A BRAND OF 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 professionality.

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

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

CERTIFIED LR ISO 9001

Quality

Approvals

- Deutsche Vereinigung des Gas und Wasserfaches e.V. Technisch-wissenschaftlicher Verein
- Deutsche Vereinigung des Gas und Wasserfaches
- ARGB-KVBG
- Schweizerischer Verein des Gas und Wasserfaches
- Attestation de Conformitè Sanitarie
- 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 9001:2015 certified Corporate Headquarters in Brescia, Italy.

We implemented this rigorous quality management and assurance system since 1992 monitored by Lloyd's Register, helping, 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.

Lloyd's Register

Certificate of Approval

This is to certify that the Management System of:

BONOMI INDUSTRIES S.R.L.

Via Padana Superiore 29, Fraz. Ciliverghe, 25080 Mazzano Bs, Italy

has been approved by LRQA to the following standards:

ISO 9001:2015

Gilles Bessiere - Area Technical Manager

Issued by: Lloyd's Register Quality Assurance Italy Srl

for and on behalf of: Lloyd's Register Quality Assurance Limited

This certificate is valid only in association with the certificate schedule bearing the same number on whic
locations applicable to this approval are listed.

Current issue date: 22 January 2019
Expiry date: 13 June 2021
Certificate identity number: 10167291

Original approval(s):
ISO 9001 – 22 February 1995

Approval number(s): ISO 9001 – 0030053

The scope of this approval is applicable to:
Engineering, manufacturing and distribution of industrial low pressure shut-off and regulating brass valves in sizes 1/8" to 4", actuators, related components and accessories in brass or aluminum and custom made products. Providing services in the following areas: administration, finance and control, human resources, marketing, quality system and information technology.

UKAS MANAGEMENT SYSTEMS
001

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:

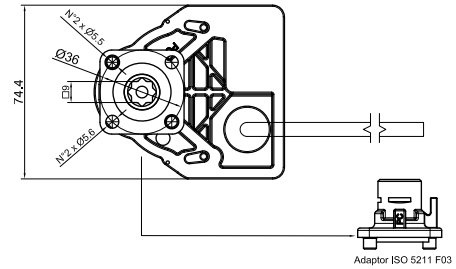
- Suitable for ***RuB*** actuatable valves up to 1 ¼" size (only for s.64 LT)
- Compact package to fit in restricted spaces
- Motor power consumption:
  - 4W for 24V DC, 6W for 230V AC
  - 8W for 24V AC and 110-120V AC
- Torque output up to 5 Nm
- Operation time:
  - 5sec for 24V DC
  - 20 sec for 24V AC, 110-120 V AC and 230 V AC at 50Hz
- Working temperature -20°C +80°C
- Protection class IP65 comparable to NEMA 4X
- Micro-switches for open-close signals
- Micro-switches can pass up to 1A
- Direct mount on valve for perfect shaft alignment
- Positive orientation between ball valve and actuator
- Actuator easily removable for manual operating
- Visual position indicator
- Corrosion resistant plastic housing
- Actuator has successfully passed 100,000 cycle life tests
- Duty cycle 60%

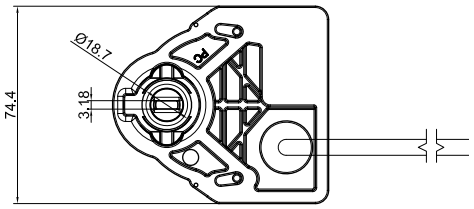
Options:

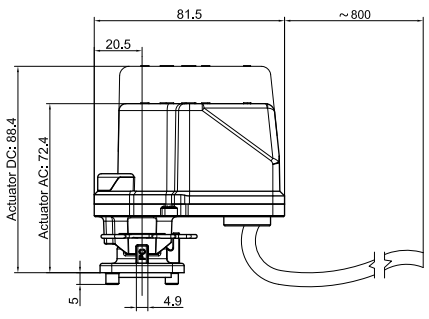
- Adaptor F03 square 0,315 inch

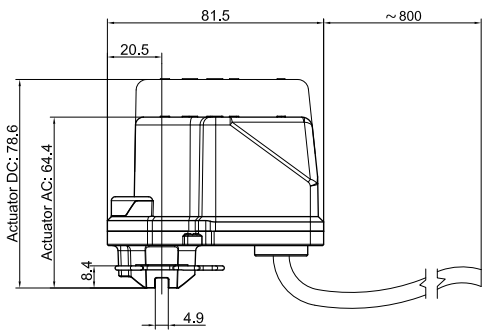
Code	Torque (Nm)	Seconds 90°	Power	Electric control
CP5A2	5	20s	230V AC	2 wires
CP5A3	5	20s	230V AC	3 wires
CP5B2	5	20s	110V AC	2 wires
CP5B3	5	20s	110V AC	3 wires
CP5C2	5	20s	24 V AC	2 wires
CP5C3	5	20s	24 V AC	3 wires
CP5D2	5	5s	24 V DC	2 wires
CP5E2	5	5s	12 V DC	2 wires

Dimensions are in mm:









A BRAND OF BONOMI® INDUSTRIES

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 resistant 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: * note	R = Anti-condensation Resistance
								FO = Failsafe Valve Open
								FC = Failsafe Vavle 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
								B = 110Vac
								C = 24Vac
								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:** Ask for additional information on the whole range of **BONOMI** INDUSTRIES products and consult with your supplier for special applications.

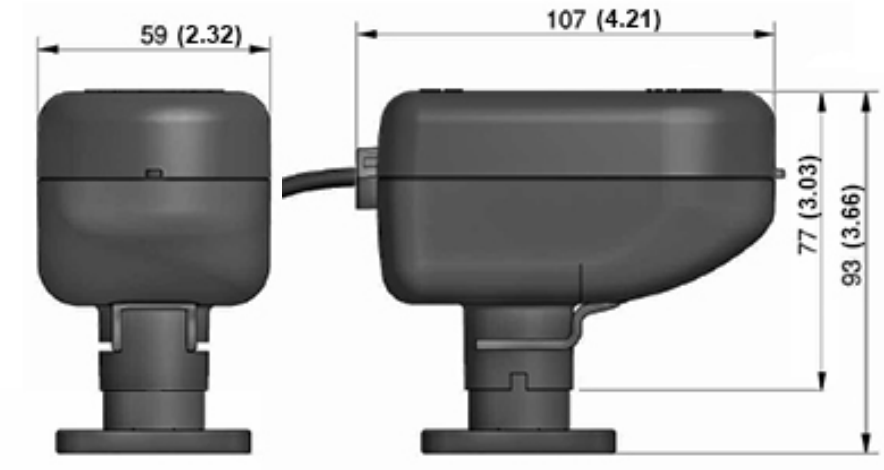
CT1 - 8Nm (70.8 lb-in)

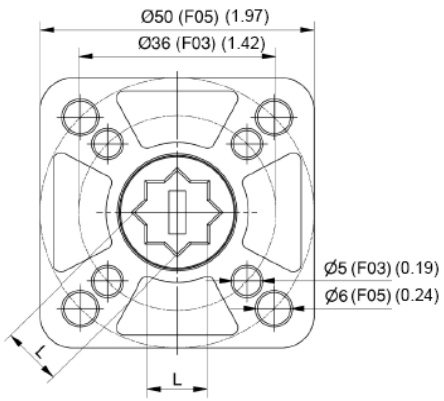
Ordering Codes

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

Note: different running time, modulating models with different input signal and Modbus communication available on request.

Dimensions mm (inches)



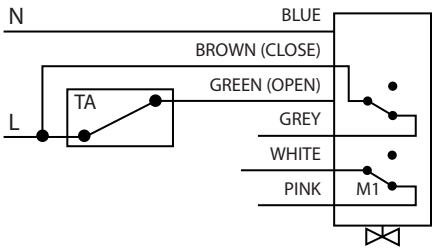


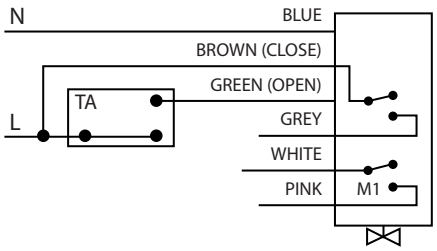
ISO 5211	L
F03	9 with adapter (0.35)
F05	11 (0.43)

Wiring diagrams

Vac models 2 points control

OPEN

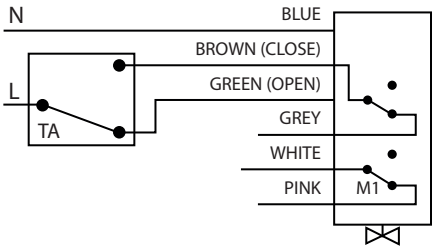


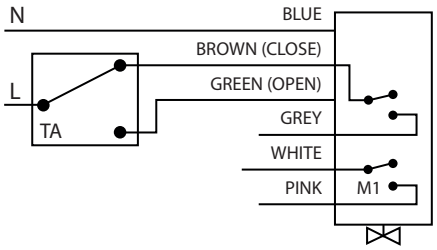


CLOSED

Vac models 3 points control

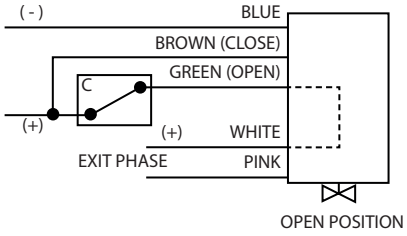
OPEN



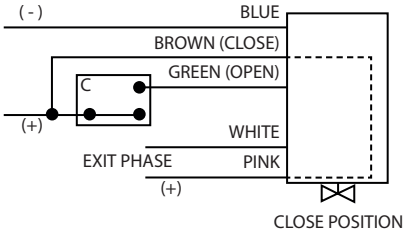


CLOSED

Vdc models 2 points control

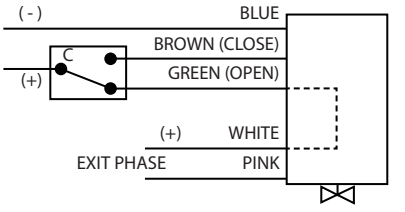


OPEN POSITION

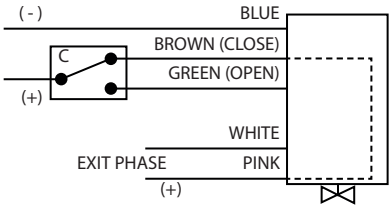


CLOSE POSITION

Vdc models 3 points control

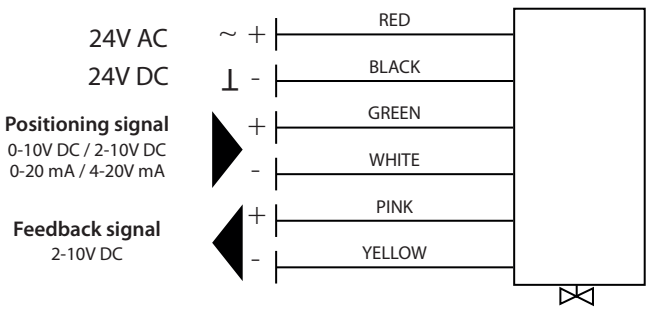


OPEN POSITION



CLOSE POSITION

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°) and related starting torque	45 sec	35 sec	60 sec	60 sec
Absorbed power	3.9 VA		2 VA	3.5 W
Electrical capacity of the additional microswitch	1 A resistive - 250V		Not available	
Maximum noise (1 meter away)	40 dB (A)			
Operating ambient temperature	+5 °C ÷ +50°C (41°F ÷ 122°F)			
Degree of protection	IP 54 (Equivalent to NEMA3)			
Insulation class	⧦ - double insulation ⧈			
Outer shell material	Polyamide PA 6 - 30% glass fibers			
Certification	CE			

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

CT2 - 11Nm (97.3 lb-in)

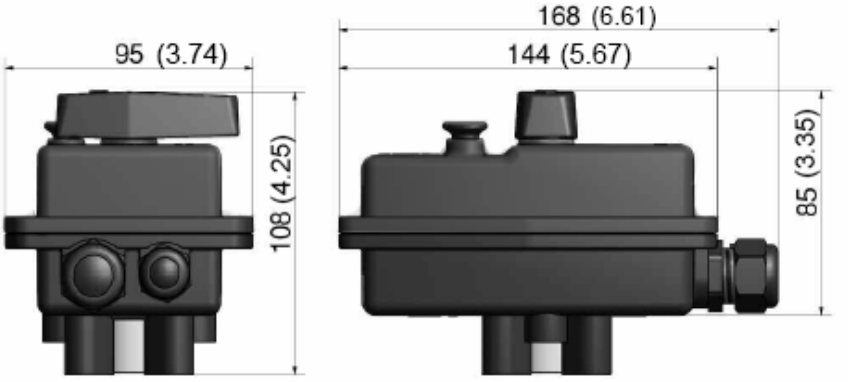
Ordering Codes

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

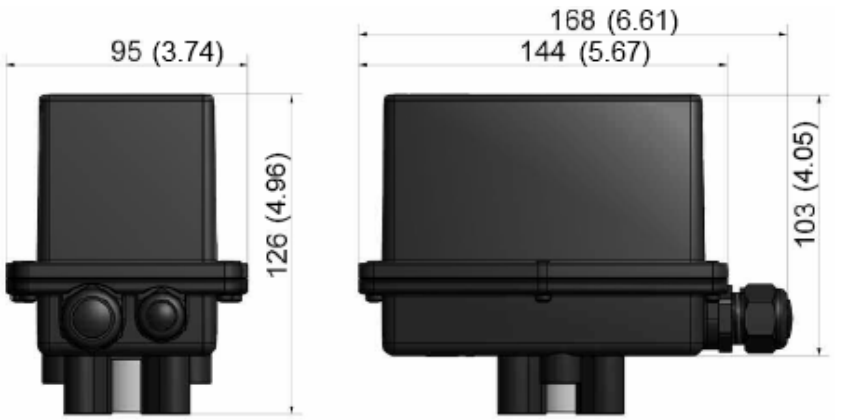
Note: different running time, Vac 60Hz and modulating models available on request.

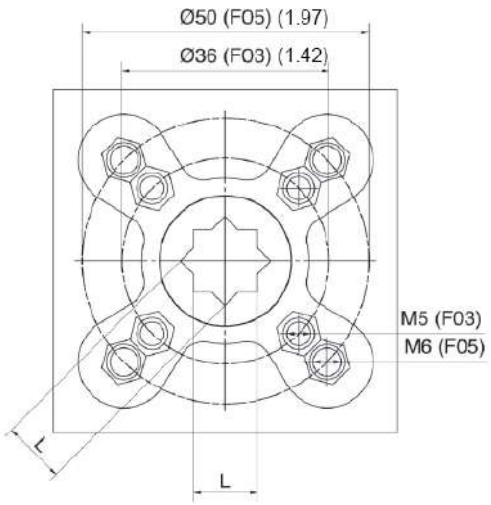
Dimensions mm (inches)

Vac models



Vdc models

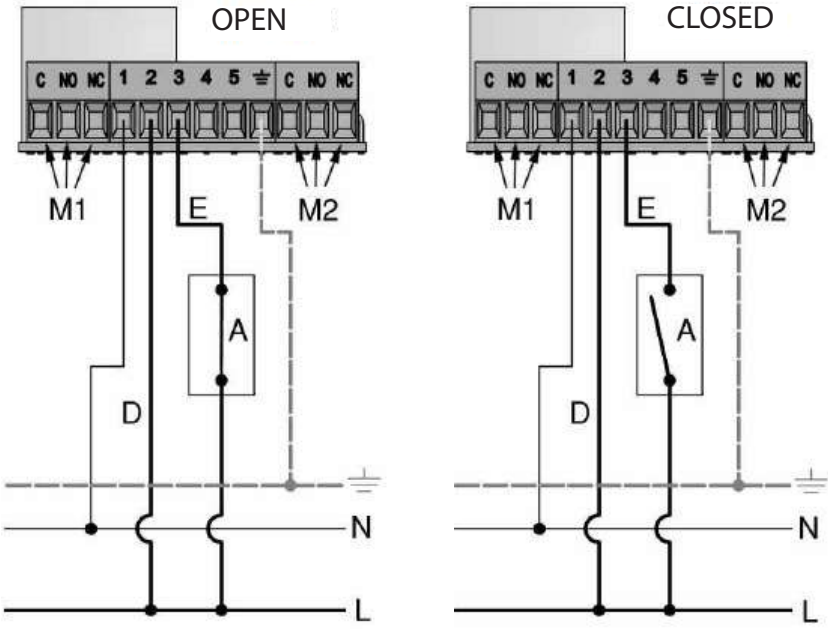


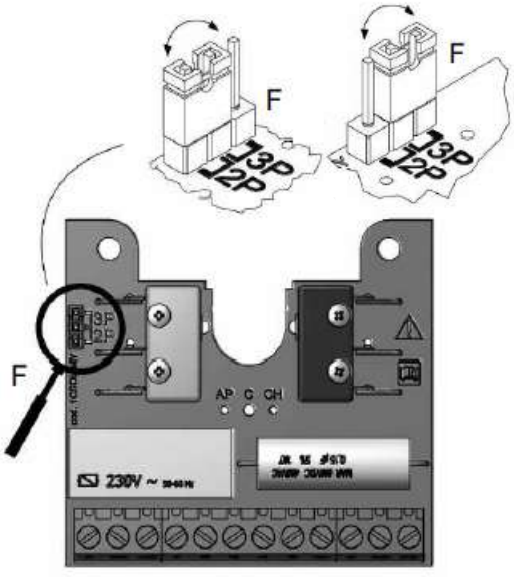


ISO 5211	L
F03	9 with adapter (0.35)
F05	11 (0.43)

Wiring diagrams

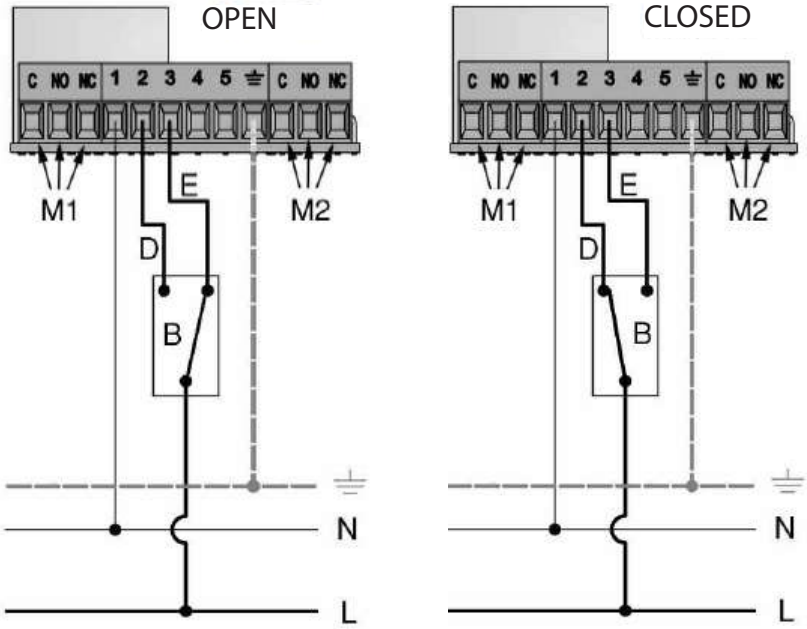
2 points control



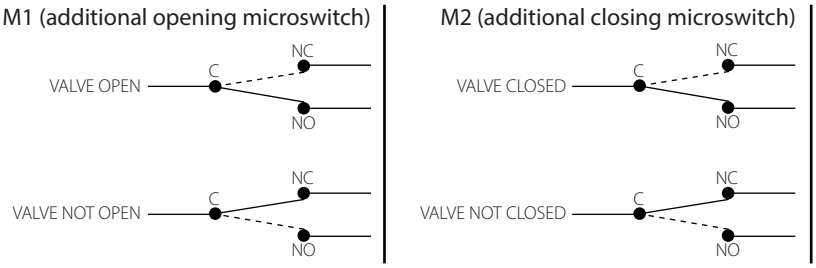


Vac models: Move the jumper to have the desired electrical connection.
Vdc models: No jumper change is needed

3 points control



Auxiliary switches



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 Hz	24Vdc
	110 V - 50 Hz	
	24 V - 50 Hz	12Vdc
Electric connections	Via terminal board inside the actuator	
Operating time (90°)	35 sec	12 sec
Absorbed power	6 VA (230 V - 50Hz version)	0.3A (24Vdc)
	6 VA (110 V - 50Hz version)	
	7.5 VA (24 V - 50Hz version)	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	

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BONOMI INDUSTRIES products and consult with your supplier for special applications.

CT3 - 22Nm (194.7 lb-in)

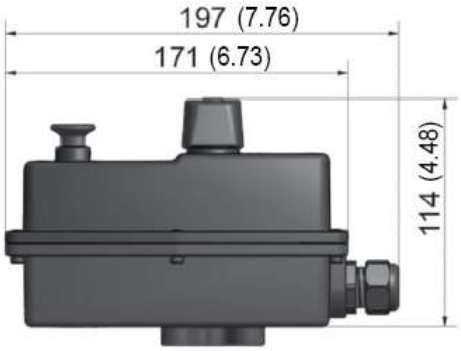
Ordering Codes

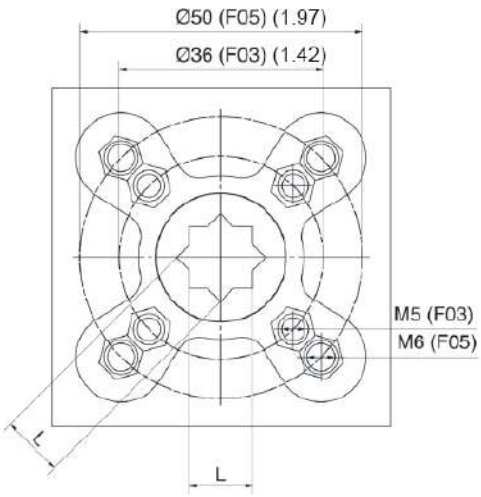
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type
CT3ACM2	230 Vac 50 Hz	2/3 Points	45sec.	2 x Free auxiliary switches
CT3BCM2	110 Vac 50 Hz	2/3 Points	45sec.	
CT3CCM2	24 Vac 50 Hz	2/3 Points	45sec.	
CT3DCN2	24V DC	2/3 Points	30 sec.	

Note: different running time,Vac 60Hz and modulating models available on request.

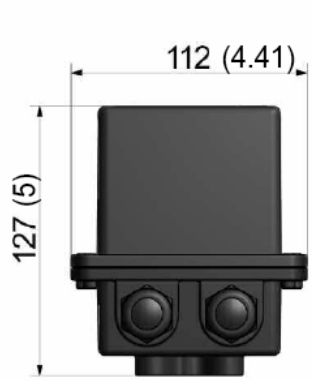
Dimensions mm (inches)

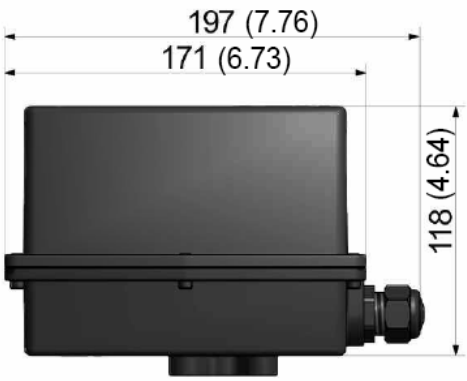
Vac models





Vdc models

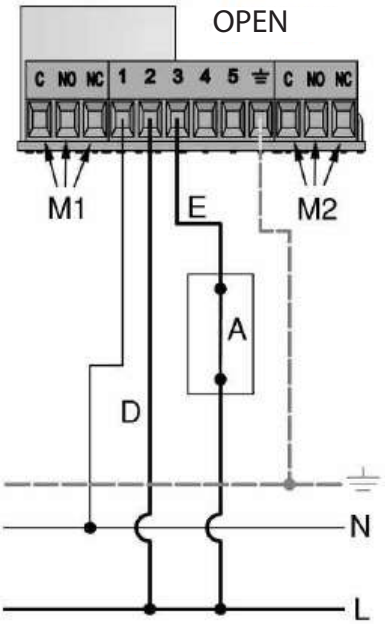


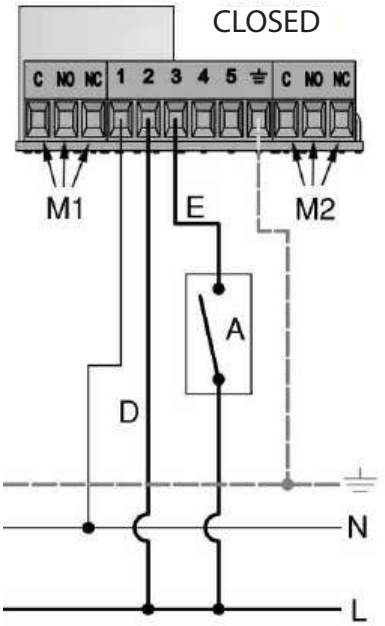


ISO 5211	L
F03	9 with adapter (0.35)
F05	11 (0.43)

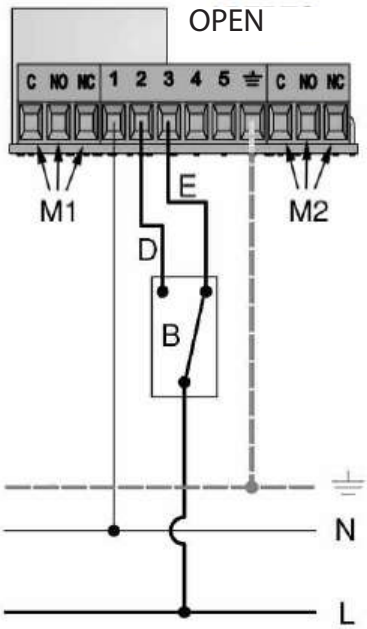
Wiring diagrams

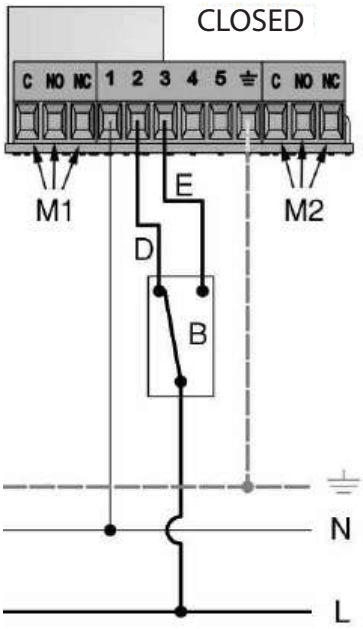
2 points control

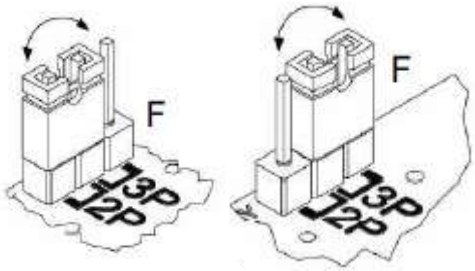


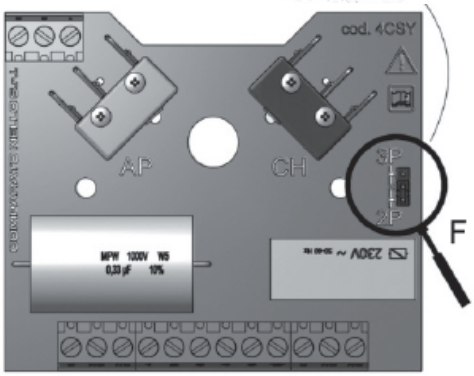


3 points control



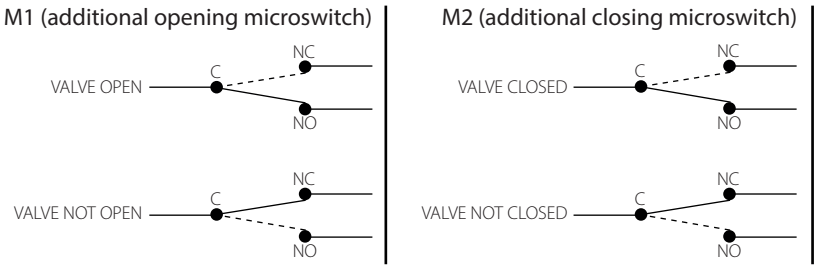






Vac models: Move the jumper to have the desired electrical connection.
Vdc models: No jumper change is needed

Auxiliary switches



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 Hz	24Vdc
	110 V - 50 Hz	
	24 V - 50 Hz	12Vdc
Electric connections	Via terminal board inside the actuator	
Operating time (90°)	45 sec	30 sec
Absorbed power	5 VA (230 V - 50Hz version)	0.25A (24Vdc)
	5 VA (110 V - 50Hz version)	
	6 VA (24 V - 50Hz version)	0.4A (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	

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

CT4 - 40Nm (354 lb-in)

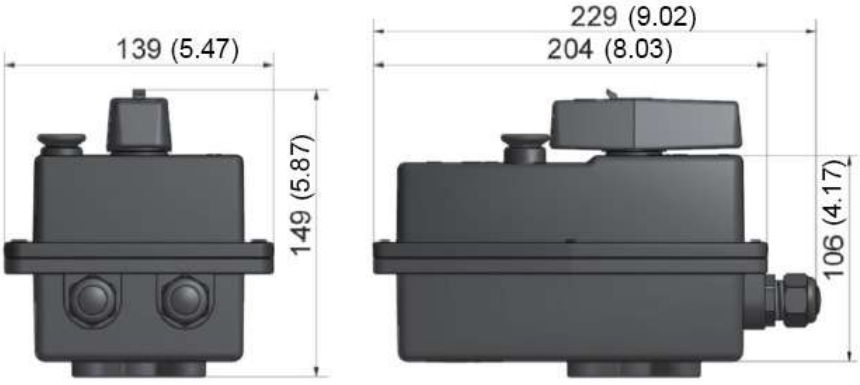
Ordering Codes

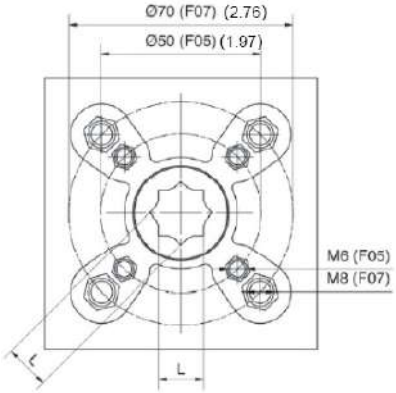
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type
CT4ACM2	230 Vac 50 Hz	2/3 Points	55sec.	2 x Free auxiliary switches
CT4BCM2	110 Vac 50 Hz	2/3 Points	55sec.	
CT4CCM2	24 Vac 50 Hz	2/3 Points	55sec.	

Note: different running time, modulating models with different input signal and Modbus communication available on request.

Dimensions mm (inches)

Vac models

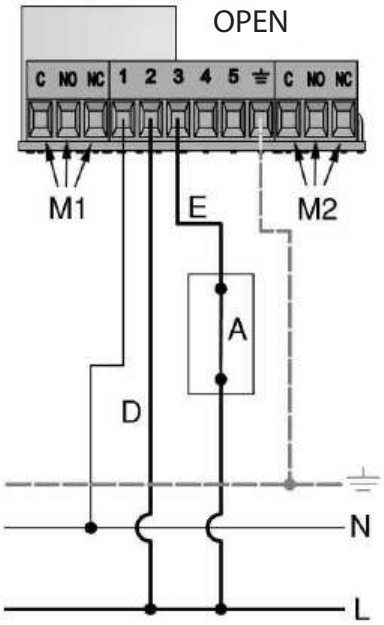


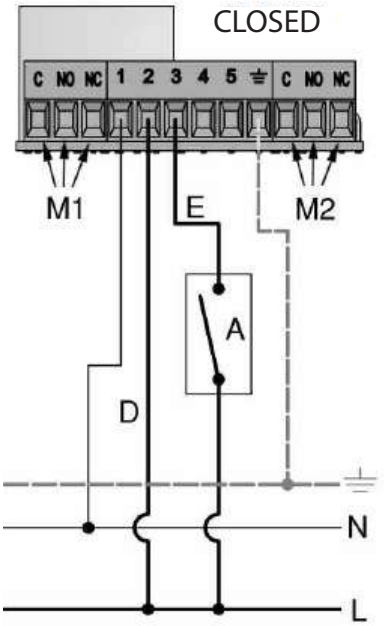


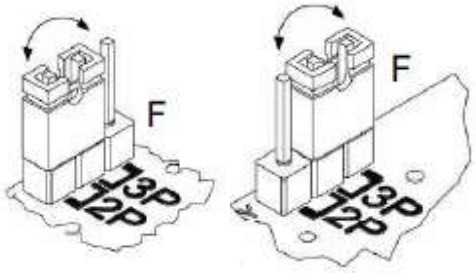
ISO 5211	L
F05	11 with adapter (0.43)
F07	14 (0.55)

Wiring diagrams

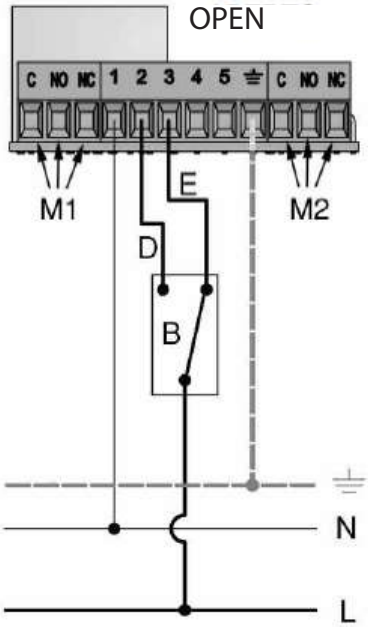
2 points control

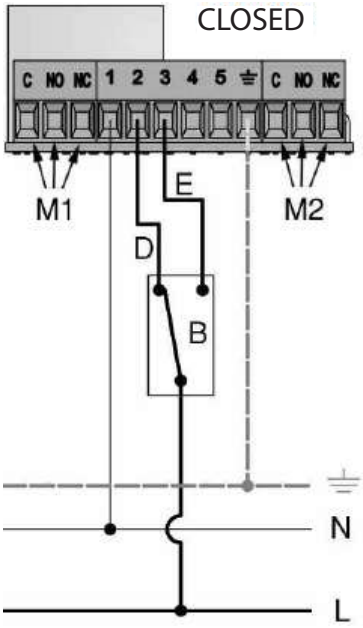


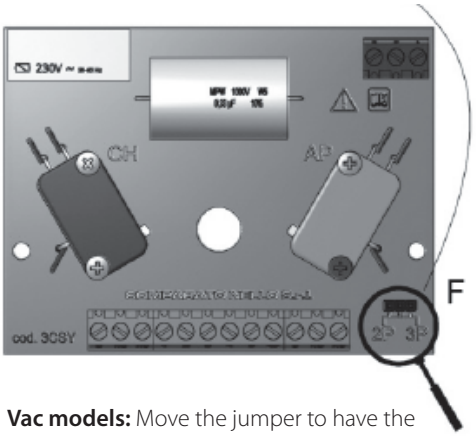




3 points control

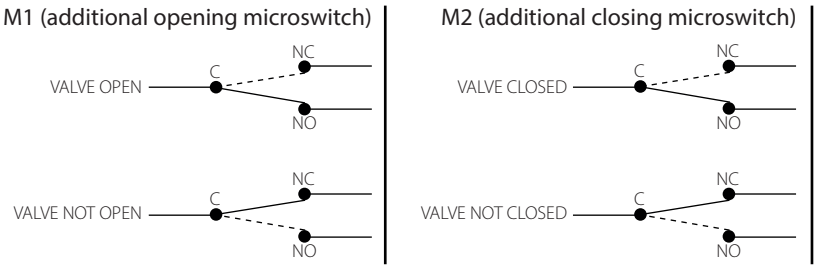






Vac models: Move the jumper to have the desired electrical connection.

Auxiliary switches



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
Maximum absorbed power (standard version 55sec)	13 VA (230 V - 50Hz version)
	11 VA (110 V - 50Hz version)
	12 VA (24 V - 50Hz version)
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

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BONOMI INDUSTRIES products and consult with your supplier for special applications.

Super capacitors electronic Fail Safe actuators

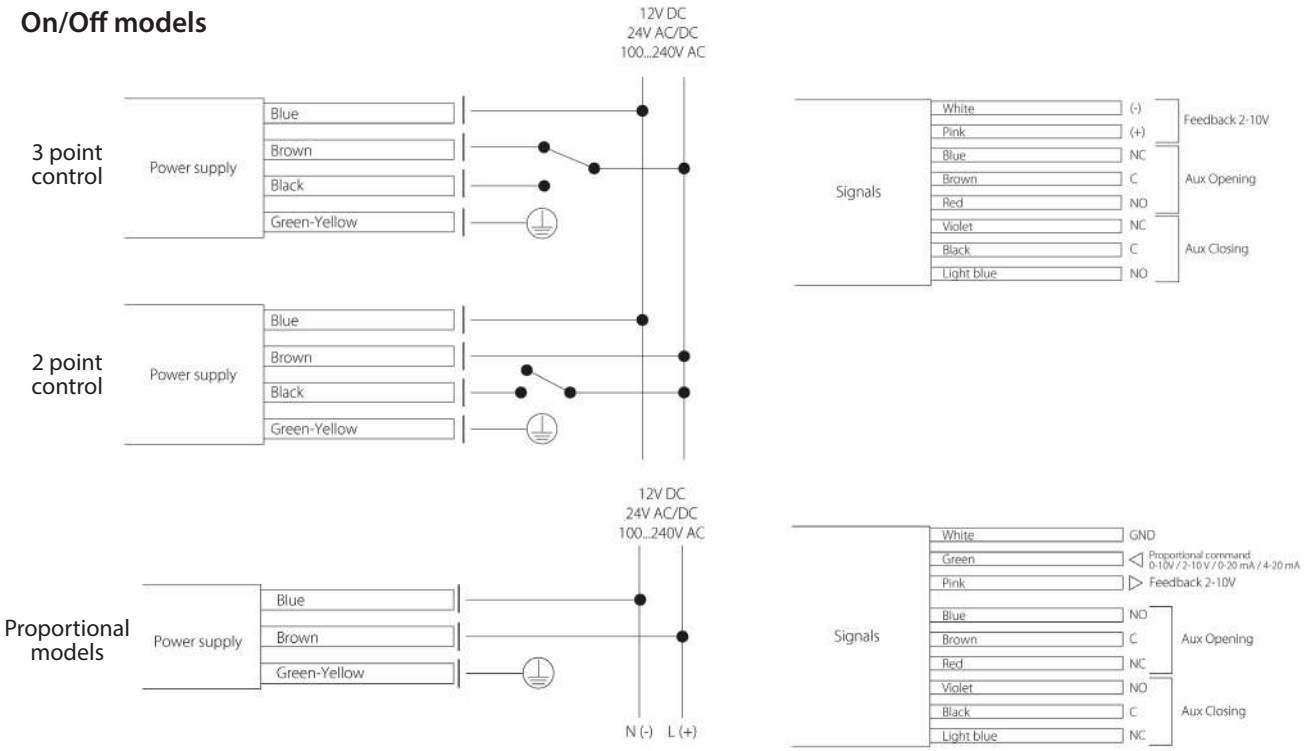
Using the SuperCaps technology the CT2, CT3 and CT4 actuators can store the necessary energy to drive open or close the valve in a safety position during an electrical power supply interruption.
Fail safe open or close position in valves is crucial to prevent serious damages in critical applications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

Technical specification - Fail safe Models

	CT2	CT3	CT4
Available power supply	12Vdc - 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



Proportional models

A BRAND OF BONOMI® INDUSTRIES

EA PNEUMATIC ACTUATOR

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

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

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

Actuators are designed in compliance with the following standards:

- ISO 5211 - Actuator to Valve Interface Standard
- DIN 3337 - 45° Orientation of the Square Drive Shaft
- VDI/VDE 3845 - Standard for Namur mounting of accessories (switchboxes, solenoid valves, positioners)
- ATEX - Explosive Atmosphere Directive (94/9/CE)
- 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

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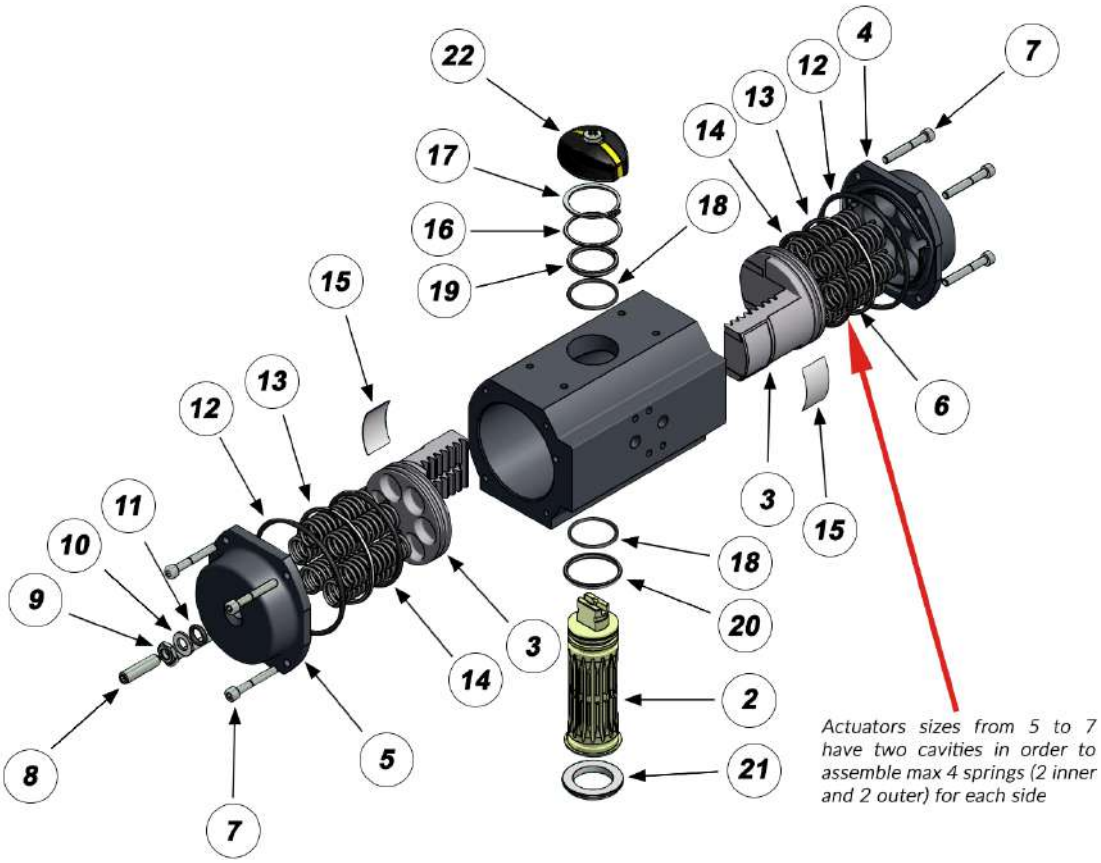
BONOMI INDUSTRIES products and consult with your supplier for special applications.

Auxiliary switches Code	Description
EA2-LS	Auxiliary switches box

Construction and materials:



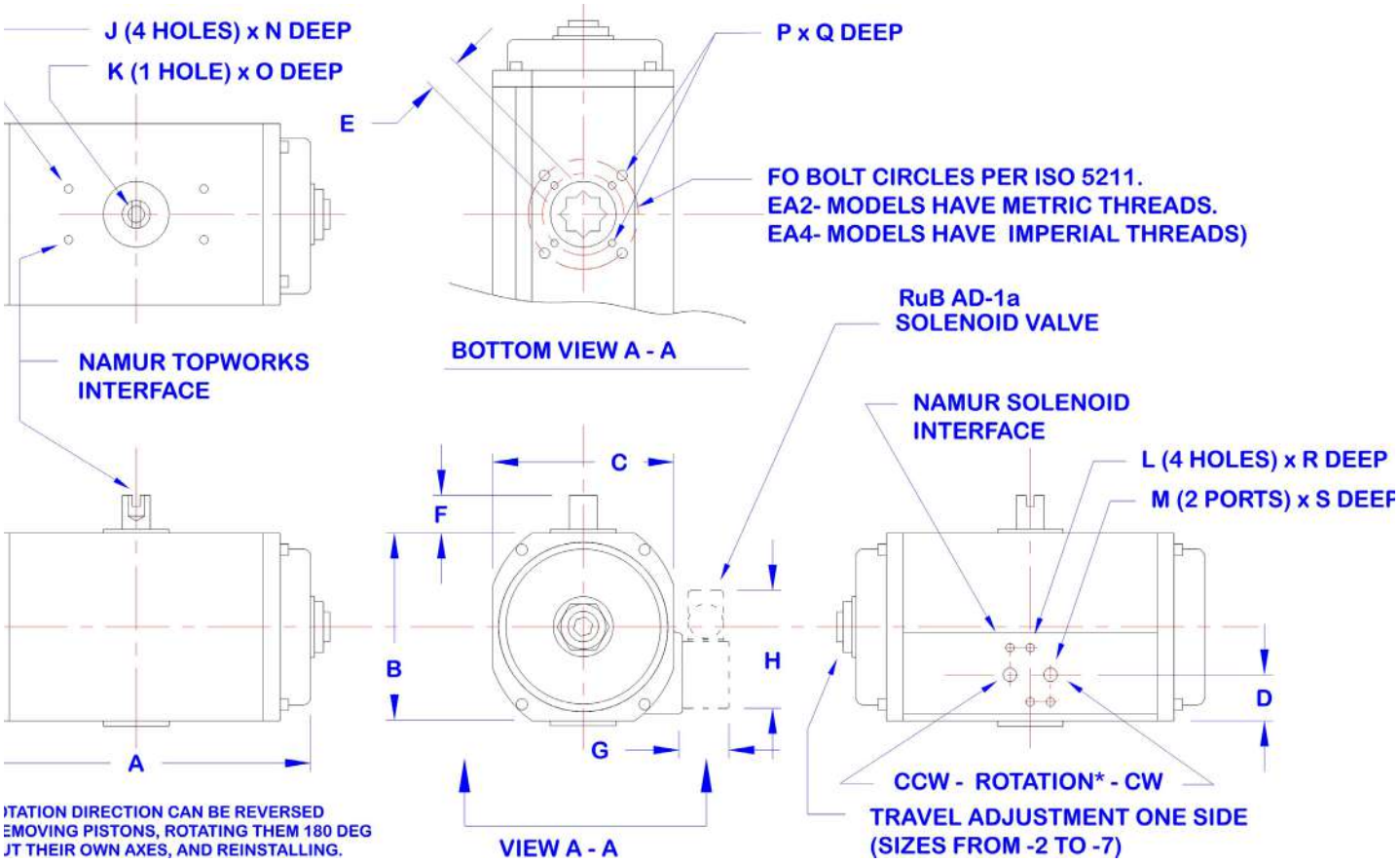
Bill of materials

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
1	F03	103	45	51	22,5	9	20	26	67	M5	M6	M5	G1/8	5	12	M5	8	8	7
2	F03/05	150	70	70	23	9	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10
2A	F03/05	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10
2B	F04	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10
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
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
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
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
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

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	Springs		Spring stroke		Air pressure supply (bar)								Air pressure supply (bar)							
EA2-	total	outer	inner	end	start	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
	8	4	4	78.6	43.2			58.9	79.3	99.7	120.1	140.6	161.0			23.5	43.9	64.3	84.7	105.2	125.6
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
	8	4	4	130.2	71.6			96.7	130.3	164.0	197.6	231.3	264.9			38.1	71.7	105.4	139.0	172.7	206.3
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							
	Air pressure supply (PSI)						
EA4-	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																								
						air stroke - start									air stroke - end									
	Springs	Springs		Spring Torque		Air pressure supply (PSI)									Air pressure supply (PSI)									
EA4-	total	outer	inner	end	start	40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120
2	2			12	23	84	108	133	157	181	205	229	253	277	73	97	121	145	169	193	218	242	266
	3			18	35	78	103	127	151	175	199	223	247	271	62	86	110	134	158	182	206	230	254
	4			24	46	73	97	121	145	169	193	217	241	265	50	74	98	122	146	170	194	218	242
	5			30	58	67	91	115	139	163	187	211	235	259	38	82	86	111	135	159	183	207	231
	6			36	70		85	109	133	157	181	205	229	253		51	75	99	123	147	171	195	219
	7			41	81		79	103	127	151	175	199	223	247		39	63	87	111	135	160	184	208
	8			47	93			97	121	145	169	193	217	241			52	76	100	124	148	172	196
	9			53	104				115	139	163	187	211	235				84	88	112	136	160	185
	10			59	116				109	133	157	181	205	230				53	77	101	125	149	173
	11			65	127					127	151	175	200	224					65	89	113	137	161
	12			71	139						145	170	194	218						78	102	126	150
3	2			27	48	180	231	283	334	386	436	489	541	592	158	210	261	313	364	416	488	519	571
	3			40	72	166	218	270	321	373	424	476	528	579	134	186	237	289	340	392	444	495	547
	4			53	96	153	205	256	308	360	411	463	514	566	110	162	213	265	316	388	419	471	523
	5			66	120	140	192	243	295	346	398	449	501	553	86	138	189	241	292	344	395	447	499
	6			80	144		178	230	281	333	385	436	488	539		113	165	217	268	320	371	423	475
	7			93	188		165	217	268	320	371	423	474	526		89	141	193	244	296	347	399	450
	8			106	193			203	255	306	358	410	461	513			117	169	220	272	323	375	426
	9			119	217				242	293	345	396	448	499				144	196	248	299	351	402
	10			133	241				228	280	331	383	435	486				120	172	224	275	327	378
	11			146	265					267	318	370	421	473					148	199	251	303	354
	12			159	289						305	356	408	460						175	227	279	330
4	2			59	91	354	457	560	663	766	869	972	1076	1179	322	425	528	631	735	838	941	1044	1147
	3			89	136	324	427	530	633	737	840	943	1046	1149	277	380	483	586	689	792	896	999	1102
	4			118	181	294	398	501	604	707	810	913	1016	1120	231	335	438	541	644	747	850	953	1057
	5			148	227	265	368	471	574	677	781	884	987	1090	186	289	392	496	599	702	805	908	1011
	6			177	272		338	442	545	648	751	854	957	1061		244	347	450	553	657	760	863	966
	7			207	317		309	412	515	618	722	825	928	1031		199	302	405	508	611	714	818	921
	8			236	362			382	486	589	692	795	898	1001			257	360	463	566	669	772	875
	9			266	408				466	559	662	766	869	972				314	418	521	624	727	830
	10			296	453				427	530	633	736	839	942				269	372	475	579	682	785
	11			325	498					500	603	706	810	913					327	430	533	636	740
	12			355	544						574	677	780	883						385	488	591	694
5	4	4	0	255	464		368	493	617	742	866	991	1115	1240		159	284	408	533	657	782	907	1031
	5	4	1	287	522			461	585	710	834	959	1083	1208			226	350	475	599	724	849	973
	6	4	2	319	580			429	553	678	803	927	1052	1176			168	292	417	541	666	791	915
	7	4	3	350	637				522	646	771	895	1020	1144				234	359	484	608	733	857
	8	4	4	382	695					614	739	863	988	1112					301	426	550	675	799
6	4	4	0	422	769		604	810	1015	1220	1426	1631	1836	2042		259	464	669	874	1080	1285	1490	1696
	5	4	1	475	864			757	962	1168	1373	1578	1783	1989			368	573	778	984	1189	1394	1600
	6	4	2	528	960			704	909	1115	1320	1525	1731	1936			272	477	682	888	1093	1298	1504
	7	4	3	581	1056				856	1062	1267	1472	1678	1883				381	586	792	997	1202	1408
	8	4	4	634	1152				804	1009	1214	1420	1625	1830				285	490	696	901	1106	1312
7	4	4	0	782	1423		1120	1500	1881	2261	2642	3022	3403	3783		479	860	1240	1621	2.001	2382	2762	3143
	5	4	1	880	1601		1022	1403	1783	2164	2544	2924	3305	3685		302	682	1063	1443	1823	2.204	2584	2965
	6	4	2	978	1778			1305	1685	2.066	2446	2827	3207	3588			504	885	1265	1646	2026	2406	2787
	7	4	3	1075	1956			1207	1568	1968	2349	2729	3109	3490			326	707	1087	1468	1648	2229	2609
	8	4	4	1173	2134				1490	1870	2251	2631	3012	3392				529	909	1290	1670	2051	2431
9	4	4	0	1726	3133			3282	4116	4951	5785						1877	2712	3548	4383			
	6	4	2	2151	3921			2858	3692	4527	5362						1098	1935	2771	3607			
	7	4	3	2372	4310				3472	4306	5141							1538	2374	3209			
	8	4	4	2584	4699					4095	4929								1986	2821			
10	4	4	0	2345	4266			4470	5606	6742	7878						2554	3690	4827	5964			
	6	4	2	2929	5337			3881	5016	6151	7286						1485	2622	3759	4896			
	7	4	3	3230	5868				4723	5860	6996							2093	3230	4367			
	8	4	4	3522	6399					5568	6705								2700	3838			
12	6			5363	8284			10711	13391	16070	18749						7797	10477	13158	15838			
	8			7151	11045			8928	11607	14287	16967						5042	7723	10404	13085			
	10			8939	13806				9824	12505	15185							4969	7651	10333			
	12			10726	16567					10722	13403								4898	7581			

A BRAND OF BONOMI® INDUSTRIES

s.31 Mini Valve

direct mount
1/4" - 3/4" reduced port
hot forged brass ball valves

Technical data:

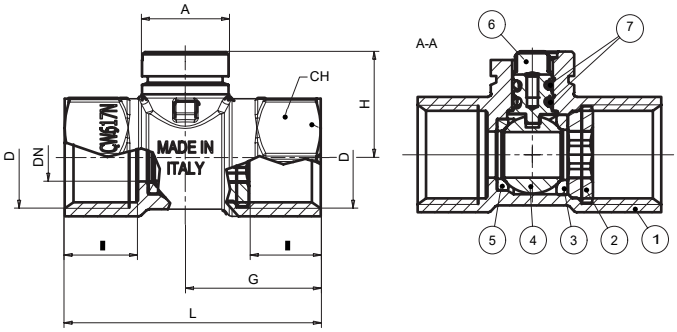
Working Pressure: 40 Bar (600 PSI) non-shock cold working pressure
Working Temperature: -20°C / +120°C (-4°F / +250°F)
Threads: • ISO 7/1, BS 21 BSPT taper threads
• NPT taper ANSI B.1.20.1 threads

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

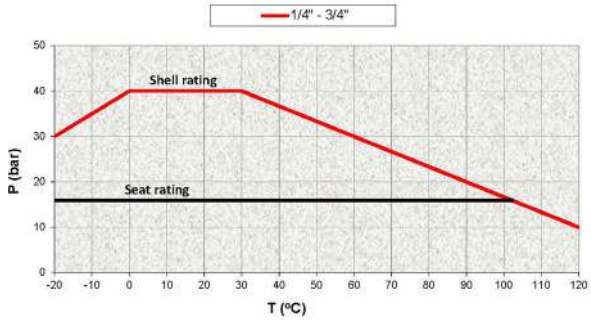
Dimensions:

Code	AV31BF3	AV31CF3	AV31DF3	AV31EF3
D (inch)	1/4"	3/8"	1/2"	3/4"
dn (mm)	8	10	10	12.7
I (mm)	12	12	15.5	17
G (mm)	24	23.8	25.5	29
L (mm)	45.5	45.5	54	61.5
E (mm)	72.5	72.5	72.5	75.5
H (mm)	88.5	88.5	88.5	91.5
B (mm)	20.5	20.5	20.5	20.5
A (mm)	81.5	81.5	81.5	81.5
C (mm)	74.5	74.5	74.5	74.5
N (mm)	85	85	85	91
M (mm)	99.5	99.5	100	105.5
CH (mm)	25	25	25	31
F (mm)	800	800	800	800
Kv (m^3/h)	5.8	9.5	9.5	25.4

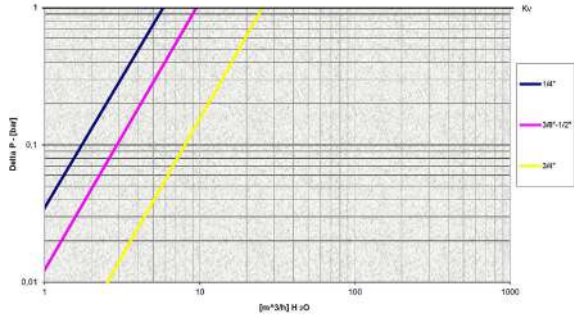


	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Unplated retainer nut	1	CW617N
3	Retainer seat	1	PTFE
4	Chrome plated ball	1	CW617N
5	Body seat	1	PTFE
6	Unplated stem O-Ring design	1	CW617N
7	O-Ring	2	FPM

Pressure-temperature chart



Pressure drop chart



Valve			AV31BF3	AV31CF3	AV31DF3	AV31EF3
Valve Size			1/4"	3/8"	1/2"	3/4"
COMPACT POWER electric actuator line	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					

Torque for actuator sizing Nm

ΔP →	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.

A BRAND OF BONOMI® INDUSTRIES

s.6400

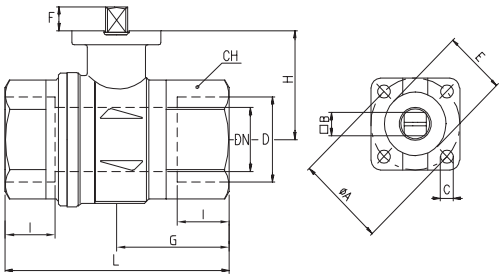
1/2"- 2" full port
hot forged brass ball valve

Technical data:

Working Pressure: 40 Bar (600 PSI) up to 2", non-shock cold working pressure
Working Temperature: -20°C / +170°C (-4°F / +338°F)
Threads: EN 10226-1, ISO 228 parallel female by female threads

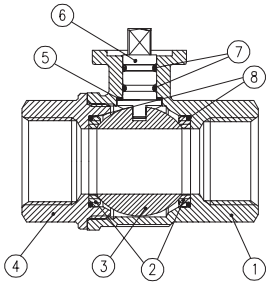
Dimensions:

Code	S64D00	S64E00	S64F00	S64G00	S64H00	S64I00
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	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



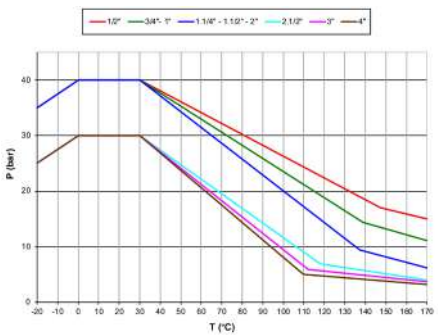
Features:

- 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

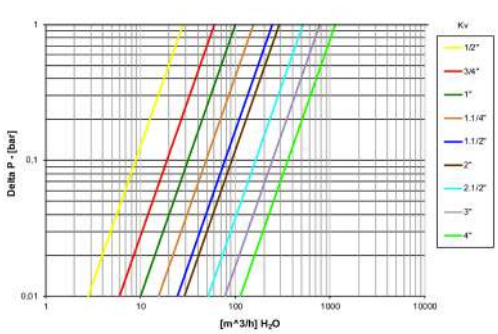


	Part description	Qty	Material
1	Nickel plated body	1	CW617N
2	Ball seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Nickel plated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM

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"
EA PNEUMATIC ACTUATOR	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	
COMPACT POWER electric actuator line	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

ΔP -->	0 ÷ 15 Bar		40 Bar	
Valve Size	to open	to close	to open	to close
1/2"	2,8	1,7	2,8	1,7
3/4"	3,8	2,3	3,8	2,3
1"	7,1	4,2	7,1	4,2
1 ¼"	11,7	12,6	13,6	12,6
1 ½"	24,9	20,3	30,9	20,3
2"	29,6	25,1	37	25,1

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

A BRAND OF BONOMI® INDUSTRIES

s.84 AM

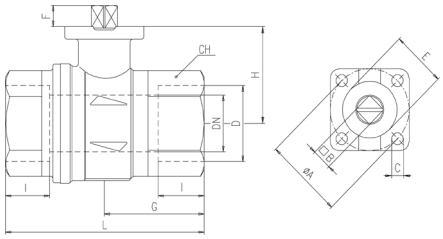
full port 2 ½"-4"
hot forged brass ball valve

Technical data:

Working Pressure: 30 bar (435 PSI), non-shock cold working pressure
Working Temperature: -20°C / +170°C (-4°F/ +338°F)
Threads: EN 10226-1, ISO 228 parallel female by female threads

Dimensions:

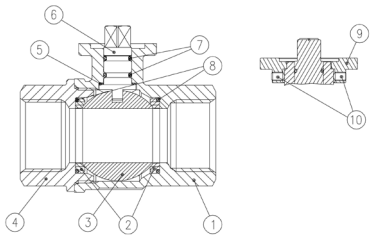
Code	S84L00AM	S84M00AM	S84N00AM
D (inch)	2 ½"	3"	4"
DN (mm)	65	80	100
I (mm)	32	35	41.5
L (mm)	156	177	216
G (mm)	78	88.5	108
H (mm)	89	96	111
CH (mm)	85	99	125
ØA (mm)	70	70	70
B (mm)	17	17	17
C (mm)	8.5	8.5	8.5
E (mm)	55	55	55
F (mm)	18	18	18
Flange connection DIN ISO 5211 DIN 3337	F07	F07	F07
Kv (m3/h)	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.

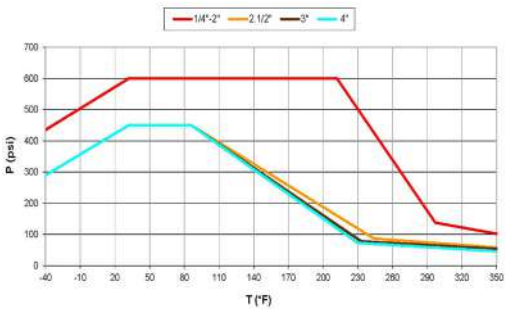
Features:

- 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

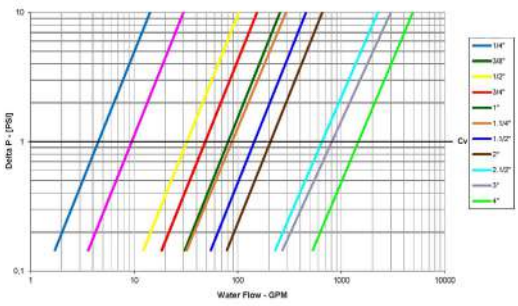


	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM
9	Black anodized flange (only from 2 ½" to 4")	1	Aluminum
10	Grub screw (only from 2 ½" to 4")	2	CB4FF

Pressure-temperature chart



Pressure drop chart



Valve			S84L00AM	S84M00AM	S84N00AM
Valve Size			2 ½	3"	4"
EA PNEUMATIC ACTUATOR	Double acting pneumatic actuator	Actuator	EA2-5		EA2-6
		Linkage	LK15		
		Valve-Actuator Combination	EA5D84L00AM	EA5D84M00AM	EA6D84N00AM
	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.

Torque for actuator sizing Nm

ΔP -->	0 ÷ 15 Bar		40 Bar	
Valve Size	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.

A BRAND OF BONOMI® INDUSTRIES

k.6405

actuator mounting
hot forged 1/2" – 2"
full port brass ball valve

Technical data:

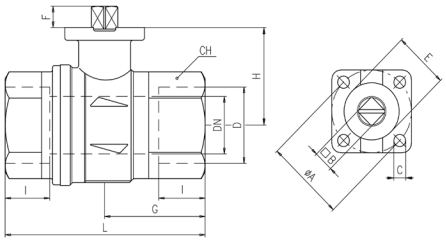
Working Pressure: 40 Bar (600 PSI) non-shock cold working pressure
Working Temperature: -40°C / +170°C (-40°F / +338°F)
Threads: EN 10226-1, ISO 228 parallel female by female threads

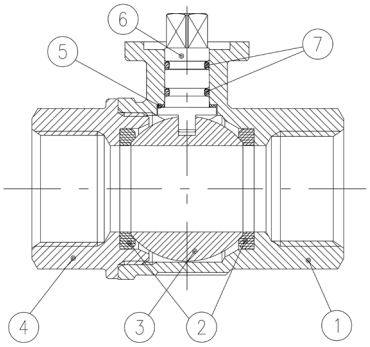
Features:

- 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

Dimensions:

Code	S64D05	S64E05	S64F05	S64DG05	S64H05	S64I05
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	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

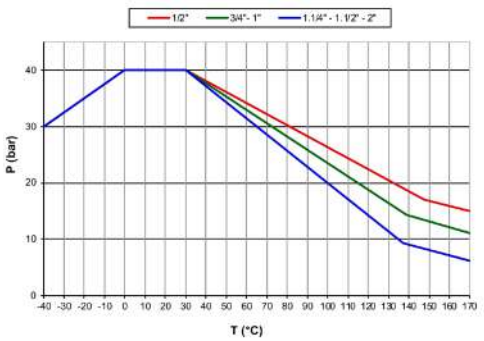




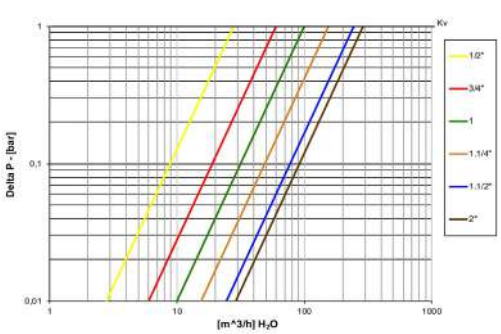
	Part description	Qty	Material
1	Nickel plated body	1	CW617N
2	Ball seat	2	PTFE
3	Chrome plated ball	1	CW617N
4	Nickel plated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM

Ball valves are marked CE on body from 1 ¼" to 2" as follow:
CE 1115 cat IIIB+D PS: 5 GAS TS1: -20°C TS2: +60°C

Pressure-temperature chart



Pressure drop chart



Valve			S64D05	S64E05	S64F05	S64G05	S64H05	S64I05
Valve Size			1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
EA PNEUMATIC ACTUATOR	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
CT line electric actuator	Actuator Model		CT1 - 8Nm		CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm	
COMPACT POWER electric actuator line	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.

Torque for actuator sizing Nm

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

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

A BRAND OF BONOMI® INDUSTRIES

s.6400 LT

actuator mounting
full port 1" - 2"
hot forged brass ball valve

Technical data:

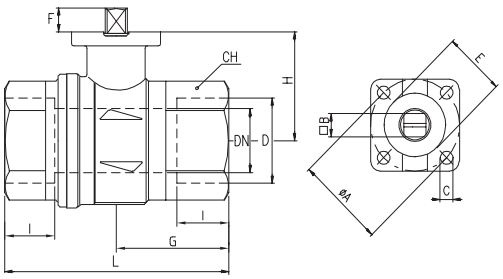
Working Pressure: Shell rating: 40 Bar (600 PSI) non-shock cold working pressure | Seat rating: ΔP max permissible 16 Bar (230 PSI)
Working Temperature: -20°C / +170°C (-4°F / +338°F)
Threads: EN 10226-1, ISO 228 parallel female by female threads

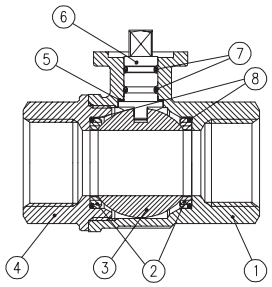
Features:

- 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

Dimensions:

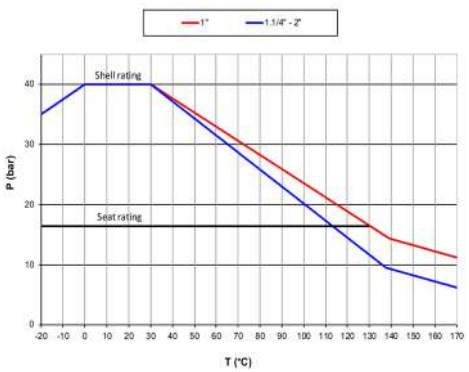
Code	S64F00A	S64G00A	S64H00A	S64I00A
D (inch)	1"	1 ¼"	1 ½"	2"
DN (mm)	25	32	40	50
I (mm)	21	23	24,5	26,5
L (mm)	90	110	120	140
G (mm)	45,5	52	59	67,5
H (mm)	42,5	49,5	62	69
CH (mm)	41	50	55	70
ØA (mm)	36	36	50	50
B (mm)	9	9	11	11
C (mm)	5,6	5,6	6,6	6,6
E (mm)	25	25	35	35
F (mm)	8,5	8,5	10	10
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F05	F05
Kv (m3/h)	100	155	245	290



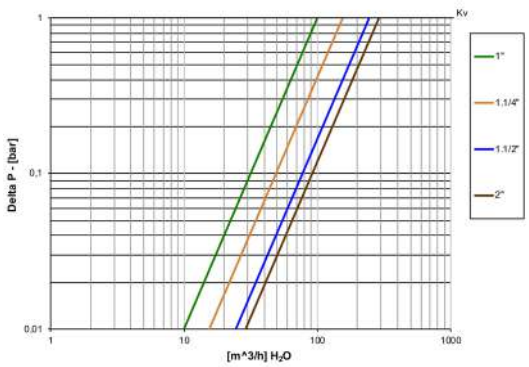


	Part description	Qty	Material
1	Nickel plated body	1	CW617N
2	Ball seat	2	PTFE carbo-graphite filled
3	Chrome plated ball	1	CW617N
4	Nickel plated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM

Pressure-temperature chart



Pressure drop chart



Valve			S64F00A	S64G00A	S64H00A	S64I00A
Valve Size			1"	1 ¼"	1 ½"	2"
EA PNEUMATIC ACTUATOR	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

COMPACT POWER electric actuator line	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	
Valve Size	to open	to close	to open	to close
1"	2,2	2,2	3,5	3,5
1 ¼"	2,5	2,5	4	4
1 ½"	5,8	5,8	9,5	9,5
2"	7,9	7,9	13	13

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

A BRAND OF BONOMI® INDUSTRIES

s.6441 NPT brass trim

full port 1/2" - 2"
hot forged brass ball valve

Technical data:

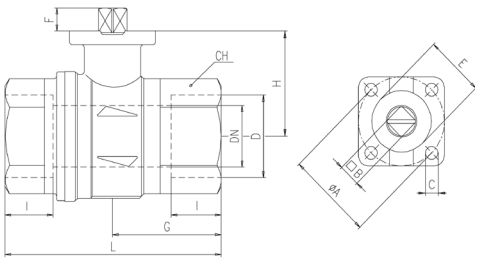
Working Pressure: 600 PSI (40 bar) up to 2" non-shock cold working pressure
Working Temperature: -4°F / +350°F (-20°C / +177°C)
Threads: NPT taper ANSI B.1.20.1 female by female threads

Features:

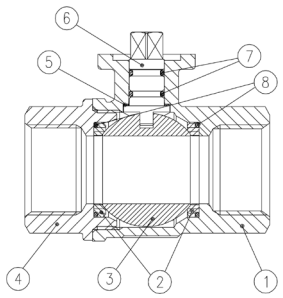
- 24h 100% seal test guaranteed
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life

Dimensions:

Code	S64D41	S64E41	S64F41	S64DG41	S64H41	S64I41
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	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



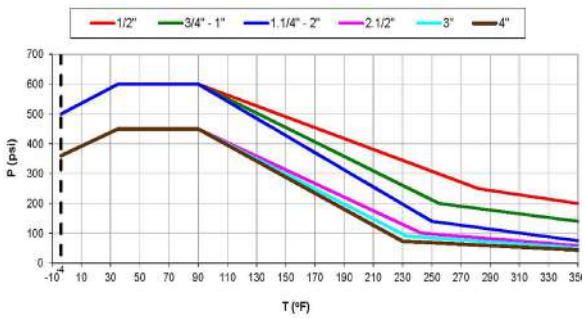
Ball seats and stem configuration of valves over 2" is different.



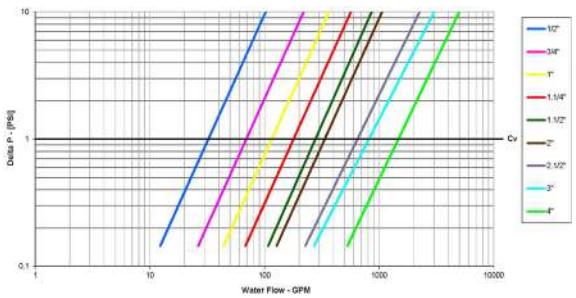
Valves configuration up to 2"

	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-temperature chart



Pressure drop chart



Valve			S64D41	S64E41	S64F41	S64G41	S64H41	S64I41
Valve Size			1/2"	3/4"	1"	1 ¼"	1 ½"	2"
EA PNEUMATIC ACTUATOR	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
CT line electric actuator	Actuator Model		CT1 - 8Nm			CT2 - 11Nm	CT4 - 40Nm	
COMPACT POWER electric actuator line	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.

Torque for actuator sizing in-lb

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

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

A BRAND OF BONOMI® INDUSTRIES

s.95 NPT

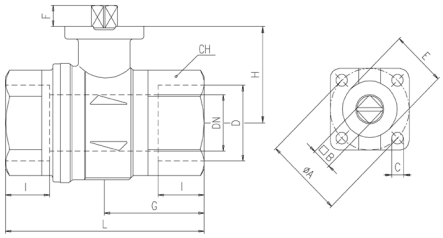
full port 2 ½"-4"
hot forged brass ball valve

Technical data:

Working Pressure: 450 PSI (30 bar) over 2" non-shock cold working pressure
Working Temperature: -40°F /+350°F (-20°C / +177°C)
Threads: NPT taper ANSI B.1.20.1 female by female threads

Dimensions:

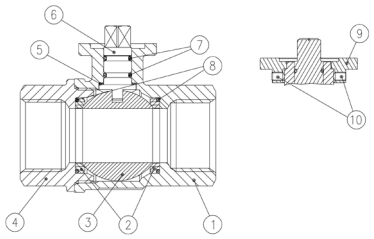
Code	S95L41AM	S95M41AM	S95N41AM
D (inch)	2 ½"	3"	4"
DN (inch)	2,559	3,150	3,937
I (inch)	1,260	1,378	1,634
L (inch)	6,142	6,969	8,504
G (inch)	3,071	3,484	4,252
H (inch)	3,502	3,779	4,366
CH (inch)	3,346	3,898	4,921
ØA (inch)	2,756	2,756	2,756
B (inch)	0,669	0,669	0,669
C (inch)	0,335	0,335	0,335
E (inch)	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.

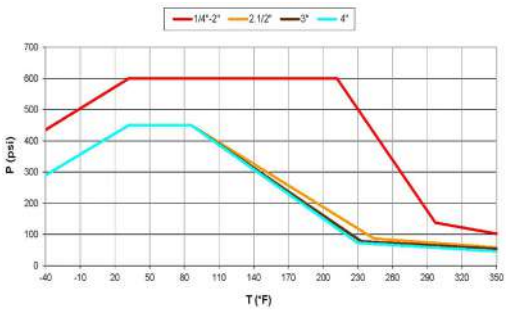
Features:

- 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

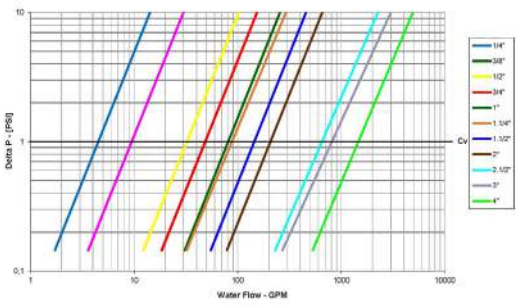


	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM
9	Black anodized flange (only from 2 ½" to 4")	1	Aluminum
10	Grub screw (only from 2 ½" to 4")	2	CB4FF

Pressure-temperature chart



Pressure drop chart



Valve			S95L41AM	S95M41AM	S95N41AM
Valve Size			2 ½"	3"	4"
EA PNEUMATIC ACTUATOR	Double acting pneumatic actuator	Actuator	EA2-5		EA2-6
		Linkage	LK15		
		Valve-Actuator Combination	EA5D95L41AM	EA5D95M41AM	EA7D95N41AM
	Spring return pneumatic actuator	Actuator	EA2-5	EA2-6	EA2-7
		Linkage	LK15		LK22
		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.

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 200 PSI		600 PSI	
Valve Size	to open	to close	to open	to close
2 ½"	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.

A BRAND OF BONOMI INDUSTRIES

Puri T.264

full port 1/2" – 1 ½"
hot forged lead free brass ball valve

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

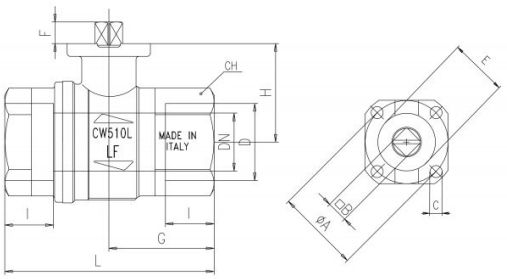
Technical data:

Working Pressure: 600 PSI (40 bar) up to 3/4" size,
For 1" size up to 1 ½" 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/+350°F (-20°C / +177°C)
Threads: NPT taper ANSI B.1.20.1 female by female threads

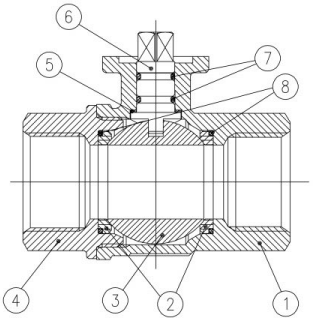
Dimensions:

Code	T264D41	T264E41	T264F41	T264G41	T264H41
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"
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



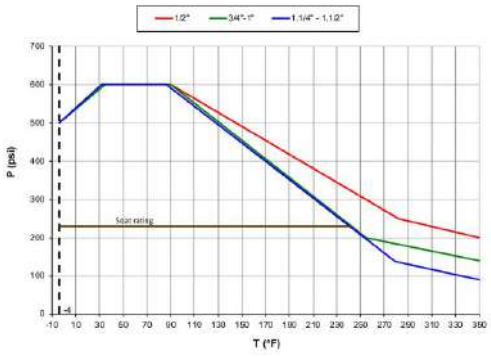
Features:

- 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

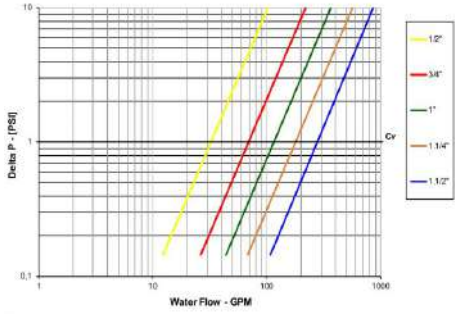


	Part description	Qty	Material
1	Unplated NPT body	1	CW510L
2	Ball seat	2	PTFE graphite filled 15% up to 3/4" size, PTFE carbographite filled over 3/4" size
3	Chrome plated ball	1	CW510L
4	Unplated NPT endcap	1	CW510L
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW510L
7	O-Ring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

Pressure-temperature chart



Pressure drop chart



Valve			T264D41	T264E41	T264F41	T264G41	T264H41
Valve Size			1/2"	3/4"	1"	1 ¼"	1 ½"
EA PNEUMATIC ACTUATOR	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
CT line electric actuator	Actuator Model		CT1 - 8Nm			CT2 - 11Nm	CT2 - 22Nm
COMPACT POWER electric actuator line	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						

Torque for actuator sizing in-lb

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

ΔP -->	0 ÷ 90 PSI		> 90 ÷ 230 PSI	
Valve Size	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.

A BRAND OF BONOMI® INDUSTRIES

s.6439 NPT SS trim

actuator mounting
1/2"-2" full port
hot forged brass ball valve

Technical data:

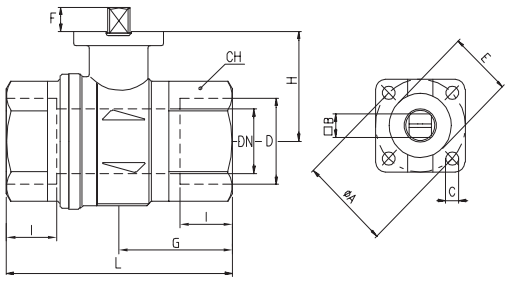
Working Pressure: 600 PSI (40 bar) non-shock cold working pressure
Working Temperature: -4°F / +350°F (-20°C / +177°C)
Threads: NPT taper ANSI B.1.20.1 female by female threads

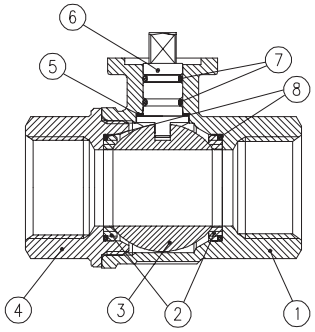
Features:

- 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

Dimensions:

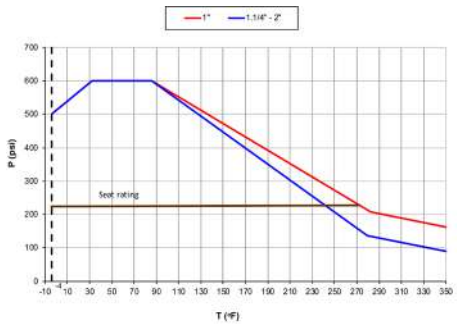
Code	S64D39	S64E39	S64F39	S64G39	S64H39	S64I39
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (inch)	0,590	0,787	0,984	1,259	1,575	1,968
I (inch)	0,610	0,708	0,826	0,905	0,964	1,043
L (inch)	2,598	2,933	3,562	4,094	4,606	5,314
G (inch)	1,201	1,456	1,791	2,047	2,322	2,657
H (inch)	1,220	1,515	1,673	2,185	2,441	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



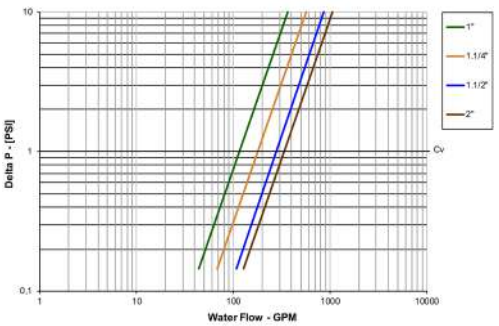


	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE graphite filled 15%
3	Stainless steel ball	1	AISI316
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Stainless steel stem O-ring design	1	AISI316
7	O-Ring	2	FPM
8	O-Ring	2	FPM

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"
EA PNEUMATIC ACTUATOR	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
CT line electric actuator	Actuator Model		CT1 - 8Nm			CT3 - 22Nm	CT4 - 40Nm	
COMPACT POWER electric actuator line	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							

Torque for actuator sizing in-lb

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

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

A BRAND OF BONOMI® INDUSTRIES

s.6439 LT NPT SS trim

actuator mounting
full port 1" - 2"
hot forged brass ball valve

Technical data:

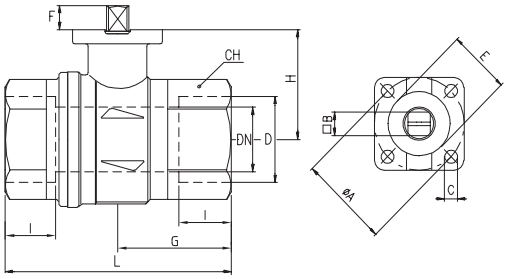
Working Pressure: Shell rating: 600 PSI (40 bar) | Seat rating: ΔP max permissible 230 PSI (16 bar) non-shock cold working pressure
Working Temperature: -4°F / +350°F (-20°C / +177°C)
Threads: NPT taper ANSI B.1.20.1 female by female threads

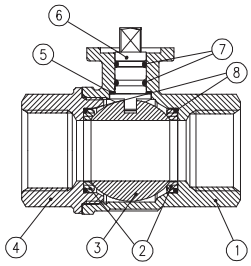
Features:

- 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

Dimensions:

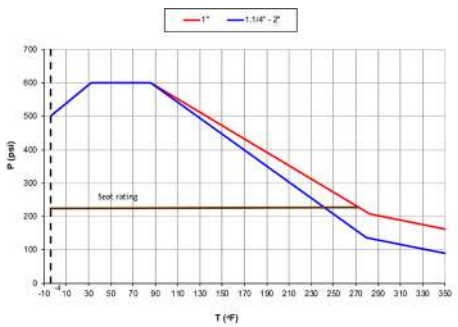
Code	S64F39A	S64G39A	S64H39A	S64I39A
D (inch)	1"	1 ¼"	1 ½"	2"
DN (inch)	0,984	1,259	1,575	1,968
I (inch)	0,826	0,905	0,964	1,043
L (inch)	3,562	4,094	4,606	5,314
G (inch)	1,791	2,047	2,322	2,657
H (inch)	1,673	1,949	2,441	2,716
CH (inch)	1,614	1,968	2,165	2,756
ØA (inch)	1,417	1,417	1,968	1,968
□B (inch)	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



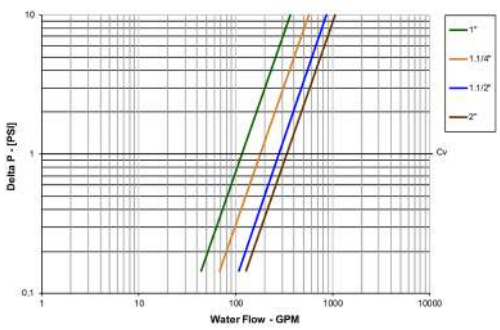


	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE graphite filled
3	Stainless steel ball	1	AISI316
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Stainless steel stem O-ring design	1	AISI316
7	O-Ring	2	FPM
8	O-Ring	2	FPM

Pressure-temperature chart



Pressure drop chart



Valve			S64F39A	S64G39A	S64H39A	S64I39A
Valve Size			1"	1 ¼"	1 ½"	2"
EA PNEUMATIC ACTUATOR	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 electric actuator	Actuator Model	ΔP < 6 Bar	CT1-8Nm			
		ΔP 6 to 16 Bar	CT1-8Nm		CT2-11Nm	CT3-22Nm

COMPACT POWER electric actuator line	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					

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 90 PSI		> 90 ÷ 230 PSI	
Valve Size	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.

A BRAND OF BONOMI® INDUSTRIES

s.134 actuatable

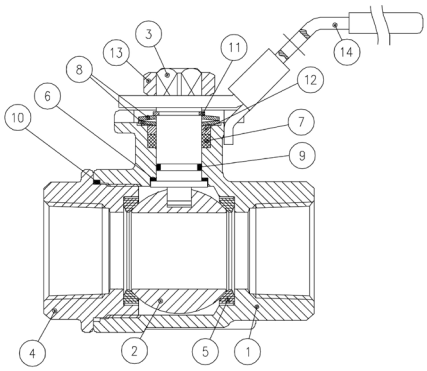
1000 PSI stainless steel full port
1/2"-2" NPT ball valve

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 / +450°F (-45°C / +232 °C)
Threads: NPT taper ANSI B.1.20.1 female by female threads

Features:

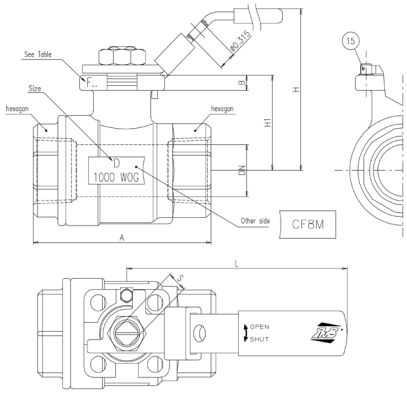
- Dual sealing system allows valve to be operated in either direction making installation easier
- Silicone-free lubricant on all seals
- NACE compliance MR-01-75



Dimensions:

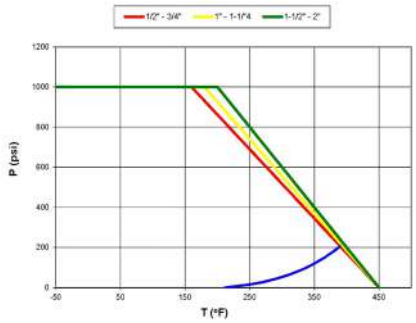
Code	134D41	134E41	134F41	134G41	134H41	134I41
D (inch)	1/2"	3/4"	1"	1 ¼"	1 ½"	2"
DN (inch)	0,56	0,81	1	1,25	1,5	1,97
H1 (inch)	1,40	1,56	1,84	2	2,3	2,8
A (inch)	2,60	2,99	3,54	3,94	4,41	5
B (inch)	0,26	0,28	0,319	0,319	0,319	0,382
S (inch)	0,35	0,35	0,43	0,43	0,43	0,55
Flange connection DIN ISO 5211 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

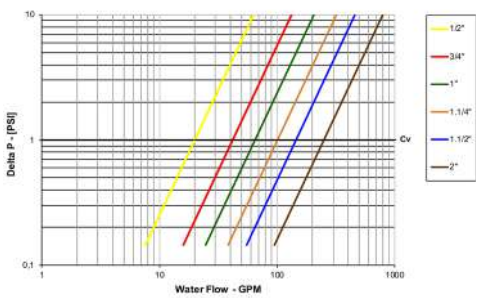


	Part description	Qty	Material
1	Body	1	A351-CF8M
2	Ball	1	A351-CF8M
3	Stem	1	AISI316
4	Cap	1	A351-CF8M
5	Seat	2	RTFE
6	Seat	1	RTFE
7	Packing		TFE
8	Bellville	2	SK5
9	O-Ring	1	FPM
10	Gasket	1	RTFE
11	Snapring	1	AISI304
12	Follower	1	AISI316
13	Nut	1	AISI304
14	Lockable handle	1	A240 SS304
15	Stop pin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

Pressure-temperature chart



Pressure drop chart



*Ball valves fitted with stainless steel lock lever handle

Valve			134D41	134E41	134F41	134G41	134H41	134I41
Valve Size			1/2"	3/4"	1"	1 ¼"	1 ½"	2"
EA PNEUMATIC ACTUATOR	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 electric actuator	Actuator Model		CT1 - 8Nm	CT2 - 11Nm	CT3 - 22Nm		CT4 - 40Nm	

Torque for actuator sizing in-lb

ΔP -->	0 ÷ 200 PSI	
Valve Size	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.

A BRAND OF BONOMI® INDUSTRIES

s.73 3-way 4 seats T-port

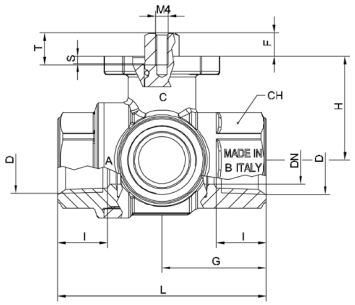
full port 1/2" - 1"
hot forged brass ball valve

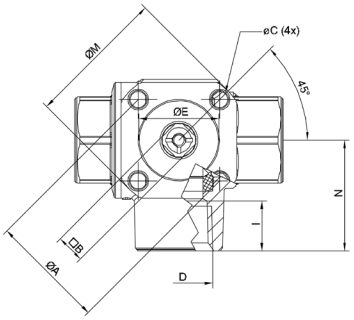
Technical data:

Working Pressure: 20 bar (300 PSI) non-shock cold working pressure
Working Temperature: -20°C / +150°C (-4°F / +302°F)
Threads: EN 10226-1 / ISO 228 parallel female threads

Dimensions:

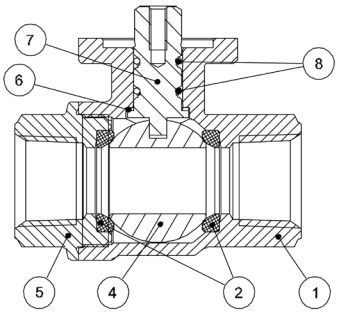
Code	S73D00	S73E00	S73F00
Size (inches)	1/2	3/4	1
DN (mm)	15	20	25
I (mm)	16,5	19	22,5
L (mm)	65	79	92,5
G (mm)	32,5	39,5	46,5
H (mm)	32,5	39,5	42,5
N (mm)	34,5	42	49,5
ØA (mm)	36	36	36
ØC (mm)	Ø 5,2 (M6)	Ø 5,2 (M6)	Ø 5,2 (M6)
ØE (mm)	25	25	25
B (mm)	9	9	9
ØM (mm)	43,4	43,4	43,4
S (mm)	2,2	2,2	2,2
T (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

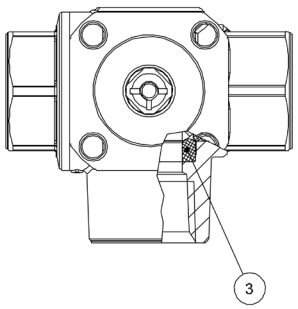




Features:

- 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"
EA PNEUMATIC ACTUATOR	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
CT line electric actuator	Actuator Model		CT2 - 11Nm	CT3 - 22Nm	CT4 - 40Nm

Torque for actuator sizing Nm

ΔP -->	0 ÷ 16 bar	
Valve Size	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.

A BRAND OF BONOMI® INDUSTRIES

s.76 3-way L-port (diverting)

full port 1/2" – 1"
hot forged brass ball valve

Technical data:

Working Pressure: 30 bar (450 PSI) non-shock cold working pressure
Working Temperature: -20°C / +150°C (-4°F / +302°F)
Threads: EN 10226-1, ISO 228 parallel female by female threads

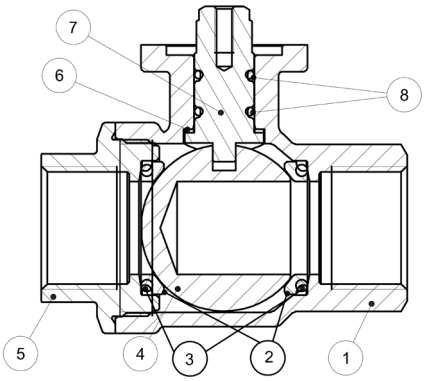
Features:

- 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

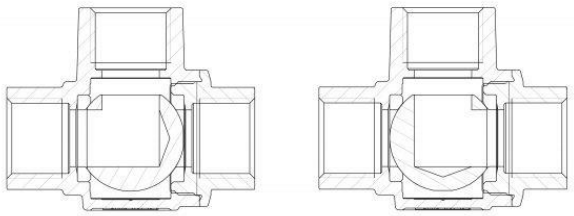
Dimensions:

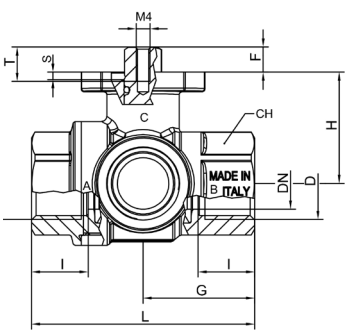
Code	S76D00	S76E00	S76F00
Size (inches)	Rp 1/2"	Rp 3/4"	Rp 1"
DN (mm)	15	20	25
I (mm)	16,5	19	22,5
L (mm)	65	79	92,5
G (mm)	32,5	39,5	46,5
H (mm)	32,5	39,5	42,5
N (mm)	34,5	42	49,5
ØA (mm)	36	36	36
ØC (mm)	Ø 5,2 (M6)	Ø 5,2 (M6)	Ø 5,2 (M6)
ØE (mm)	25	25	25
B (mm)	9	9	9
ØM (mm)	43,4	43,4	43,4
S (mm)	2,2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

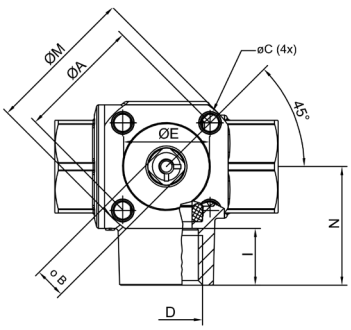
	Part description	Qty	Material
1	Nickel plated body (external nickel plated, unplated inside)	1	CW617N
2	Seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Nickel plated end-cap (external nickel plated, unplated inside)	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring 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"
EA PNEUMATIC ACTUATOR	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
CT line electric actuator	Actuator Model		CT1 - 8Nm		
COMPACT POWER electric actuator line	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				

Torque for actuator sizing Nm

ΔP -->	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.

A BRAND OF BONOMI® INDUSTRIES


MADE IN ITALY
compact power
MADE IN ITALY
DN20

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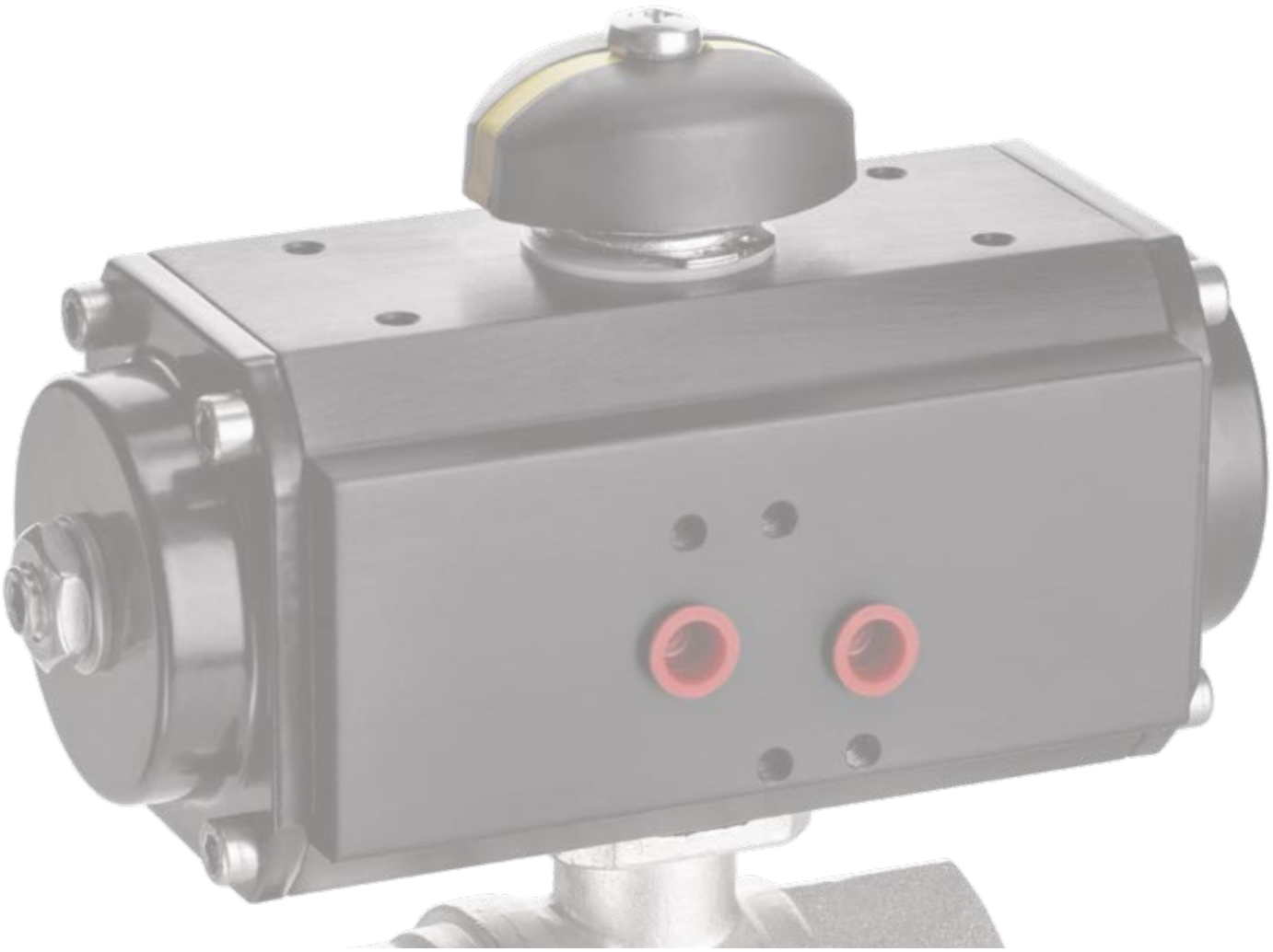
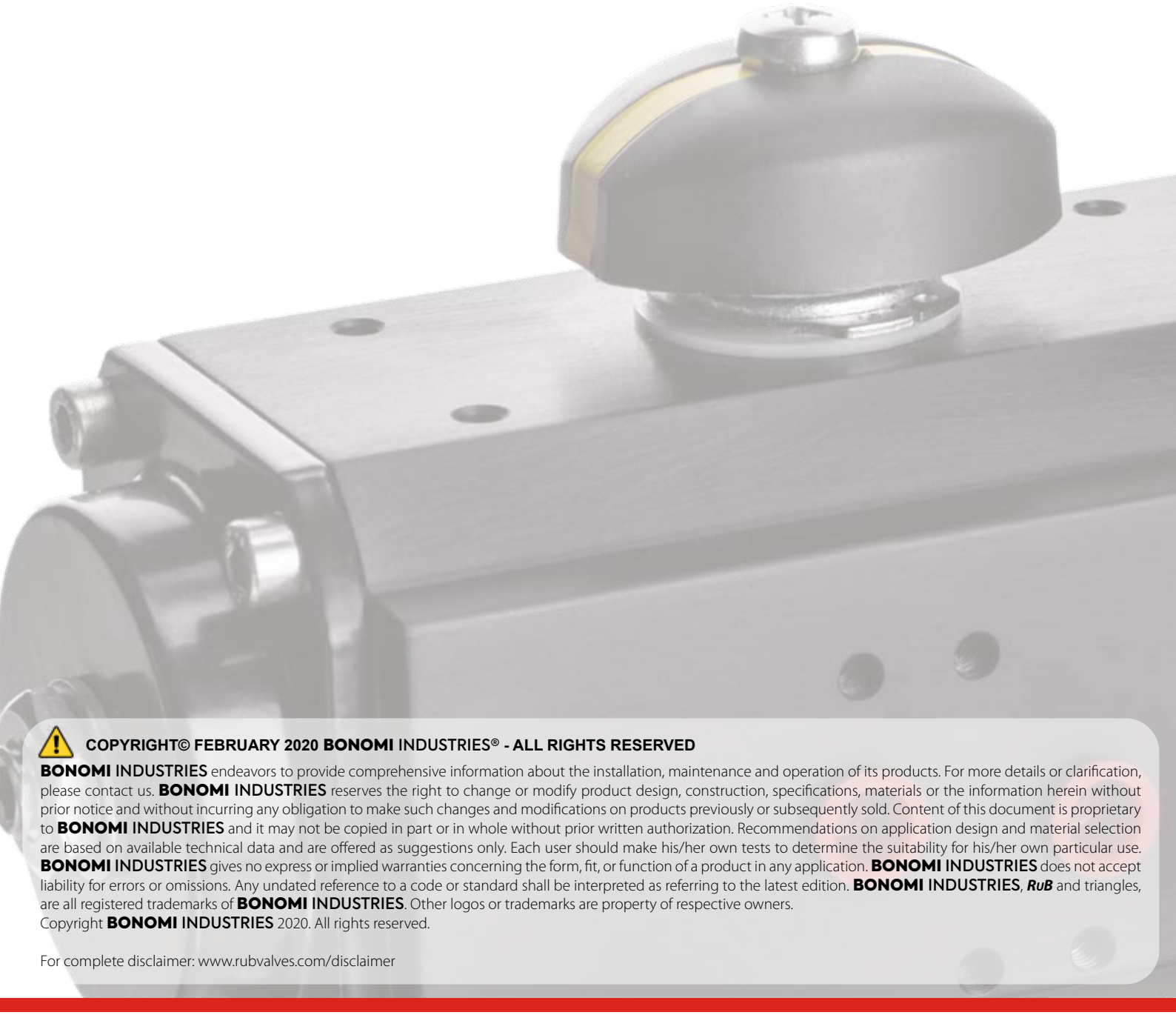
A BRAND OF BONOMI® INDUSTRIES

EA

PNEUMATIC ACTUATOR



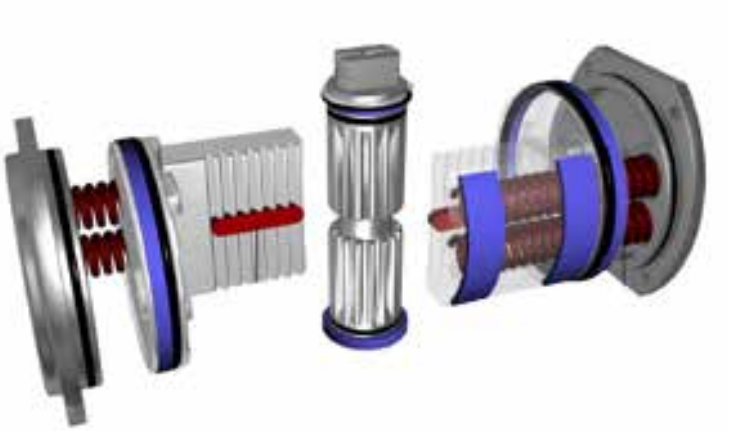
BONOMI INDUSTRIES SRL



The **EA actuators** series is designed for quarter turn applications on ***RuB*** ball valves in a compact and lightweight form.

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 an all directions of operations. The contact between the teeth is pure rolling contact – no rubbing or friction which means minimum wear and long cycle lyfe.



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.

ISO 5211 direct mount on valve:

Direct fitting on any valve which follows ISO standard (like our S.64 2-way or S.76 3-way brass ball valves and our S.134 stainless steel ball valves). No brackets or couplings are required for mounting. Accept any microswitch, positioner, or solenoid valve which complies with NAMUR.

PNEUMATIC ACTUATOR

for 1/2" - 4" quarter turn valve

Technical features

- ISO 5211 direct mount on valve
- NAMUR pads for direct mount of solenoid and limit switch
- Pilot ring for perfect alignment of shaft and stem
- Extruded aluminum body hard anodized cylinder bore rock hard and glass smooth
- Nickel plated steel shaft
- Stainless steel fasteners
- High tensile long life return springs
- Visual position indicator
- Indoor or outdoor installation
- Single massive travel stop on one end eliminates need of balancing stop on both ends (EA sizes 2~7)
- 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)

Service limits

Imperial system			Metric system		
	Min	Max		Min	Max
Pressure (PSI)	40	150	**Pressure (Bar)**	3	10
Temperature (°F)	0	175	**Temperature (°C)**	-20	80

Accessories

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

Limit switch box

Solenoid valve

Visual position indicator

Link kit

Springs

How to order

EA | **4** | **-** | **2** | **SX** | **A**

Springs to Close/Open

Blank = Spring to close
A = Spring to open

N° of Springs

Blank = Double acting actuators (size 1 not available with springs)
From S2 to S12 = Spring return for actuator sizes from 2 to 4

From S4 to S8 = Spring return for actuator sizes from 5 to 7*

***NOTE: for sizes from 5 to 7, springs in excess of 4 are internal springs (see example EA4-6S8).**

Actuator sizes - Square:

1 = F03 - SQUARE 9
2 = F03/F05 - SQUARE 9
2A= F03/F05 - SQUARE 11 (only metric version)
2B = F04 - SQUARE 11 (only metric version)
3 = F05/F07 - SQUARE 14
4 = F05/F07 - SQUARE 14
5 = F05/F07 - SQUARE 17
6 = F07 - SQUARE 17
7 = F07/F10 - SQUARE 22

Type of threads:

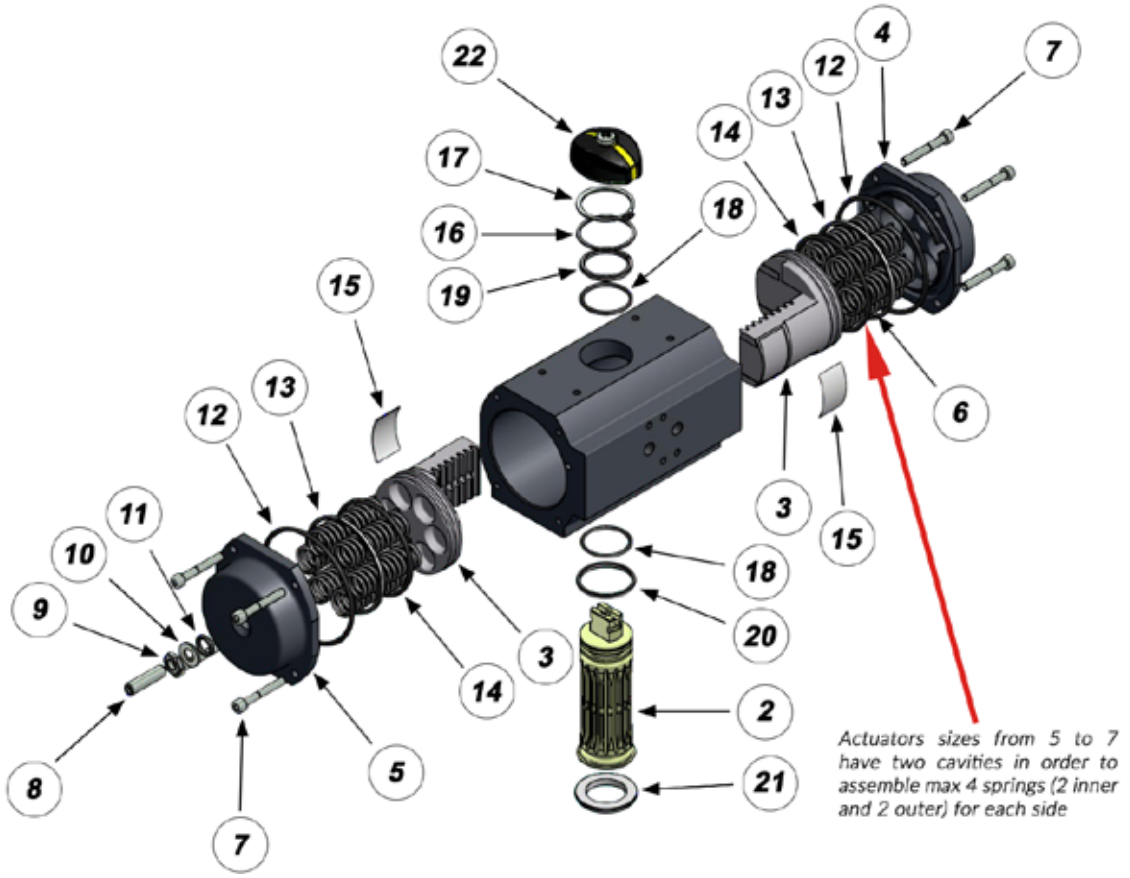
2 = Metric Threads
4 = Imperial Threads (except top of stem - K dimension - is M6)

Example

EA4-6S8 is an EA actuator with imperial threads,
size 6 with 8 springs to close (4 external springs and 4 internal springs)

EA2-4 is an EA actuator with metric threads,
size 4, with no springs

Construction and materials:



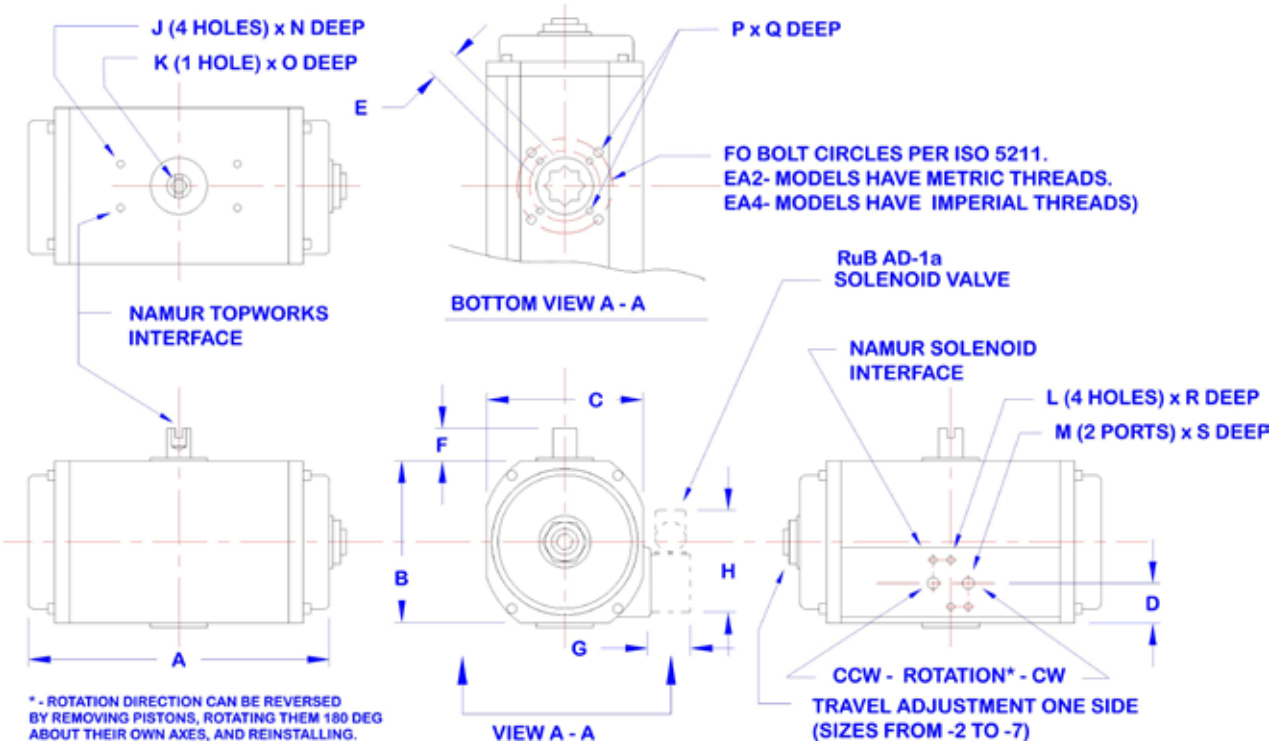
Bill of materials

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

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

** Polyoxymethylene commonly "Delrin"

Dimensions:



Size	Metric system - mm																		
	F0	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
1	F03	103	45	51	22,5	9	20	26	67	M5	M6	M5	G1/8	5	12	M5	8	8	7
2	F03/05	150	70	70	23	9	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10
2A	F03/05	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10
2B	F04	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10
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
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
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
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
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

Size	Imperial system - inch																		
	F0	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
1	F03	4,06	1,77	2,01	0,89	0,35	0,79	1,02	2,64	10-32	M6	10-32	1/8 NPT	0,20	0,47	10-32	0,31	0,31	0,28
2	F03/05	5,91	2,76	2,76	0,91	0,35	0,79	1,02	2,64	10-32	M6	10-32	1/8 NPT	0,31	0,47	10-32 / 1/4"-20	0,31 / 0,39	0,31	0,39
3	F05/07	7,36	3,43	3,58	1,36	0,55	0,79	1,02	2,64	10-32	M6	10-32	1/8 NPT	0,31	0,47	1/4"-20 / 5/16"-18	0,39 / 0,51	0,31	0,39
4	F05/07	8,11	4,65	4,45	1,16	0,55	0,79	1,02	2,64	10-32	M6	10-32	1/8 NPT	0,31	0,47	1/4"-20 / 5/16"-18	0,39 / 0,51	0,31	0,39
5	F05/07	7,64	4,67	4,76	1,16	0,67	0,79	1,02	2,64	10-32	M6	10-32	1/4 NPT	0,20	0,47	1/4"-20 / 5/16"-18	0,47 / 0,47	0,31	0,50
6	F07/10	8,58	5,53	5,37	1,16	0,67	0,79	1,02	2,64	10-32	M6	10-32	1/4 NPT	0,20	0,47	5/16"-18 / 3/8"-16	0,51 / 0,63	0,31	0,50
7	F07/10	10,47	6,56	6,14	1,18	0,87	0,79	1,02	2,64	10-32	M6	10-32	1/4 NPT	0,20	0,47	5/16"-18 / 3/8"-16	0,51 / 0,63	0,31	0,50

Torque rating charts for EA2 actuators - METRIC threads

Double acting - torque in N.m									
		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 N.m																				
						air stroke - start								air stroke - end						
	Springs	Springs		spring stroke		Air pressure supply (bar)								Air pressure supply (bar)						
EA2-	total	outer	inner	start	end	3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10
	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
2-2A	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
	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
3	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
	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
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
	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
5	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
	8	4	4	78,6	43,2			58,9	79,3	99,7	120,1	140,6	161,0			23,5	43,9	64,3	84,7	105,2	125,6
	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	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
	8	4	4	130,2	71,6			96,7	130,3	164,0	197,6	231,3	264,9			38,1	71,7	105,4	139,0	172,7	206,3
	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
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										
		Air pressure supply (PSI)								
EA4-	Springs	40	50	60	70	80	90	100	110	120
1	0	35	44	53	62	71	80	89	98	106
2	0	96	120	144	168	193	217	241	265	289
3	0	206	258	309	361	413	464	516	567	619
4	0	413	516	619	722	825	928	1032	1135	1238
5	0	498	623	747	872	996	1121	1246	1370	1495
6	0	821	1027	1232	1437	1642	1848	2053	2258	2464
7	0	1522	1902	2283	2663	3044	3424	3804	4185	4565

Spring return - torque in In-lb																					
	Springs	Springs		spring stroke		air stroke - start Air pressure supply (PSI)									air stroke - end Air pressure supply (PSI)								
EA4-	total	outer	inner	start	end	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	111	135	159	183	207	231
	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				64	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	438	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			168	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				456	559	662	766	869	972				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
	8	4	4	695	382					614	739	863	988	1112					301	426	550	675	799
6	4	4	0	768	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	3	1056	581				856	1062	1267	1472	1678	1883				381	586	792	997	1202	1408
	8	4	4	1152	634				804	1009	1214	1420	1625	1830				285	490	696	901	1106	1312
7	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
	6	4	2	1778	978			1305	1685	2066	2446	2827	3207	3588			504	885	1265	1646	2026	2406	2787
	7	4	3	1956	1075			1207	1588	1968	2349	2729	3109	3490			326	707	1087	1468	1848	2229	2609
	8	4	4	2134	1173				1490	1870	2251	2631	3012	3392				529	909	1290	1670	2051	2431

Quick pick chart for EA2 (Metric threads) pneumatic actuators assembled on s64, s76, s72 and s73 *RuB* ball valves

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

		Air pressure supply (bar)																							
VALVE		3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10
s64 LT	ΔP Media (Bar)	Double Acting Actuators EA2-								Spring-to-Close Actuators EA2-								Spring-to-Open Actuators EA2-							
1"	6	1	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2
1-1/4"	6	1	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3
1-1/2"	6	2A	2A	2A	2A	2A	2A	2A	2A	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6	2As6
2"	6	2A	2A	2A	2A	2A	2A	2A	2A	3s4	2As8	2As8	2As8	2As8	2As8	2As8	2As8	3s4	2As8	2As8	2As8	2As8	2As8	2As8	2As8
1"	16 Max	1	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/4"	16 Max	1	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/2"	16 Max	2A	2A	2A	2A	2A	2A	2A	2A	3s4	3s4	2As9	2As9	2As9	2As9	2As9	2As9	3s4	3s4	2As9	2As9	2As9	2As9	2As9	2As9
2"	16 Max	3	2A	2A	2A	2A	2A	2A	2A	3s6	3s6	3s6	2As12	2As12	2As12	2As12	2As12	3s6	3s6	3s6	2As12	2As12	2As12	2As12	2As12

		Air pressure supply (bar)																							
VALVE		3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10
s64	ΔP* Media (Bar)	Double Acting Actuators EA2-								Spring-to-Close Actuators EA2-								Spring-to-Open Actuators EA2-							
1/2"	15	1	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3
3/4"	15	1	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1"	15	2	2	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s7	2s7	2s7	2s7	2s7	2s7	2s7	2s7
1-1/4"	15	2A	2A	2A	2A	2A	2A	2A	2A	3s6	3s6	3s6	2As12	2As12	2As12	2As12	2As12	3s5	3s5	3s5	2As11	2As11	2As11	2As11	2As11
1-1/2"	15	3	3	3	3	2A	2A	2A	2A	4s4	4s4	3s9	3s9	3s9	3s9	3s9	3s9	4s5	4s5	3s10	3s10	3s10	3s10	3s10	3s10
2"	15	4	3	3	3	3	3	3	3	4s5	4s5	4s5	3s11	3s11	3s11	3s11	3s11	4s6	4s6	4s6	3s12	3s12	3s12	3s12	3s12
2-1/2"	15	5	5	5	5	5	5	5	5	7s4	5s4	5s4	5s4	5s4	5s4	5s4	5s4	7s4	5s4	5s4	5s4	5s4	5s4	5s4	5s4
3"	15	7	6	5	5	5	5	5	5		7s4	7s4	6s7	6s7	6s7	6s7	6s7		7s4	7s4	6s7	6s7	6s7	6s7	6s7
4"	15	7	7	7	6	6	6	6	5				7s7	7s7	7s7	7s7	7s7				7s7	7s7	7s7	7s7	7s7

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

		Air pressure supply (bar)																							
VALVE		3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10
s72, s73	ΔP* Media (Bar)	Double Acting Actuators EA2-								Spring-to-Close Actuators EA2-								Spring-to-Open Actuators EA2-							
1/2"	15	2	2	2	2	2	1	1	1	4s4	3s7	3s7	3s7	3s7	3s7	3s7	3s7	4s4	3s7	3s7	3s7	3s7	3s7	3s7	3s7
3/4"	15	3	2	2	2	2	2	1	1	4s4	4s4	3s9	3s9	3s9	3s9	3s9	3s9	4s4	4s4	3s9	3s9	3s9	3s9	3s9	3s9
1"	15	4	3	3	3	3	2	2	2			4s9	4s9	4s9	4s9	4s9	4s9			4s9	4s9	4s9	4s9	4s9	4s9

* Selections apply for valves used with ΔP up to 16 Bar Max. For ΔP over 16 Bar and up to 20 Bar, please consult **BONOMI** INDUSTRIES for sizing recommendations.

		Air pressure supply (bar)																							
VALVE		3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10	3	4	5	6	7	8	9	10
s76	Δp Media (Bar)	Double Acting Actuators EA2-								Spring-to-Close Actuators EA2-								Spring-to-Open Actuators EA2-							
1/2"	15	1	1	1	1	1	1	1	1	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6
3/4"	15	1	1	1	1	1	1	1	1	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6
1"	15	2	1	1	1	1	1	1	1		2s7	2s7	2s7	2s7	2s7	2s7	2s7		2s7	2s7	2s7	2s7	2s7	2s7	2s7

Red font = selection driven by valve stem size

Linkage kit selection table

s64 LT							
Valve size	Actuator size						
	EA2	-1	-2	-2A	-3	-4
1" ~ 1-1/4"	LK-	1	1	-	3	3
1-1/2" ~ 2"	LK-			4	6	6

s64									
Valve size	Actuator size								
	EA2	-1	-2	-2A	-3	-4	-5	-6	-7
1/2" ~ 1"	LK-	1	1	-	3	3	-	-	-
1-1/4" ~ 1-1/2"	LK-			4	6	6	13	7	-
2"	LK-				4	4	14	5	21
2-1/2" ~ 4"	LK-						15	15	22

s72, s73, s76							
Valve size	Actuator size						
	EA2	-1	-2	-2A	-3	-4
1/2" ~ 1"	LK-	1	1	-	3	3

Quick pick chart for EA4 (Imperial threads) pneumatic actuators assembled on s64, s76, s134, s72 and s73 *RuB* ball valves

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

		Air pressure supply (PSI)																								
VALVE		40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120
s64 LT	ΔP Media (PSI)	Double Acting Actuators EA4-									Spring-to-Close Actuators EA4-									Spring-to-Open Actuators EA4-								
1"	90	1	1	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2
1-1/4"	90	1	1	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3
1-1/2"	90	3	3	3	3	3	3	3	3	3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3
2"	90	3	3	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4
1"	230 Max	1	1	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/4"	230 Max	1	1	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/2"	230 Max	3	3	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4
2"	230 Max	3	3	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	3s6	3s6	4s3	3s6	3s6	3s6	3s6	3s6	3s6	3s6	3s6

		Air pressure supply (PSI)																								
VALVE		40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120
s64	ΔP* Media (PSI)	Double Acting Actuators EA4-									Spring-to-Close Actuators EA4-									Spring-to-Open Actuators EA4-								
1/2"	200	1	1	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3
3/4"	200	2	1	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1"	200	2	2	2	2	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	3s3	2s7	2s7	2s7	2s7	2s7	2s7	2s7	2s7
1-1/4"	200	3	3	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	3s6	3s6	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5
1-1/2"	200	4	3	3	3	3	3	3	3	3	4s4	4s4	4s4	3s9	3s9	3s9	3s9	3s9	3s9	4s5	4s5	4s5	3s10	3s10	3s10	3s10	3s10	3s10
2"	200	4	4	3	3	3	3	3	3	3	4s5	4s5	4s5	4s5	4s5	3s11	3s11	3s11	3s11	4s6	4s6	4s6	4s6	4s6	3s12	3s12	3s12	3s12
2-1/2"	200	5	5	5	5	5	5	5	5	5		6s4	5s4	5s4	5s4	5s4	5s4	5s4	5s4		6s4	5s4	5s4	5s4	5s4	5s4	5s4	5s4
3"	200	7	6	6	6	5	5	5	5	5			7s4	7s4	6s7	6s7	6s7	6s7	6s7			7s4	7s4	6s7	6s7	6s7	6s7	6s7
4"	200		7	7	7	7	6	6	6	6					7s7	7s7	7s7	7s7	7s7					7s7	7s7	7s7	7s7	7s7

* Selections apply for valves used with ΔP up to 200 PSI Max. For ΔP over 200 PSI and up to 600 PSI (450 PSI for sizes over 2"), please consult **BONOMI** INDUSTRIES for sizing recommendations.
Note: s.74 available up to 1" size.

		Air pressure supply (PSI)																								
VALVE		40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120
s134	ΔP* Media (PSI)	Double Acting Actuators EA4-									Spring-to-Close Actuators EA4-									Spring-to-Open Actuators EA4-								
1/2"	200	2	2	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5
3/4"	200	2	2	2	2	2	1	1	1	1	3s4	2s7	2s7	2s7	2s7	2s7	2s7	2s7	2s7	3s4	3s4	2s7	2s7	2s7	2s7	2s7	2s7	2s7
1"	200	3	3	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s6	3s6	3s6	3s6	3s6	3s6	3s6	3s6	3s6
1-1/4"	200	3	3	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	3s6	3s6	4s4	3s7	3s7	3s7	3s7	3s7	3s7	3s7	3s7
1-1/2"	200	4	3	3	3	3	3	3	3	3	4s4	4s4	4s4	3s8	3s8	3s8	3s8	3s8	3s8	4s6	4s6	4s6	4s6	3s11	3s11	3s11	3s11	3s11
2"	200	4	4	3	3	3	3	3	3	3		4s6	4s6	4s6	4s6	4s6	3s12	3s12	3s12		4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7

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

		Air pressure supply (PSI)																								
VALVE		40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120
s72, s73	ΔP* Media (PSI)	Double Acting Actuators EA4-									Spring-to-Close Actuators EA4-									Spring-to-Open Actuators EA4-								
1/2"	230	2	2	2	2	2	2	2	1	1	4s4	3s7	3s7	3s7	3s7	3s7	3s7	3s7	3s7	4s4	3s7	3s7	3s7	3s7	3s7	3s7	3s7	3s7
3/4"	230	3	2	2	2	2	2	2	2	2	4s4	4s4	4s4	3s9	3s9	3s9	3s9	3s9	3s9	4s4	4s4	4s4	3s9	3s9	3s9	3s9	3s9	3s9
1"	230	4	4	3	3	3	3	3	2	2				4s9	4s9	4s9	4s9	4s9	4s9				4s9	4s9	4s9	4s9	4s9	4s9

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

		Air pressure supply (PSI)																								
VALVE		40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120	40	50	60	70	80	90	100	110	120
s76	Δp Media (PSI)	Double Acting Actuators EA4-									Spring-to-Close Actuators EA4-									Spring-to-Open Actuators EA4-								
1/2"	200	1	1	1	1	1	1	1	1	1		2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6		2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6
3/4"	200	2	1	1	1	1	1	1	1	1		2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6		2s6	2s6	2s6	2s6	2s6	2s6	2s6	2s6
1"	200	2	1	1	1	1	1	1	1	1		2s7	2s7	2s7	2s7	2s7	2s7	2s7	2s7		2s7	2s7	2s7	2s7	2s7	2s7	2s7	2s7

Red font = selection driven by valve stem size

Linkage kit selection table

s64 LT						
Valve size	Actuator size					
	EA2	-1	-2	-2A	-3
1" ~ 1-1/4"	LK-	8	8	9	9
1-1/2" ~ 2"	LK-			4	6

s64								
Valve size	Actuator size							
	EA2	-1	-2	-3	-4	-5	-6	-7
1/2" ~ 1"	LK-	8	8	9	9	-	-	-
1-1/4" ~ 1-1/2"	LK-			10	10	16	16	23
2-1/2" ~ 4"	LK-					18	18	24

s134								
Valve size	Actuator size							
	EA2	-1	-2	-3	-4	-5	-6	-7
1/2" ~ 3/4"	LK-	8	8	9	9	-	-	-
1" ~ 1-1/2"	LK-			11	11	19	20	-
2"	LK-			10	10	16	16	23

s72, s73, s76					
Valve size	Actuator size				
	EA2	-1	-2	-3	-4
1/2" ~ 1"	LK-	8	8	9	9

Ask for additional information on the whole range of **BONOMI** INDUSTRIES products and accessories. Consult with your supplier for special applications. For assistance in actuator selection please contact **BONOMI** INDUSTRIES at the following email address: **sales@rubvalves.com** or your **BONOMI** INDUSTRIES distributor.

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