

BONOMI®
INDUSTRIES



**ACTUATION
CATALOG**

BONOMI INDUSTRIES is a manufacturer of high quality shut-off brass valves and actuators for a variety of applications, as well as engineered custom products.

BONOMI INDUSTRIES is part of Hadron, a private holding company which was established in 2018 as part of the reorganization of former **Rubinetterie utensilerie Bonomi**. In that context, real estate company Shedstone was also started. Bonomi, the owners family name, continues to be the core of our brand since its foundation in 1828.

The family, strongly supports the healthy growth of the group with heavy investments in new technology for machining, assembly and logistics, an expansion of the manufacturing site, major upgrade of interconnectivity among equipment and ERP systems, employee motivational and carrier planning programs, improved customer support and stronger R&D and engineering professionalism.

We are Bonomi
and we are industrial manufacturers:
we are **BONOMI INDUSTRIES!**

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INDUSTRIES



Quality you can **Trust** proven through generations of experience



Quality

Approvals

	Deutsche Vereinigung des Gas und Wasserfaches e.V. Technisch-wissenschaftlicher Verein	
	Deutsche Vereinigung des Gas und Wasserfaches	
	ARGB-KVVBG	
	Schweizerischer Verein des Gas und Wasserfaches	
	Attestation de Conformité Sanitaire	
	Система сертификации ГОСТ Р Госстандарт России	
	Декларация соответствия	
	Water Regulations Advisory Scheme	
	British Standards Institution	
	Kiwa - Swedcert	
	The Australian Gas Association	
	OSHA Compliant	
	Factory Mutual Research Corporation	
	Underwriter Laboratories Inc.	
	CSA International for Drinking Water to NSF/ANSI 61- NSF/ANSI 372	
	CSA - Canadian Standards Association	
	CRN-TSSA	
	KSFD -Kuwait Fire Service Directorate	
	LIA - L.P Gas Instruments Inspections Association	
Compliances		
	ROHS	
	Reach declaration	
	PED 2014/68/UE by ICIM (0425)	
	DCL021- Declaration of Conformity to 2012-19 - EU WEEE directive	
	DCL004 - Conflict Minerals	

We are very proud of our 100% made in Italy shut-off brass valves, actuation and OEM engineered product manufactured in our ISO 9001:1998 certified Corporate Headquarters in Brescia, Italy.

We implemented this rigorous quality management and assurance system since 1995 monitored by Lloyd's Register, helping us improve quality and reliability.

Besides Lloyd's and PED compliance, we offer a verified package of quality assurance based on testing services, state of art technology and approvals released by main laboratories and quality agencies from all over the world.



For more information, please visit our website at <https://www.rubvalves.com/approvals/> to learn which approvals apply to specific valves and specific configurations.



COMPACT POWER

electric actuator

The CP series Electric actuator provide an output torque of 5 Nm and it's available in AC and DC voltage. They have a small footprint directly mounted on valves and they enable installation in confined spaces.



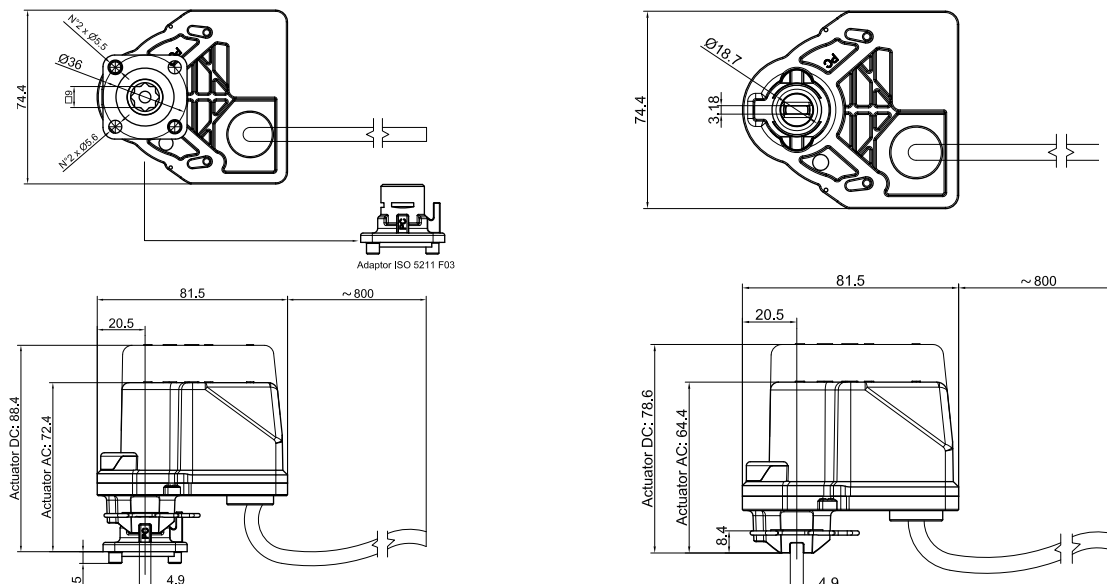
Technical features:

- Suitable for **RuB** actuatable valves up to 1 ¼" size (only for s.64 LT)
- Compact package to fit in restricted spaces
- Power supply variants:
 - 12 V DC, 24V DC;
 - 24V AC 50-60Hz;
 - 110-120V AC 50/60Hz;
 - 230V AC 50/60Hz;
- Motor power consumption:
 - 4W for 12 VDC and 24V DC, 6W for 230V AC, 8W for 24V AC and 110-120V AC
- Torque output up to 5 Nm (44 in-lb)
- Operation time:
 - 5 sec for 12 V DC, 24V DC
 - 20 sec for 24V AC, 110-120V AC and 230V AC at 50 Hz (15 sec at 60 Hz)
- Working temperature -20°C (-4°F) to +80°C (+180°F)
- Protection class IP65 comparable to NEMA 4X
- Micro-switches for open-close signals
- Micro-switches can pass up to 1A
- Reversing motor
- Direct mount on valve for perfect shaft alignment
- Positive orientation between ball valve and actuator
- Actuator easily removable for manual operating by screwdriver
- Visual position indicator
- Corrosion resistant plastic housing
- Actuator has successfully passed 100.000 cycle life tests
- Duty cycle 60%

How to order:

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

Dimensions are in mm:



Valve options:



1



s.31

- Flow: mini
- 2-way
- Direct mount

2



s.64

- Full Flow
- 2-way
- ISO 5211 F03 flange

3



s.76 3-way

- Diverting Full Flow
- 3-way L-port
- ISO 5211 F03 flange

Mini up to 3/4"

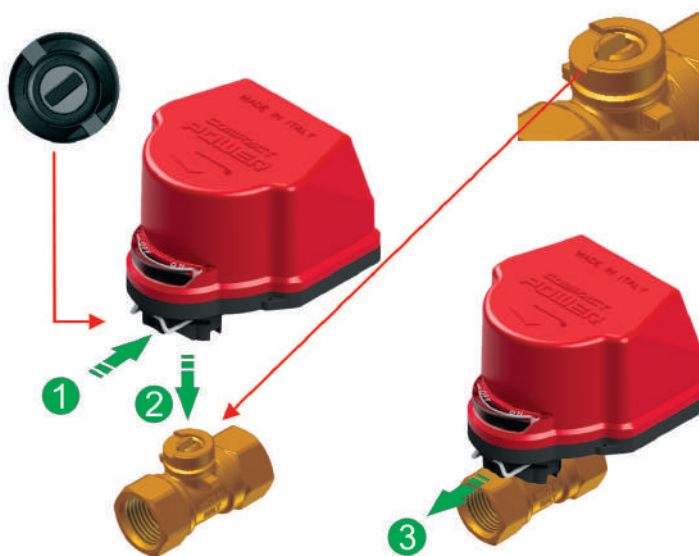
Full port up to 1 1/4"

Diverting up to 1"

Assembly instructions:

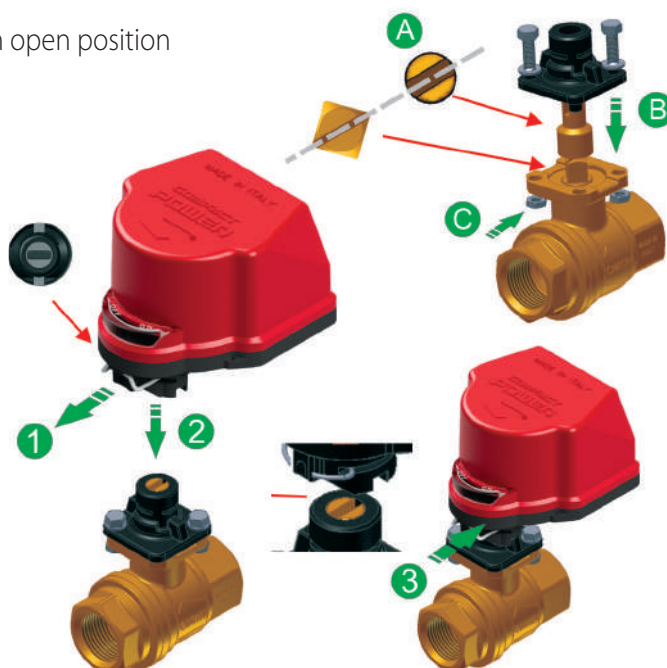
Quick direct assembly on *RuB* s.31 mini valve:

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



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

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



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 (70.8 lb-in)
CT2	11 Nm (97.3 lb-in)
CT3	22 Nm (194.7 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 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:

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 Points B = 3 Points C = 2 and 3 Points 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 = 48 - 240Vac H = 230Vac 60 Hz ** I = 110Vac 60Hz ** L = 24Vac 60Hz **
							Model: CT1 = 8Nm (70.8 lb-in) CT2 = 11Nm (97.3 lb-in) CT3 = 22Nm (194.7 lb-in) CT4 = 40Nm (354 lb-in)

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

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

CT1 - 8Nm (70.8 lb-in)



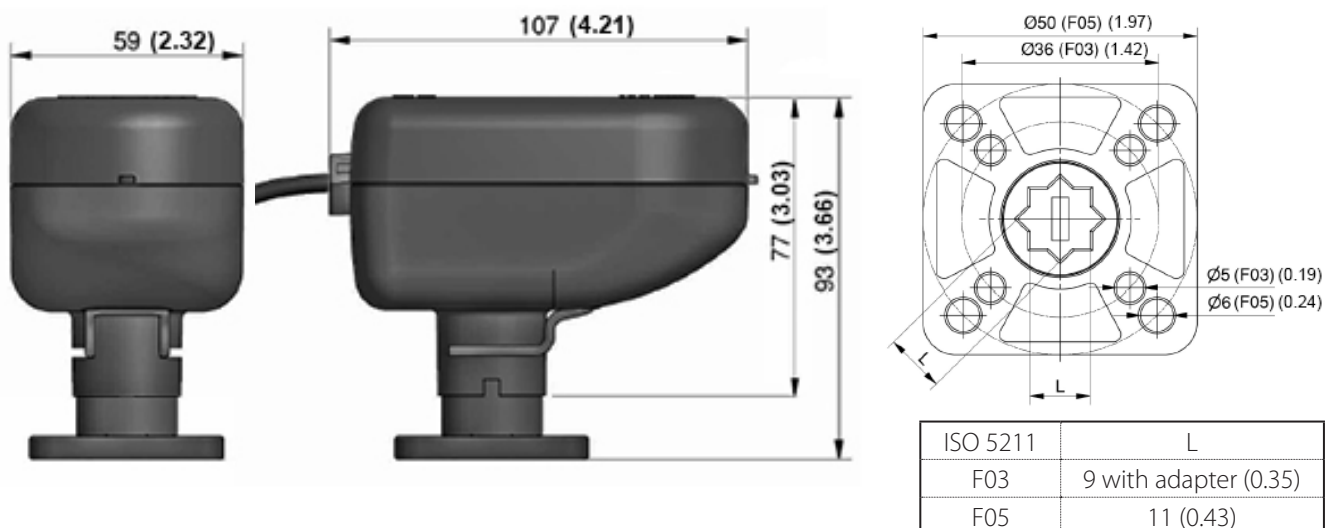
Ordering Codes

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

Optional models on request:

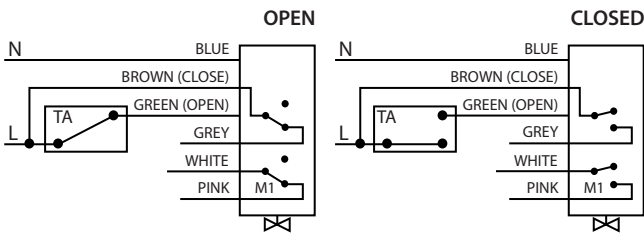
- 5Nm with 15 sec running time, Vac only
- Vdc 2/3 points 30 sec running time
- 12 Vdc power supply, 2/3 points 60 secs running time
- Different Input signal on modulating: 0(2)-10 Vdc, 0(4)-20 mA
- Modbus Communication
- On/Off 3 positions (0°, 45° and 90°)

Dimensions mm (inches)

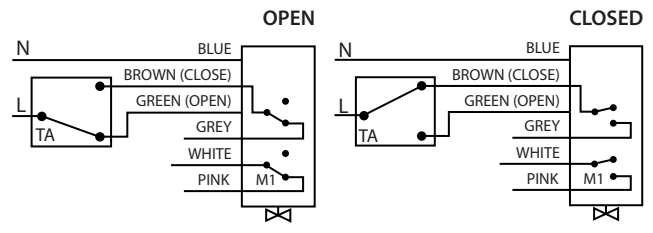


Wiring diagrams

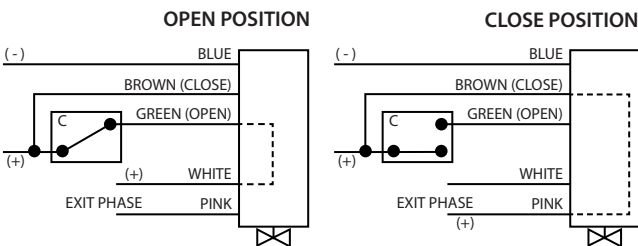
Vac models 2 points control



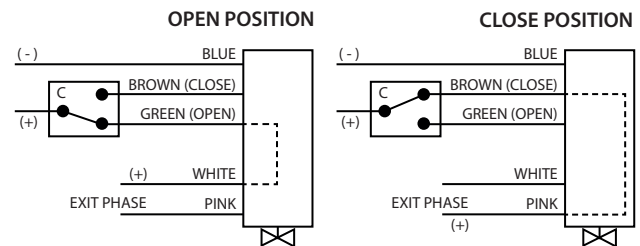
Vac models 3 points control



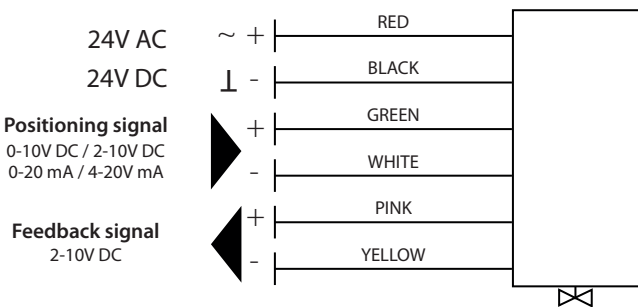
Vdc models 2 points control



Vdc models 3 points control



Proportional models



Technical specification

	2 points Vac	3 points Vac	2/3 points Vdc	Modulating
Position indicator	Rotating arrow, indicating the position of the sphere			
Power supply	230 V - 50/60 Hz		24Vdc	24V DC / AC ± 20% 50/60 Hz
	24 V - 50/60 Hz		12Vdc	
	110 V - 50/60 Hz			
Power cable length	80 cm (31.5 inches) (other sizes on request)			
Operating time (90°)	45 sec @ 50Hz	35 sec @ 50Hz	60 sec	60 sec
	38 sec @ 60Hz	30 sec @ 60Hz		
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	II - double insulation □			
Outer shell material	Polyamide PA 6 - 30% glass fibers			
Certification	CE			

CT2 - 11Nm (97.3 lb-in)



Ordering Codes

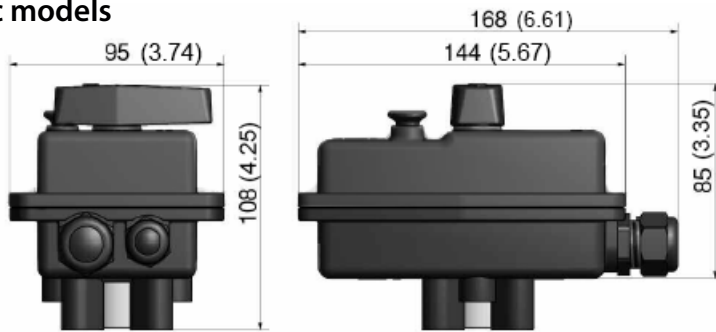
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type
CT2ACM2	230 Vac - 50/60 Hz	2/3 Points	35 sec @ 50Hz 30 sec @ 60Hz	2 x Free auxiliary switches
CT2BCM2	110 Vac - 50/60 Hz	2/3 Points	35 sec @ 50Hz 30 sec @ 60Hz	
CT2CCM2	24 Vac - 50/60 Hz	2/3 Points	35 sec @ 50Hz 30 sec @ 60Hz	
CT2DCN2	24V DC	2/3 Points	12 sec.	

Optional models on request:

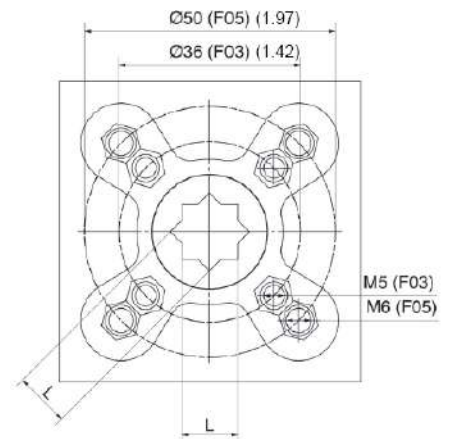
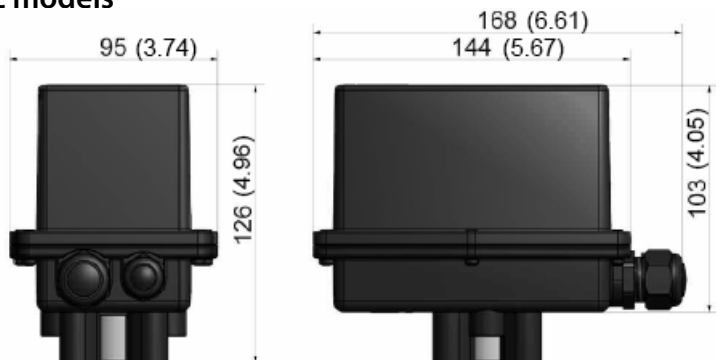
- 12 Vdc power supply
- Optional speed: - Vac only : 12 sec or 4 sec (5Nm)
- Vdc only : 8 sec and 5 sec (11Nm);
3 sec (8Nm); 1 sec (5Nm)
- Proportional models: 0(2)-10 Vdc, 0(4)-20 mA, Modbus
- Electronic fail safe (see pag 20)

Dimensions mm (inches)

Vac models



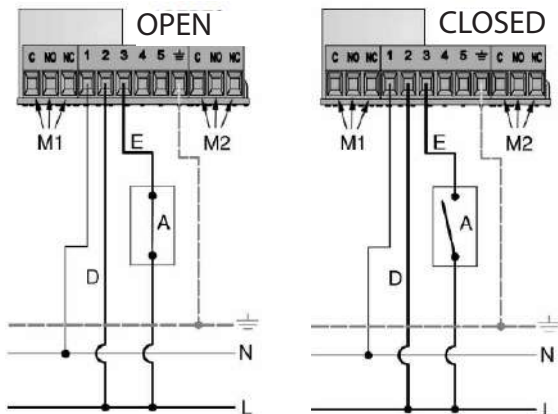
Vdc models



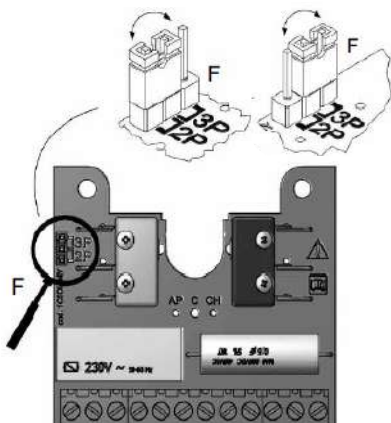
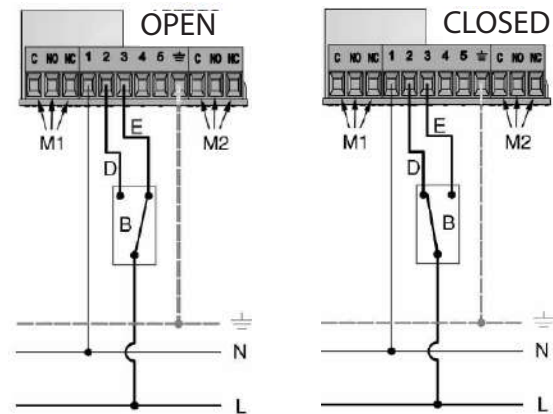
ISO 5211	L
F03	9 with adapter (0.35)
F05	11 (0.43)

Wiring diagrams

2 points control



3 points control

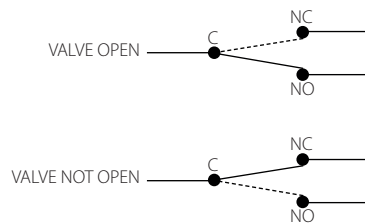


Vac models: Move the jumper to have the desired electrical connection.

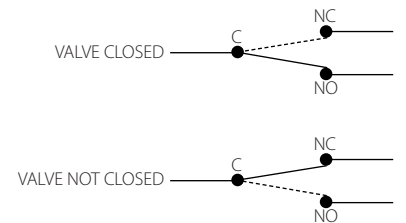
Vdc models: No jumper change is needed

Auxiliary switches

M1 (additional opening microswitch)



M2 (additional closing microswitch)



Technical specification

	ALL IN ONE - 2/3 points Vac	ALL IN ONE - 2/3 points Vdc
Position indicator and manual override	Manual lever with arrow indicating the position of the sphere	Not available
Power supply	230 V - 50/60 Hz	24Vdc
	110 V - 50/60 Hz	
	24 V - 50/60 Hz	12Vdc
Electric connections	Via terminal board inside the actuator	
Operating time (90°)	35 sec @ 50Hz 30 sec @ 60Hz	12 sec
Absorbed power	6 VA (230 V)	0.3A (24Vdc)
	6 VA (110 V)	
	7.5 VA (24 V)	0.5A (12 Vdc)
Maximum current supported by the additional microswitches	1 A resistive	Not available
Maximum noise (1 meter away)	35 dB (A) standard version	47 dB (A) standard version
Operating ambient temperature	-10 °C ÷ +50°C (14°F ÷ 122°F)	
Degree of protection	IP 67 (Equivalent to NEMA6)	
Outer casing	Characterized by a ribbed shape made of glass-filled "polyarylamide" technopolymer, particularly robust and impermeable to humidity	
Certification	CE	

CT3 - 22Nm (194.7 lb-in)



Ordering Codes

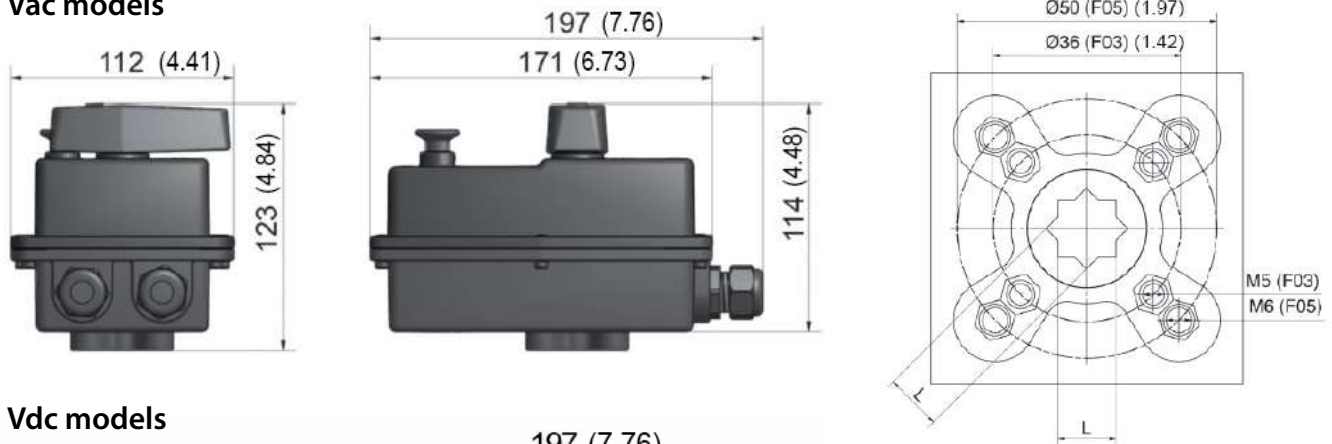
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type
CT3ACM2	230 Vac - 50/60 Hz	2/3 Points	45 sec @ 50Hz 38 sec @ 60Hz	2 x Free auxiliary switches
CT3BCM2	110 Vac - 50/60 Hz	2/3 Points	45 sec @ 50Hz 38 sec @ 60Hz	
CT3CCM2	24 Vac - 50/60 Hz	2/3 Points	45 sec @ 50Hz 38 sec @ 60Hz	
CT3DCN2	24V DC	2/3 Points	30 sec.	

Optional models on request:

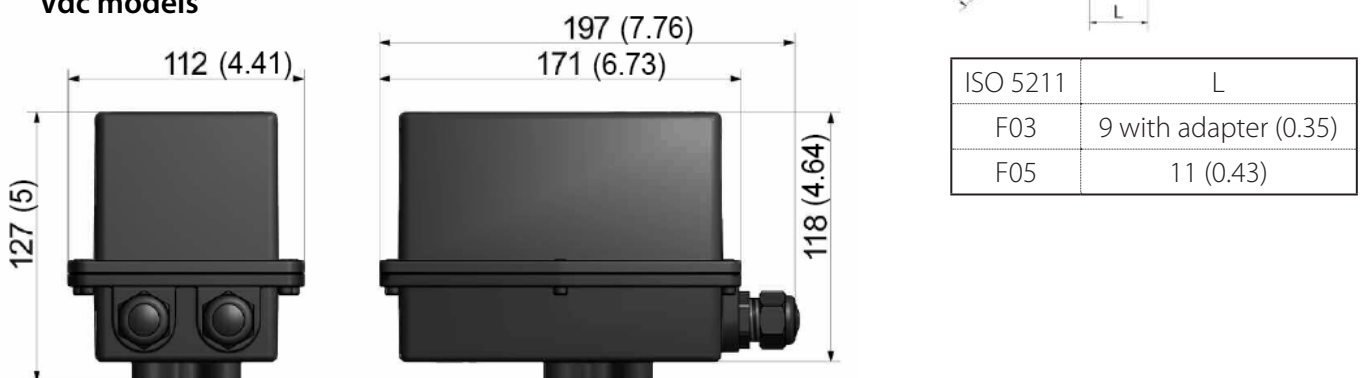
- 12 Vdc power supply
- Proportional models: 0(2)-10 Vdc, 0(4)-20 mA, Modbus
- Optional speed: - Vac only : 9 sec
- Electronic fail safe (see pag 20)
- - Vdc only: 10 sec

Dimensions mm (inches)

Vac models

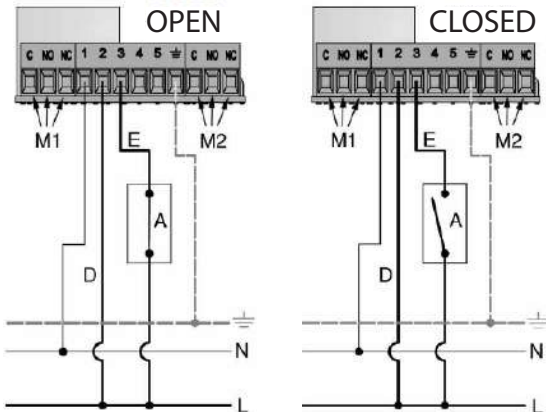


Vdc models

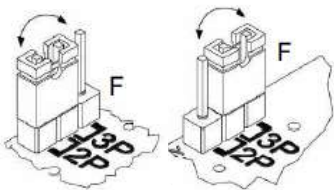
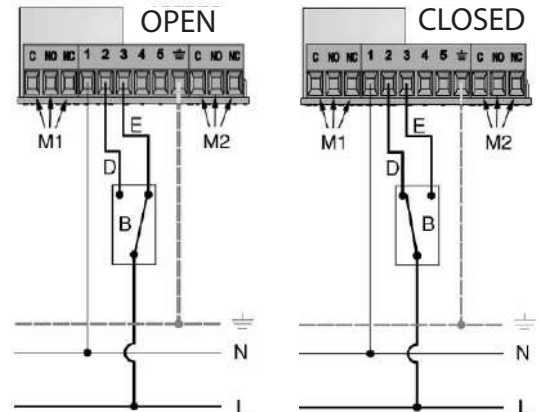


Wiring diagrams

2 points control

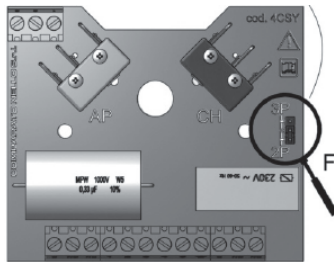


3 points control



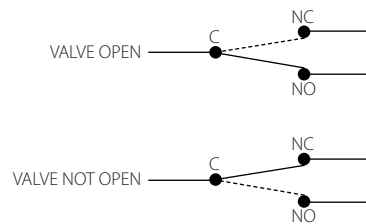
Vac models: Move the jumper to have the desired electrical connection.

Vdc models: No jumper change is needed

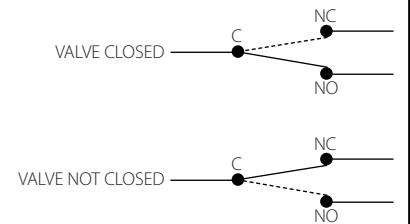


Auxiliary switches

M1 (additional opening microswitch)



M2 (additional closing microswitch)



Technical specification

	ALL IN ONE - 2/3 points Vac	ALL IN ONE - 2/3 points Vdc
Position indicator and manual override	Manual lever with arrow indicating the position of the sphere	Not available
Power supply	230 V - 50/60 Hz	24Vdc
	110 V - 50/60 Hz	
	24 V - 50/60 Hz	12Vdc
Electric connections	Via terminal board inside the actuator	
Operating time (90°)	45 sec	30 sec
Absorbed power	5 VA (230 V)	0.25 A (24Vdc)
	5 VA (110 V)	
	6 VA (24 V)	0.4 A (12 Vdc)
Maximum current supported by the additional microswitches	1 A resistive	
Maximum noise (1 meter away)	42 dB (A) standard version	52 dB (A) standard version
Operating ambient temperature	-10 °C ÷ +50°C (14°F ÷ 122°F)	
Degree of protection	IP 67 (Equivalent to NEMA6)	
Outer casing	Characterized by a ribbed shape made of glass-filled "polyarylamide" technopolymer, particularly robust and impermeable to humidity	
Certification	CE	

CT4 - 40Nm (354 lb-in)



Ordering Codes

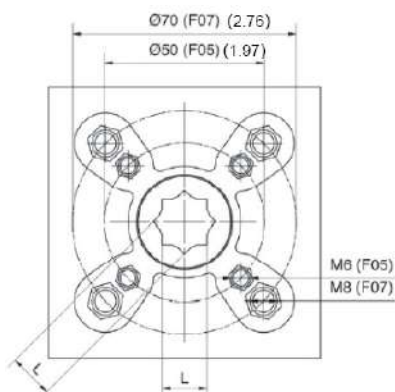
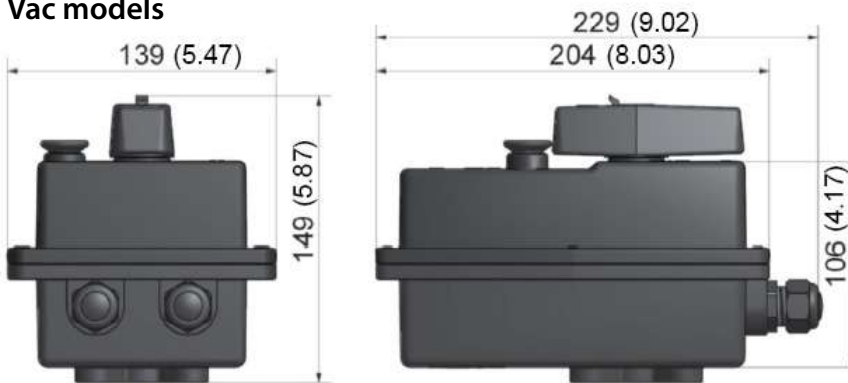
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type
CT4ACM2	230 Vac 50 Hz	2/3 Points	55 sec.	2 x Free auxiliary switches
CT4BCM2	110 Vac 50 Hz	2/3 Points	55 sec.	
CT4CCM2	24 Vac 50 Hz	2/3 Points	55 sec.	
CT4HCM2	230 Vac 60Hz	2/3 Points	45 sec.	
CT4ICM2	110 Vac 60Hz	2/3 Points	45 sec.	
CT4LCM2	24 Vac 60Hz	2/3 Points	45 sec.	

Optional models on request:

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

Dimensions mm (inches)

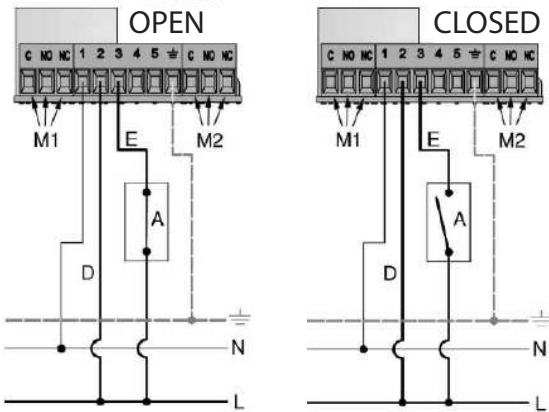
Vac models



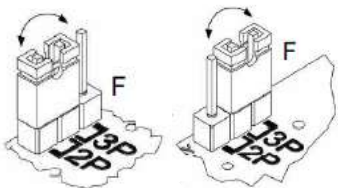
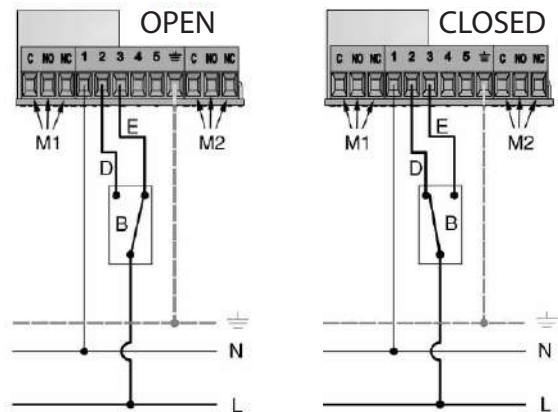
ISO 5211	L
F05	11 with adapter (0.43)
F07	14 (0.55)

Wiring diagrams

2 points control

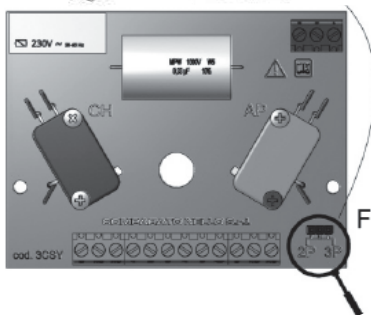


3 points control

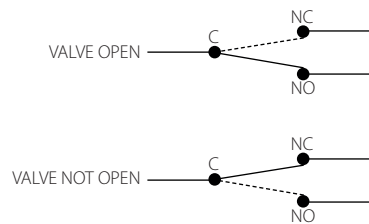


Vac models: Move the jumper to have the desired electrical connection.

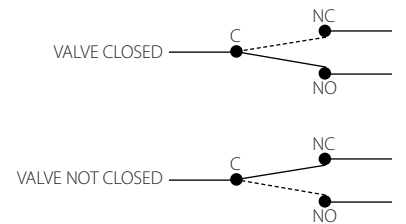
Auxiliary switches



M1 (additional opening microswitch)



M2 (additional closing microswitch)



Technical specification

	ALL IN ONE - 2/3 points
Position indicator and manual override	Manual lever with arrow indicating the position of the sphere
Power supply	230 V - 50 Hz
	110 V - 50 Hz
	24 V - 50 Hz
Electric connections	Via terminal board inside the actuator
Operating time (90°)	55 sec @ 50Hz
	45 sec @ 60 Hz
Maximum absorbed power (standard version 55sec)	13 VA (230 V)
	11 VA (110 V)
	12 VA (24 V)
Maximum current on the output phase at terminals 4 and 5	1 A resistive
Maximum current supported by the additional microswitches	1 A resistive
Maximum noise (1 meter away)	50 dB (A) standard version
Operating ambient temperature	-10 °C ÷ +50°C (14°F ÷ 122°F)
Degree of protection	IP 67 (Equivalent to NEMA6)
Outer casing	Characterized by a ribbed shape made of glass-filled "polyarylamide" technopolymer, particularly robust and impermeable to humidity
Certification	CE

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 2-10Vdc feedback, two auxiliary switches and 1m cable length.

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

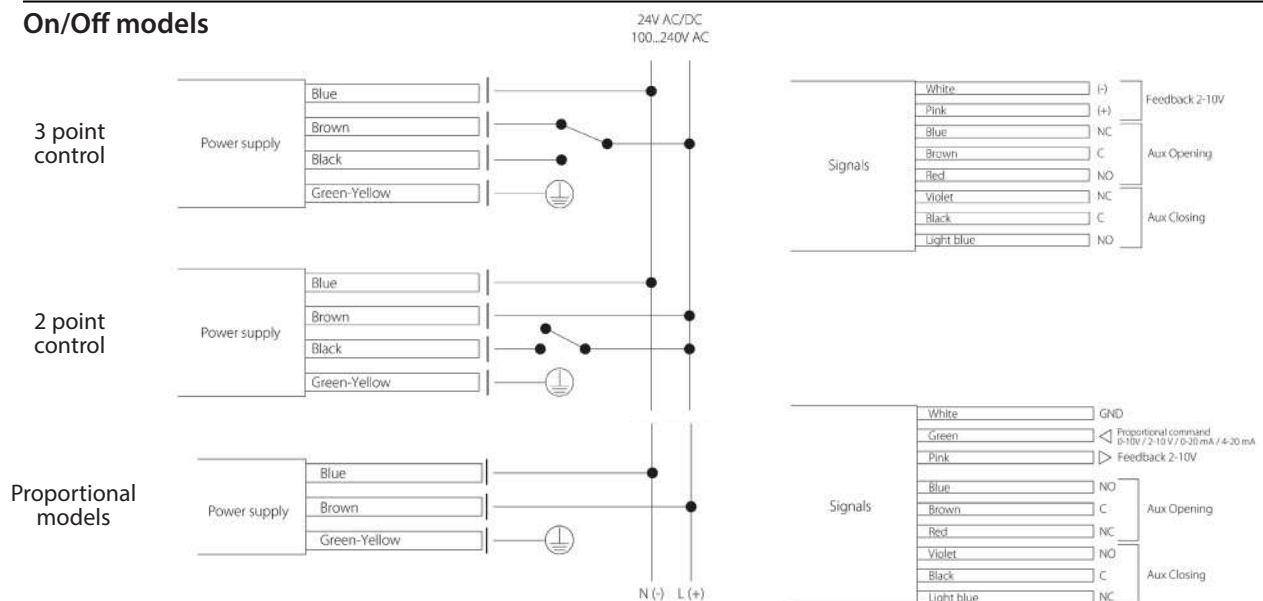
Note: X=O for Fail safe valve open; C for Fail Safe valve close X

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 points - 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		

Wiring diagrams

On/Off models





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.

CH1 - 50Nm (443 lb-in)

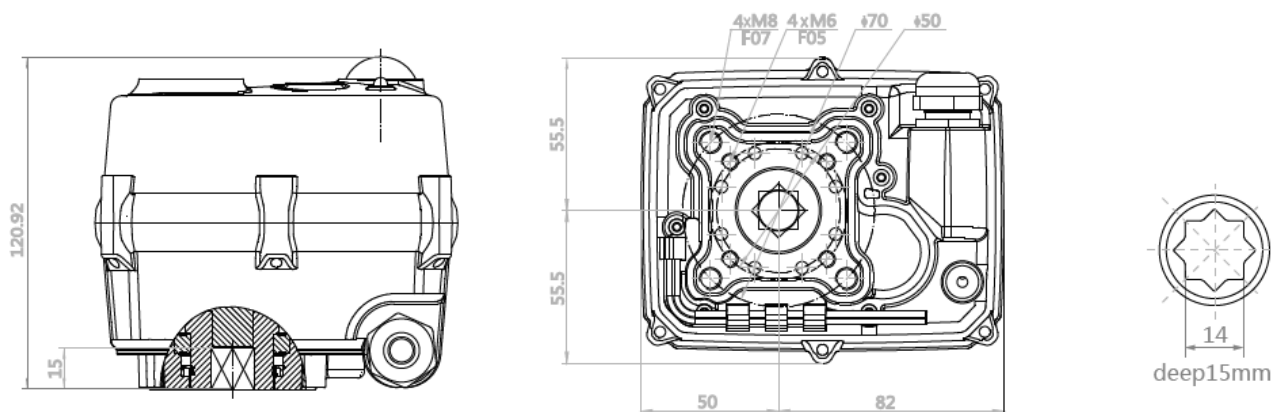


Technical specification

	ON-OFF ELECTRIC ACTUATOR		ON-OFF FAILSAFE ELECTRIC ACTUATOR	
Ordering code	CH1GCM2	CH1FCM2	CH1GCM2Fx*	CH1GCM2Fx*
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



CH3 - 110Nm (974 lb-in)

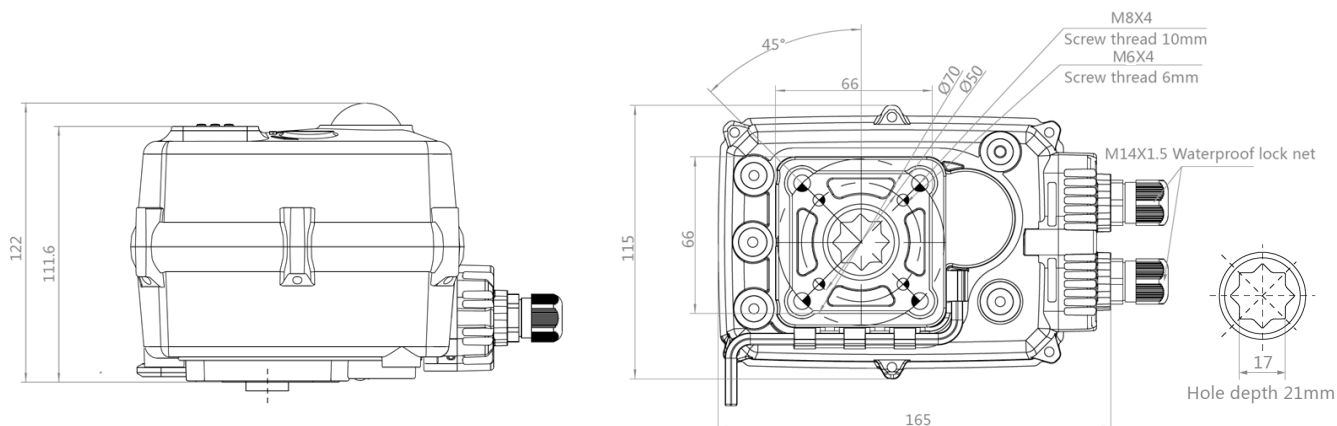


Technical specification

	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		140	
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



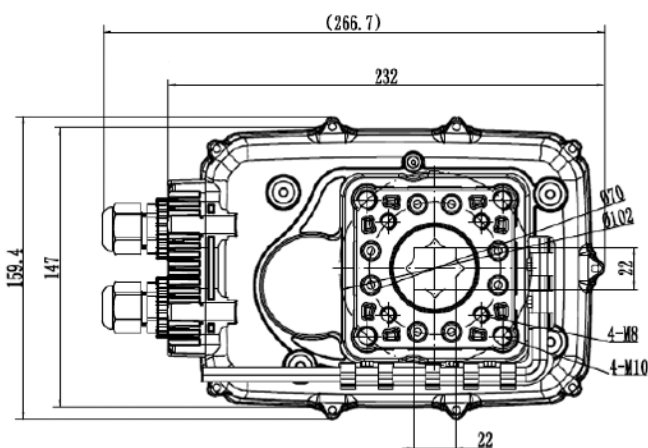
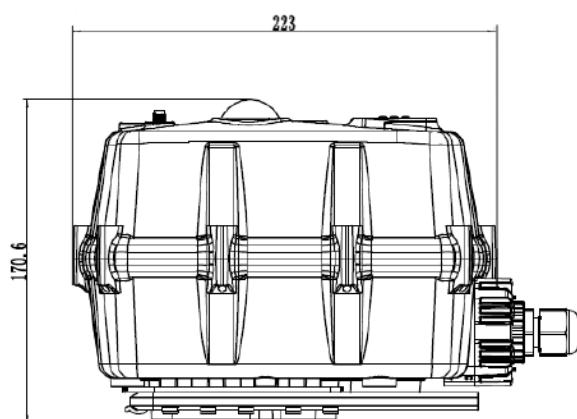
CH5 - 400Nm (3540 lb-in)



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





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
- Minimum ambient temperature while actuator is at rest: -35°C (-31°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 (mm)
EAx-1	F03	9
EAx-2	F03/05	9
EAx-2A	F03/05	11
EAx-2B	F04	11
EAx-3	F05/07	14
EAx-4	F05/07	14
EAx-5	F05/07	17
EAx-6	F07/10	17
EAx-7	F07/10	22

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



Visual position indicator



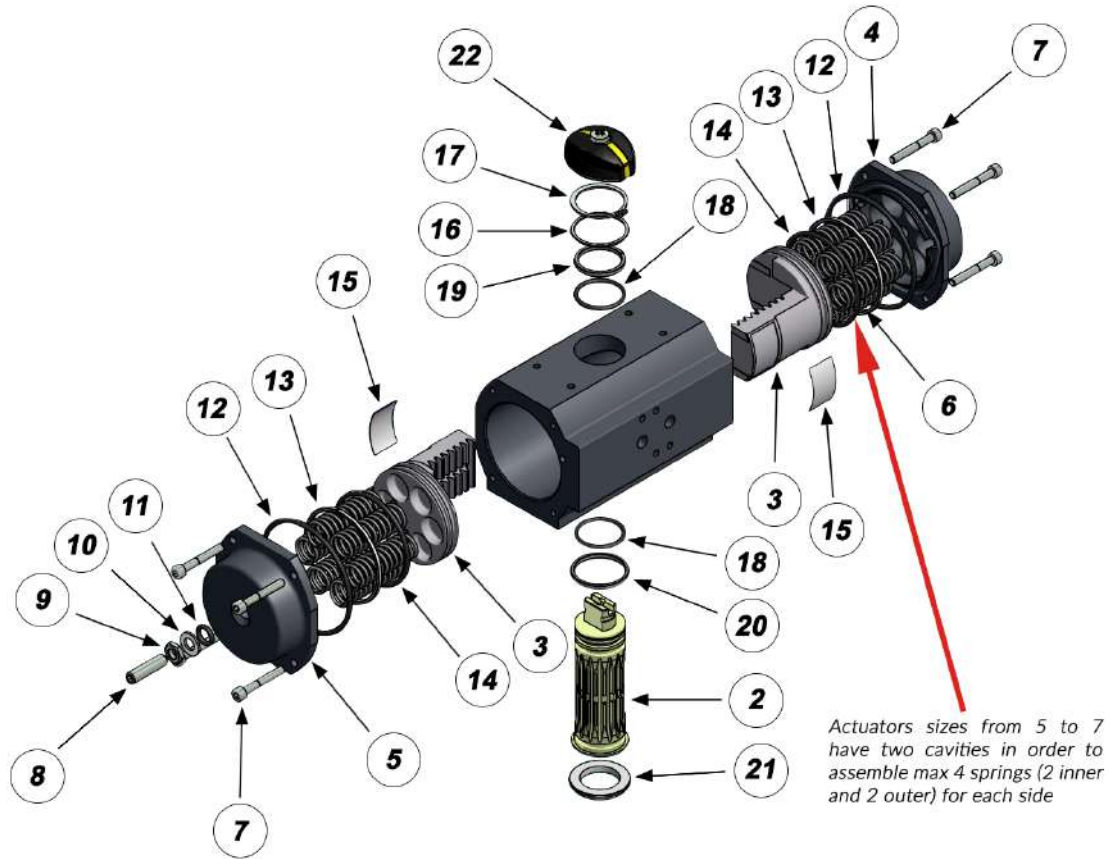
Link kit

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



Auxiliary switches Code	Description
EA2-LS	Auxiliary switches box

Construction and materials:



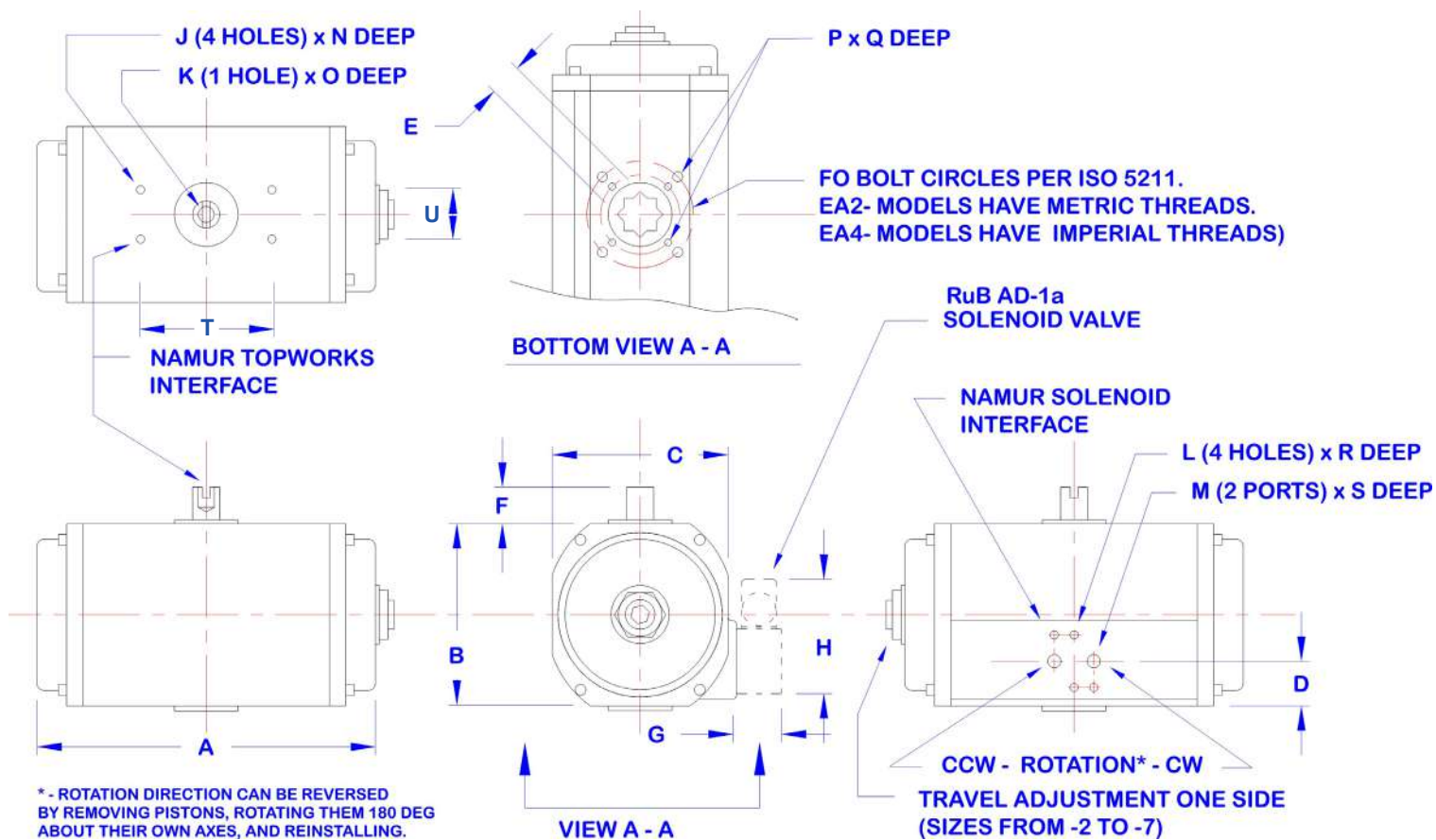
Bill of materials

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

Item	Description	Qty	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

Torque rating charts for EA2 actuators - METRIC threads

Double acting - torque in Nm									
		Air pressure supply (bar)							
EA2-	Springs	3	4	5	6	7	8	9	10
1	0	4.4	5.8	7.3	8.7	10.2	11.6	13.1	14.5
2-2A	0	11.8	15.8	19.7	23.7	27.6	31.6	35.5	39.5
3	0	25.4	33.8	42.3	50.7	59.2	67.6	76.1	84.5
4	0	50.7	67.6	84.5	101.5	118.4	135.3	152.2	169.1
5	0	61.3	81.7	102.1	122.5	142.9	163.3	183.8	204.2
6	0	101.0	134.6	168.3	201.9	235.6	269.2	302.9	336.5
7	0	187.1	249.5	311.8	374.2	436.5	498.9	561.3	623.6

Spring return - Torque in Nm																									
		air stroke - start										air stroke - end													
		Springs		Spring stroke		Air pressure supply (bar)										Air pressure supply (bar)									
EA2-	total	outer	inner	start	end	3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10				
2-2A	2			2.62	1.34	10.5	14.4	18.4	22.3	26.3	30.2	34.2	38.1	9.2	13.2	17.1	21.1	25.0	28.9	32.9	36.8				
	3			3.93	2.01	9.8	13.8	17.7	21.7	25.6	29.6	33.5	37.4	7.9	11.9	15.8	19.7	23.7	27.6	31.6	35.5				
	4			5.24	2.68	9.2	13.1	17.0	21.0	24.9	28.9	32.8	36.8	6.6	10.5	14.5	18.4	22.4	26.3	30.3	34.2				
	5			6.55	3.35	8.5	12.4	16.4	20.3	24.3	28.2	32.2	36.1	5.3	9.2	13.2	17.1	21.1	25.0	29.0	32.9				
	6			7.86	4.02	7.8	11.8	15.7	19.7	23.6	27.5	31.5	35.4	4.0	7.9	11.9	15.8	19.8	23.7	27.6	31.6				
	7			9.17	4.69		11.1	15.0	19.0	22.9	26.9	30.8	34.8		6.6	10.6	14.5	18.4	22.4	26.3	30.3				
	8			10.48	5.36		10.4	14.4	18.3	22.3	26.2	30.1	34.1		5.3	9.2	13.2	17.1	21.1	25.0	29.0				
	9			11.79	6.03				13.7	17.6	21.6	25.5	29.5	33.4			7.9	11.9	15.8	19.8	23.7	27.7			
	10			13.1	6.7				13.0	17.0	20.9	24.9	28.8	32.8			6.6	10.6	14.5	18.5	22.4	26.4			
	11			14.41	7.37					16.3	20.2	24.2	28.1	32.1				9.3	13.2	17.2	21.1	25.0			
	12			15.72	8.04					15.6	19.6	23.5	27.5	31.4				8.0	11.9	15.8	19.8	23.7			
	3	2			5.44	3	22.4	30.8	39.3	47.7	56.2	64.6	73.1	81.5	19.9	28.4	36.8	45.3	53.7	62.2	70.7	79.1			
3				8.16	4.5	20.9	29.3	37.8	46.2	54.7	63.1	71.6	80.0	17.2	25.7	34.1	42.6	51.0	59.5	67.9	76.4				
4				10.88	6	19.4	27.8	36.3	44.7	53.2	61.6	70.1	78.5	14.5	22.9	31.4	39.8	48.3	56.8	65.2	73.7				
5				13.6	7.5	17.9	26.3	34.8	43.2	51.7	60.1	68.6	77.0	11.8	20.2	28.7	37.1	45.6	54.0	62.5	70.9				
6				16.32	9	16.4	24.8	33.3	41.7	50.2	58.6	67.1	75.5	9.0	17.5	26.0	34.4	42.9	51.3	59.8	68.2				
7				19.04	10.5		23.3	31.8	40.2	48.7	57.1	65.6	74.0		14.8	23.2	31.7	40.1	48.6	57.1	65.5				
8				21.76	12		21.8	30.3	38.7	47.2	55.6	64.1	72.5		12.1	20.5	29.0	37.4	45.9	54.3	62.8				
9				24.48	13.5			28.8	37.2	45.7	54.1	62.6	71.0			17.8	26.2	34.7	43.2	51.6	60.1				
10				27.2	15			27.3	35.7	44.2	52.6	61.1	69.5			15.1	23.5	32.0	40.4	48.9	57.3				
11				29.92	16.5				34.2	42.7	51.1	59.6	68.0				20.8	29.3	37.7	46.2	54.6				
12				32.64	18				32.7	41.2	49.6	58.1	66.5				18.1	26.5	35.0	43.5	51.9				
4		2			10.24	6.68	44.0	61.0	77.9	94.8	111.7	128.6	145.5	162.4	40.5	57.4	74.3	91.2	108.1	125.0	141.9	158.9			
	3			15.36	10.02	40.7	57.6	74.5	91.4	108.3	125.3	142.2	159.1	35.4	52.3	69.2	86.1	103.0	119.9	136.8	153.7				
	4			20.48	13.36	37.4	54.3	71.2	88.1	105.0	121.9	138.8	155.7	30.2	47.2	64.1	81.0	97.9	114.8	131.7	148.6				
	5			25.6	16.7	34.0	50.9	67.8	84.8	101.7	118.6	135.5	152.4	25.1	42.0	58.9	75.9	92.8	109.7	126.6	143.5				
	6			30.72	20.04	30.7	47.6	64.5	81.4	98.3	115.2	132.1	149.1	20.0	36.9	53.8	70.7	87.6	104.6	121.5	138.4				
	7			35.84	23.38		44.3	61.2	78.1	95.0	111.9	128.8	145.7		31.8	48.7	65.6	82.5	99.4	116.3	133.3				
	8			40.96	26.72		40.9	57.8	74.7	91.6	108.6	125.5	142.4		26.7	43.6	60.5	77.4	94.3	111.2	128.1				
	9			46.08	30.06			54.5	71.4	88.3	105.2	122.1	139.0			38.5	55.4	72.3	89.2	106.1	123.0				
	10			51.2	33.4			51.1	68.1	85.0	101.9	118.8	135.7			33.3	50.3	67.2	84.1	101.0	117.9				
	11			56.32	36.74				64.7	81.6	98.5	115.4	132.4				45.1	62.0	79.0	95.9	112.8				
	12			61.44	40.08				61.4	78.3	95.2	112.1	129.0				40.0	56.9	73.8	90.7	107.7				
	5	4	4	0	52.4	28.8	32.5	52.9	73.3	93.7	114.1	134.5	155.0	175.4	8.9	29.3	49.7	70.1	90.5	110.9	131.4	151.8			
5		4	1	58.95	32.4		49.3	69.7	90.1	110.5	130.9	151.4	171.8		22.7	43.1	63.6	84.0	104.4	124.8	145.2				
6		4	2	65.5	36		45.7	66.1	86.5	106.9	127.3	147.8	168.2		16.2	36.6	57.0	77.4	97.8	118.3	138.7				
7		4	3	72.05	39.6			62.5	82.9	103.3	123.7	144.2	164.6			30.0	50.5	70.9	91.3	111.7	132.1				
6	4	4	0	86.8	47.7	53.3	86.9	120.6	154.2	187.9	221.5	255.2	288.8	14.2	47.8	81.5	115.1	148.8	182.4	216.1	249.7				
	5	4	1	97.65	53.675		80.9	114.6	148.3	181.9	215.6	249.2	282.9		37.0	70.6	104.3	137.9	171.6	205.2	238.9				
	6	4	2	108.5	59.65		75.0	108.6	142.3	175.9	209.6	243.2	276.9		26.1	59.8	93.4	127.1	160.7	194.4	228.0				
	7	4	3	119.35	65.625			102.6	136.3	170.0	203.6	237.3	270.9			48.9	82.6	116.2	149.9	183.5	217.2				
7	4	4	0	160.8	88.4	98.7	161.1	223.4	285.8	348.1	410.5	472.9	535.2	26.3	88.7	151.0	213.4	275.7	338.1	400.5	462.8				
	5	4	1	180.9	99.45		150.0	212.4	274.7	337.1	399.5	461.8	524.2		68.6	130.9	193.3	255.6	318.0	380.4	442.7				
	6	4	2	201	110.5		139.0	201.3	263.7	326.0	388.4	450.8	513.1		48.5	110.8	173.2	235.5	297.9	360.3	422.6				
	7	4	3	221.1	121.55			190.3	252.6	315.0	377.4	439.7	502.1			90.7	153.1	215.4	277.8	340.2	402.5				
8	4	4	241.2	132.6			179.2	241.6	303.9	366.3	428.7	491.0			70.6	133.0	195.3	257.7	320.1	382.4					

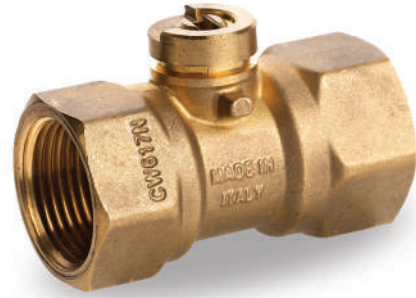
Torque rating charts for EA4 actuators - IMPERIAL threads

Double acting - torque in lb							
EA4-	Air pressure supply (PSI)						
	40	50	60	70	80	90	100
1	35	44	53	62	71	80	89
2	96	120	144	168	193	217	241
3	206	258	309	361	413	464	516
4	413	516	619	722	825	928	1032
5	498	623	747	872	996	1121	1246
6	821	1027	1232	1437	1642	1848	2053
7	1522	1902	2283	2663	3044	3424	3804
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																													
EA4-	Springs total	Springs outer	Springs inner	Spring Torque start	Spring Torque end	air stroke - start												air stroke - end											
						Air pressure supply (PSI)												Air pressure supply (PSI)											
						40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120						
2	2			23	12	84	108	133	157	181	205	229	253	277	73	97	121	145	169	193	218	242	266						
	3			35	18	78	103	127	151	175	199	223	247	271	62	86	110	134	158	182	206	230	254						
	4			46	24	73	97	121	145	169	193	217	241	265	50	74	98	122	146	170	194	218	242						
	5			58	30	67	91	115	139	163	187	211	235	259	38	62	86	110	134	158	182	206	230						
	6			70	36		85	109	133	157	181	205	229	253		51	75	99	123	147	171	195	219						
	7			81	41		79	103	127	151	175	199	223	247		39	63	87	111	135	160	184	208						
	8			93	47			97	121	145	169	193	217	241			52	76	100	124	148	172	196						
	9			104	53				115	139	163	187	211	235				84	88	112	136	160	185						
	10			116	59				109	133	157	181	205	230				53	77	101	125	149	173						
	11			127	65					127	151	175	200	224						65	89	113	137	161					
	12			139	71							145	170	194	218						78	102	126	150					
	3	2			48	27	180	231	283	334	386	436	489	541	592	158	210	261	313	364	416	468	519	571					
3				72	40	166	218	270	321	373	424	476	528	579	134	186	237	289	340	392	444	495	547						
4				96	53	153	205	256	308	360	411	463	514	566	110	162	213	265	316	368	419	471	523						
5				120	66	140	192	243	295	346	398	449	501	553	86	138	189	241	292	344	395	447	499						
6				144	80		178	230	281	333	385	436	488	539		113	165	217	268	320	371	423	475						
7				188	93		165	217	268	320	371	423	474	526		89	141	193	244	296	347	399	450						
8				193	106			203	255	306	358	410	461	513			117	169	220	272	323	375	426						
9				217	119				242	293	345	396	448	499				144	196	248	299	351	402						
10				241	133				228	280	331	383	435	486				120	172	224	275	327	378						
11				265	146					267	318	370	421	473					148	199	251	303	354						
12				289	159							305	356	408	460						175	227	279	330					
4		2			91	59	354	457	560	663	766	869	972	1076	1179	322	425	528	631	735	838	941	1044	1147					
	3			136	89	324	427	530	633	737	840	943	1046	1149	277	380	483	586	689	792	896	999	1102						
	4			181	118	294	398	501	604	707	810	913	1016	1120	231	335	438	541	644	747	850	953	1057						
	5			227	148	265	368	471	574	677	781	884	987	1090	186	289	392	496	599	702	805	908	1011						
	6			272	177		338	442	545	648	751	854	957	1061		244	347	450	553	657	760	863	966						
	7			317	207		309	412	515	618	722	825	928	1031		199	302	405	508	611	714	818	921						
	8			362	236			382	486	589	692	795	898	1001			257	360	463	566	669	772	875						
	9			408	266				466	569	672	775	878	981				314	418	521	624	727	830						
	10			453	296				427	530	633	736	839	942				269	372	475	579	682	785						
	11			498	325					500	603	706	810	913					327	430	533	636	740						
	12			544	355							574	677	780	883						385	488	591	694					
	5	4	4	0	464	255		368	493	617	742	866	991	1115	1240		159	284	408	533	657	782	907	1031					
5		4	1	522	287			461	585	710	834	959	1083	1208			226	350	475	599	724	849	973						
6		4	2	580	319			429	553	678	803	927	1052	1176			168	292	417	541	666	791	915						
7		4	3	637	350				522	646	771	895	1020	1144				234	359	484	608	733	857						
6	4	4	4	695	382				614	739	863	988	1112					301	426	550	675	799							
	4	4	0	769	422		604	810	1015	1220	1426	1631	1836	2042		259	464	669	874	1080	1285	1490	1696						
	5	4	1	864	475			757	962	1168	1373	1578	1783	1989			368	573	778	984	1189	1394	1600						
	6	4	2	960	528			704	909	1115	1320	1525	1731	1936			272	477	682	888	1093	1298	1504						
7	4	4	3	1056	581				856	1062	1267	1472	1678	1883				381	586	792	997	1202	1408						
	4	4	4	1152	634				804	1009	1214	1420	1625	1830				285	490	696	901	1106	1312						
	4	4	0	1423	782		1120	1500	1881	2261	2642	3022	3403	3783		479	860	1240	1621	2001	2382	2762	3143						
	5	4	1	1601	880		1022	1403	1783	2164	2544	2924	3305	3685		302	682	1063	1443	1823	2204	2584	2965						
8	4	4	2	1778	978			1305	1685	2066	2446	2827	3207	3588			504	885	1265	1646	2026	2406	2787						
	4	4	3	1956	1075			1207	1568	1968	2349	2729	3109	3490			326	707	1087	1468	1848	2229	2609						
	4	4	4	2134	1173				1490	1870	2251	2631	3012	3392				529	909	1290	1670	2051	2431						
	4	4	0	3133	1726			3282	4116	4951	5785						1877	2712	3548	4383									
9	4	4	2	3921	2151			2858	3692	4527	5362						1098	1935	2771	3607									
	4	4	3	4310	2372				3472	4306	5141							1538	2374	3209									
	4	4	4	4699	2584					4095	4929								1986	2821									
	4	4	0	4266	2345			4470	5606	6742	7878						2554	3690	4827	5964									
10	4	4	2	5337	2929			3881	5016	6151	7286						1485	2622	3759	4896									
	4	4	3	5868	3230				4723	5860	6996								2093	3230	4367								
	4	4	4	6399	3522					5568	6705								2700	3838									
	4	4	0	8284	5363			10711	13391	16070	18749							7797	10477	13158	15838								
12	4	4	0	11045	7151			8928	11607	14287	16967						5042	7723	10404	13085									
	4	4	0	13806	8939				9824	12505	15185								4969	7651	10333								
	4	4	0	16567	10726					10722	13403									4898	7581								

s.31 Mini Valve

1/4" - 3/4" EN 10226-1



Technical data:

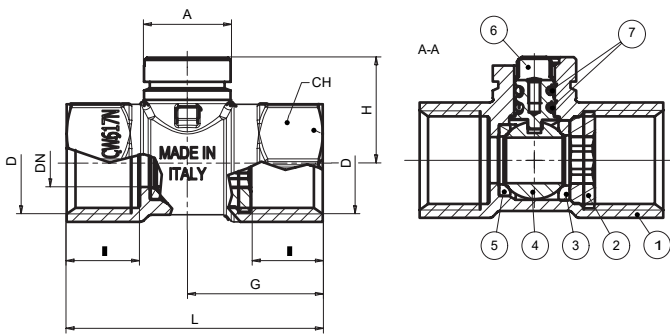
Working Pressure: 40 Bar (600 PSI) non-shock cold working pressure

Working Temperature: -20°C to +120°C (-4°F to +250°F)

Threads: • EN 10226-1, ISO 228 parallel female by female threads
• NPT taper ANSI B.1.20.1 threads

Dimensions:

Code	AV31BX3	AV31CX3	AV31DX3	AV31EX3
D (inch)	1/4"	3/8"	1/2"	3/4"
dn (mm)	8	10	10	12.7
I (mm)	12	12	15.5	17
G (mm)	23.8	23.8	28	32.5
L (mm)	45.5	45.5	53.5	61.5
H (mm)	22.5	22.5	22.5	25.5
A (mm)	18.5	18.5	18.5	18.5
CH (mm)	25	25	25	31
Kv (m ³ /h)	5.8	9.5	9.5	25.4

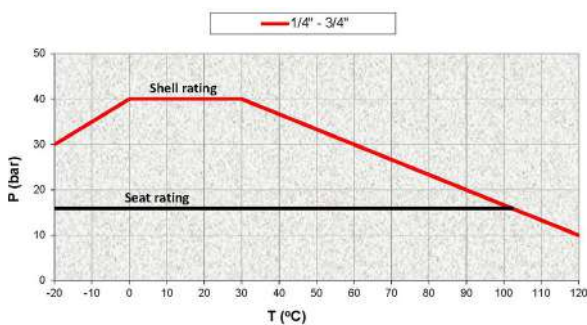


Features:

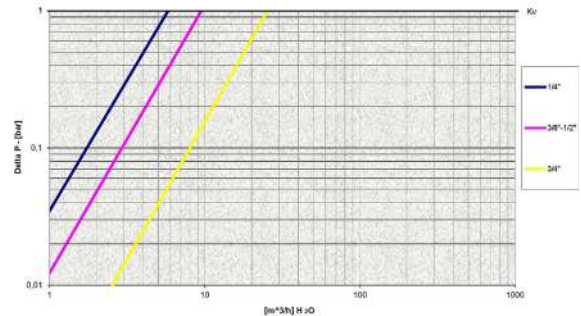
- 100% seal test guaranteed in according to EN12266-1 RATE A in either direction
- Compatible with most industrial fluids including those too viscous for pilot operated valves
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts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

	Part description	Qty	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

Pressure-temperature chart



Pressure drop chart



Valve	AV31BF3	AV31CF3	AV31DF3	AV31EF3
Valve Size	1/4"	3/8"	1/2"	3/4"

CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-31BF3	CP5xy-31CF3	CP5xy-31DF3	CP5xy-31EF3
Note for ordering code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection					

CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5x2-31BF3	CP5x2-31CF3	CP5x2-31DF3	CP5x2-31EF3
Note for ordering code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available					

**COMPACT
 POWER**
 electric actuator line

Torque for actuator sizing Nm

$\Delta P \rightarrow$	0 ÷ 16 Bar
Valve size	Nm
1/4" ÷ 1/2"	1,8
3/4"	2,5

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

s.6400

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



Technical data:

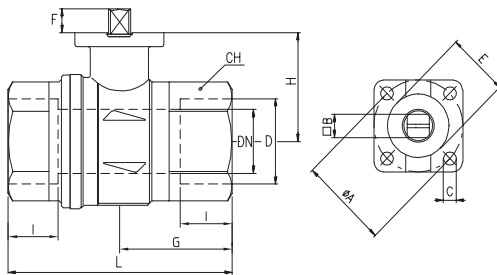
Working Pressure: 40 Bar (600 PSI) up to 2", non-shock cold working pressure

Working Temperature: -20°C to +170°C (-4°F to +338°F)

Threads: EN 10226-1, ISO 228 parallel female by female threads

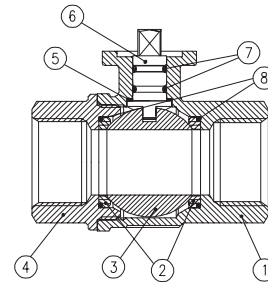
Dimensions:

Code	S64D00	S64E00	S64F00	S64G00	S64H00	S64I00
D (inch)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN (mm)	15	20	25	32	40	50
I (mm)	15,5	18	21	23	24,5	26,5
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 5211 DIN 3337	F03	F03	F03	F05	F05	F05
Kv (m3/h)	28	60	100	155	245	290



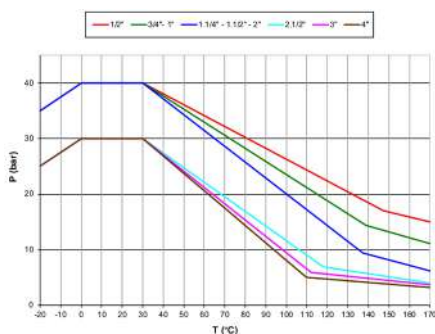
Features:

- 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
- Blowout-proof nickel plated brass stem
- Maintenance-free, double FPM O-rings at the stem for maximum safety
- Reinforced PTFE self-lubricating seats with flexible-lip and wear compensation design

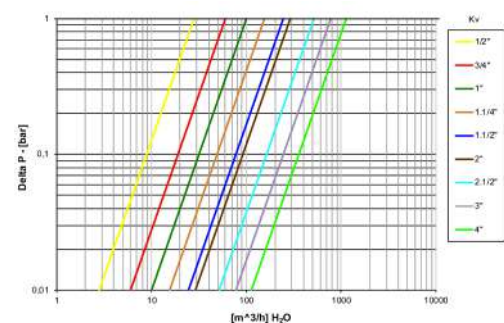


Part description	Qty	Material
1	1	Nickel plated body
2	2	Ball seat
3	1	Chrome plated ball
4	1	Nickel plated end-cap
5	1	Washer
6	1	Nickel plated stem O-ring design
7	2	O-Ring
8	2	O-Ring


Pressure-temperature chart




Pressure drop chart



Valve	S64D00	S64E00	S64F00	S64G00	S64H00	S64I00
Valve Size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"

	Double acting pneumatic actuator	Actuator	EA2-1			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA1D64D00	EA1D64E00	EA1D64F00	EA2AD64G00	EA3D64H00	EA3D64I00
	Spring return pneumatic actuator	Actuator	EA2-2			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA2R64D00	EA2R64E00	EA2R64F00	EA2AR64G00	EA3R64H00	EA3R64I00

CT line electric actuator	Actuator Model	CT1 - 8Nm	CT2 - 11Nm	CT4 - 40Nm
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	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-64D00	CP5xy-64E00	-	-	-	-	
	note for code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection								
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5xy-64D00	CP5xy-64E00	-	-	-	-	
	note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available								

Selections apply for valves used with ΔP up to 15 bar max (220 PSI).
 For ΔP over 15 bar (220 PSI) and up to 40 bar (600 PSI) please consult **RUB** for sizing recommendations.

Torque for actuator sizing Nm

Valve Size	0 ÷ 15 Bar		40 Bar	
	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

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.
 Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

s.84 AM

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



Technical data:

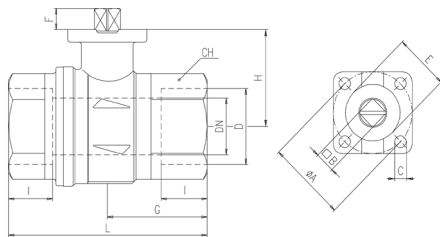
Working Pressure: 30 bar (435 PSI), non-shock cold working pressure

Working Temperature: -20°C to +170°C (-4°F to +338°F)

Threads: EN 10226-1, ISO 228 parallel female by female threads

Dimensions:

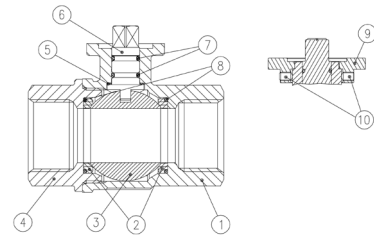
Code	S84L00AM	S84M00AM	S84N00AM
D (inch)	2 1/2"	3"	4"
DN (mm)	65	80	100
I (mm)	32	35	41.5
L (mm)	156	177	216
G (mm)	78	88.5	108
H (mm)	89	96	111
CH (mm)	85	99	125
ØA (mm)	70	70	70
B (mm)	17	17	17
C (mm)	8.5	8.5	8.5
E (mm)	55	55	55
F (mm)	18	18	18
Flange connection DIN ISO 5211 DIN 3337	F07	F07	F07
Kv (m3/h)	516	770	1120



Ball seats and stem configuration of valves over DN shows the nominal flow diameter. Actual flow diameter complies with full port DIN 3357 part 4. Stem configuration of valves over 2" is slightly different. 2" is different.

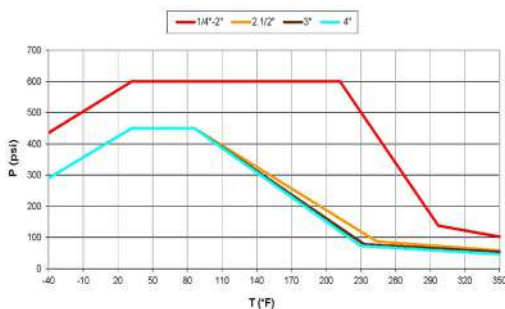
Features:

- 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
- Handle stops on body to avoid stress at stem
- Handle clearly shows ball position
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life
- No maintenance ever required

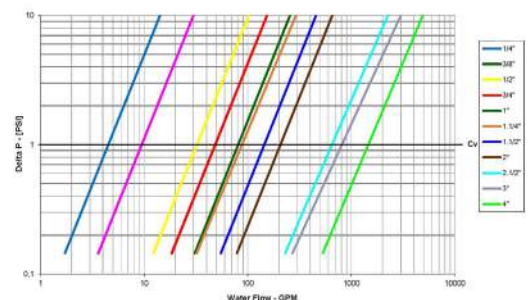


Part description	Qty	Material
1 Unplated body	1	CW617N
2 Ball seat	2	PTFE graphite filled 15%
3 Chrome plated ball	1	CW617N
4 Unplated end-cap	1	CW617N
5 Washer	1	PTFE carbon filled 25%
6 Nickel plated stem O-ring design	1	CW617N
7 O-Ring	2	FPM
8 O-Ring	2	FPM
9 Black anodized flange (only from 2 1/2"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

Pressure-temperature chart



Pressure drop chart



Valve		S84L00AM	S84M00AM	S84N00AM	
Valve Size		2 ½	3"	4"	
CH line electric actuator	Actuator Model	CH 1	CH 3	CH 4	
	Double acting pneumatic actuator	Actuator	EA2-5		EA2-6
Linkage		LK15			
Valve-Actuator Combination		EA5D84L00AM	EA5D84M00AM	EA6D84N00AM	
EA PNEUMATIC ACTUATOR	Spring return pneumatic actuator	Actuator	EA2-5	EA2-6	EA2-7
		Linkage	LK15		LK22
		Valve-Actuator Combination	EA5R84L00AM	EA6R84M00AM	EA7R84N00AM

Selections apply for valves used with ΔP up to 15 bar max (220 PSI).

For ΔP over 15 bar (220 PSI) and up to 30 bar (450 PSI) please consult **RUB** for sizing recommendations.

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing Nm

$\Delta P \rightarrow$	0 ÷ 15 Bar		40 Bar	
	to open	to close	to open	to close
2 ½"	42	42	105	105
3"	102	102	120	120
4"	186	186	225	225

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

k.6405

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



Technical data:

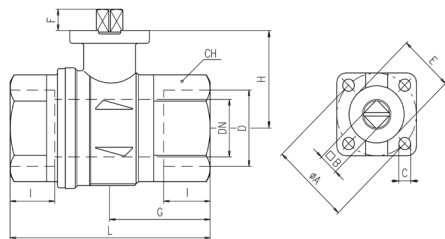
Working Pressure: 40 Bar (600 PSI) non-shock cold working pressure

Working Temperature: -40°C to +170°C (-40°F to +338°F)

Threads: EN 10226-1, ISO 228 parallel female by female threads

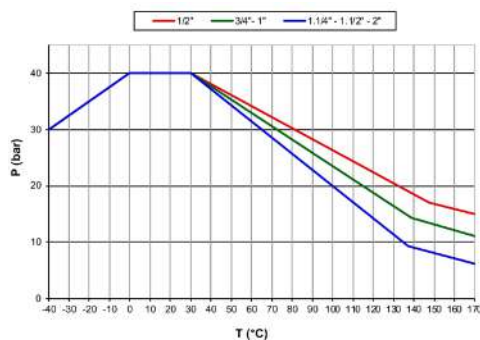
Dimensions:

Code	S64D05	S64E05	S64F05	S64DG05	S64H05	S64I05
D (inch)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN (mm)	15	20	25	32	40	50
I (mm)	15,5	18	21	23	24,5	26,5
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 5211 DIN 3337	F03	F03	F03	F05	F05	F05
Kv (m3/h)	28	60	100	155	245	290



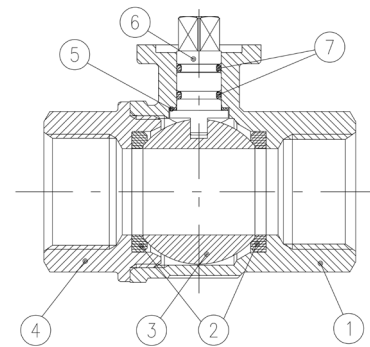
Ball valves are marked CE on body from 1 1/4" to 2" as follow:
CE 1115 cat IIIB+D PS: 5 GAS TS1: -20°C TS2: +60°C

Pressure-temperature chart



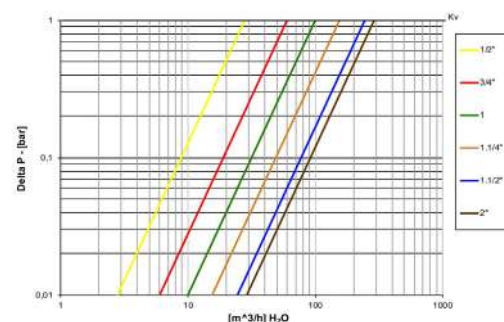
Features:

- 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





Part description	Qty	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


Pressure drop chart



Valve	S64D05	S64E05	S64F05	S64G05	S64H05	S64I05
Valve Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"

	Double acting pneumatic actuator	Actuator	EA2-1			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA1D64D05	EA1D64E05	EA1D64F05	EA2AD64G	EA3D64H05	EA3D64I05
	Spring return pneumatic actuator	Actuator	EA2-2			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA2R64D05	EA2R64E05	EA2R64F05	EA2AR64G05	EA3R64H05	EA3R64I05

	Actuator Model	CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm

	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-64D05	CP5xy-64E05	-	-	-	-
	note for code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection							
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5x2-64D05	CP5x2-64E05	-	-	-	-
	note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available							

Selections apply for valves used with ΔP up to 15 bar max (220 PSI).

For ΔP over 15 bar (220 PSI) and up to 40 bar (600 PSI) please consult **RUB** for sizing recommendations.

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing Nm

$\Delta P \rightarrow$	0 ÷ 15 bar		40 bar	
	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 1/4"	16	14,4	16	14,4
1 1/2"	28,2	25,4	31	28
2"	38,9	35	49,5	44,5

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

s.6400 LT

1" - 2" EN 10226-1, ISO 5211, low torque



Technical data:

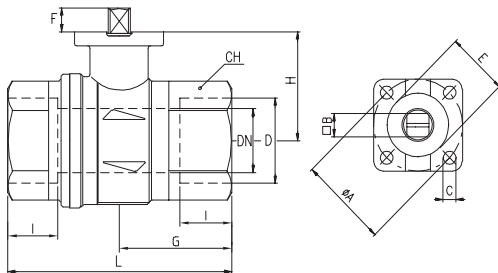
Working Pressure: Shell rating: 40 Bar (600 PSI) non-shock cold working pressure | Seat rating: ΔP max permissible 16 Bar (230 PSI)

Working Temperature: -20°C to +170°C (-4°F to +338°F)

Threads: EN 10226-1, ISO 228 parallel female by female threads

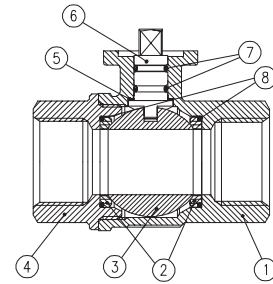
Dimensions:

Code	S64F00A	S64G00A	S64H00A	S64I00A
D (inch)	1"	1 ¼"	1 ½"	2"
DN (mm)	25	32	40	50
I (mm)	21	23	24,5	26,5
L (mm)	90	110	120	140
G (mm)	45,5	52	59	67,5
H (mm)	42,5	49,5	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 5211 DIN 3337	F03	F03	F05	F05
Kv (m3/h)	100	155	245	290



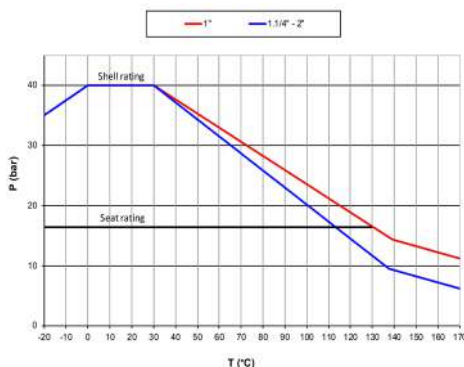
Features:

- 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

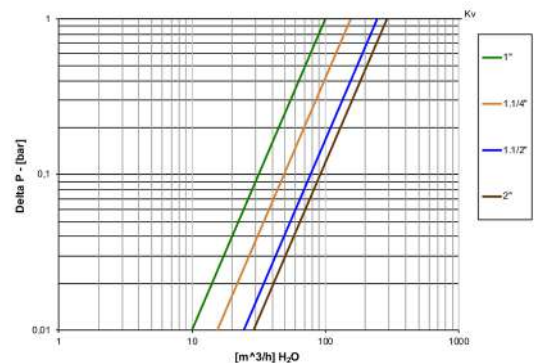


Part description	Qty	Material
1	1	Nickel plated body
2	2	Ball seat
3	1	Chrome plated ball
4	1	Nickel plated end-cap
5	1	Washer
6	1	Nickel plated stem O-ring design
7	2	O-Ring
8	2	O-Ring


Pressure-temperature chart




Pressure drop chart



Valve	S64F00A	S64G00A	S64H00A	S64I00A
Valve Size	1"	1 ¼"	1 ½"	2"

	Double acting pneumatic actuator	Actuator	EA2-1		EA2-2A		
		Linkage	LK1		LK4		
		Valve-Actuator Combination	EA1D64F00A	EA1D64G00A	EA2AD64H00A	EA2AD64I00A	
	Spring return pneumatic actuator	ΔP < 6 Bar	Actuator	EA2-2		EA2-2A	
			Linkage	LK1		LK4	
			Valve-Actuator Combination	EA2R64F00A	EA2R64G00A	EA2AR64H00A	EA2A64I00A
ΔP 6 to 16 Bar		Actuator	EA2-2		EA2-2A		
		Linkage	LK1		LK4		
		Valve-Actuator Combination	EA2R64F00AC	EA2R64G00AC	EA2AR64H00AC	EA2AR64I00AC	

CT line electric actuator	Actuator Model	ΔP < 6 Bar	CT1-8Nm		
		ΔP 6 to 16 Bar	CT1-8Nm	CT2-11Nm	CT3-22Nm

	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-64F00A	CP5xy-64G00A	-	-
	note for code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection					
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5x2-64F00A	CP5x2-64G00A	-	-
	note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available					

Torque for actuator sizing Nm

ΔP -->	0 ÷ 6 Bar		> 6 ÷ 16 Bar	
	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

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

s.6441 NPT

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



Technical data:

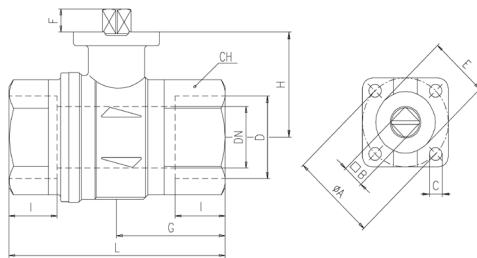
Working Pressure: 600 PSI (40 bar) up to 2" non-shock cold working pressure

Working Temperature: -4°F to +350°F (-20°C to +177°C)

Threads: NPT taper ANSI B.1.20.1 female by female threads

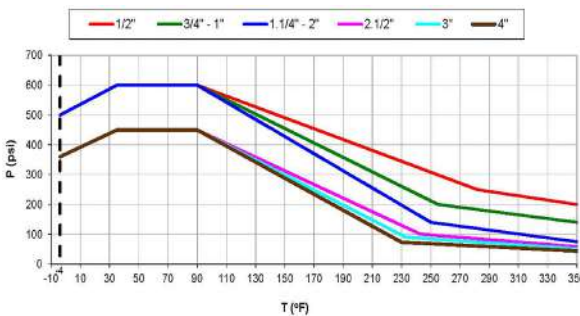
Dimensions:

Code	S64D41	S64E41	S64F41	S64DG41	S64H41	S64I41
D (inch)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN (inch)	0,590	0,787	0,984	1,259	1,575	1,968
I (inch)	0,610	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)	1,220	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)	0,220	0,220	0,220	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	0,570	0,570	0,570
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F05	F05	F05
Cv (GPM)	32,3	69,3	115,5	179,1	283,1	335,0



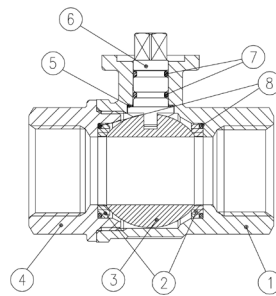
Ball seats and stem configuration of valves over 2" is different.

Pressure-temperature chart



Features:

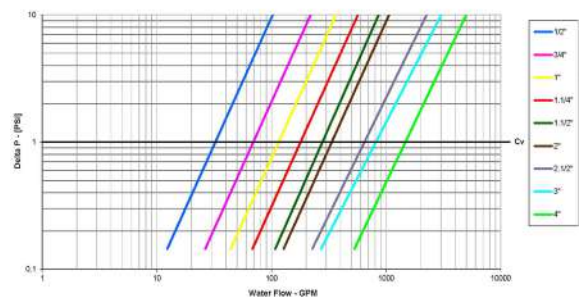
- 24h 100% seal test guaranteed
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life




Valves configuration up to 2"

Part description	Qty	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


Pressure drop chart



Valve	S64D41	S64E41	S64F41	S64G41	S64H41	S64I41
Valve Size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"

	Double acting pneumatic actuator	Actuator	EA2-1			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA1D64D41	EA1D64E41	EA1D64F41	EA2AD64G41	EA3D64H41	EA3D64I41
	Spring return pneumatic actuator	Actuator	EA2-2			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA2R64D41	EA2R64E41	EA2R64F41	EA2AR64G41	EA3R64H41	EA3R64I41

	Actuator Model	CT1 - 8Nm	CT4 - 40Nm

	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-64D41	CP5xy-64E41	-	-	-	-
	note for code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection							
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5x2-64D41	CP5x2-64E41	-	-	-	-
	note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available							

Selections apply for valves used with ΔP up to 15 bar max (220 PSI).
For ΔP over 15 bar (220 PSI) and up to 40 bar (600 PSI) please consult **RUB** for sizing recommendations.

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 200 PSI		600 PSI	
	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

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

s.95 NPT

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



Technical data:

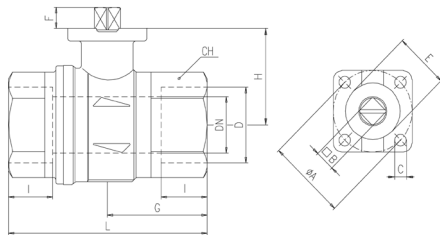
Working Pressure: 450 PSI (30 bar) over 2" non-shock cold working pressure

Working Temperature: -40°F to +350°F (-20°C to +177°C)

Threads: NPT taper ANSI B.1.20.1 female by female threads

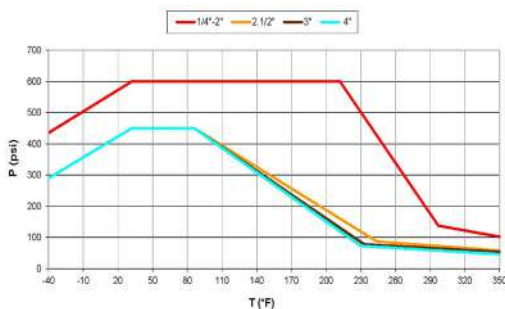
Dimensions:

Code	S95L41AM	S95M41AM	S95N41AM
D (inch)	2 1/2"	3"	4"
DN (inch)	2,559	3,150	3,937
I (inch)	1,260	1,378	1,634
L (inch)	6,142	6,969	8,504
G (inch)	3,071	3,484	4,252
H (inch)	3,502	3,779	4,366
CH (inch)	3,346	3,898	4,921
ØA (inch)	2,756	2,756	2,756
B (inch)	0,669	0,669	0,669
C (inch)	0,335	0,335	0,335
E (inch)	2,165	2,165	2,165
F (inch)	0,709	0,709	0,709
Flange connection DIN ISO 5211 DIN 3337	F07	F07	F07
Cv (GPM)	596,2	896,5	1305,5



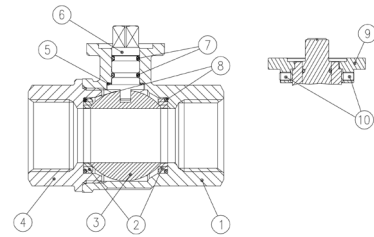
Ball seats and stem configuration of valves over DN shows the nominal flow diameter. Actual flow diameter complies with full port DIN 3357 part 4. Stem configuration of valves over 2" is slightly different. 2" is different.

Pressure-temperature chart



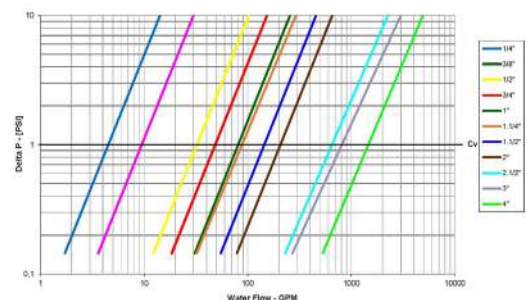
Features:


- 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
- Handle stops on body to avoid stress at stem
- Handle clearly shows ball position
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life
- No maintenance ever required



Part description	Qty	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 1/2" to 4")	1	Aluminum
10 Grub screw (only from 2 1/2" to 4")	2	CB4FF

Pressure drop chart



Valve		S95L41AM	S95M41AM	S95N41AM	
Valve Size		2 1/2"	3"	4"	
CH line electric actuator	Actuator Model	CH 1	CH 3	CH 4	
	Double acting pneumatic actuator	Actuator	EA2-5	EA2-7	
		Linkage	LK15		
		Valve-Actuator Combination	EA5D95L41AM	EA5D95M41AM	EA7D95N41AM
	Spring return pneumatic actuator	Actuator	EA2-5	EA2-6	EA2-7
		Linkage	LK15		
		Valve-Actuator Combination	EA5R95L41AM	EA6R95M41AM	EA7R95N41AM

Selections apply for valves used with ΔP up to 15 bar max (220 PSI).

For ΔP over 15 bar (220 PSI) and up to 30 bar (450 PSI) please consult **RUB** for sizing recommendations.

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing in-lb

$\Delta P \rightarrow$	0 ÷ 200 PSI		600 PSI	
	to open	to close	to open	to close
2 1/2"	372	372	930	930
3"	903	903	1063	1063
4"	1647	1647	1992	1992

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

Puri-T 264 NPT

1/2" – 1 1/2" Lead Free, ISO 5211



All surfaces of this product in contact with drinking water contain less than 0,25% of lead in compliance with U.S. law

Technical data:

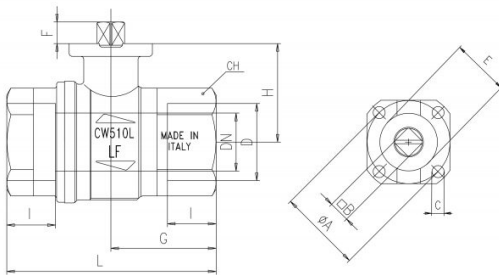
Working Pressure: 600 PSI (40 bar) up to 3/4" size,
For 1" size up to 1 1/2" size:
- Seat rating: ΔP max permissible 230 PSI (16 bar)
- Shell rating: 600 PSI (40 bar)
non-shock cold working pressure

Working Temperature: -4°F to +350°F (-20°C to +177°C)

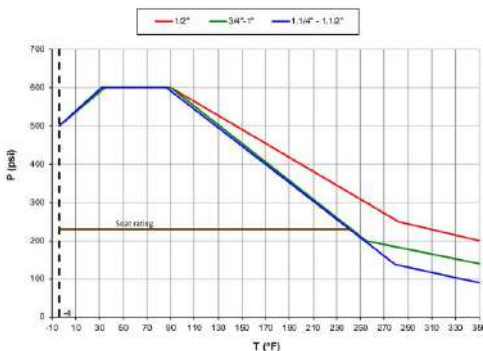
Threads: NPT taper ANSI B.1.20.1 female by female threads

Dimensions:

Code	T264D41	T264E41	T264F41	T264G41	T264H41
D (inch)	1/2"	3/4"	1"	1 1/4"	1 1/2"
DN (inch)	0,590	0,787	0,984	1,259	1,575
I (inch)	0,610	0,708	0,826	0,905	0,964
L (inch)	2,598	2,933	3,562	4,094	4,606
G (inch)	1,201	1,456	1,791	2,047	2,322
H (inch)	1,220	1,515	1,673	1,941	2,441
CH (inch)	1,063	1,259	1,614	1,968	2,165
ØA (inch)	1,417	1,417	1,417	1,417	1,968
B (inch)	0,354	0,354	0,354	0,354	0,551
C (inch)	0,220	0,220	0,220	0,220	0,259
E (inch)	0,984	0,984	0,984	0,984	1,378
F (inch)	0,295	0,334	0,334	0,334	0,570
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F03	F05
Cv (GPM)	32,3	69,3	115,5	179,1	283,1

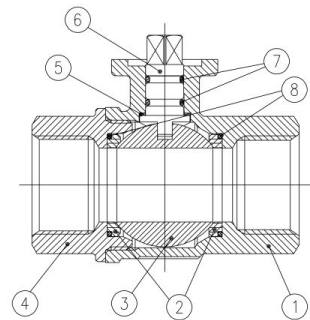


Pressure-temperature chart



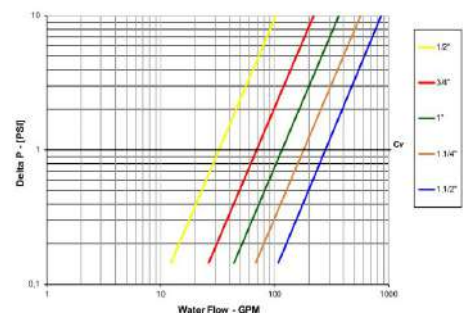
Features:

- Certified by CSA International to comply with U.S. s3874, California AB1953, and similar laws of other states for the safe handling of drinking water
- 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 lead free brass ball for longer life



Part description	Qty	Material
1 Unplated NPT body	1	CW510L
2 Ball seat	2	PTFE graphite filled 15% up to 3/4" size, PTFE carbographe filled over 3/4" size
3 Chrome plated ball	1	CW510L
4 Unplated NPT endcap	1	CW510L
5 Washer	1	PTFE carbon filled 25%
6 Nickel plated stem O-ring design	1	CW510L
7 O-Ring	2	FPM
8 O-Ring	2	FPM

Pressure drop chart



Valve	T264D41	T264E41	T264F41	T264G41	T264H41
Valve Size	1/2"	3/4"	1"	1 ¼"	1 ½"

	Double acting pneumatic actuator	Actuator	EA2-1			EA2-2A	EA2-3
		Linkage	LK1			LK4	LK6
		Valve-Actuator Combination	EA1D264D41	EA1D264E41	EA1D64F41	EA1D64G41	EA3D64H41
	Spring return pneumatic actuator	Actuator	EA2-2			EA2-2A	EA2-3
		Linkage	LK1			LK4	LK6
		Valve-Actuator Combination	EA2R264D41	EA2R264E41	EA2R264F41	EA2R264G41	EA3R264H41

	Actuator Model	CT1 - 8Nm	CT4 - 40Nm
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	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-264D41	CP5xy-264E41	-	-	-
	Note for ordering code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; D for 24Vdc y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection						
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5xy-264D41	CP5xy-264E41	-	-	-
	note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available						

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 200 PSI		600 PSI	
	to open	to close	to open	to close
1/2"	25	15	25	15
3/4"	33	20	33	20

ΔP -->	0 ÷ 90 PSI		> 90 ÷ 230 PSI	
	to open	to close	to open	to close
1"	19	19	31	31
1¼"	22	22	35	35
1½"	51	51	84	84

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

s.6439 NPT

1/2"-2", SS trim, ISO 5211



Technical data:

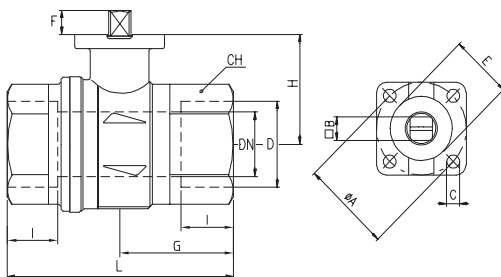
Working Pressure: 600 PSI (40 bar) non-shock cold working pressure

Working Temperature: -4°F to +350°F (-20°C to +177°C)

Threads: NPT taper ANSI B.1.20.1 female by female threads

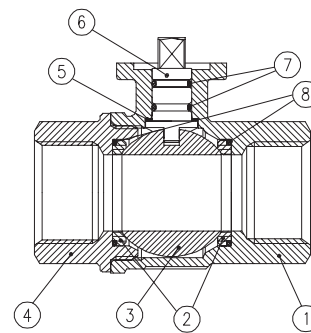
Dimensions:

Code	S64D39	S64E39	S64F39	S64G39	S64H39	S64I39
D (inch)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN (inch)	0,590	0,787	0,984	1,259	1,575	1,968
I (inch)	0,610	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)	1,220	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)	0,220	0,220	0,220	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	0,570	0,570	0,570
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F05	F05	F05
Cv (GPM)	32,3	69,3	115,5	179,1	283,1	335,0



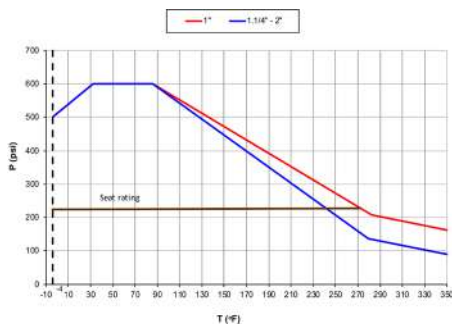
Features:

- 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

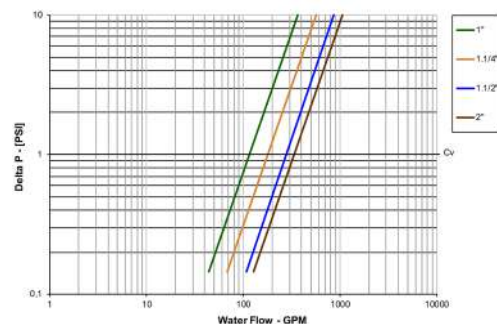


Part description	Qty	Material
1 Unplated body	1	CW617N
2 Ball seat	2	PTFE graphite filled 15%
3 Stainless steel ball	1	AISI316
4 Unplated end-cap	1	CW617N
5 Washer	1	PTFE carbon filled 25%
6 Stainless steel stem O-ring design	1	AISI316
7 O-Ring	2	FPM
8 O-Ring	2	FPM


Pressure-temperature chart




Pressure drop chart



Valve	S64D39	S64E39	S64F39	S64G39	S64H39	S64I39
Valve Size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"

	Double acting pneumatic actuator	Actuator	EA2-1			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA1D64D39	EA1D64E39	EA1D64F39	EA2AD64G39	EA3D64H39	EA3D64I39
	Spring return pneumatic actuator	Actuator	EA2-2			EA2-2A	EA2-3	
		Linkage	LK1			LK4	LK6	LK4
		Valve-Actuator Combination	EA2R64D39	EA2R64E39	EA2R64F39	EA2AR64G39	EA3R64H39	EA3R64I39

	Actuator Model	CT1 - 8Nm	CT4 - 40Nm
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	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-64D39	CP5xy-64E39	-	-	-	-
	note for code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection							
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5x2-64D39	CP5x2-64E39	-	-	-	-
note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available								

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 200 PSI		600 PSI	
	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

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

s.6439 LT NPT

1" - 2", SS trim, ISO 5211, low torque



Technical data:

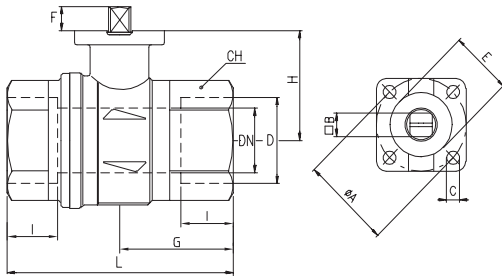
Working Pressure: Shell rating: 600 PSI (40 bar) | Seat rating: ΔP max permissible 230 PSI (16 bar) non-shock cold working pressure

Working Temperature: -4°F to +350°F (-20°C to +177°C)

Threads: NPT taper ANSI B.1.20.1 female by female threads

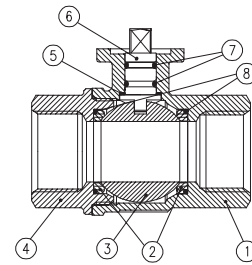
Dimensions:

Code	S64F39A	S64G39A	S64H39A	S64I39A
D (inch)	1"	1 1/4"	1 1/2"	2"
DN (inch)	0,984	1,259	1,575	1,968
I (inch)	0,826	0,905	0,964	1,043
L (inch)	3,562	4,094	4,606	5,314
G (inch)	1,791	2,047	2,322	2,657
H (inch)	1,673	1,949	2,441	2,716
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	0,259	0,259
E (inch)	0,984	0,984	1,378	1,378
F (inch)	0,334	0,570	0,570	0,570
Flange connection DIN ISO 5211 DIN 3337	F03	F05	F05	F05
CV (GPM)	115,5	179,1	283,1	335,0



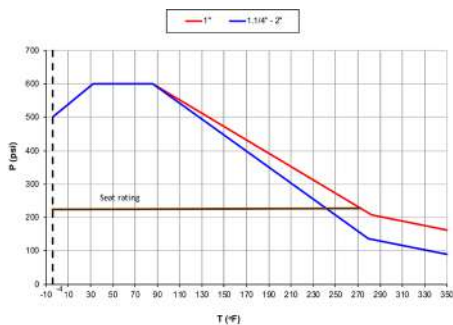
Features:

- 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

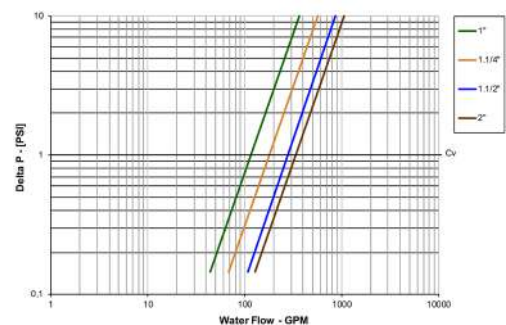


Part description	Qty	Material
1	1	CW617N
2	2	PTFE graphite filled
3	1	AISI316
4	1	CW617N
5	1	PTFE carbon filled 25%
6	1	AISI316
7	2	FPM
8	2	FPM


Pressure-temperature chart




Pressure drop chart



Valve	S64F39A	S64G39A	S64H39A	S64I39A
Valve Size	1"	1 ¼"	1 ½"	2"

	Double acting pneumatic actuator	Actuator	EA2-1		EA2-2A		
		Linkage	LK1		LK4		
		Valve-Actuator Combination	EA1D64F39A	EA1D64G39A	EA2AD64H39A	EA2AD64I39A	
	Spring return pneumatic actuator	ΔP < 6 Bar	Actuator	EA2-2		EA2-2A	
			Linkage	LK1		LK4	
			Valve-Actuator Combination	EA2R64F39A	EA2R64G39A	EA2AR64H39A	EA2A64I39A
ΔP 6 to 16 Bar		Actuator	EA2-2		EA2-2A		
		Linkage	LK1		LK4		
		Valve-Actuator Combination	EA2R64F39AC	EA2R64G39AC	EA2AR64H39AC	EA2AR64I39AC	

CT line <small>electric actuator</small>	Actuator Model	CT1 - 8Nm	CT4 - 40Nm

	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-64F39A	CP5xy-64G39A	-	-
	note for code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection					
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5x2-64F39A	CP5x2-64G39A	-	-
	note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available					

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 90 PSI		> 90 ÷ 230 PSI	
	to open	to close	to open	to close
1"	19	19	31	31
1¼"	22	22	35	35
1½"	51	51	84	84
2"	70	70	115	115

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

s.134 NPT stainless steel

1/2" - 2" ISO 5211



Technical data:

Working Pressure: 1000 PSI (68 bar) cold working pressure | 155 PSI (10.5 bar) WSP steam rating | 2×10^{-2} torr vacuum rating | *150 psig non-shock working steam pressure. Not suitable for throttling steam.

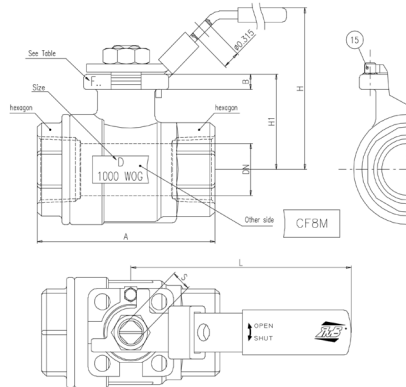
Working Temperature: -50°F to +450°F (-45°C to +232 °C)

Threads: NPT taper ANSI B.1.20.1 female by female threads

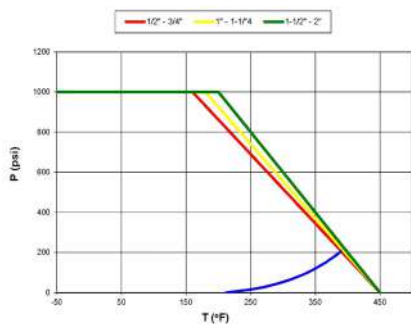
Dimensions:

Code	134D41	134E41	134F41	134G41	134H41	134I41
D (inch)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN (inch)	0,56	0,81	1	1,25	1,5	1,97
H1 (inch)	1,40	1,56	1,84	2	2,3	2,8
A (inch)	2,60	2,99	3,54	3,94	4,41	5
B (inch)	0,26	0,28	0,319	0,319	0,319	0,382
S (inch)	0,35	0,35	0,43	0,43	0,43	0,55
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F04/F05	F04/F05	F04/F05	F05
CV (GPM)	20	42	65	101	145	250

Code	134D41L*	134E41L*	134F41L*	134G41L*	134H41L*	134I41L*
L (inch)	4,40	4,40	5,87	5,87	5,87	7,5
H (inch)	2,50	2,66	3,14	3,3	3,6	4,5



Pressure-temperature chart

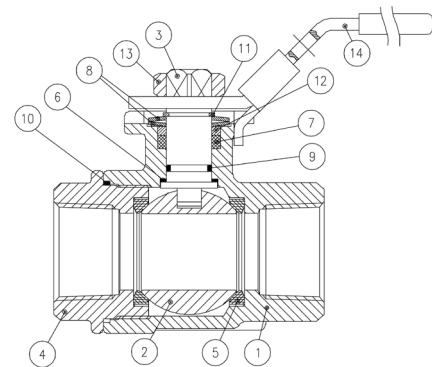


*Ball valves fitted with stainless steel lock lever handle



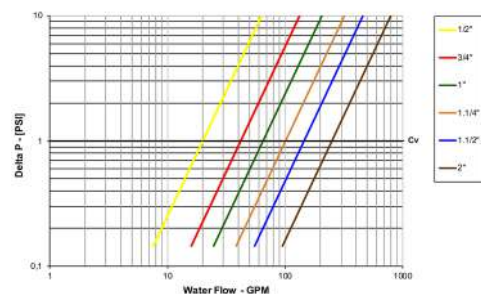
Features:

- Dual sealing system allows valve to be operated in either direction making installation easier
- Silicone-free lubricant on all seals
- NACE compliance MR-01-75




	Part description	Qty	Material
1	Body	1	A351-CF8M
2	Ball	1	A351-CF8M
3	Stem	1	AISI316
4	Cap	1	A351-CF8M
5	Seat	2	RTFE
6	Seat	1	RTFE
7	Packing	1	TFE
8	Bellville	2	SK5
9	O-Ring	1	FPM
10	Gasket	1	RTFE
11	Snapping	1	AISI304
12	Follower	1	AISI316
13	Nut	1	AISI304
14	Lockable handle	1	A240 SS304
15	Stop pin	1	AISI304

Pressure drop chart



Valve	134D41	134E41	134F41	134G41	134H41	134I41
Valve Size	1/2"	3/4"	1"	1 ¼"	1 ½"	2"

	Double acting pneumatic actuator	Actuator	EA2-1		EA2-2A		EA2-3	
		Linkage	LK1		LK4		LK6	LK4
		Valve-Actuator Combination	EA1D134D41	EA2D134E41	EA3D134F41	EA3D134G41	EA3D134H41	EA3D134I41
	Spring return pneumatic actuator	Actuator	EA2-2		EA2-3			EA2-4
		Linkage	LK1		LK3	LK6		LK4
		Valve-Actuator Combination	EA2R134D41	EA2R134E41	EA3R134F41	EA3R134G41	EA3R134H41	EA4R134I41

CT line <small>electric actuator</small>	Actuator Model	CT1 - 8Nm	CT3 - 22Nm	CT4 - 40Nm

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 200 PSI	
	to open	to close
1/2"	49	41
3/4"	78	59
1"	123	66
1 ¼"	156	109
1 ½"	250	144
2"	317	211

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

s.7300 3-way 4 seats T-port

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



Technical data:

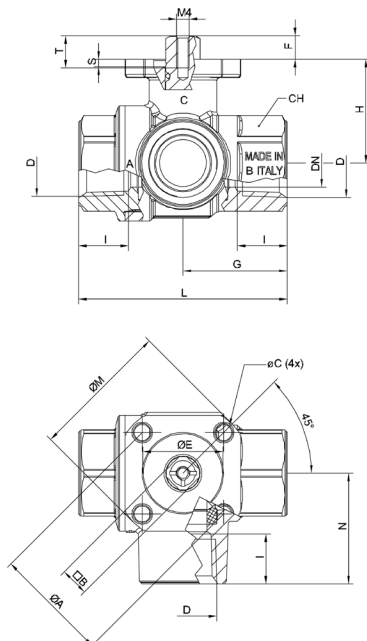
Working Pressure: 20 bar (300 PSI) non-shock cold working pressure

Working Temperature: -20°C to +150°C (-4°F to +302°F)

Threads: EN 10226-1 / ISO 228 parallel female threads

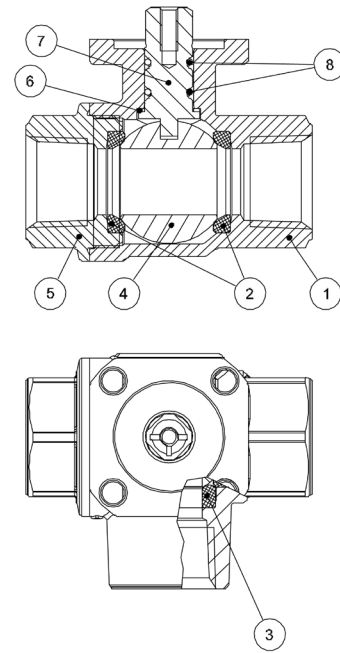
Dimensions:

Code	S73D00	S73E00	S73F00
Size (inches)	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)	Ø 5,2 (M6)	Ø 5,2 (M6)	Ø 5,2 (M6)
ØE (mm)	25	25	25
□ 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




Features:

- 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



	Part description	Qty	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

Valve	S73D00	S73E00	S73F00
Valve Size	1/2"	3/4"	1"

	Double acting pneumatic actuator	Actuator	EA2-2		EA2-3
		Linkage	LK1		LK3
		Valve-Actuator Combination	EA2D73D00	EA2D73E00	EA3D73F00
	Spring return pneumatic actuator	Actuator	EA2-3		EA2-4
		Linkage	LK3		
		Valve-Actuator Combination	EA3R73D00	EA3R73E00	EA4R73F00

	Actuator Model	CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm (LK2 is required)
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Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing Nm

ΔP -->	0 ÷ 16 bar	
	to open	to close
1/2"	10,5	10,5
3/4"	13	13
1"	29,5	29,5

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.

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

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



Technical data:

Working Pressure: 30 bar (450 PSI) non-shock cold working pressure

Working Temperature: -20°C to +150°C (-4°F to +302°F)

Threads: EN 10226-1, ISO 228 parallel female by female threads

Dimensions:

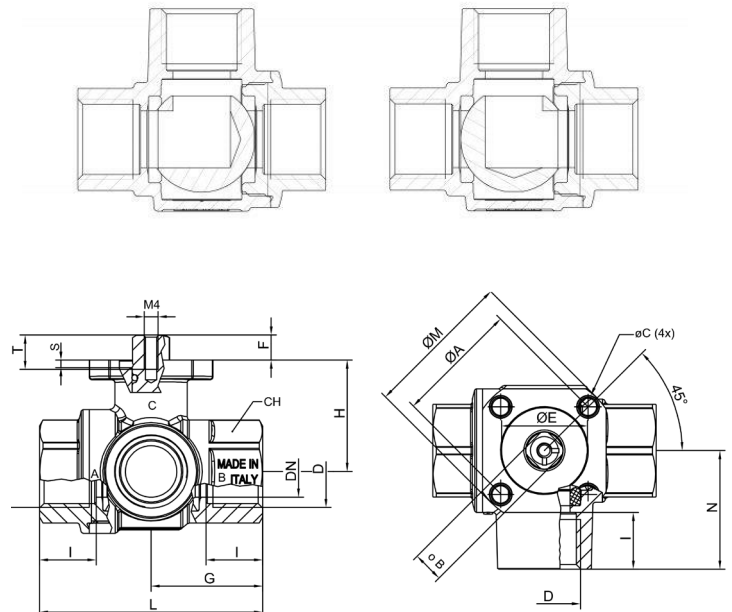
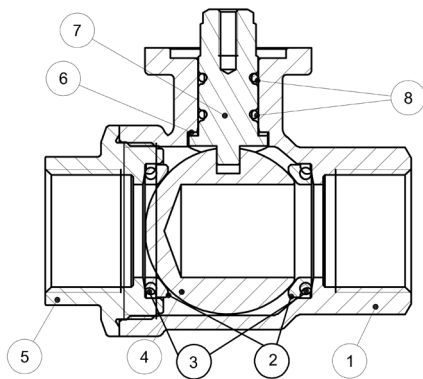
Code	S76D00	S76E00	S76F00
Size (inches)	Rp 1/2"	Rp 3/4"	Rp 1"
DN (mm)	15	20	25
I (mm)	16,5	19	22,5
L (mm)	65	79	92,5
G (mm)	32,5	39,5	46,5
H (mm)	32,5	39,5	42,5
N (mm)	34,5	42	49,5
ØA (mm)	36	36	36
ØC (mm)	Ø 5,2 (M6)	Ø 5,2 (M6)	Ø 5,2 (M6)
ØE (mm)	25	25	25
□ B (mm)	9	9	9
ØM (mm)	43,4	43,4	43,4
S (mm)	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




Features:

- 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

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

S.76 3-way "L" operating positions



Valve		S76D00	S76E00	S76F00	
Valve Size		1/2"	3/4"	1"	
	Double acting pneumatic actuator	Actuator	EA2-1		
		Linkage	LK1		
		Valve-Actuator Combination	EA1D76D00	EA1D76E00	EA1D76F00
	Spring return pneumatic actuator	Actuator	EA2-2		
		Linkage	LK2		
		Valve-Actuator Combination	EA2R76D00	EA2R76E00	EA2R76F00
	Actuator Model	CT1 - 8Nm			
	CP Plastic Electric Actuator Vac models	Valve-Actuator Combination	CP5xy-76D00	CP5xy-76E00	CP5xy-76F00
	note for code: x=A for 230Vac 50 Hz; B=for 110Vac 60 Hz; C=for 24Vac 50/60 Hz; y= 2 for 2 wires electrical connection; 3 for 3 wires electrical connection				
	CP Plastic Electric Actuator Vdc models	Valve-Actuator Combination	CP5x2-76D00	CP5x2-76E00	CP5x2-76F00
	note for code: x=D for 24 Vdc; E for 12Vdc. Only 2 wires electrical connection available				

Pneumatic actuator selection made using 6 bar (80 PSI) air pressure supply.

Torque for actuator sizing Nm

$\Delta P \rightarrow$	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

Valve Torques are valid for water usage. For other media please ask **RUB** for correction factors.



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