, ISO 5211

The ***RuB*** s.7600 is the right choice for fluid diversion and is designed with robust maintenance-free components ensuring ease of operation and safety. With a simple 90° turn, you can divert flow from one downstream outlet to the other. It combines traditional manual operation with modern automation. It is also very easy to convert from its sturdy lever handle to ISO 5211 actuator flange assembly. It features low operating torque and a special wear reducing self-compensating valve seat design that meets our 100,000 cycle life test requirement. The valve can be purchased separately, with handle or with a ***RuB*** actuator already mounted.

QUALITY
- Electronic 100% seal test guaranteed for maximum safety
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, external nickel plated brass body and cap sealed with Loctite® or equivalent thread sealant
- Integrated ISO5211 / DIN3337 mounting flange for universal connection to actuator
- Finest brass according to EN 12165 and EN 12164 specifications
- 3-way L-port design for flow diversion

STEM
- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety
- Stem slot shows ball position

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

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- Shell rating: 30 bar (450 PSI) up to 1", 20 bar (300 PSI) over 1", non-shock cold working pressure
- Seat rating: Delta P max permissible 8 bar (100 PSI)
- -20°C to +170°C (-4°F to +350°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve.

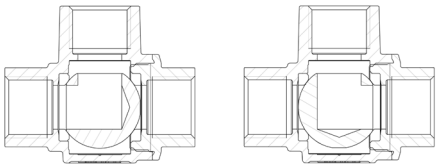
UPON REQUEST
- Custom design
- Stainless steel stem
- Configuration with 4 seats, T-port (s.7300)

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)

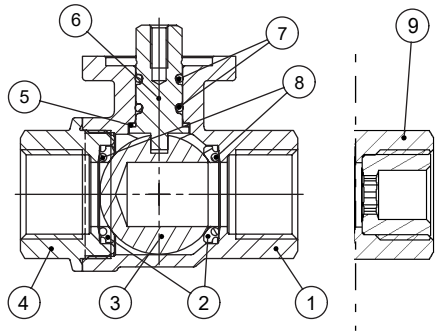
NOTE: approvals apply to specific configurations/sizes only.

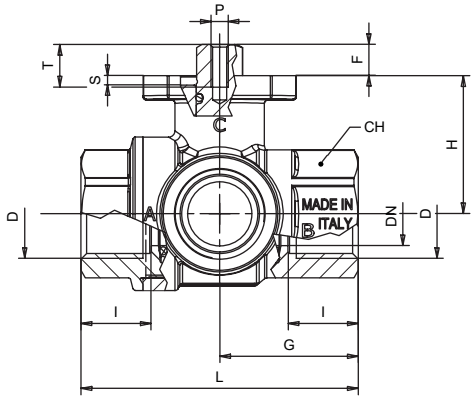
S.76 3-way "L" port operating positions

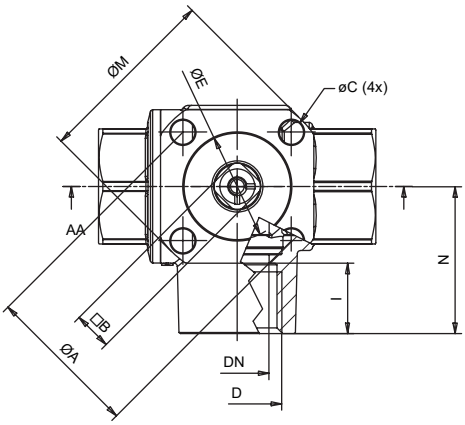


OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact Power electric actuator
- Lockable handle as accessory or already mounted (s.7600L)
- Various actuator linkage kit

	Part description	Q.ty	Material
1	Sand blasted nickel plated body (external nickel plated, unplated inside)	1	CW617N
2	Seat	2	PTFE graphite filled 15%, PTFE over 1"
3	Chrome plated ball	1	CW617N
4	Sand blasted nickel plated end cap (external nickel plated, unplated inside)	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM
9	Unplated reduction (only 1/4" and 3/8" sizes)	3	CW617N







Code	S76B00	S76C00	S76D00	S76E00	S76F00	S76G00	S76H00	S76I00
D (inch)	1/4"	3/8"	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (mm)	8	10	15	20	25	30.4	38	48
I (mm)	12	12	16.5	19	22.5	25	26	29
L (mm)	65	65	65	79	92.5	109.5	126	150
G (mm)	32.5	32.5	32.5	39.5	46.5	55	63	75
H (mm)	32.5	32.5	32.5	39.5	42.5	56	63.2	72
N (mm)	34.5	34.5	34.5	42	49.5	60	69	82
ØA (mm)	36	36	36	36	36	50	50	50
ØC (mm)	Ø5.6	Ø5.6	Ø5.6	Ø5.6	Ø5.6	Ø6.6	Ø6.6	Ø6.6
ØE (mm)	25	25	25	25	25	35	35	35
Square B (mm)	9	9	9	9	9	11	11	14
ØM (mm)	43.4	43.4	43.4	43.4	43.4	60.8	60.8	60.8
S (mm)	2.2	2.2	2.2	2.2	2.2	3.2	3.2	3.2
T (mm)	10	10	10	10	10	14	14	14
F (mm)	7.3	7.3	7.3	8.3	8.3	10	10	14.5
CH (mm)	27	27	27	32	41	50	55	70
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F03	F03	F05	F05	F05
P (ISO 262 Thread)	M4	M4	M4	M4	M4	M5	M5	M5
Kv (m³/h)	TBD	TBD	5.7	11.1	16.7	28.1	44.5	71.1

TORQUE FOR ACTUATOR SIZING N.M

Delta P -->	0÷16 bar	
Valve size	to open	to close
1/4" - 3/8" - 1/2"	3.5	3.5
3/4"	4.0	4.0
1"	4.5	4.5
1 ¼"	11.7	11.7
1 ½"	21.5	21.5
2"	28	28

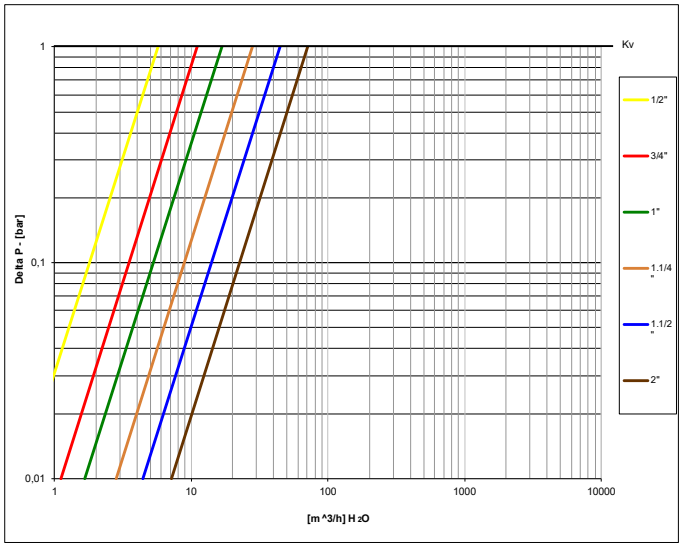
TORQUE CORRECTION FACTORS

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.7641 3-way 2 seats L-port (diverting)

Female/Female/Female
1/2" - 2"
ISO 5211

The ***RuB*** s.7641 is the right choice for fluid diversion and is designed with robust maintenance-free components ensuring ease of operation and safety. With a simple 90° turn, you can divert flow from one downstream outlet to the other. It combines traditional manual operation with modern automation. It is also very easy to convert from its sturdy lever handle to ISO 5211 actuator flange assembly. It features low operating torque and a special wear reducing self-compensating valve seat design that meets our 100,000 cycle life test requirement. The valve can be purchased separately, with handle or with a ***RuB*** actuator already mounted.

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
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, unplated brass body and cap sealed with Loctite® or equivalent thread sealant
- Integrated ISO5211 / DIN3337 mounting flange for universal connection to actuator
- Finest brass according to EN 12165 and EN 12164 specifications
- 3-way L- port design for flow diversion

STEM
- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety
- Stem slot shows ball position

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

THREADS
- NPT taper ANSI B.1.20.1 female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

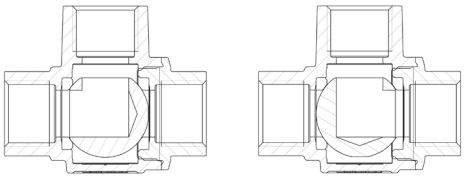
WORKING PRESSURE & TEMPERATURE
- Shell rating: 450 PSI (30 bar) up to 1", 300 PSI (20 bar) over 1", non-shock cold working pressure
- Seat rating: Delta P max permissible 100 PSI (8 bar)
- -4°F to +302°F
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

UPON REQUEST
- Custom design
- Stainless steel stem
- Configuration with 4 seats, T-port (s.7341)

APPROVED BY OR IN COMPLIANCE WITH
- RoHS Compliant (EU)
- EAC – Declaration of conformity (Russia, Kazakhstan, Belarus)

NOTE: approvals apply to specific configurations/sizes only.

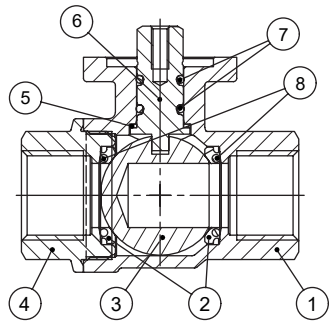
S.76 3-way "L" port operating positions



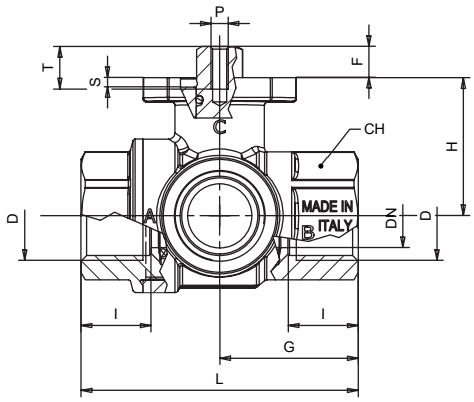
OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact Power electric actuator
- Lockable handle as accessory or already mounted (s.7641L)
- Various actuator linkage kit

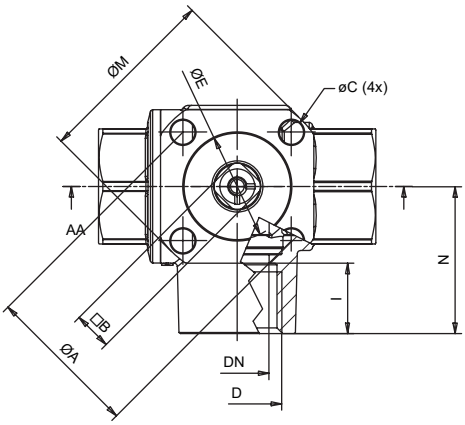
s.7641 NPT XCES7641 - 5942

	Part description	Q.ty	Material
1	Sand blasted unplated body	1	CW617N
2	Seat	2	PTFE graphite filled 15%, PTFE over 1"
3	Chrome plated ball	1	CW617N
4	Sand blasted unplated end cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM



Code	S76D41	S76E41	S76F41	S76G41	S76H41	S76I41
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (inch)	0.591	0.787	0.984	1.197	1.496	1.890
I (inch)	0.610	0.709	0.827	0.906	0.965	1.043
L (inch)	2.559	3.110	3.642	4.311	4.961	5.906
G (inch)	1.280	1.555	1.831	2.165	2.480	2.953
H (inch)	1.820	1.555	1.673	2.205	2.500	2.854
N (inch)	1.358	1.654	1.949	2.362	2.717	3.228
ØA (inch)	1.417	1.417	1.417	1.969	1.969	1.969
ØC (inch)	Ø 0.22	Ø 0.22	Ø 0.22	Ø 0.26	Ø 0.26	Ø 0.26
ØE (inch)	0.984	0.984	0.984	1.378	1.378	1.378
Square B (inch)	0.354	0.354	0.354	0.551	0.551	0.551
ØM (inch)	1.709	1.709	1.709	2.394	2.394	2.394
S (inch)	0.087	0.087	0.087	0.126	0.126	0.126
T (inch)	0.394	0.394	0.394	0.551	0.551	0.551
F (inch)	0.287	0.327	0.327	0.571	0.571	0.571
CH (inch)	1.063	1.260	1.614	1.969	2.165	2.756
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F05	F05	F05
P (ISO 262 Thread)	M4	M4	M4	M5	M5	M5
CV (GPM)	6.6	12.9	19.3	32.5	51.4	82.2





TORQUE FOR ACTUATOR SIZING IN-LB

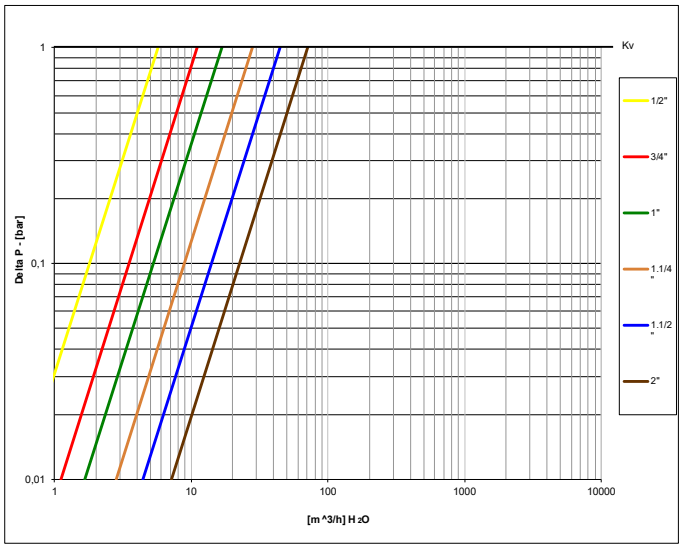
Delta P -->	0÷230 PSI	
Valve size	to open	to close
1/2"	31	31
3/4"	36	36
1"	40	40
1 ¼"	104	104
1 ½"	190	190
2"	248	248

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.7650 3-way 2 seats L-port (diverting)

Female/Female/Female
1/2" - 2"
ISO 7/1, BS21

The ***RuB*** s.7650 is the right choice for fluid diversion and is designed with robust maintenance-free components ensuring ease of operation and safety. With a simple 90° turn, you can divert flow from one downstream outlet to the other. It combines traditional manual operation with modern automation. It is also very easy to convert from its sturdy lever handle to ISO 5211 actuator flange assembly. It features low operating torque and a special wear reducing self-compensating valve seat design that meets our 100,000 cycle life test requirement. The valve can be purchased separately, with handle or with a ***RuB*** actuator already mounted.

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
- Each valve is seal tested for maximum safety
- Performs well in any orientation
- Strong configuration

BODY
- Hot forged sand blasted, external nickel plated brass body and cap sealed with Loctite® or equivalent thread sealant
- Integrated ISO5211 / DIN3337 mounting flange for universal connection to actuator
- Finest brass according to EN 12165 and EN 12164 specifications
- 3-way L-port design for flow diversion

STEM
- Blowout-proof nickel plated brass stem
- Maintenance-free, double O-rings at the stem for maximum safety
- Stem slot shows ball position

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

THREADS
- ISO 7/1, BS 21 BSPT taper female threads

FLOW
- 100% full port for maximum flow

HANDLE
- Integrated sturdy ISO 5211 flange allows direct mounting of actuators. See ***RuB*** line of electric and pneumatic actuators.

WORKING PRESSURE & TEMPERATURE
- Shell rating: 30 bar (450 PSI) up to 1", 20 bar (300 PSI) over 1", non-shock cold working pressure
- Seat rating: Delta P max permissible 8 bar (100 PSI)
- -20°C to +170°C (-4°F to +350°F)
- **WARNING:** freezing of the fluid in the installation may severely damage the valve

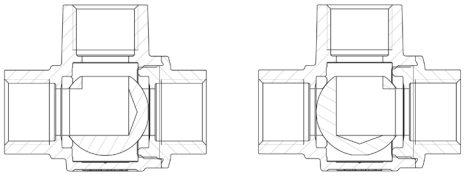
UPON REQUEST
- Custom design
- Stainless steel stem
- Configurations with 4 seats, T-port (s.7350)

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.

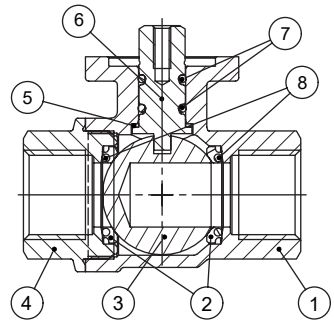
S.76 3-way "L" port operating positions

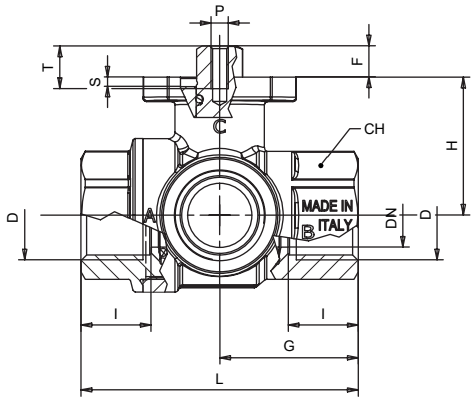


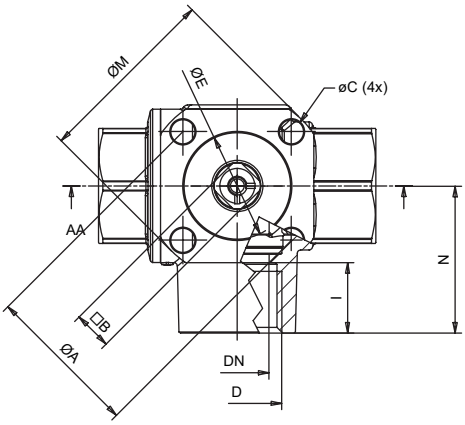
OPTIONS
- Rack and pinion pneumatic actuator (spring return or double acting)
- Compact Power electric actuator
- Lockable handle as accessory or already mounted (s.7650L)
- Various actuator linkage kit

s.7650 BSPT XCES7650 - 5942

	Part description	Q.ty	Material
1	Sand blasted nickel plated body (external nickel plated, unplated inside)	1	CW617N
2	Seat	2	PTFE graphite filled 15%, PTFE over 1"
3	Chrome plated ball	1	CW617N
4	Sand blasted nickel plated end cap (external nickel plated, unplated inside)	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM







Code	S76D50	S76E50	S76F50	S76G50	S76H50	S76I50
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (mm)	15	20	25	30.4	38	48
I (mm)	16.5	19	22.5	25	26	29
L (mm)	65	79	92.5	109.5	126	150
G (mm)	32.5	39.5	46.5	55	63	75
H (mm)	32.5	39.5	42.5	56	63.2	72
N (mm)	34.5	42	49.5	60	69	82
ØA (mm)	36	36	36	50	50	50
ØC (mm)	Ø5.6	Ø5.6	Ø5.6	Ø6.6	Ø6.6	Ø6.6
ØE (mm)	25	25	25	35	35	35
Square B (mm)	9	9	9	11	11	14
ØM (mm)	43.4	43.4	43.4	60.8	60.8	60.8
S (mm)	2.2	2.2	2.2	3.2	3.2	3.2
T (mm)	10	10	10	14	14	14
F (mm)	7.3	8.3	8.3	10	10	14.5
CH (mm)	27	32	41	50	55	70
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F05	F05	F05
P (ISO 262 Thread)	M4	M4	M4	M5	M5	M5
Kv (m³/h)	5.7	11.1	16.7	28.1	44.5	71.1

TORQUE FOR ACTUATOR SIZING N.M

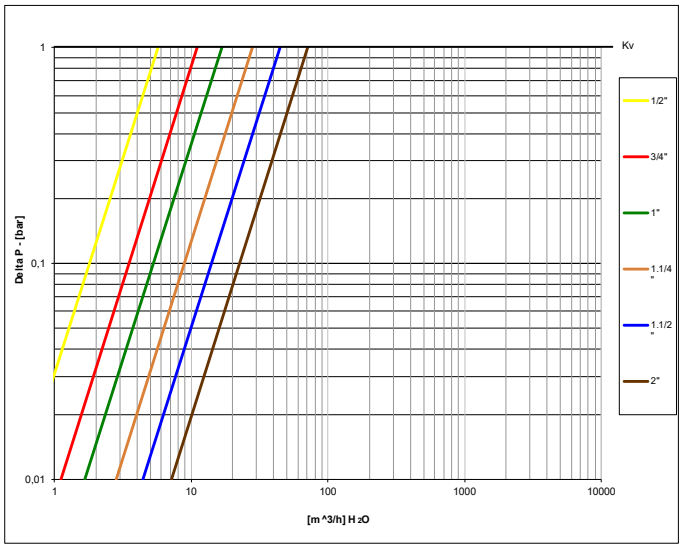
Delta P -->	0÷16 bar	
Valve size	to open	to close
1/2"	3.5	3.5
3/4"	4.0	4.0
1"	4.5	4.5
1 ¼"	11.7	11.7
1 ½"	21.5	21.5
2"	28	28

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



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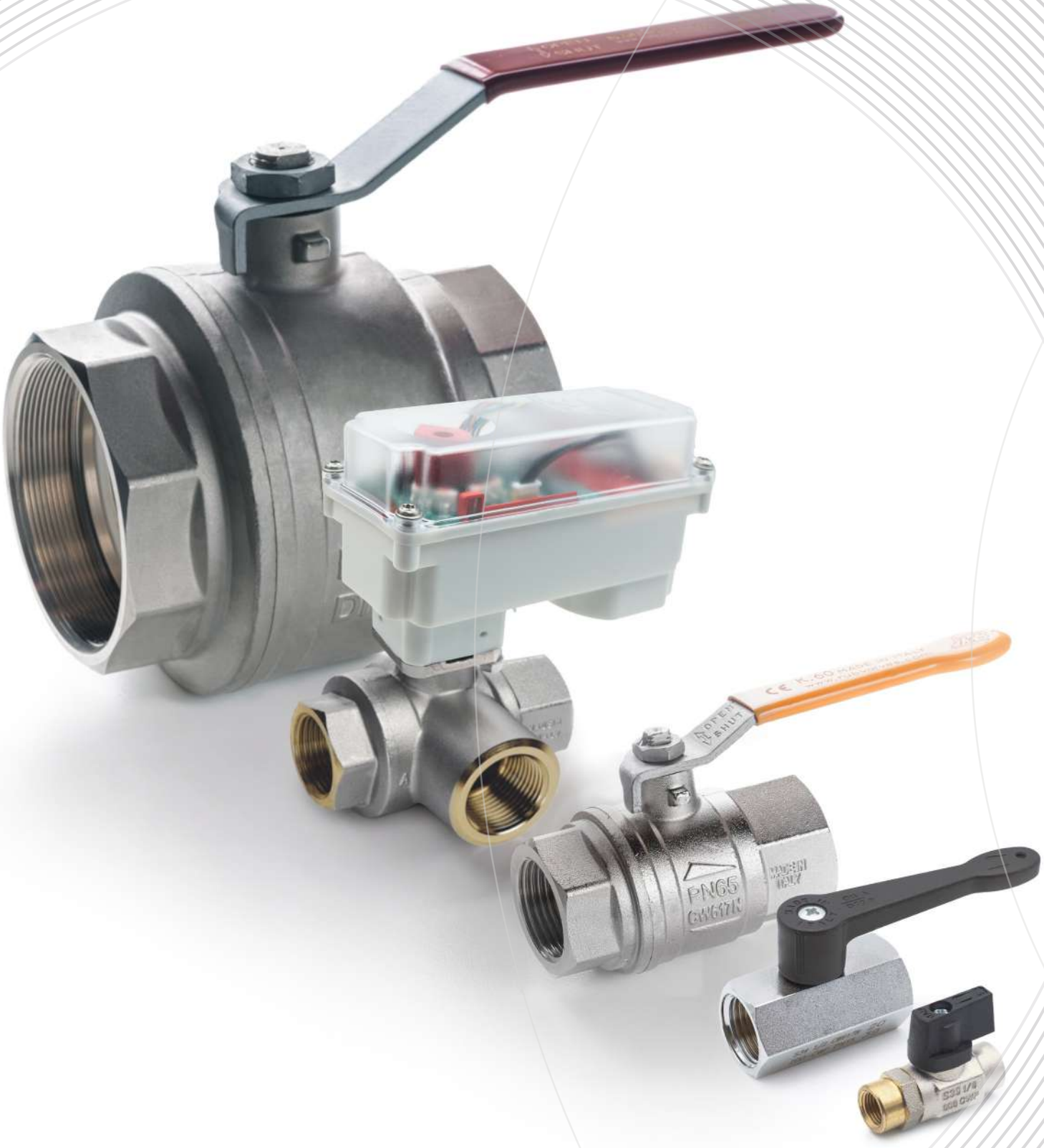
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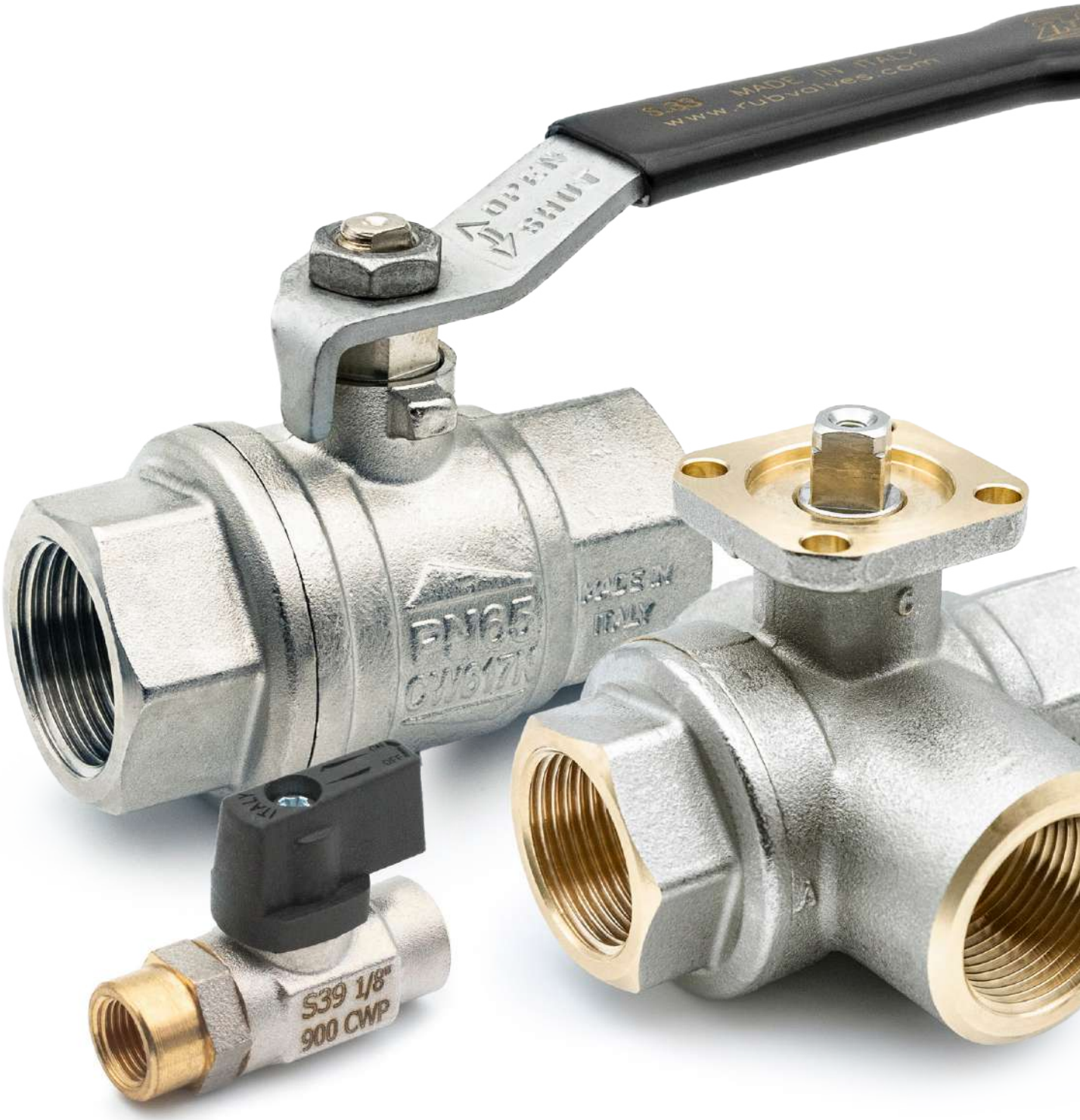
Ask for additional information on the whole range of ***RuB*** products and consult with your supplier for special applications.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