



VALVES & ACTUATORS

*RuB, Inc.*

# ACTUATION CATALOG



**RuB, Inc.** is the North American headquarter for **RuB** brass shut-off valves and actuators.

Our new facility, built in 2014 in **Shakopee**, MN, features a 50,000 sq. ft. warehouse with 5-tier racking and state of the art wireless inventory management system controlled by an **SAP ERP system**.

All brass ball valves are 100% manufactured in Italy at our plant in Brescia. We are a family owned company that has been expanding its global presence and high-quality reputation as a premier ball valve manufacturer for more than 65 years exceeding customer expectations in quality, service and reliability.

Our manufacturing operation is highly automated and every product is tested according to the most rigorous standards, such as our 100% 24-hour dual seal test, and then shipped to **RuB, Inc.** in Shakopee, MN, USA, to serve the **North American markets**.

We offer forged brass ball valves from **1/8" to 4"** in both **standard** and **custom** configurations for Oil, Water, Gas, and Industrial applications. We also stock stainless steel ball valves up to 8" and a complete electric and pneumatic actuation line for all of our actuatable brass and **stainless-steel products**.

All standard **RuB** branded Italian made brass ball valves have a limited lifetime warranty from defects in material and workmanship. For other products, we offer a 2-year limited warranty.

For more information about our complete product offering, certifications, warranties and technical documents, please visit our website at: [www.rubinc.com](http://www.rubinc.com).







**VALVES & ACTUATORS**



# Index

- **RuB, Inc.** History.....5
- Quality.....7
- Actuators.....
  - Compact Power.....11
  - C-Tork Electric Actuator - Compact lightweight electric actuator.....12
  - CT1 - 8 Nm.....14
  - CT2 - 11 Nm.....16
  - CT3 - 22 Nm.....18
  - CT4 - 40 Nm.....20
  - E-Tork Electric Actuator.....24
  - EA Pneumatic Actuator.....27
- Valves.....
  - s.31 Mini Valve.....32
  - s.6439 NPT.....34
  - s.6439 LT NPT.....36
  - s.6441 NPT.....38
  - s.95 NPT.....40
  - Puri T.264 NPT.....42
  - s.7341 NPT 3-way 4 seats T-port.....44
  - s.7641 NPT 3-way 2 seats L-port (diverting).....46
  - s.134 NPT stainless steel.....48
  - s.135 stainless steel.....50
  - s.136 stainless steel.....52



# RuB, Inc. History

1993: **RuB** products enter full force into the North American market with a local warehouse in Massachusetts to support major nationwide distributors to the industrial and commercial plumbing markets.

1994: **RuB, Inc.** is incorporated as a wholly owned subsidiary in the State of Minnesota setting in place our long-term strategy for **RuB** valve business in North America.

1997: **RuB** shifts from using sales agents to hiring direct **RuB, Inc.** employees.

2000: **RuB, Inc.** begins sales into Canada.

2006: **RuB, Inc.** continues to expand its work force including Regional Managers and independent sales rep organizations to lead the sales efforts. The inventory in Massachusetts is transferred to a 17,000-ft<sup>2</sup> 5 tier racking warehouse in Shakopee, MN, and consigned stock warehouses are established in California and Toronto, Canada.

2008: Pneumatic actuation and stainless-steel ball valves are added to the product offering.

2014: **RuB, Inc.** builds a new 50,000-ft<sup>2</sup> office/warehouse in Shakopee, MN, USA, and continues expanding the stainless-steel ball valve offering.

2015: Official Grand Opening of **RuB, Inc.** North American Headquarters in Shakopee, MN, USA.

2019: **RuB, Inc.** Quality Management System is certified by LRQA to the standards ISO 9001:2015.



# RuB Inc. TERMS & CONDITIONS OF SALES

## PAYMENT TERMS

Net 30 days (subject to approval) from invoice date by wire or ACH; checks accepted in some cases. A 1½ % service charge per month will be added to any A/R paid beyond stated term.

## FREIGHT POLICY

PPD shipment dependent on total net dollar value of invoice and Freight Zone from **RuB** Inc. shipping point. All other orders are EXW **RuB** Inc. Service Warehouse. Contact your **RuB** Inc. representative for details. PPD shipment based on single destination. **RuB** Inc. will ship best way unless of specific agreement with customer at time of order concerning timing, special routing instructions, or specific carrier.

## ORDER ACCEPTANCE

Prices listed in this pricebook are expressed in USD. Possession of this price list by any person is not to be construed as an offer to sell. All orders are subject to acceptance by **RuB** Inc. List prices, terms and conditions of sale, and products are subject to change without notice. Any item may be modified or discontinued without notice. Minimum acceptable net order value is \$250. All orders should be sent to [purchaseorder@rubinc.com](mailto:purchaseorder@rubinc.com).

## ORDER QUANTITIES

Unless otherwise agreed in writing by **RuB** Inc., orders must be in multiples of full box quantities as published in the price book. Orders for "broken" box quantities will be invoiced with a non-refundable "broken box" service fee of US \$30.00 per line item.

## ORDER CANCELLATION

Order cancellations or modifications must reach **RuB** Inc. in writing and become valid only if acknowledged in writing by **RuB** Inc. If an order has been placed and staged for delivery, customer must pay 15% restocking fee.

## SHORTAGES OR VARIANCE

Claims of shortage or variance due to mis-shipment or damage en route must be reported in writing to **RuB** Inc. within 5 working days of delivery/receipt of goods. Broken/damaged packages shall be notified in writing immediately to courier's driver and documented with pictures sent to **RuB** Inc. along with claim.

## RETURNED GOODS

Customer may return material for reasons other than material defect within 6 months of purchase order date. **RuB** Inc. will issue a Return Material Authorization only for goods in marketable condition and in original packaging. Customer will be credited, against future orders, value of returned material less 15% restocking fee, and any applicable freight charges.

## PERFORMANCE GUARANTEE

**RuB** Inc. guarantees to the original purchaser that its original non-modified products will perform at rated capacity as stated in **RuB**'s catalog only when  
(1) properly applied, installed, serviced, and used in accordance with **RuB** Inc. Installation, Maintenance and Operating Instructions or, if no such instructions are available, prevailing industry standards, as revised from time to time, and  
(2) used in environments as specified or as limited by the Installation, Maintenance and Operating Instructions or the **RuB** catalog.  
If **RuB** Inc. products are part of a greater system, **RuB** Inc. accepts responsibility only for the products manufactured by it. **RuB** INC. PRODUCTS MUST BE APPLIED, INSTALLED, SERVICED, AND USED IN ACCORDANCE WITH **RuB** INC. INSTALLATION, MAINTENANCE AND OPERATING INSTRUCTIONS OR, IF NO SUCH INSTRUCTIONS ARE AVAILABLE, PREVAILING INDUSTRY STANDARDS, as revised from time to time. Failure of the purchaser to apply, install, service and use **RuB** Inc. products in accordance with relevant instructions or prevailing industry standards, as applicable, will void this performance guarantee.

## THE FOREGOING WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON ITS PART, AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY LIABILITY IN CONNECTION WITH THE SALE OF **RuB** INC. PRODUCTS.

The foregoing warranty is void if the customer fails to apply, install, service and use **RuB** Inc. products in accordance with relevant instructions or prevailing industry standards, as applicable, or if any modification is made to the warranted products by or for the customer subsequent the dispatch of the products from **RuB**. The customer indemnifies and holds **RuB** Inc. harmless from all claims or causes of action arising from any and all customer modifications, even though groundless, as well as from any damage suffered by **RuB** Inc. arising in whole or in part from such modification. If customer modifies and resells **RuB** Inc. products, customer agrees to inform end-user that **RuB** Inc. makes no express or implied warranties regarding such modification(s). The foregoing warranty is also void in the event that product failure results from acts or omissions of persons other than **RuB** Inc., or from accident or abuse, misuse or misapplication of the products.

Most **RuB** Inc. products are covered by a LIMITED LIFE-TIME WARRANTY to be free of defects in materials and workmanship, with exception of a few products covered for a period of five (5) or two (2) years after date of manufacture. Please refer to the specific product and specific certificate of warranty to see which warranty applies and relevant details and conditions of such warranty.

## DISCLAIMER

Except as expressly set forth herein, **RuB** Inc. makes no representation and extends no warranties of any kind, either express or implied, including any warranties of quality, merchantability, title, or fitness for any particular purpose, whether alleged to arise by law, by reason of custom or usage in the trade, or by course of dealing.

## LIMITATIONS OF LIABILITY

In no event shall **RuB** Inc., or its affiliates, officers, directors, employees, agents or attorneys, be liable for any CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR SPECIAL DAMAGES ARISING OUT OF OR CONNECTED WITH THE PURCHASE OF **RuB** INC. PRODUCTS regardless of liability, breach of warranties, failure of essential purpose or otherwise, even if advised of the possibility of such damages.

## AGREEMENT OF SALE

No agreement of sale shall be in effect until **RuB** Inc. forwards to the customer an invoice detailing the customer's purchase of **RuB** Inc. products. Any agreement of sale hereunder shall be deemed to take place in the State of Minnesota (**RuB** Inc. headquarters) and shall be subject to the terms and conditions of sales set forth herein. These terms and conditions shall supersede any and all terms and conditions of sale of any customer purchase order. In case of discrepancy between any term in this document and the quote, the latter shall prevail. Unless otherwise stated, any undated reference to a code or standard shall be interpreted as referring to the latest edition.

## GOVERNING LAW

The terms and conditions of sale set forth herein shall be governed by, and construed and enforced in accordance with the laws of the State of Minnesota (without regard to conflicts of law principles for such state). Each customer, by entering into an agreement of sale hereunder, irrevocably and unconditionally consents to submit to the exclusive jurisdiction of the courts of the State of Minnesota and of the United States of America, for any claim arising out of or relating in any manner (whether in contract, tort or otherwise) to such agreement of sale (and agrees not to commence any claim relating thereto except in such courts).

## POTABLE WATER BRASS VALVES

For LOCALITIES that require "LEAD FREE" (0.25% or less Pb) brass valves for potable water applications, **RuB** Inc. offers specific models certified to NSF/ANSI 61-G and/ or NSF/ANSI 372. These products are identified as such on the handle. **RuB** INC. PRODUCTS, WHICH ARE NOT IDENTIFIED AS COMPLIANT WITH ABOVE SPECIFICATIONS ARE NOT TO BE USED IN DRINKING WATER SYSTEMS. **RuB** Inc. cannot accept responsibility for mis-application of PRODUCTS TO DRINKING WATER SYSTEMS.

## CALIFORNIA PROPOSITION 65

FOR BRASS VALVES SOLD IN CALIFORNIA: ⚠ WARNING: Brass valves can expose you to chemicals including lead which are known to the state of California to cause cancer and birth defects or other reproductive harms. For more information: [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## MAJOR FORCE

In no event shall **RuB** Inc. be responsible or liable for any failure or delay in performance of its obligation arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation: explosions, floods, fires, storms or earthquakes, epidemics, pandemics, war or threat of war, sabotage, insurrection, shortage of raw materials, refusal or impeding of any authority to issue any license or authorization for import and export, strikes or labor disputes, prohibitions and other events that in any way prevent **RuB** Inc. from purchasing or importing raw materials and / or components or the production, transport or export of the Products. In such cases, customer will have the possibility to cancel the open orders, if the cause of force majeure continues for a period of more than six months, without any other right to claim any compensations or damages.





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





**Approvals**

	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	
	Deutsche Vereinigung des Gas und Wasserfaches e.V. Technisch-wissenschaftlicher Verein	
	Deutsche Vereinigung des Gas und Wasserfaches	
	ARGB-KVVG	
	Schweizerischer Verein des Gas und Wasserfaches	
	Attestation de Conformité Sanitaire	
	Система сертификации ГОСТ Р Госстандарт России	
	Декларация соответствия	
	Water Regulations Advisory Scheme	
	British Standards Institution	
	Kiwa - Swedcert	
	The Australian Gas Association	
	KSFD -Kuwait Fire Service Directorate	
	LIA - L.P Gas Instruments Inspections Association	
<b>Compliances</b>		
	ROHS	
	Reach declaration	
	PED 2014/68/UE by ICIM (0425)	
	DCL021- Declaration of Conformity to 2012-19 - EU WEEE directive	
	DCL004 - Conflict Minerals	

# Quality

We are very proud of our 100% made in Italy brass ball valves manufactured in our **ISO 9001:2015** certified Corporate Headquarters in Brescia, Italy. We implemented this rigorous quality management and assurance system since 1995 monitored by the **Lloyd's ISO 9001** certification process, 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 the art technology and approvals released by main laboratories and quality agencies from all over the world such as:



For more information, please visit our website at <https://www.rubinc.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 44 inch-pound 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:

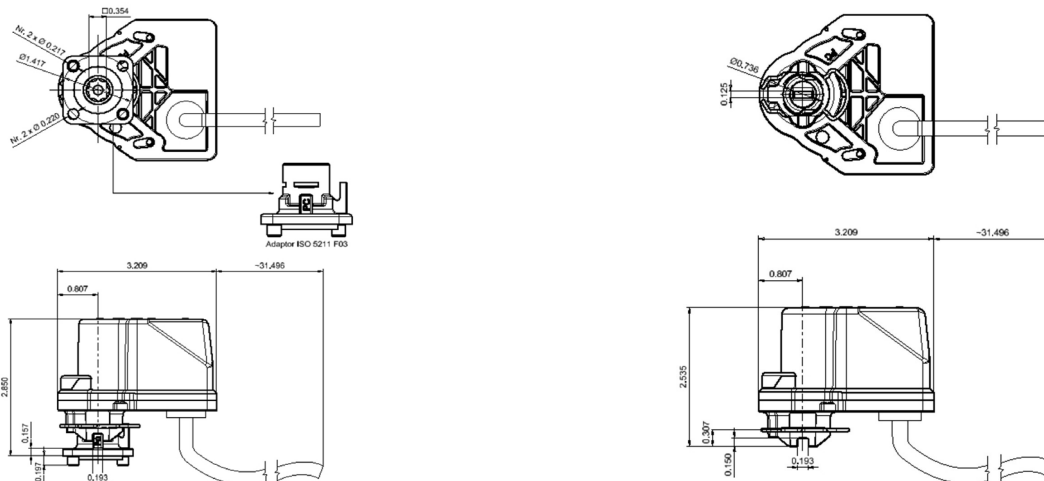
- Suitable for **RUB** actuatable valves up to 1 ¼" size (only for s.64 LT)
- Compact package to fit in restricted spaces
- Motor power consumption:
  - 4W for 24V DC, 6W for 230V AC
  - 8W for 24V AC and 110-120V AC
- Torque output up to 44 in-lb
- Operation time:
  - 5sec for 12 V DC, 24V DC
  - 15 sec for 24V AC, 110-120 V AC and 230 V AC at 60Hz
- Working temperature -4°F +180°F
- Protection class IP65 comparable to NEMA 4X
- Micro-switches for open-close signals
- Micro-switches can pass up to 1A
- Reversing motor
- Direct mount on valve for perfect shaft alignment
- Positive orientation between ball valve and actuator
- Actuator easily removable for manual operating
- Visual position indicator
- Corrosion resistant plastic housing
- Actuator has successfully passed 100,000 cycle life tests
- Duty cycle 60%

### Options:

- Power supply:
  - 12 V DC, 24V DC
  - 110-120V AC 50/60Hz
  - 230V AC 50/60Hz
  - 24V AC 50/60Hz
- Adaptor F03 square 0.315 inch

Model	Torque (In/ LB)	Seconds 90°	Power	Price list
CP5A2	44	15s	230V AC, 2 wires	<b>\$165.92</b>
CP5A3	44	15s	230V AC, 3 wires	<b>\$165.92</b>
CP5B2	44	15s	110V AC, 2 wires	<b>\$165.92</b>
CP5B3	44	15s	110V AC, 3 wires	<b>\$165.92</b>
CP5C2	44	15s	24 V AC, 2 wires	<b>\$165.92</b>
CP5C3	44	15s	24 V AC, 3 wires	<b>\$165.92</b>
CP5D2A	44	5s	24 V DC, 2 wires	<b>\$165.92</b>
CP5E2A	44	5s	12 V DC, 2 wires	<b>\$165.92</b>

### Dimensions inches



# 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	70.8 lb-in (8 Nm)
CT2	97.3 lb-in (11 Nm)
CT3	194.7 lb-in (22 Nm)
CT4	354 lb-in (40 Nm)



### Technical features & benefits:

- **Direct ISO 5211 mount on valves.**  
Requires no separate linkage because the CT Series Actuators are ready for direct attachment to ISO5211 mounting pad.
- **Compact package with perfect shaft alignment.**  
Smaller actuator footprint enables installation in confined spaces; direct mount on ball valves reduces the mounting space requirement.
- **Several voltage ratings available.**  
Available with the most common power supplies around the globe.
- **Fire retardant plastic with high IP ratings enclosure.**  
Provides a high degree of protection from dust, splashing water, rough handling and tough environments.
- **Auxiliary Switches.**  
Provides line voltage capable switch up to 1 A Resistive.
- **Special models available.**  
The CT family fits the customer needs extending the application coverage on request.



**Key Codes:**

CT	X	X	X	X	X	X	
							<b>Option:</b> R = Anti-condensation Resistance FO = Failsafe Valve Open FC = Failsafe Valve Close
							<b>Auxiliary Switches:</b> 0 = No Micro 1 = 1 Aux. Switch 2 = 2 Aux. Switches
							<b>Manual Override:</b> M = Manual Override N = No Manual
							<b>Control Type:</b> A = 2 wires B = 3 wires C = 2 and 3 wires D = Prop. 0 - 10 Vdc E = Prop. 2 - 10 Vdc F = Prop. 0 - 20 mA G = Prop. 4 - 20 mA
							<b>Power Supply:</b> A = 230Vac 50/60 Hz * B = 110Vac 50/60 Hz * C = 24Vac 50/60 Hz * D = 24Vdc E = 12Vdc F = 24Vac/dc G = 48 - 240Vac H = 230Vac 60 Hz ** I = 110Vac 60Hz ** L = 24Vac 60Hz **
							<b>Model:</b> CT1 = 70.8 lb-in (8Nm) CT2 = 97.3 lb-in (11Nm) CT3 = 194.7 lb-in (22Nm) CT4 = 354 lb-in (40Nm)

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

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

# CT1 - 70.8 lb-in (8 Nm)



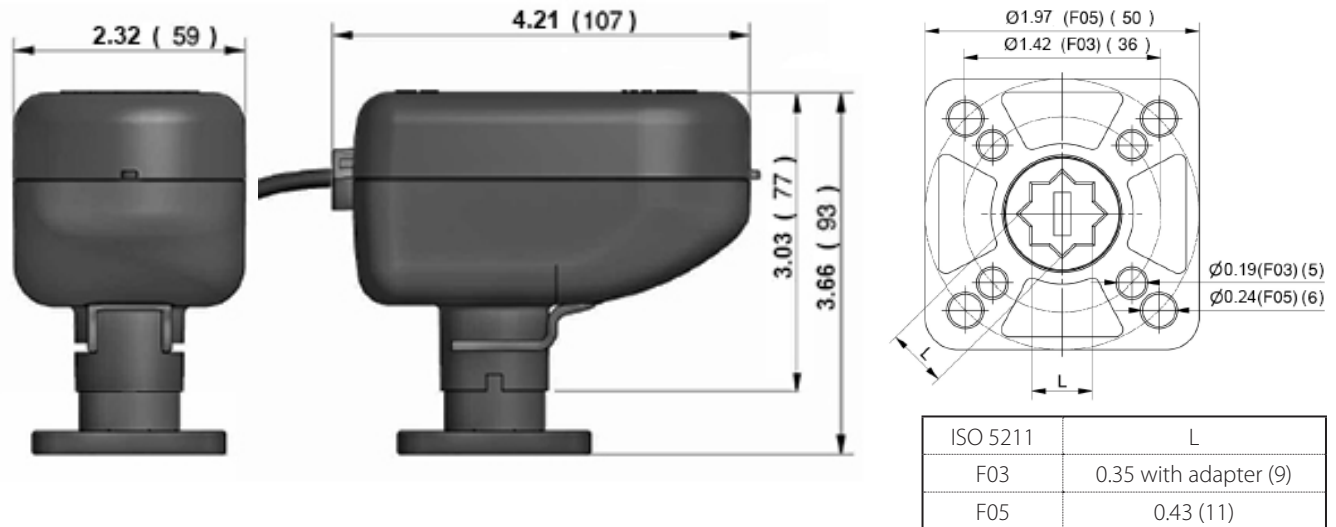
## Ordering Codes

Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	Price list
CT1AAN1	230 Vac 50/60 Hz	2 wires	45 sec @ 50Hz 38 sec @ 60Hz	1 microswitch & 1 output phase	<b>\$223.57</b>
CT1BAN1	110 Vac 50/60 Hz	2 wires	45 sec @ 50Hz 38 sec @ 60Hz		<b>\$223.57</b>
CT1CAN1	24 Vac 50/60 Hz	2 wires	45 sec @ 50Hz 38 sec @ 60Hz		<b>\$223.57</b>
CT1ABN1	230 Vac 50/60 Hz	3 wires	35 sec @ 50Hz 30 sec @ 60Hz		<b>\$233.16</b>
CT1BBN1	110 Vac 50/60 Hz	3 wires	35 sec @ 50Hz 30 sec @ 60Hz		<b>\$252.36</b>
CT1CBN1	24 Vac 50/60 Hz	3 wires	35 sec @ 50Hz 30 sec @ 60Hz		<b>\$252.36</b>
CT1DCN0	24V DC	2/3 wires	60 sec.	2 output phases	<b>\$358.64</b>
CT1FDN0	24V DC / AC ± 20% 50/60 Hz	Modulating 0-10Vdc	60 sec.	2 -10 Vdc	<b>\$468.76</b>

## Optional models on request:

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

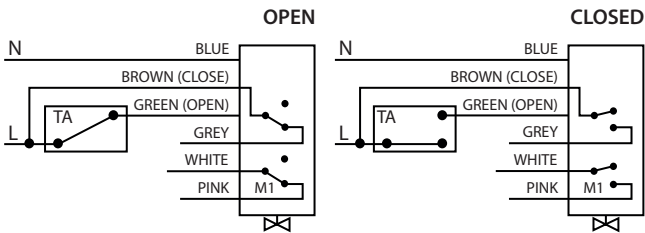
## Dimensions inches (mm)



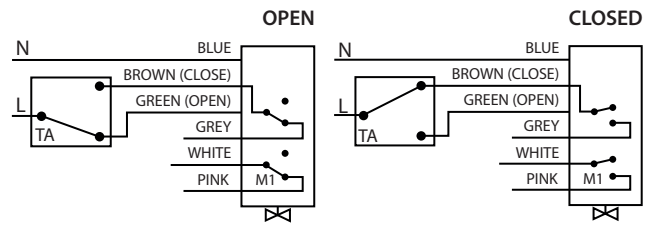


## Wiring diagrams

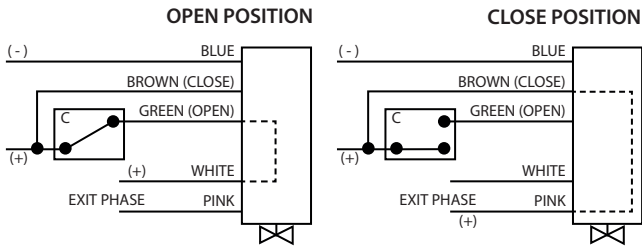
### Vac models 2 wires control



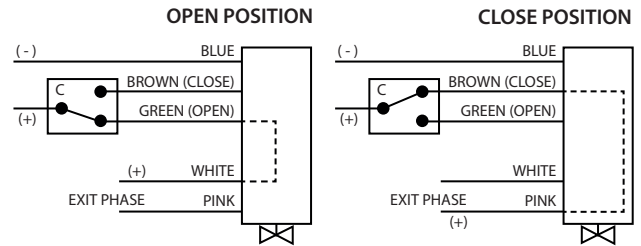
### Vac models 3 wires control



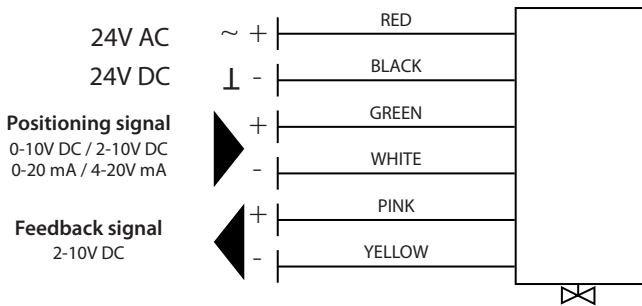
### Vdc models 2 wires control



### Vdc models 3 wires control



### Proportional models



## Technical specification

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

# CT2 - 97.3 lb-in (11 Nm)



## Ordering Codes

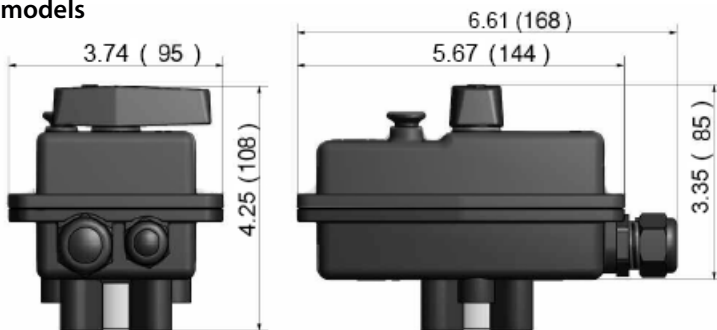
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	Price list
CT2ACM2	230 Vac - 50/60 Hz	2/3 wires	35 sec @ 50Hz 30 sec @ 60Hz	2 x Free auxiliary switches	<b>\$434.39</b>
CT2BCM2	110 Vac - 50/60 Hz	2/3 wires	35 sec @ 50Hz 30 sec @ 60Hz		<b>\$449.70</b>
CT2CCM2	24 Vac - 50/60 Hz	2/3 wires	35 sec @ 50Hz 30 sec @ 60Hz		<b>\$449.70</b>
CT2DCN2	24V DC	2/3 wires	12 sec.		<b>\$405.69</b>

## Optional models on request:

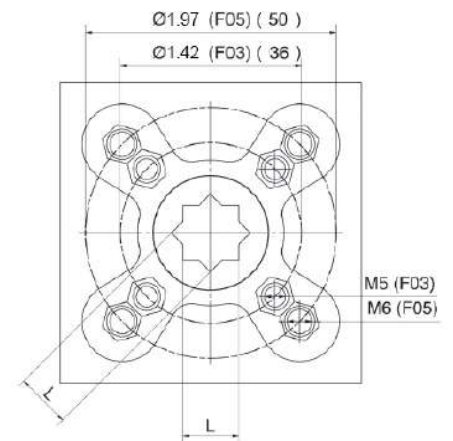
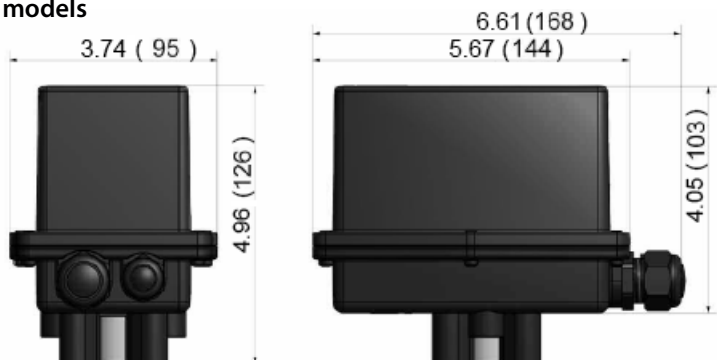
- 12 Vdc power supply
- Optional speed:
  - Vac only : 12 sec or 4 sec (44.2 lb-in)
  - Vdc only : 8 sec and 5 sec (97.3 lb-in);  
3 sec (70.8 lb-in); 1 sec (44.2 lb-in)
- Proportional models: 0(2)-10 Vdc, 0(4)-20 mA, Modbus
- Electronic fail safe (see page 22)

## Dimensions inches (mm)

### Vac models



### Vdc models

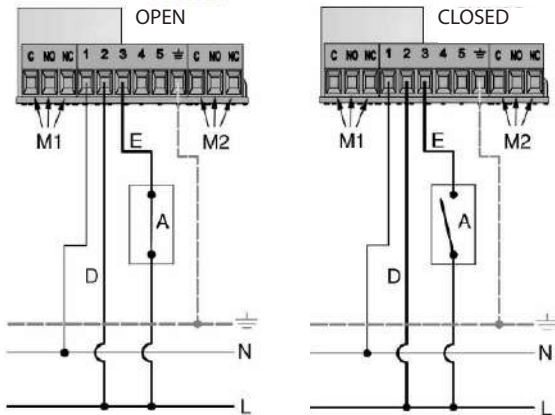


ISO 5211	L
F03	0.35 with adapter (9)
F05	0.43 (11)

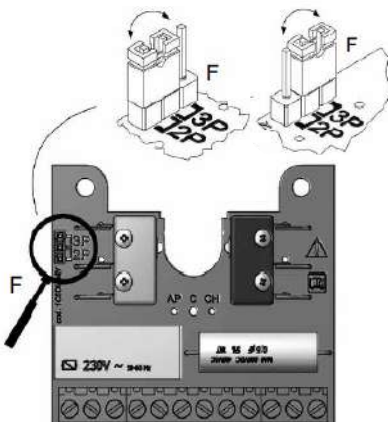
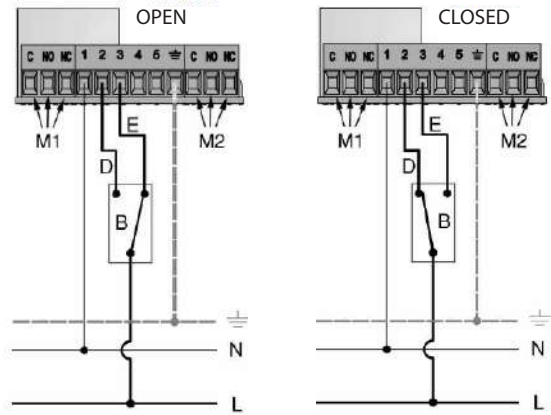


## Wiring diagrams

### 2 wires control



### 3 wires control

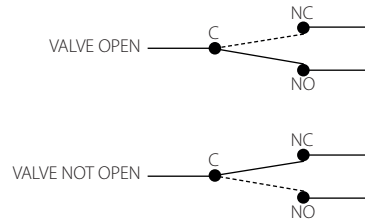


**Vac models:** Move the jumper to have the desired electrical connection.

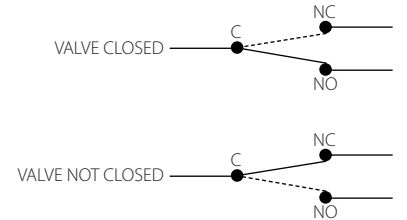
**Vdc models:** No jumper change is needed

### Auxiliary switches

M1 (additional opening microswitch)



M2 (additional closing microswitch)



## Technical specification

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

# CT3 - 194.7 lb-in (22 Nm)



## Ordering Codes

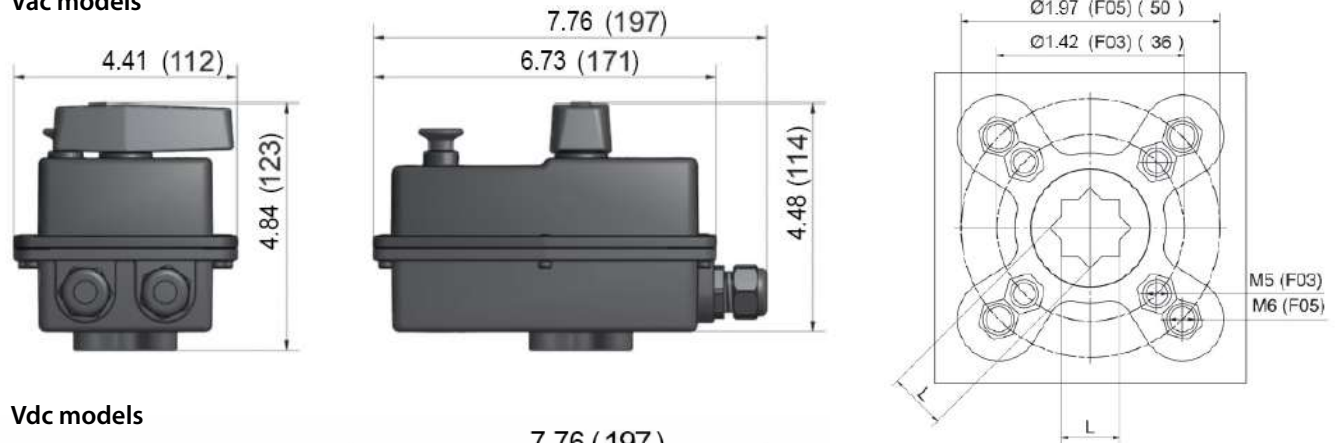
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	Price list
CT3ACM2	230 Vac - 50/60 Hz	2/3 wires	45 sec @ 50Hz 38 sec @ 60Hz	2 x Free auxiliary switches	<b>\$599.87</b>
CT3BCM2	110 Vac - 50/60 Hz	2/3 wires	45 sec @ 50Hz 38 sec @ 60Hz		<b>\$609.72</b>
CT3CCM2	24 Vac - 50/60 Hz	2/3 wires	45 sec @ 50Hz 38 sec @ 60Hz		<b>\$609.72</b>
CT3DCN2	24V DC	2/3 wires	30 sec.		<b>\$595.99</b>

## Optional models on request:

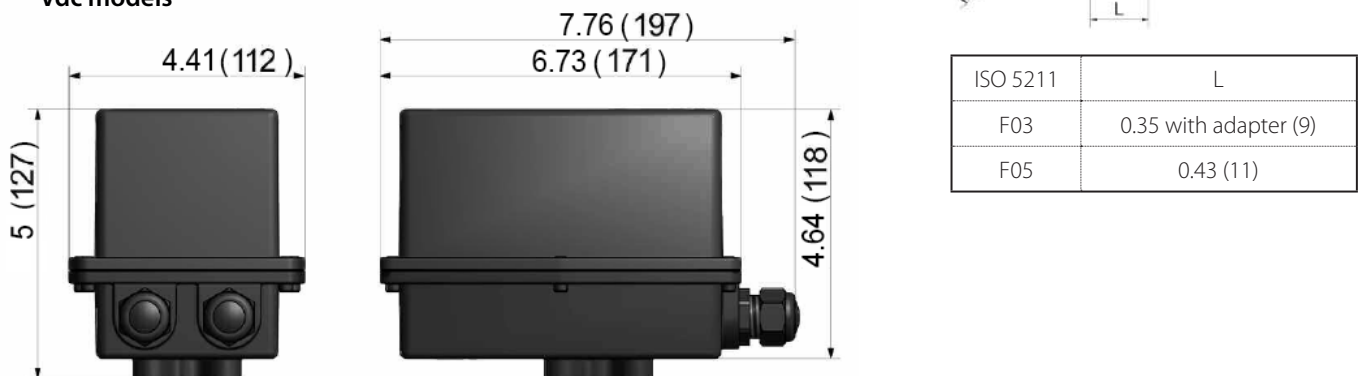
- 12 Vdc power supply
- Optional speed: - Vac only : 9 sec  
- Vdc only: 10 sec
- Proportional models: 0(2)-10 Vdc, 0(4)-20 mA, Modbus
- Electronic fail safe (see page 22)

## Dimensions inches (mm)

### Vac models



### Vdc models

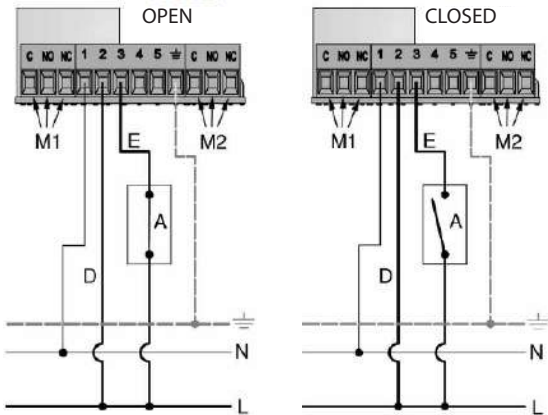


ISO 5211	L
F03	0.35 with adapter (9)
F05	0.43 (11)

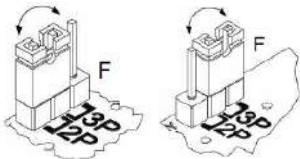
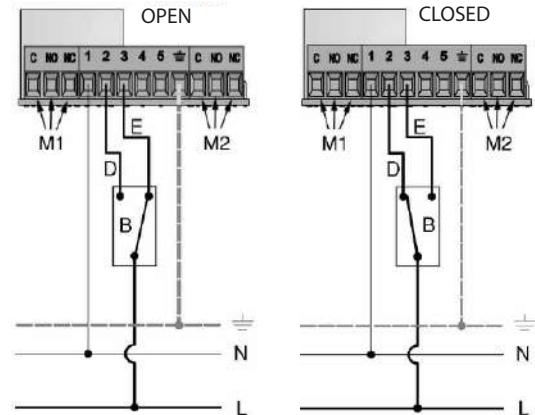


## Wiring diagrams

### 2 wires control



### 3 wires control

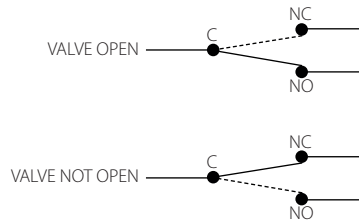


**Vac models:** Move the jumper to have the desired electrical connection.

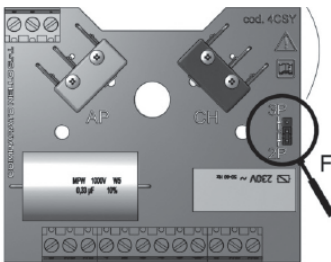
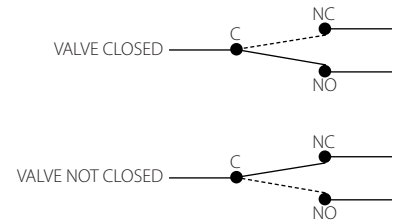
**Vdc models:** No jumper change is needed

### Auxiliary switches

M1 (additional opening microswitch)



M2 (additional closing microswitch)



## Technical specification

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

# CT4 - 354 lb-in (40 Nm)



## Ordering Codes

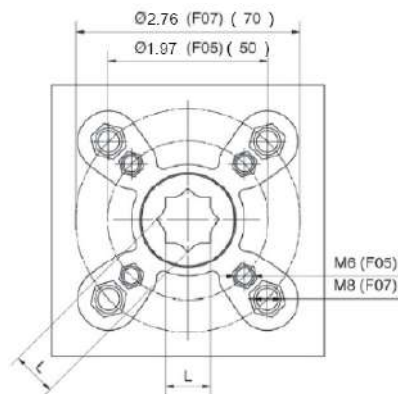
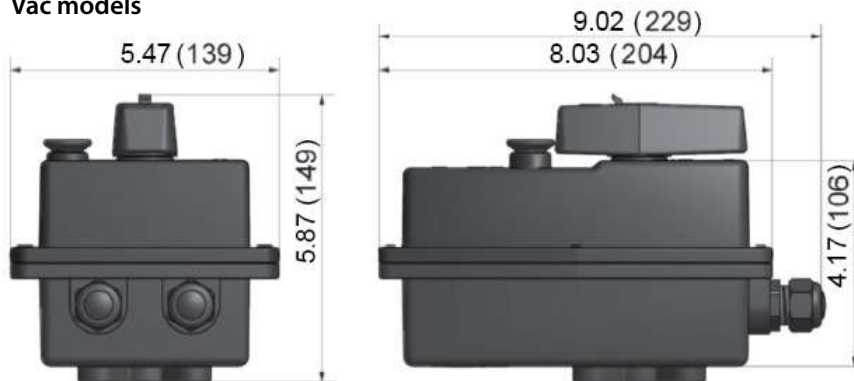
Code	Power supply	Control Type	Running time (0°-90°)	Feedback type	Price list
CT4ACM2	230 Vac 50 Hz	2/3 wires	55 sec.	2 x Free auxiliary switches	<b>\$838.75</b>
CT4BCM2	110 Vac 50 Hz	2/3 wires	55 sec.		<b>\$868.14</b>
CT4CCM2	24 Vac 50 Hz	2/3 wires	55 sec.		<b>\$868.14</b>
CT4HCM2	230 Vac 60Hz	2/3 wires	45 sec.		<b>\$838.75</b>
CT4ICM2	110 Vac 60Hz	2/3 wires	45 sec.		<b>\$868.14</b>
CT4LCM2	24 Vac 60Hz	2/3 wires	45 sec.		<b>\$868.14</b>

## Optional models on request:

- 24Vdc and 12 Vdc power supply
- Proportional models: 0(2)-10 Vdc, 0(4)-20 mA, Modbus
- Optional speed: - Vac only : 14 sec and 32 sec
- Electronic fail safe (see page 22)

## Dimensions inches (mm)

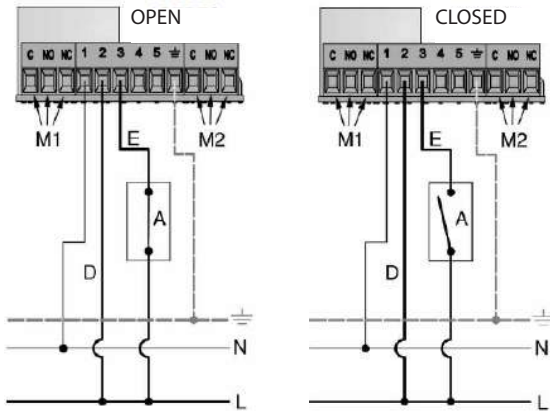
### Vac models



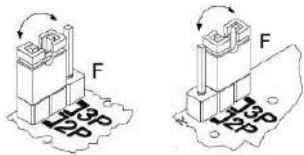
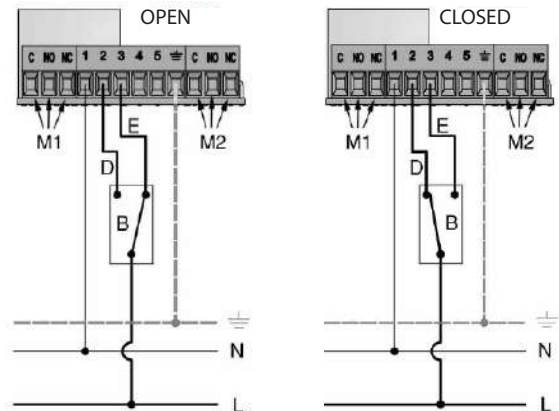
ISO 5211	L
F05	0.43 with adapter (11)
F07	0.55 (14)

## Wiring diagrams

### 2 wires control



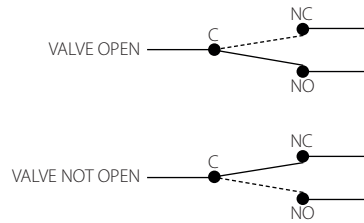
### 3 wires control



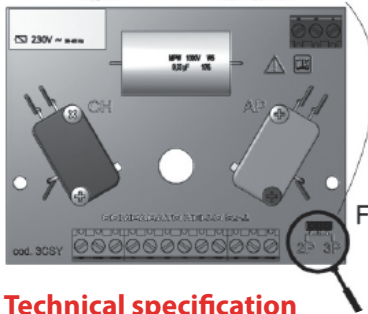
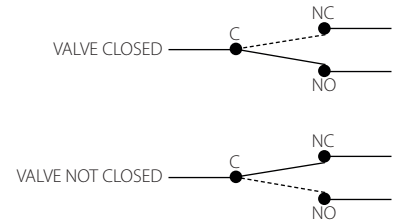
**Vac models:** Move the jumper to have the desired electrical connection.

### Auxiliary switches

M1 (additional opening microswitch)



M2 (additional closing microswitch)



## Technical specification

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



# Super capacitors electronic Fail Safe actuators

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

## Ordering Codes

Code	Torque (in/lb)	Power supply	Price list
CT2FCM2Fx	97.4	24Vdc - 24V 50/60 Hz	<b>\$1,096.19</b>
CT2GCM2Fx	97.4	100...240V 50/60 Hz	<b>\$1,358.14</b>
CT3FCM2Fx	194.7	24Vdc - 24V 50/60 Hz	<b>\$1,356.86</b>
CT3GCM2Fx	194.7	100...240V 50/60 Hz	<b>\$1,618.77</b>
CT4FCM2Fx	354	24Vdc - 24V 50/60 Hz	<b>\$1,782.34</b>
CT4GCM2Fx	354	100...240V 50/60 Hz	<b>\$2,044.21</b>

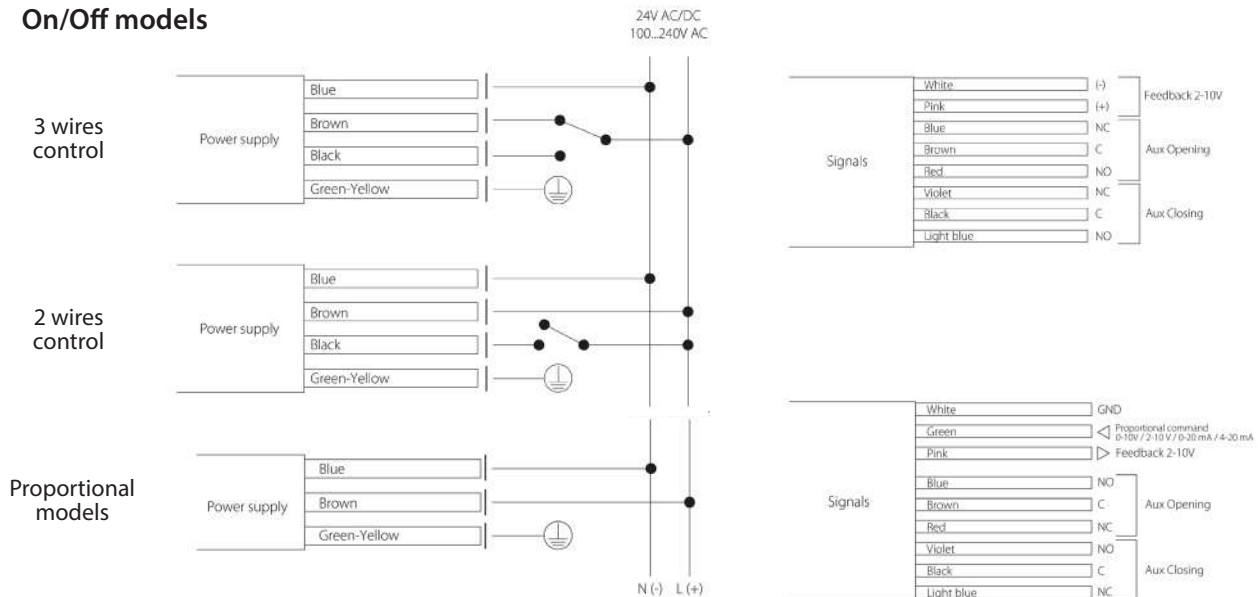
Note: X=O for Fail safe valve open; C for Fail Safe valve close X

## Technical specification - Fail safe Models

	CT2	CT3	CT4
Available power supply	24Vdc - 24V 50/60 Hz - 100...240V 50/60Hz		
Max. Running power consumption	10W	25W	25W
Power supply cable	40 in. (1 m) length AWG20		
Signal cable	40 in. (1 m) 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	97.3 lb-in	194.7 lb-in	354 lb-in
Available control type	On/off 2&3 wires - proportional		
Valve position feedback	2 -10V DC		
Manual Override	Manual lever with arrow indicating the position of the sphere		
Running Speed (90°)	30s		
Fail safe speed(90°)	20 s	26 s	30 s
Max Noise	45 dB (A)	60 dB (A)	65 dB (A)
Degree of protection	IP67		
SuperCaps recharging time	15 min (90°)	15 min (90°)	50 min (90°)
Operating ambient temperature	14°F to 122°F (-10°C to 50°C)		
Certification	CE		

## Wiring diagrams

### On/Off models

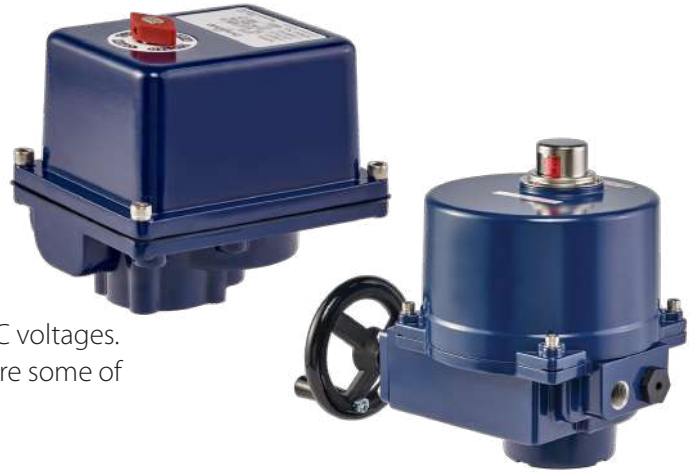




# E-Tork

## 150 And 8850 In-Lb Heavy Duty Electric Actuators

The ET Series Electric Actuators are available in AC and DC voltages. With output torques from 150 to 8850 inch-pound they are some of the most compact, high-output design in the market.



### Technical Features:

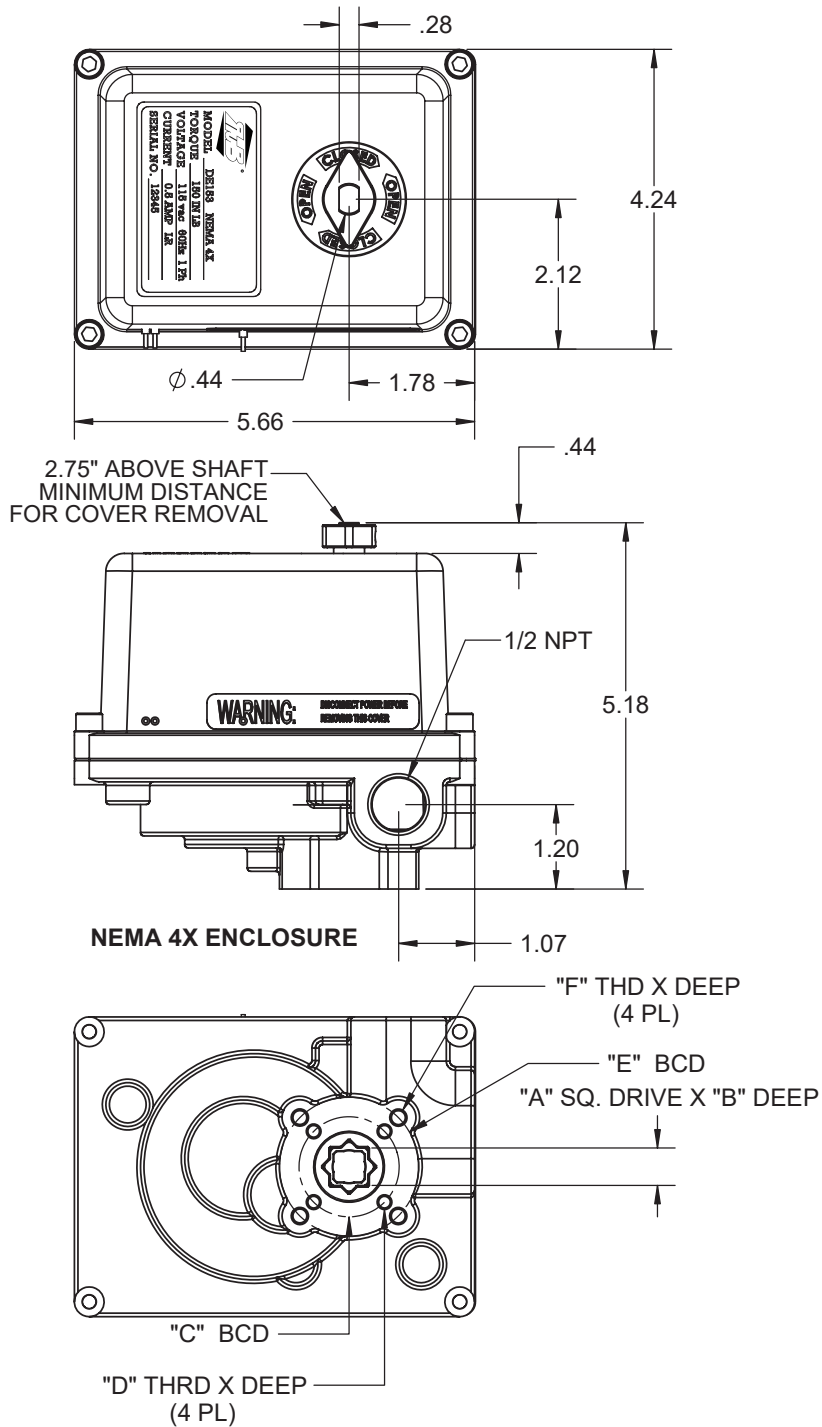
- Direct mount on **RuB** ball valves, for a compact package and perfect shaft alignment
- 50% rated duty cycle reversing motor with thermal overload protection
- Rugged corrosion resistant construction with aluminum housing, durable epoxy/polyurethane
- Coating, 316 stainless shaft and fasteners
- Manual override shaft - stainless steel type 316
- Can be wired in parallel with other E-Torks – separate circuits not required
- ISO 5211 mounting
- Fast, simple travel adjustments
- 2 limit switches for travel indication
- Heat treated steel gearing, lubricated for life • 180° travel capability
- NEMA 4 and 4X enclosure

### Price list:

Model	Code	Torque (In/LB)	Seconds 90°	Power	Price list
ET-1	BAA1019N	150	2.5s	110VAC	<b>\$618.76</b>
	BAA1019C	150	2.5s	24 VAC/VDC	<b>\$877.76</b>
	BAA1019A	150	2.5s	220VAC	<b>\$681.14</b>
ET-2	BAA1020N	300	6s	110VAC	<b>\$905.82</b>
	BAA1020C	300	6s	24 VAC/VDC	<b>\$1,194.78</b>
	BAA1020A	300	6s	220VAC	<b>\$1,018.69</b>
ET-3	BAA1021N	443	20s	110VAC	<b>\$1,937.13</b>
	BAA1021C	443	20s	24 VAC	<b>\$2,145.38</b>
	BAA1021D	443	20s	24 VDC	<b>\$2,145.38</b>
	BAA1021A	443	20s	220VAC	<b>\$2,038.83</b>
ET-4	BAA1022N	795	15s	110VAC	<b>\$2,784.63</b>
	BAA1022C	795	15s	24 VAC	<b>\$3,147.84</b>
	BAA1022D	795	15s	24 VDC	<b>\$3,147.84</b>
	BAA1022A	795	15s	220VAC	<b>\$2,929.92</b>
ET-5	BAA1023N	1.325	22s	110VAC	<b>\$3,365.76</b>
	BAA1023C	1.325	22s	24 VAC	<b>\$3,728.98</b>
	BAA1023D	1.325	22s	24 VDC	<b>\$3,728.98</b>
	BAA1023A	1.325	22s	220VAC	<b>\$3,511.05</b>
ET-6	BAA1024N	2.000	26s	110VAC	<b>\$3,801.62</b>
	BAA1024C	2.000	26s	24 VAC	<b>\$3,995.34</b>
	BAA1024D	2.000	26s	24 VDC	<b>\$3,995.34</b>
	BAA1024A	2.000	26s	220VAC	<b>\$3,946.90</b>
ET-7	BAA1025N	3.540	16s	110VAC	<b>\$4,915.47</b>
	BAA1025C	3.540	16s	24 VAC	<b>\$5,278.68</b>
	BAA1025D	3.540	16s	24 VDC	<b>\$5,278.68</b>
	BAA1025A	3.540	16s	220VAC	<b>\$4,915.47</b>
ET-8	BAA1026N	4.425	28s	110VAC	<b>\$5,394.91</b>
	BAA1026C	4.425	28s	24 VAC	<b>\$5,598.31</b>
	BAA1026D	4.425	28s	24 VDC	<b>\$5,598.31</b>
	BAA1026A	4.425	28s	220VAC	<b>\$5,486.92</b>
ET-9	BAA1027N	5.750	35s	110VAC	<b>\$5,951.84</b>
	BAA1027C	5.750	35s	24 VAC	<b>\$6,160.08</b>
	BAA1027D	5.750	35s	24 VDC	<b>\$6,160.08</b>
	BAA1027A	5.750	35s	220VAC	<b>\$5,951.84</b>
ET-10	BAA1028N	8.850	46s	110VAC	<b>\$6,445.81</b>
	BAA1028C	8.850	46s	24 VAC	<b>\$6,649.21</b>
	BAA1028D	8.850	46s	24 VDC	<b>\$6,649.21</b>
	BAA1028A	8.850	46s	220VAC	<b>\$6,591.09</b>

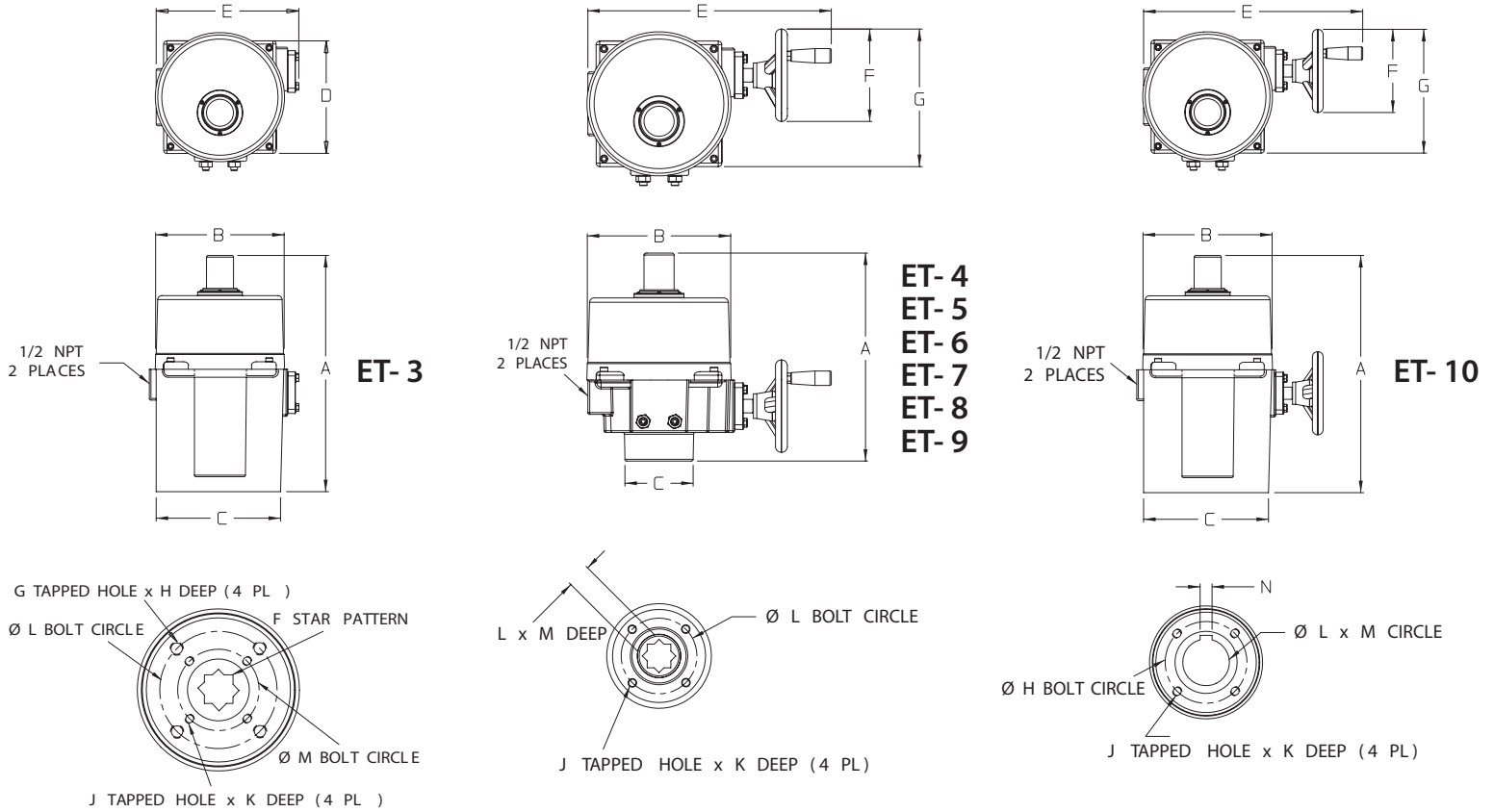


## Dimensions inches



Model	Torque In-lb	Speed sec/90°	A	B	C	D	E	F	AMPS LOCKED ROTOR		WT. LBS
									AC	12-24 DC/AC	
ET-1	150	2.5	.354 (9 mm)	.53	1417 (F03)	M5 .44 DP	1969 (F05)	M6 .46 DP	.5	3.0	4.0
ET-2	300	6	.551 (14 mm)	.68	1417 (F03)	M5 .46 DP	1969 (F05)	M6 .46 DP	.5	3.0	4.0

## Dimensions inches



Model	Torque In-lb	Cycle Time	A	B	C	D	E	F	G	H	J	K	L	M	N
ET-3	443	20 sec	7.730 (196)	4.490 (114)	3.839 (98)	4.185 (106)	5.101 (130)	0.664 (17)	M6	0.590 (15)	M8	0.750 (19)	2.750 (70)	1.969 (50)	--
ET-4	795	15 sec													
ET-5	1325	22 sec	10.04 (255)	7.87 (200)	3.55 (90.1)	--	13 (330)	4.92 (125)	7.87 (200)	2.76 (70)	M8	.75 (19)	.866 (22)	1.18 (30)	--
ET-6	2000	26 sec													
ET-7	3540	16 sec													
ET-8	4425	28 sec	12.40 (315)	9.21 (234)	4.92 (125)	--	14.96 (380)	7.68 (195)	11.81 (300)	4.02 (102)	M10	.63 (16)	1.417 (36)	1.57 (40)	--
ET-9	5750	35 sec													
ET-10	8850	46 sec	23.23 (590)	10.24 (260)	7.09 (180)	--	17.72 (450)	11.61 (295)	13.39 (340)	5.51 (140)	M16	1.14 (29)	1.378 (35)	2.36 (60)	.39 (10)



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: -31°F (-35°C)
- NAMUR pads for direct mount of solenoid and limit switch
- Extruded aluminum body hard anodized cylinder bore rock hard and glass smooth



**Price list:**

Model	ISO5211 Flange	Square shaft (Inch)	Price list
EA4-1	F03	0.35	<b>\$158.40</b>
EA4-2	F03/F05	0.35	<b>\$223.36</b>
EA4-3	F05/F07	0.55	<b>\$274.59</b>
EA4-4	F05/F07	0.55	<b>\$392.66</b>
EA4-5	F05/F07	0.67	<b>\$525.90</b>
EA4-6	F07/F10	0.67	<b>\$641.47</b>
EA4-7	F07/F10	0.87	<b>\$921.97</b>
EA4-9	F10/F12	1.06	<b>\$1,840.27</b>
EA4-10	F14	1.42	<b>\$2,566.70</b>
EA4-12	F16	1.81	<b>\$5,327.12</b>

**Note:** The prices refer to the double acting actuators. For single acting ask to your **RuB, Inc.** representative.

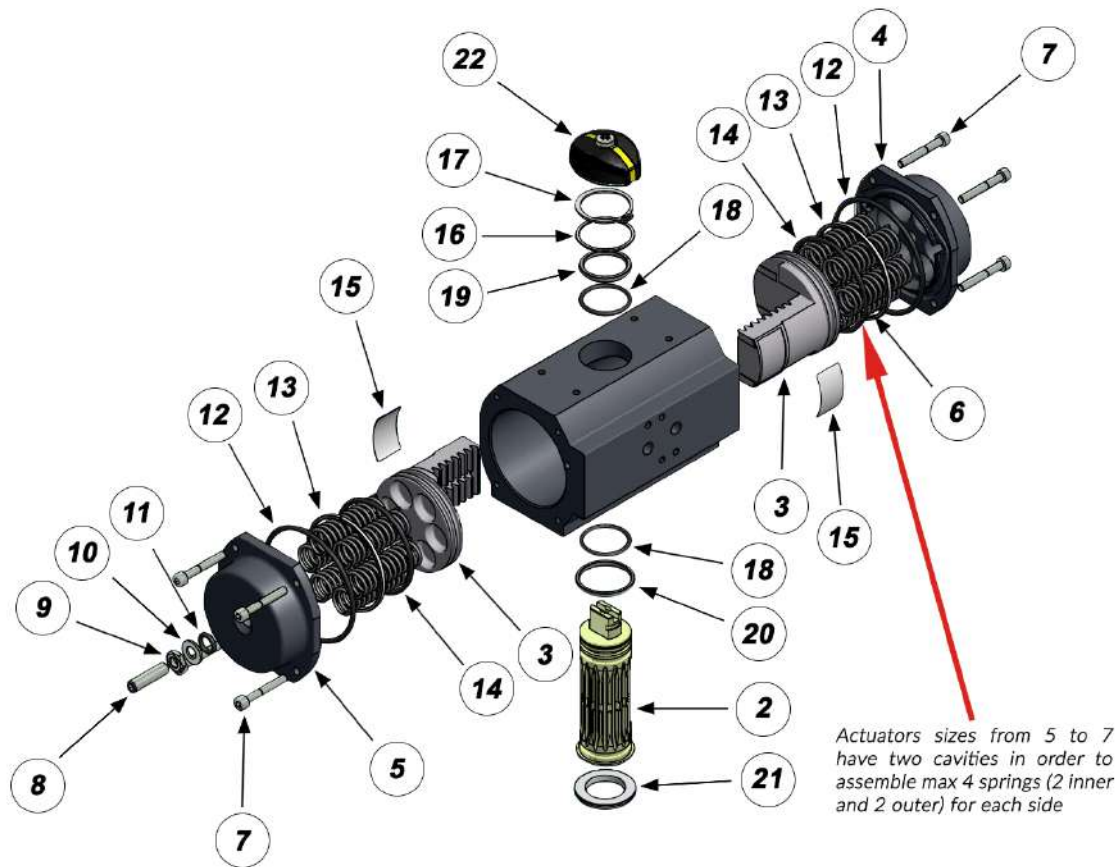


Solenoid Valve Code	Description	Price list
AD-00001	AD-1 (UCI) COMPLETE	<b>\$119.90</b>
AD-00002	AD-1 DUAL COIL 120 VAC SOLENOID	<b>\$222.65</b>
AD-00003	SOLENOID VLV AD-1 5/2 3/2 110 VAC	<b>\$107.73</b>
AD-00009	COILS 12 DC (28)	<b>\$25.50</b>
AD-00012	COILS 24AC (16)	<b>\$25.50</b>
AD-00013	COILS 24 DC (12)	<b>\$25.50</b>
AD-00015	SINGLE PILOT SOLENOID	<b>\$108.95</b>
AD-00016	AD-1 DUAL COIL 24 AC SOLENOID	<b>\$222.65</b>
AD-00017	AD-1 (UCI) COMPLETE COIL 24 DC	<b>\$129.82</b>
AD-00018	AD-1 (UCI) COMPLETE COIL 24 AC	<b>\$145.48</b>
AD-00019	SOLENOID VLV AD-1 5/2 3/2 24 VAC	<b>\$137.54</b>
AD-00020	COILS 220 VAC	<b>\$150.86</b>



Auxiliary switches Code	Description	Price list
EA2-LS	Auxiliary switches box	<b>\$191.38</b>

## Construction and materials:



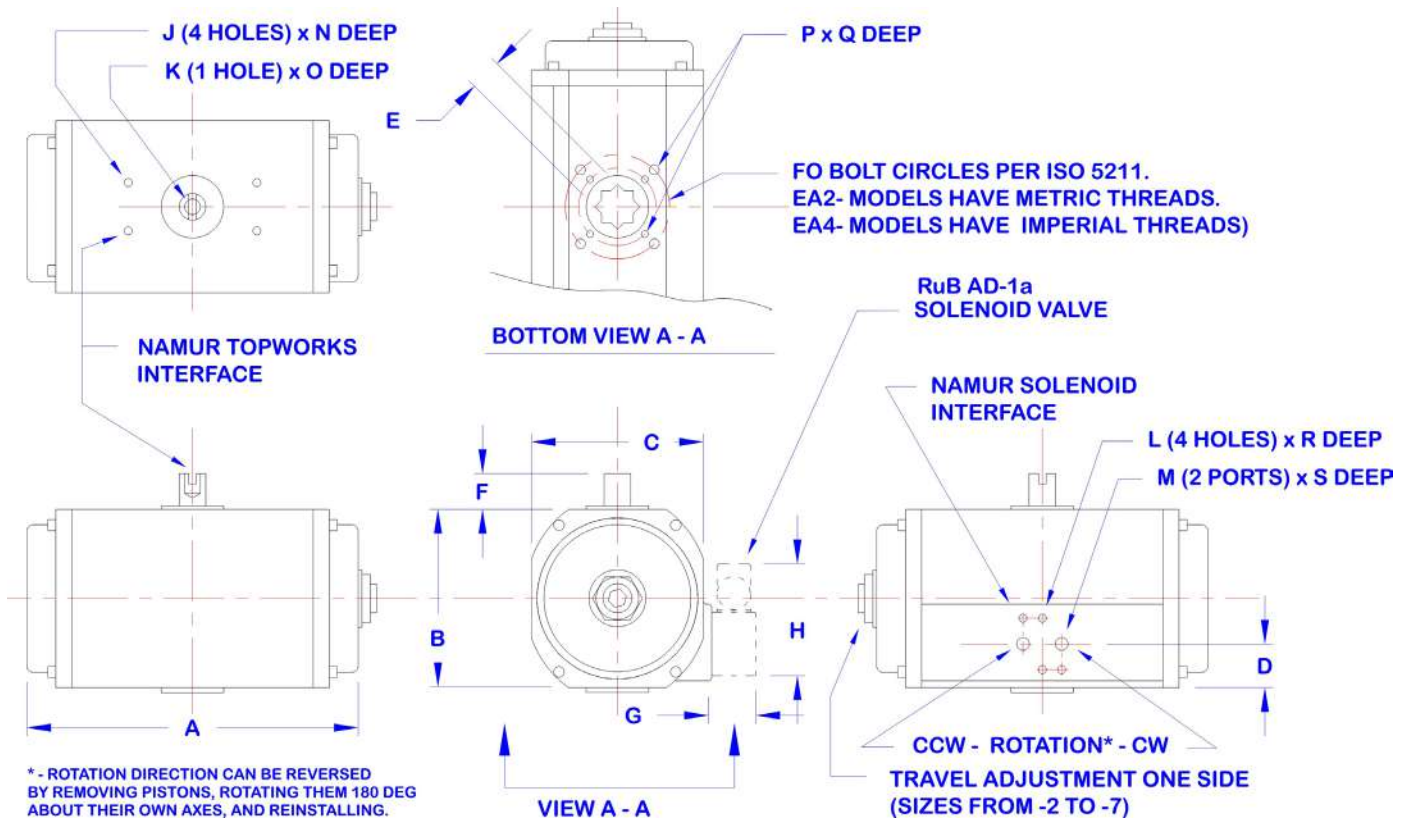
## Bill of materials

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	Imperial system - inch																		
ISO5211	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	
<b>1</b>	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
<b>2</b>	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
<b>3</b>	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
<b>4</b>	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
<b>5</b>	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
<b>6</b>	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
<b>7</b>	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
<b>9</b>	F10/F12	13.39	8.17	7.52	1.65	1.06	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	1/2	0.79	0.31	0.50
<b>10</b>	F14	14.21	9.84	8.94	2.4	1.42	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	3/4	0.98	0.31	0.50
<b>12</b>	F16	19.52	13.31	11.81	-	1.81	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.47	0.47	3/4	1.26	0.31	0.50





# s.31 NPT Mini Valve

1/4" - 3/4"



## Technical data:

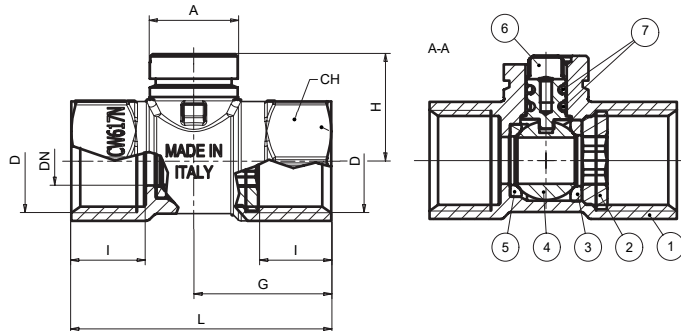
**Working Pressure:** 600 PSI non-shocking cold working pressure

**Working Temperature:** -4°F / +250°F

**Threads:** NPT taper ANSI B.1.20.1 threads

## Dimensions inches

Size	1/4"	3/8"	1/2"	3/4"
A	3.209	3.209	3.209	3.209
B	0.807	0.807	0.807	0.807
C	2.929	2.929	2.929	2.929
D	3.346	3.346	3.346	3.583
E	2.854	2.854	2.854	2.972
F	1.799	1.799	2.106	2.417
G	0.472	0.472	0.610	0.669
H	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT
I	0.315	0.394	0.394	0.500
L	31.496	31.496	31.496	31.496
Threads standard	ANSI B1.20.1			

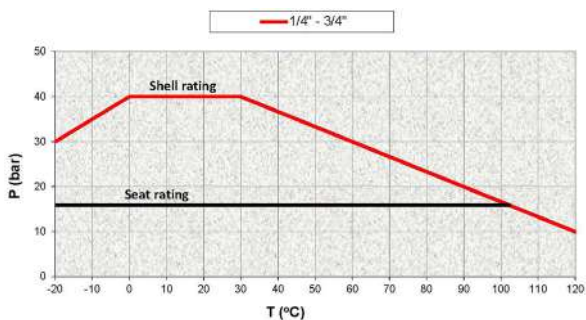


## Features:

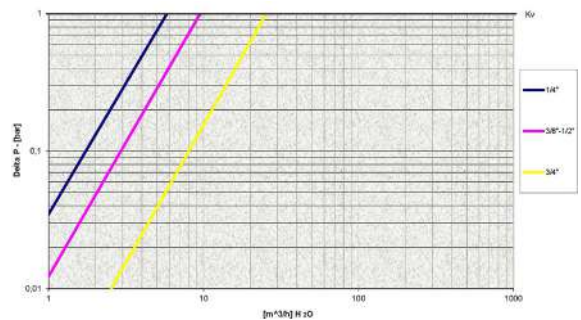
- 100% seal test guaranteed in according to EN12266-1 RATE A in either direction
- Compatible with most industrial fluids including those too viscous for pilot operated valves
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts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

	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Unplated retainer nut	1	CW617N
3	Retainer seat	1	PTFE
4	Chrome plated ball	1	CW617N
5	Body seat	1	PTFE
6	Unplated stem O-Ring design	1	CW617N
7	O-Ring	2	FPM
8	Compact power electric actuator (VDC or VAC models)	1	---
9	Spring clip	1	AISI304

## Pressure-temperature chart



## Pressure drop chart



Valve	AV31BX3	AV31CX3	AV31DX3	AV31EX3
Valve Size	1/4"	3/8"	1/2"	3/4"
Price List	<b>\$30.77</b>	<b>\$30.77</b>	<b>\$30.77</b>	<b>\$39.12</b>
Box Quantity	25	25	25	16



CP Electric Actuator	Actuation kit	CP5xy-31BX3	CP5xy-31CX3	CP5xy-31DX3	CP5xy-31EX3
	Price List	<b>\$178.07</b>	<b>\$178.07</b>	<b>\$178.64</b>	<b>\$188.23</b>

**Note for ordering code:**

x = A for 230 VAC 50 Hz; B = for 110 VAC 60 Hz; C = for 24 VAC 50/60 Hz; D for 24 Vdc  
 y = 2 for 2 wires electrical connection; 3 for 3 wires electrical connection

**Torque for actuator sizing**

Delta P →	0 - 16 Bar
Valve size	Nm
<b>1/4" to 1/2"</b>	1.8
<b>3/4"</b>	2.5

**Torque correction factors**

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

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

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

# s.6439 NPT

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



## Technical data:

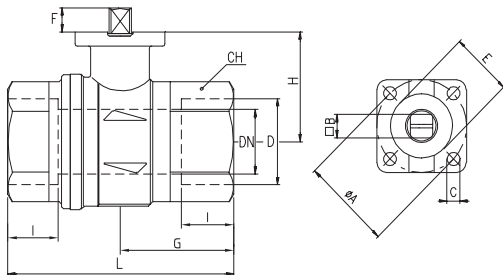
**Working Pressure:** 600 PSI non-shocking cold working pressure

**Working Temperature:** -4°F / +350°F

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

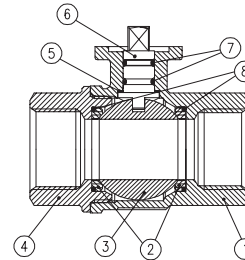
## Dimensions inches

Code	S64D39	S64E39	S64F39	S64G39	S64H39	S64I39
D	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN	0.590	0.787	0.984	1.259	1.575	1.968
I	0.610	0.708	0.826	0.905	0.964	1.043
L	2.598	2.933	3.562	4.094	4.606	5.314
G	1.201	1.456	1.791	2.047	2.322	2.657
H	1.220	1.515	1.673	2.185	2.441	2.716
CH	1.063	1.259	1.614	1.968	2.165	2.756
ØA	1.417	1.417	1.417	1.968	1.968	1.968
B	0.354	0.354	0.354	0.551	0.551	0.551
C	0.220	0.220	0.220	0.259	0.259	0.259
E	0.984	0.984	0.984	1.378	1.378	1.378
F	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



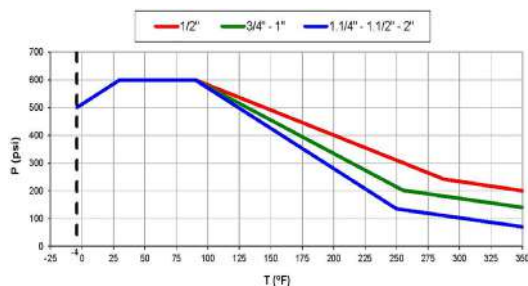
## Features:

- 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
- Two FPM O-rings at the stem for maximum safety
- Blowout-proof stainless steel stem
- Reinforced PTFE self-lubricating seats with flexible-lip and wear compensation design

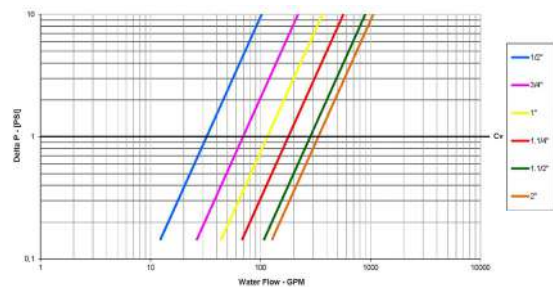


Part description	Qty	Material
1 Unplated body	1	CW617N
2 Ball seat	2	PTFE graphite filled 15%
3 Stainless steel ball	1	AISI316
4 Unplated end-cap	1	CW617N
5 Washer	1	PTFE carbon filled 25%
6 Stainless steel stem O-ring design	1	AISI316
7 O-Ring	2	FPM
8 O-Ring	2	FPM

## Pressure-temperature chart



## Pressure drop chart





Valve	S64D39	S64E39	S64F39	S64G39	S64H39	S64I39
Valve Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Price List	<b>\$46.79</b>	<b>\$66.07</b>	<b>\$93.55</b>	<b>\$157.94</b>	<b>\$207.47</b>	<b>\$305.74</b>
Box Quantity	50	30	20	10	6	5



Double acting pneumatic actuator	Actuation kit	EA1D64D39	EA1D64E39	EA1D64F39	EA3D64G39	EA3D64H39	EA3D64I39
	Price List	<b>\$214.29</b>	<b>\$229.98</b>	<b>\$263.15</b>	<b>\$425.91</b>	<b>\$494.25</b>	<b>\$590.77</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$334.19</b>	<b>\$349.88</b>	<b>\$383.05</b>	<b>\$545.81</b>	<b>\$614.15</b>	<b>\$710.67</b>
Spring return pneumatic actuator	Actuation kit	EA2R64D39	EA2R64E39	EA2R64F39	EA3R64G39	EA3R64H39	EA4R64I39
	Price List	<b>\$290.87</b>	<b>\$311.17</b>	<b>\$348.93</b>	<b>\$469.90</b>	<b>\$559.00</b>	<b>\$758.98</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$410.77</b>	<b>\$431.07</b>	<b>\$468.83</b>	<b>\$589.79</b>	<b>\$678.90</b>	<b>\$878.88</b>



120 VAC, On/Off	Actuation kit	ET1B64D39	ET1B64E39	ET1B64F39	ET2B64G39	ET2B64H39	ET2B64I39
	Price List	<b>\$674.12</b>	<b>\$689.82</b>	<b>\$722.98</b>	<b>\$1,070.80</b>	<b>\$1,119.42</b>	<b>\$1,215.99</b>
24 VAC, On/Off	Actuation kit	ET1C64D39	ET1C64E39	ET1C64F39	ET2C64G39	ET2C64H39	ET2C64I39
	Price List	<b>\$933.12</b>	<b>\$948.81</b>	<b>\$981.98</b>	<b>\$1,359.77</b>	<b>\$1,408.39</b>	<b>\$1,504.96</b>



CP Electric Actuator	Actuation kit	CP5xy-64D39	CP5xy-64E39	-	-	-	-
	Price List	<b>\$223.79</b>	<b>\$239.48</b>	-	-	-	-

**note for code:**

x = A for 230 VAC 50 Hz; B = for 110 VAC ac 60 Hz; C = for 24 VAC 50/60 Hz; D for 24 Vdc  
y = 2 for 2 wires electrical connection; 3 for 3 wires electrical connection



120 VAC, On/Off	Actuation kit	CT1BAN164D39	CT1BAN164E39	CT1BAN164F39	CT4ICM264G39	CT4ICM264H39	CT4ICM264I39
	Price List	<b>\$287.62</b>	<b>\$306.89</b>	<b>\$334.37</b>	<b>\$1,043.33</b>	<b>\$1,092.86</b>	<b>\$1,191.12</b>
24 VAC, On/Off	Actuation kit	CT1CAN164D39	CT1CAN164E39	CT1CAN164F39	CT4LCM264G39	CT4LCM264H39	CT4LCM264I39
	Price List	<b>\$287.62</b>	<b>\$306.89</b>	<b>\$334.37</b>	<b>\$1,043.33</b>	<b>\$1,092.86</b>	<b>\$1,191.12</b>

**note for code:**

All the selection are made for delta P 0 - 200 PSI

**Torque for actuator sizing in-lb**

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

**Torque correction factors**

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

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

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

# s.6439 LT NPT

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



## Technical data:

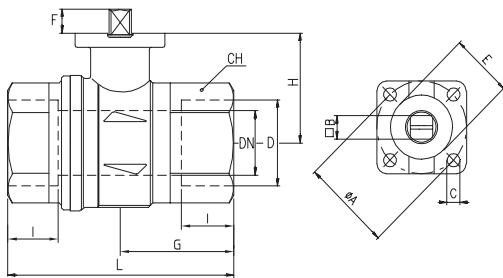
**Working Pressure:** Shell rating: 600 PSI | Seat rating: Delta P max permissible 230 PSI non-shock cold working pressure

**Working Temperature:** -4°F / +350°F

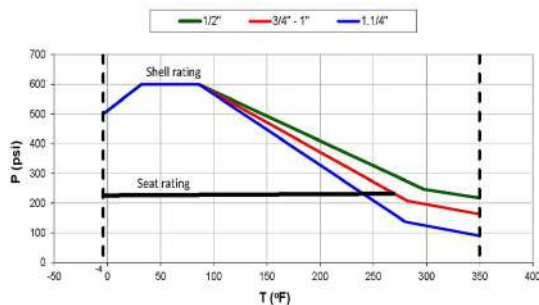
**Threads:** NPT taper ANSI B.1.20.1 female by female threads

## Dimensions inches

Code	S64F39A	S64G39A	S64H39A	S64I39A
D	1"	1 1/4"	1 1/2"	2"
DN	0.984	1.259	1.575	1.968
I	0.826	0.905	0.964	1.043
L	3.562	4.094	4.606	5.314
G	1.791	2.047	2.322	2.657
H	1.673	1.949	2.441	2.716
CH	1.614	1.968	2.165	2.756
ØA	1.417	1.417	1.968	1.968
B	0.354	0.354	0.551	0.551
C	0.220	0.220	0.259	0.259
E	0.984	0.984	1.378	1.378
F	0.334	0.570	0.570	0.570
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F05	F05

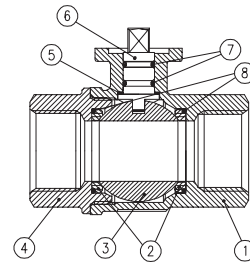


## Pressure-temperature chart



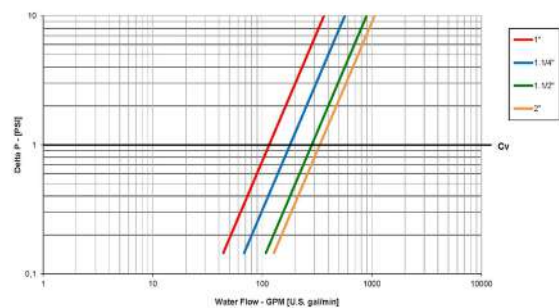
## Features:

- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Stainless steel ball for longer life
- 100% seal test guaranteed in according to EN 12266-1 RATE A



Part description	Qty	Material
1 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 drop chart



Valve	S64F39A	S64G39A	S64H39A	S64I39A
Valve Size	1"	1 ¼"	1 ½"	2"
Price List	<b>\$91.18</b>	<b>\$153.31</b>	<b>\$201.55</b>	<b>\$297.31</b>
Box Quantity	20	10	6	5



Double acting pneumatic actuator	Actuation kit	EA1D64F39A	EA1D64G39A	EA3D64H39A	EA3D64I39A
	Price List	<b>\$265.67</b>	<b>\$305.19</b>	<b>\$505.39</b>	<b>\$592.90</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$385.57</b>	<b>\$425.09</b>	<b>\$625.29</b>	<b>\$712.80</b>
Spring return pneumatic actuator Delta P < 90 PSI	Actuation kit	EA2R64F39A	EA2R64G39A	EA3R64H39A	EA3R64I39A
	Price List	<b>\$342.25</b>	<b>\$386.37</b>	<b>\$528.59</b>	<b>\$616.10</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$462.15</b>	<b>\$506.26</b>	<b>\$648.49</b>	<b>\$735.99</b>
Spring return pneumatic actuator Delta P 91 to 230 PSI	Actuation kit	EA2R64F39AC	EA2R64G39AC	EA3R64H39AC	EA3R64I39AE
	Price List	<b>\$351.46</b>	<b>\$390.97</b>	<b>\$535.51</b>	<b>\$631.21</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$471.35</b>	<b>\$510.88</b>	<b>\$655.41</b>	<b>\$751.11</b>



120 VAC, On/Off	Actuation kit	ET1B64F39A	ET1B64G39A	ET2B64H39A	ET2B64I39A
	Price List	<b>\$726.09</b>	<b>\$765.60</b>	<b>\$1,131.01</b>	<b>\$1,184.37</b>
24 VAC, On/Off	Actuation kit	ET1C64F39A	ET1C64G39A	ET2C64H39A	ET2C64I39A
	Price List	<b>\$985.08</b>	<b>\$1,024.60</b>	<b>\$1,419.97</b>	<b>\$1,507.49</b>



CP Electric Actuator	Actuation kit	CP5xy-64F39A	CP5xy-64G39A	-	-
	Price List	<b>\$275.17</b>	<b>\$314.69</b>	-	-

**note for ordering code:**

x = A for 230 VAC 50 Hz; B = for 110 VAC 60 Hz; C = for 24 VAC 50/60 Hz; D for 24 Vdc  
y = 2 for 2 wires electrical connection; 3 for 3 wires electrical connection



120 VAC, On/Off	Actuation kit	CT1BAN164F39A	CT1BAN164G39A	CT4ICM264H39A	CT4ICM264I39A
	Price List	<b>\$332.01</b>	<b>\$394.13</b>	<b>\$1,086.93</b>	<b>\$1,182.69</b>
24 VAC, On/Off	Actuation kit	CT1CAN164F39A	CT1CAN164G39A	CT4LCM264H39A	CT4LCM264I39A
	Price List	<b>\$332.01</b>	<b>\$394.13</b>	<b>\$1,086.93</b>	<b>\$1,182.69</b>

**note for code:**

All the selection are made for delta P 0 - 200 PSI

**Torque for actuator sizing in-lb**

Delta P -->	0 - 90 PSI		> 90 - 230 PSI	
	to open	to close	to open	to close
1"	19	19	31	31
1 ¼"	22	22	35	35
1 ½"	51	51	84	84
2"	70	70	115	115

**Torque correction factors**

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

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

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

# s.6441 NPT

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



## Technical data:

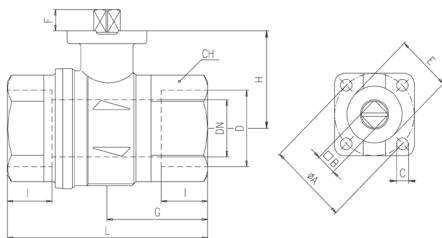
**Working Pressure:** 600 PSI up to 2", 450 PSI over 2" non-shock cold working pressure

**Working Temperature:** -4°F / +350°F

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

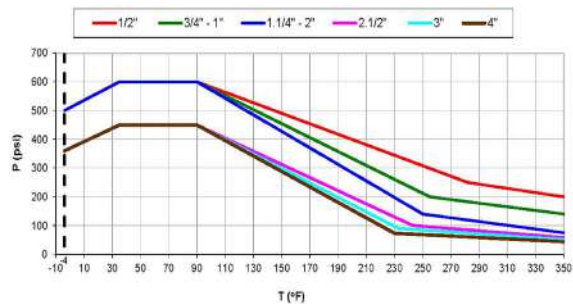
## Dimensions inches

Code	S64D41	S64E41	S64F41	S64DG41	S64H41	S64I41
D	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN	0.590	0.787	0.984	1.259	1.575	1.968
I	0.610	0.708	0.826	0.905	0.964	1.043
L	2.598	2.933	3.562	4.094	4.606	5.314
G	1.201	1.456	1.791	2.047	2.322	2.657
H	1.220	1.515	1.673	2.185	2.441	2.716
CH	1.063	1.259	1.614	1.968	2.165	2.756
ØA	1.417	1.417	1.417	1.968	1.968	1.968
B	0.354	0.354	0.354	0.551	0.551	0.551
C	0.220	0.220	0.220	0.259	0.259	0.259
E	0.984	0.984	0.984	1.378	1.378	1.378
F	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



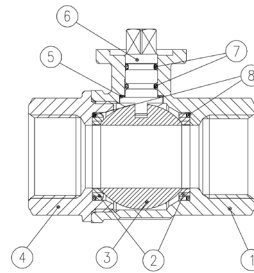
Ball seats and stem configuration of valves over 2" is different.

## Pressure-temperature chart



## Features:

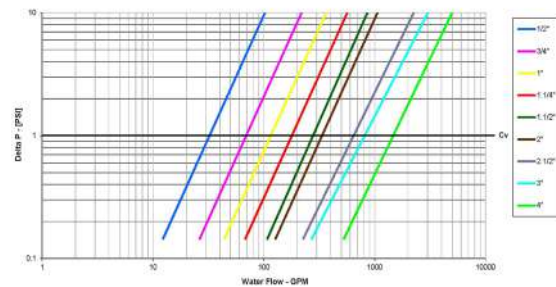
- 24h 100% seal test guaranteed
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated brass ball for longer life



Valves configuration up to 2"

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

## Pressure drop chart





Valve	S64D41	S64E41	S64F41	S64G41	S64H41	S64I41
Valve Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Price List	<b>\$33.52</b>	<b>\$45.82</b>	<b>\$68.02</b>	<b>\$122.44</b>	<b>\$162.29</b>	<b>\$247.58</b>
Box Quantity	50	30	20	10	6	5



Double acting pneumatic actuator	Actuation kit	EA1D64D41	EA1D64E41	EA1D64F41	EA3D64G41	EA3D64H41	EA3D64I41
	Price List	<b>\$201.79</b>	<b>\$210.90</b>	<b>\$239.91</b>	<b>\$413.09</b>	<b>\$453.04</b>	<b>\$537.59</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$321.69</b>	<b>\$330.80</b>	<b>\$359.81</b>	<b>\$532.99</b>	<b>\$572.93</b>	<b>\$657.50</b>
Spring return pneumatic actuator	Actuation kit	EA2R64D41	EA2R64E41	EA2R64F41	EA3R64G41	EA3R64H41	EA4R64I41
	Price List	<b>\$278.38</b>	<b>\$292.09</b>	<b>\$325.69</b>	<b>\$457.06</b>	<b>\$517.79</b>	<b>\$705.80</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$398.27</b>	<b>\$411.99</b>	<b>\$445.58</b>	<b>\$576.96</b>	<b>\$637.69</b>	<b>\$825.69</b>



120 VAC, On/Off	Actuation kit	ET1B64D41	ET1B64E41	ET1B64F41	ET2B64G41	ET2B64H41	ET2B64I41
	Price List	<b>\$662.21</b>	<b>\$671.31</b>	<b>\$700.32</b>	<b>\$1,038.69</b>	<b>\$1,078.64</b>	<b>\$1,163.20</b>
24 VAC, On/Off	Actuation kit	ET1C64D41	ET1C64E41	ET1C64F41	ET2C64G41	ET2C64H41	ET2C64I41
	Price List	<b>\$921.20</b>	<b>\$930.31</b>	<b>\$959.32</b>	<b>\$1,327.66</b>	<b>\$1,367.62</b>	<b>\$1,452.17</b>



120 VAC, On/Off	Actuation kit	CT1BAN164D41	CT1BAN164E41	CT1BAN164F41	CT4ICM264G41	CT4ICM264H41	CT4ICM264I41
	Price List	<b>\$274.34</b>	<b>\$286.64</b>	<b>\$308.84</b>	<b>\$1,007.83</b>	<b>\$1,047.67</b>	<b>\$1,132.97</b>
24 VAC, On/Off	Actuation kit	CT1CAN164D41	CT1CAN164E41	CT1CAN164F41	CT4LCM264G41	CT4LCM264H41	CT4LCM264I41
	Price List	<b>\$274.34</b>	<b>\$286.64</b>	<b>\$308.84</b>	<b>\$1,007.83</b>	<b>\$1,047.67</b>	<b>\$1,132.97</b>

**note for code:**

All the selection are made for delta P 0 - 200 PSI

**Torque for actuator sizing in-lb**

Delta P -->	0 - 200 PSI		600 PSI (450 PSI over 2")	
	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 1/4"	104	111	121	111
1 1/2"	220	180	273	180
2"	262	222	327	222

**Torque correction factors**

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

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

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

# s.95 NPT

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



## Technical data:

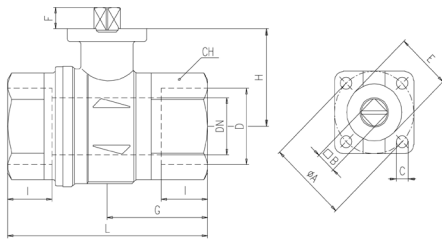
**Working Pressure:** 600 PSI up to 2", 450 PSI over 2" non-shock cold working pressure

**Working Temperature:** -40°F/+350°F

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

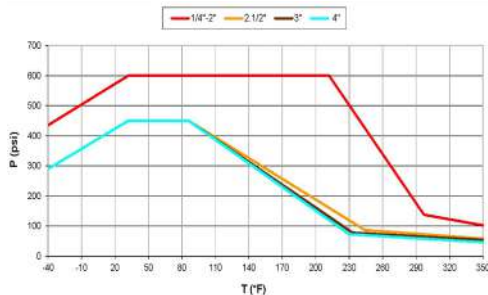
## Dimensions inches

Code	S95L41AM	S95M41AM	S95N41AM
D	2 1/2"	3"	4"
DN	2.559	3.150	3.937
I	1.260	1.378	1.634
L	6.142	6.969	8.504
G	3.071	3.484	4.252
H	3.502	3.779	4.366
CH	3.346	3.898	4.921
ØA	2.756	2.756	2.756
B	0.669	0.669	0.669
C	0.335	0.335	0.335
E	2.165	2.165	2.165
F	0.709	0.709	0.709
Flange connection DIN ISO 5211 DIN 3337	F07	F07	F07



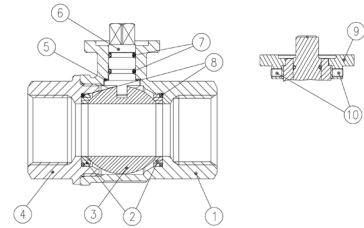
Ball seats and stem configuration of valves over DN shows the nominal flow diameter. Actual flow diameter complies with full port DIN 3357 part 4. Stem configuration of valves over 2" is slightly different. 2" is slightly different.

## Pressure-temperature chart



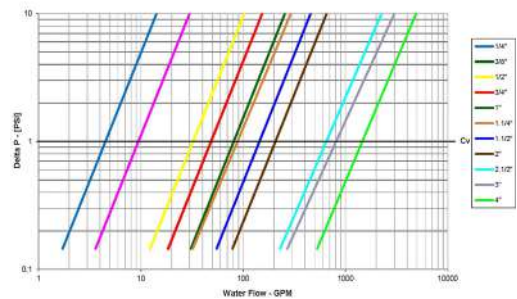
## Features:

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



	Part description	Qty	Material
1	Unplated body	1	CW617N
2	Ball seat	2	PTFE graphite filled 15%
3	Chrome plated ball	1	CW617N
4	Unplated end-cap	1	CW617N
5	Washer	1	PTFE carbon filled 25%
6	Nickel plated stem O-ring design	1	CW617N
7	O-Ring	2	FPM
8	O-Ring	2	FPM
9	Black anodized flange (only from 2.1/2" to 4")	1	Aluminum
10	Grub screw (only from 2.1/2" to 4")	2	CB4FF

## Pressure drop chart



Valve	S95L41AM	S95M41AM	S95N41AM
Valve Size	2 1/2"	3"	4"
Price List	<b>\$678.47</b>	<b>\$845.28</b>	<b>\$1,165.20</b>
Box Quantity	2	1	1



Double acting pneumatic actuator	Actuation kit	EA5D95L41AM	EA5D95M41AM	EA7D95N41AM
	Price List	<b>\$1,025.47</b>	<b>\$1,138.64</b>	<b>\$1,749.51</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$1,145.33</b>	<b>\$1,258.54</b>	<b>\$1,869.41</b>
Spring return pneumatic actuator	Actuation kit	EA5R95L41AM	EA6R95M41AM	EA7R95N41AM
	Price List	<b>\$1,080.78</b>	<b>\$1,358.69</b>	<b>\$1,928.21</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$1,200.67</b>	<b>\$1,478.58</b>	<b>\$2,048.10</b>



120 VAC, On/Off	Actuation kit	ET3B95L41AM	ET5B95M41AM	ET6B95N41AM
	Price List	<b>\$2,191.90</b>	<b>\$3,678.30</b>	<b>\$4,283.97</b>
24 VAC, On/Off	Actuation kit	ET3C95L41AM	ET5C95M41AM	ET6C95N41AM
	Price List	<b>\$2,400.14</b>	<b>\$4,041.52</b>	<b>\$4,477.68</b>

### Torque for actuator sizing in-lb

Delta P -->	0 - 200 PSI		600 PSI (450 PSI over 2")	
	to open	to close	to open	to close
2 1/2"	372	372	929	929
3"	902	902	1062	1062
4"	1646	1646	1991	1991

### Torque correction factors

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

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

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

# Puri-T 264 NPT

1/2" - 1 1/2" Lead Free, ISO 5211



All surfaces of this product in contact with drinking water contain less than 0.25% of lead in compliance with U.S. law

## Technical data:

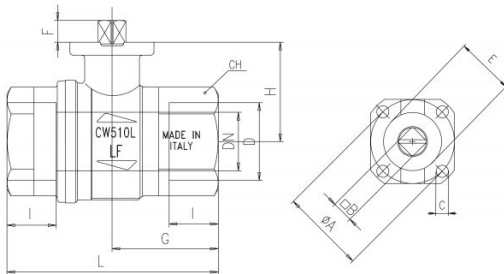
**Working Pressure:** 600 PSI up to 3/4" size,  
For 1" size up to 1 1/2" size:  
- Seat rating: Delta P max permissible 230 PSI  
- Shell rating: 600 PSI  
non-shock cold working pressure

**Working Temperature:** -4°F/+350°F

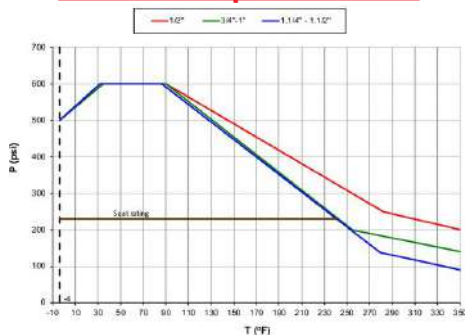
**Threads:** NPT taper ANSI B.1.20.1 female by female threads

## Dimensions inches

Code	T264D41	T264E41	T264F41	T264G41	T264H41
D	1/2"	3/4"	1"	1 1/4"	1 1/2"
DN	0.590	0.787	0.984	1.259	1.575
I	0.610	0.708	0.826	0.905	0.964
L	2.598	2.933	3.562	4.094	4.606
G	1.201	1.456	1.791	2.047	2.322
H	1.220	1.515	1.673	1.941	2.441
CH	1.063	1.259	1.614	1.968	2.165
ØA	1.417	1.417	1.417	1.417	1.968
B	0.354	0.354	0.354	0.354	0.551
C	0.220	0.220	0.220	0.220	0.259
E	0.984	0.984	0.984	0.984	1.378
F	0.295	0.334	0.334	0.334	0.570
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F03	F03	F05

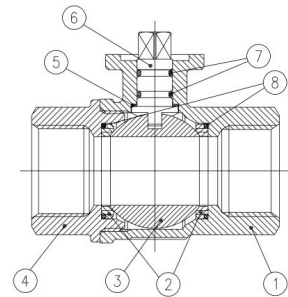


## Pressure-temperature chart



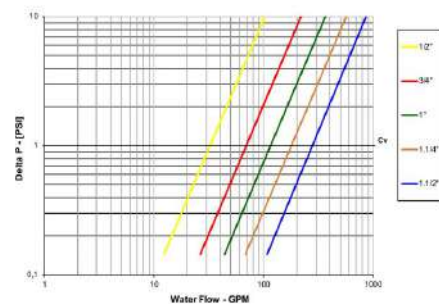
## Features:

- Certified by CSA International to comply with U.S. s3874, California AB1953, and similar laws of other states for the safe handling of drinking water
- 24h 100% seal test guaranteed
- Dual sealing system allows valve to be operated in either direction making installation easier
- No metal-to-metal moving parts
- No maintenance ever required
- Silicone-free lubricant on all seals
- Chrome plated lead free brass ball for longer life



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

## Pressure drop chart





Valve	T264D41	T264E41	T264F41	T264G41	T264H41
Valve Size	1/2"	3/4"	1"	1 1/4"	1 1/2"
Price List	<b>\$34.53</b>	<b>\$49.75</b>	<b>\$85.71</b>	<b>\$121.90</b>	<b>\$184.82</b>
Box Quantity	50	30	20	10	6



Double acting pneumatic actuator	Actuation kit	EA1D264D41	EA1D264E41	EA1D264F41	EA1D264G41	EA3D264H41
	Price List	<b>\$202.80</b>	<b>\$214.83</b>	<b>\$257.59</b>	<b>\$412.54</b>	<b>\$475.57</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$322.70</b>	<b>\$334.73</b>	<b>\$377.49</b>	<b>\$532.44</b>	<b>\$595.46</b>
Spring return pneumatic actuator	Actuation kit	EA2R264D41	EA2R264E41	EA2R264F41	EA2R264G41	EA3R264H41
	Price List	<b>\$279.39</b>	<b>\$296.02</b>	<b>\$343.37</b>	<b>\$456.51</b>	<b>\$540.32</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$399.29</b>	<b>\$415.92</b>	<b>\$463.27</b>	<b>\$576.41</b>	<b>\$660.22</b>



120 VAC, On/Off	Actuation kit	ET1B264D41	ET1B264E41	ET1B264F41	ET1B264G41	ET1B264H41
	Price List	<b>\$663.22</b>	<b>\$675.25</b>	<b>\$718.01</b>	<b>\$1,038.15</b>	<b>\$1,101.17</b>
24 VAC, On/Off	Actuation kit	ET1C264D41	ET1C264E41	ET1C264F41	ET1C264G41	ET1C264H41
	Price List	<b>\$922.22</b>	<b>\$934.24</b>	<b>\$977.00</b>	<b>\$1,327.12</b>	<b>\$1,390.14</b>



CP Electric Actuator	Actuation kit	CP5xy-264D41	CP5xy-264E41	CP5xy-264F41	CP5xy-264G41	-
	Price List	<b>\$224.80</b>	<b>\$243.41</b>	<b>\$292.85</b>	<b>\$314.14</b>	-

**note for code:**

x = A for 230 VAC 50 Hz; B = for 110 VAC ac 60 Hz; C = for 24 VAC 50/60 Hz; D for 24 Vdc  
y = 2 for 2 wires electrical connection; 3 for 3 wires electrical connection



120 VAC, On/Off	Actuation kit	CT1BAN1264D41	CT1BAN1264E41	CT1BAN1264F41	CT1BAN1264G41	CT4ICM2264H41
	Price List	<b>\$275.36</b>	<b>\$290.57</b>	<b>\$326.53</b>	<b>\$362.72</b>	<b>\$1,070.20</b>
24 VAC, On/Off	Actuation kit	CT1CAN1264D41	CT1CAN1264E41	CT1CAN1264F41	CT1CAN1264G41	CT4LCM2264H41
	Price List	<b>\$275.36</b>	<b>\$290.57</b>	<b>\$326.53</b>	<b>\$362.72</b>	<b>\$1,070.20</b>

**note for code:**

All the selection are made for delta P 0 - 200 PSI

**Torque for actuator sizing in-lb**

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

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

**Water flow ratings**

Size	T264D41	T264E41	T264F41	T264G41	T264H41
CV	32.3	69.3	115.5	179.1	283.1

**Torque correction factors**

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

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

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

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

1/2" - 1" ISO 5211



## Technical data:

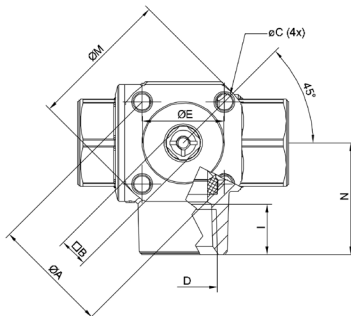
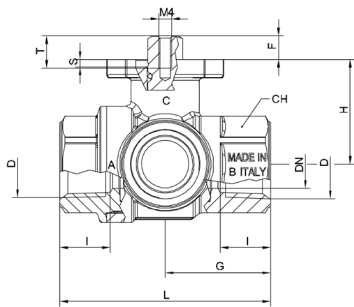
**Working Pressure:** 300 PSI non-shock cold working pressure

**Working Temperature:** -4°F / +302°F

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

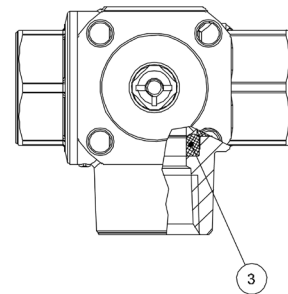
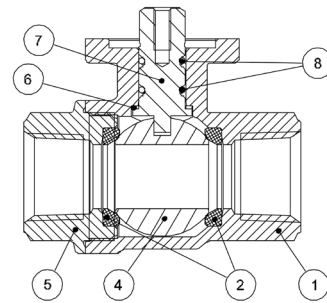
## Dimensions inches

Code	S73D41	S73E41	S73F41
Size	1/2"	3/4"	1"
DN	0.591	0.787	0.984
I	0.610	0.709	0.827
L	2.559	3.110	3.642
G	1.280	1.555	1.831
H	1.280	1.555	1.673
N	1.358	1.654	1.949
ØA	1.417	1.417	1.417
ØC	Ø 0.205 (M6)	Ø 0.205 (M6)	Ø 0.205 (M6)
ØE	0.984	0.984	0.984
B	0.354	0.354	0.354
ØM	1.709	1.709	1.709
S	0.087	0.087	0.087
T	0.394	0.394	0.394
F	0.287	0.327	0.327
CH	1.063	1.260	1.614



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

Valve	S73D41	S73E41	S73F41
Valve Size	1/2"	3/4"	1"
Price List	<b>\$59.80</b>	<b>\$83.95</b>	<b>\$119.60</b>
Box Quantity	6	6	4



Double acting pneumatic actuator	Actuation kit	EA2D73D41	EA2D73E41	EA3D73F41
	Price List	<b>\$302.62</b>	<b>\$327.28</b>	<b>\$486.07</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$422.52</b>	<b>\$447.18</b>	<b>\$605.97</b>
Spring return pneumatic actuator	Actuation kit	EA3R73D41	EA3R73E41	EA4R73F41
	Price List	<b>\$472.34</b>	<b>\$497.00</b>	<b>\$673.36</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$592.24</b>	<b>\$616.89</b>	<b>\$793.26</b>



120 VAC, On/Off	Actuation kit	ET1B73D41	ET1B73E41	ET2B73F41
	Price List	<b>\$682.56</b>	<b>\$703.92</b>	<b>\$1,024.59</b>
24 VAC, On/Off	Actuation kit	ET1C73D41	ET1C73E41	ET2C73F41
	Price List	<b>\$941.88</b>	<b>\$963.24</b>	<b>\$1,313.52</b>



120 VAC, On/Off	Actuation kit	CT2BCM273D41	CT3BCM273E41	CT4ICM273F41 <small>(LK9 is required)</small>
	Price List	<b>\$526.75</b>	<b>\$710.92</b>	<b>\$723.25</b>
24 VAC, On/Off	Actuation kit	CT2CCM273D41	CT3CCM273E41	CT4LCM273F41 <small>(LK9 is required)</small>
	Price List	<b>\$526.75</b>	<b>\$710.92</b>	<b>\$1,054.80</b>

**note for code:**  
All the selection are made for delta P 0 - 200 PSI

### Torque for actuator sizing in-lb

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

### Torque correction factors

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

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

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

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

1/2" - 1" ISO 5211



## Technical data:

**Working Pressure:** 450 PSI non-shock cold working pressure

**Working Temperature:** -4°F / +302°F

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

## Dimensions inches

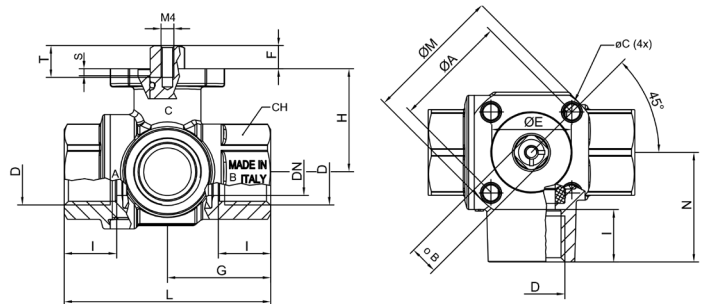
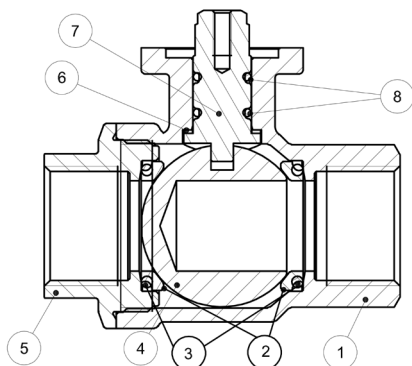
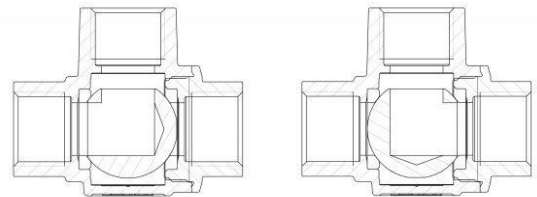
Code	S76D41	S76E41	S76F41
Size	1/2" NPT	3/4" NPT	1" NPT
DN	0.591	0.787	0.984
I	0.610	0.709	0.827
L	2.559	3.110	3.642
G	1.280	1.555	1.831
H	1.820	1.555	1.673
N	1.358	1.654	1.949
ØA	1.417	1.417	1.417
ØC	Ø 0.205 (M6)	Ø 0.205 (M6)	Ø 0.205 (M6)
ØE	0.984	0.984	0.984
Square B	0.354	0.354	0.354
ØM	1.709	1.709	1.709
S	0.087	0.087	0.087
T	0.394	0.394	0.394
F	0.287	0.327	0.327
CH	1.063	1.260	1.614

## 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 Sand blasted unplated body	1	CW617N
2 Seat	2	PTFE graphite filled 15%
3 O-Ring	2	FPM
4 Chrome plated ball	1	CW617N
5 Sand blasted unplated end-cap	1	CW617N
6 Washer	1	PTFE carbon filled 25%
7 Nickel plated stem O-ring design	1	CW617N
8 O-Ring	2	FPM

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





Valve	S76D41	S76E41	S76F41
Valve Size	1/2"	3/4"	1"
Price List	<b>\$59.80</b>	<b>\$83.95</b>	<b>\$119.60</b>
Box Quantity	6	6	4



Double acting pneumatic actuator	Actuation kit	EA1D76D41	EA1D76E41	EA1D76F41
	Price List	<b>\$218.18</b>	<b>\$245.62</b>	<b>\$279.77</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$338.08</b>	<b>\$365.52</b>	<b>\$399.67</b>
Spring return pneumatic actuator	Actuation kit	EA2R76D41	EA2R76E41	EA2R76F41
	Price List	<b>\$294.76</b>	<b>\$326.81</b>	<b>\$365.57</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$414.66</b>	<b>\$446.71</b>	<b>\$485.47</b>



120 VAC, On/Off	Actuation kit	ET1B76D41	ET1B76E41	ET1B76F41
	Price List	<b>\$678.10</b>	<b>\$705.55</b>	<b>\$739.71</b>
24 VAC, On/Off	Actuation kit	ET1C76D41	ET1C76E41	ET1C76F41
	Price List	<b>\$937.10</b>	<b>\$964.54</b>	<b>\$998.72</b>



CP Electric Actuator	Actuation kit	CP5xy-76D41	CP5xy-76E41	CP5xy-76F41
	Price List	<b>\$227.70</b>	<b>\$256.70</b>	<b>\$288.40</b>

**note for ordering code:**

x = A for 230 VAC 50 Hz; B = for 110 VAC 60 Hz; C = for 24 VAC 50/60 Hz; D for 24 Vdc  
y = 2 for 2 wires electrical connection; 3 for 3 wires electrical connection



120 VAC, On/Off	Actuation kit	CT1BAN176D41	CT1BAN176E41	CT1BAN176F41
	Price List	<b>\$300.62</b>	<b>\$324.77</b>	<b>\$360.42</b>
24 VAC, On/Off	Actuation kit	CT1CAN176D41	CT1CAN176E41	CT1CAN176F41
	Price List	<b>\$300.62</b>	<b>\$324.77</b>	<b>\$360.42</b>

**note for code:**

All the selection are made for delta P 0 - 200 PSI

**Torque for actuator sizing in-lb**

Delta P -->	0 - 450 PSI	
	to open	to close
1/2"	31	31
3/4"	36	36
1"	40	40

**Torque correction factors**

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

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

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

# s.134 NPT stainless steel

1/2" - 2" ISO 5211



## Technical data:

**Working Pressure:** 1000 PSI cold working pressure | 150 PSI WSP steam rating |  $2 \times 10^{-2}$  torr vacuum rating | \*150 psig non-shock working steam pressure. Not suitable for throttling steam.

**Working Temperature:** -50°F/ +450°F

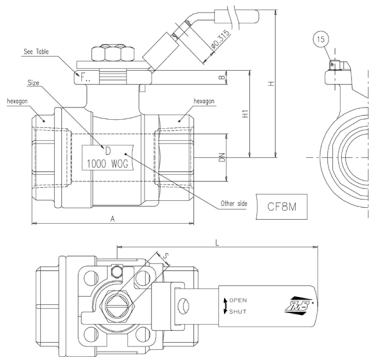
**Threads:** NPT taper ANSI B.1.20.1 female by female threads

## Dimensions inches

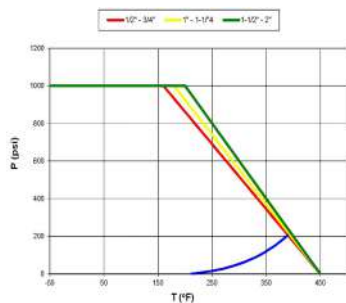
Code	134D41	134E41	134F41	134G41	134H41	134I41
D	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
DN	0.56	0.81	1	1.25	1.5	1.97
H1	1.40	1.56	1.84	2	2.3	2.8
A	2.60	2.99	3.54	3.94	4.41	5
B	0.26	0.28	0.319	0.319	0.319	0.382
S	0.35	0.35	0.43	0.43	0.43	0.55
Flange connection DIN ISO 5211 DIN 3337	F03	F03	F04/F05	F04/F05	F04/F05	F05

Code	134D41L*	134E41L*	134F41L*	134G41L*	134H41L*	134I41L*
L	4.40	4.40	5.87	5.87	5.87	7.5
H	2.50	2.66	3.14	3.3	3.6	4.5



## Pressure-temperature chart

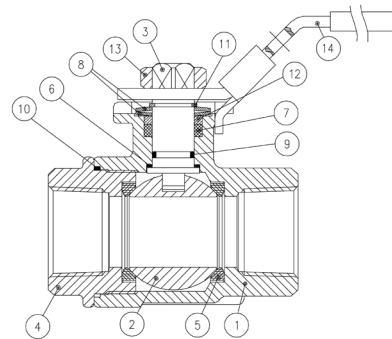


\*Ball valves fitted with stainless steel lock lever handle



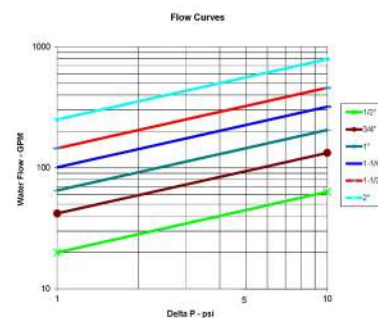
## Features:

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



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

## Pressure drop chart



Valve	134D41	134E41	134F41	134G41	134H41	134I41
Valve Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Price List	<b>\$108.78</b>	<b>\$118.66</b>	<b>\$164.81</b>	<b>\$220.83</b>	<b>\$290.05</b>	<b>\$425.20</b>
Box Quantity	50	30	20	10	6	5



Double acting pneumatic actuator	Actuation kit	EA1D134D41	EA2D134E41	EA3D134F41	EA3D134G41	EA3D134H41	EA3D134I41
	Price List	<b>\$219.27</b>	<b>\$304.14</b>	<b>\$414.36</b>	<b>\$474.49</b>	<b>\$528.98</b>	<b>\$592.65</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$339.17</b>	<b>\$424.04</b>	<b>\$534.24</b>	<b>\$594.39</b>	<b>\$648.86</b>	<b>\$712.55</b>
Spring return pneumatic actuator	Actuation kit	EA2R134D41	EA2R134E41	EA3R134F41	EA3R134G41	EA3R134H41	EA4R134I41
	Price List	<b>\$305.07</b>	<b>\$338.77</b>	<b>\$444.48</b>	<b>\$518.47</b>	<b>\$586.80</b>	<b>\$770.40</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$424.96</b>	<b>\$458.67</b>	<b>\$564.37</b>	<b>\$638.37</b>	<b>\$706.70</b>	<b>\$890.30</b>



120 VAC, On/Off	Actuation kit	ET1B134D41	ET1B134E41	ET2B134F41	ET2B134G41	ET2B134H41	ET3B134I41
	Price List	<b>\$679.12</b>	<b>\$699.02</b>	<b>\$1,021.21</b>	<b>\$1,081.49</b>	<b>\$1,135.98</b>	<b>\$3,089.34</b>
24 VAC, On/Off	Actuation kit	ET1C134D41	ET1C134E41	ET2C134F41	ET2C134G41	ET2C134H41	ET3C134I41
	Price List	<b>\$938.10</b>	<b>\$958.01</b>	<b>\$1,280.20</b>	<b>\$1,370.47</b>	<b>\$1,424.95</b>	<b>\$3,452.55</b>



120 VAC, On/Off	Actuation kit	CT1BAN1134D41	CT1BAN1134E41	CT3BCM2134F41	CT3BCM2134G41	CT4ICM2134H41	CT4ICM2134I41
	Price List	<b>\$349.60</b>	<b>\$359.48</b>	<b>\$791.78</b>	<b>\$847.80</b>	<b>\$1,175.44</b>	<b>\$1,310.59</b>
24 VAC, On/Off	Actuation kit	CT1CAN1134D41	CT1CAN1134E41	CT3CCM2134F41	CT3CCM2134G41	CT4LCM2134H41	CT4LCM2134I41
	Price List	<b>\$349.60</b>	<b>\$359.48</b>	<b>\$791.78</b>	<b>\$847.80</b>	<b>\$1,175.44</b>	<b>\$1,310.59</b>

**note for code:**

All the selection are made for delta P 0 - 200 PSI

**Torque for actuator sizing in-lb**

Delta P -->	0 - 200 PSI	
	to open	to close
Valve Size		
1/2"	49	41
3/4"	78	59
1"	123	66
1 1/4"	156	109
1 1/2"	250	144
2"	317	211

**Water flow ratings**

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
CV	20	42	65	101	145	250

# s.135 stainless steel

2" - 3" - 4" ANSI B16.5 flange, ISO 5211



## Technical data:

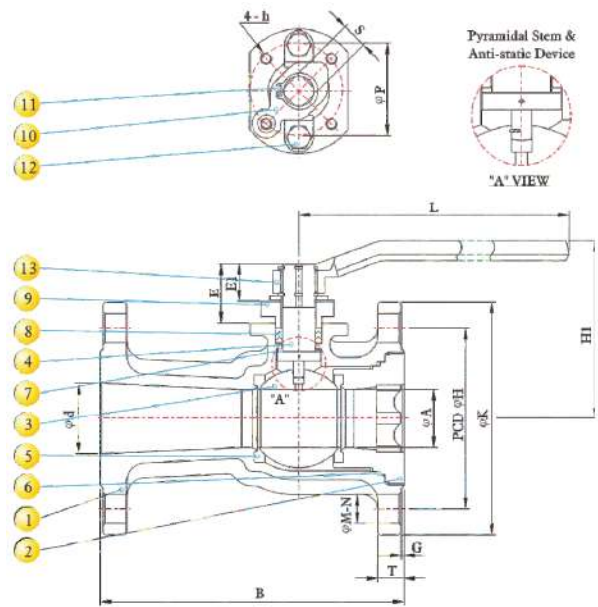
**Working Pressure:** General use: 750 PSI (see chart on reverse) | 275 PSI for ASME 150 CF8M (see chart on reverse) | Steam rating: 150 PSI WSP  
**Working Temperature:** -50°F/+475°F  
**Threads:** ANSI B16.5, B16.10 and B16.34 full compliance

## Dimensions inches

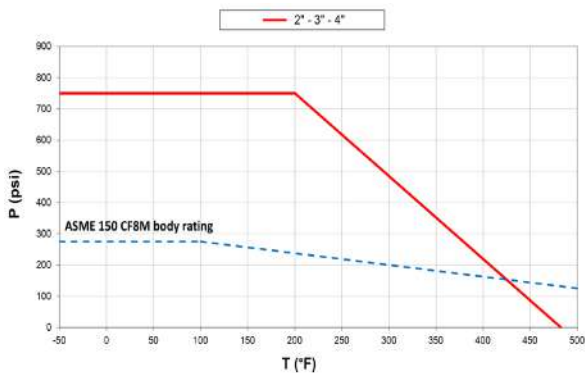
Code	135IF0	135MF0	135NF0
Size	2"	3"	4"
A	1.50	2.56	3.15
B	7.0	8.0	9.0
E	1.65	2.20	2.20
E1	1.02	1.44	1.44
d	1.97	3.15	3.94
G	0.06	0.06	0.06
H	4.75	6.00	7.50
K	6.00	7.50	9.00
T	0.62	0.75	0.94
M	0.75	0.75	0.75
N	4	4	8
P	2.76	4.02	4.02
S	0.67	0.87	0.87
L	9.13	12.87	12.87
H1	4.96	5.98	6.30
h	M8*P1.25	M10*P1.5	M10*P1.5

## Features:

- Anti-static device
- Locking device
- Long cycle life
- Test standard: API 598
- API 607 4th edition fire safe approval
- Vacuum service to 29" Hg



## Pressure-temperature chart



\*ME-PTFE is Molecular Enhanced PTFE

Part description	Qty	Material
1 Body	1	ASTM A351-CF8M
2 Cap	1	ASTM A351-CF8M
3 Ball	1	ASTM A351-CF8M
4 Stem	1	ASTM A276 Gr.316
5 Seat	2	ME-PTFE*
6 Gasket	1	ME-PTFE*
7 Thrust washer	1	ME-PTFE*
8 Packing	1	ME-PTFE*
9 Gland	1	ASTM A351-CF8
10 Stopper	1	SS304
11 Snap ring	2	SS304
12 Gland bolt	2	ASTM A193 Gr.B8
13 Handle	1	ASTM A536 Gr.65-45-12



Valve	135IF0	135MF0	135NF0
Valve Size	2"	3"	4"
Price List	<b>\$495.64</b>	<b>\$940.80</b>	<b>\$1,404.17</b>
Box Quantity	N/A	N/A	N/A



Double acting pneumatic actuator	Actuation kit	EA3D135IF0	EA4D135MF0	EA5D135NF0
	Price List	<b>\$1,162.95</b>	<b>\$1,882.36</b>	<b>\$2,471.89</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$1,282.85</b>	<b>\$2,002.25</b>	<b>\$2,591.79</b>
Spring return pneumatic actuator	Actuation kit	EA6R135IF0	EA7R135MF0	EA7R135NF0
	Price List	<b>\$1,740.61</b>	<b>\$2,513.38</b>	<b>\$3,021.93</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$1,860.52</b>	<b>\$2,633.28</b>	<b>\$3,141.82</b>



120 VAC, On/Off	Actuation kit	ET3B135IF0	ET4B135MF0	ET5B135NF0
	Price List	<b>\$2,825.50</b>	<b>\$4,119.36</b>	<b>\$5,311.76</b>
24 VAC, On/Off	Actuation kit	ET3C135IF0	ET4C135MF0	ET5C135NF0
	Price List	<b>\$3,033.74</b>	<b>\$4,482.57</b>	<b>\$5,674.97</b>

### Water flow ratings

Size	2"	3"	4"
CV	170	430	565

### Torque for actuator sizing in-lb

Delta P -->	Valve torque	
	to open	to close
2"	376.15	376.15
3"	678.9	678.9
4"	909	909

### Torque correction factors

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

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

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

# s.136 stainless steel

6" - 8" ANSI B16.5 flange, ISO 5211



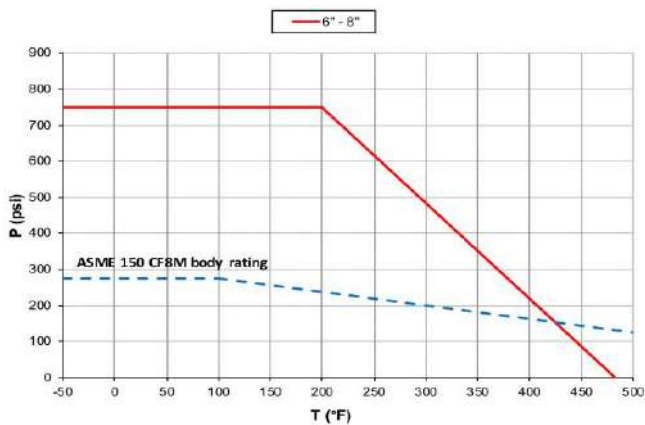
## Technical data:

**Working Pressure:** General use: 750 PSI (see chart on reverse) | 275 PSI for ASME 150 CF8M (see chart on reverse) | Steam rating: 150 PSI WSP  
**Working Temperature:** -50°F/+475°F  
**Threads:** ANSI B16.5, B16.10 and B16.34 full compliance

## Dimensions inches

Code	136PF0	136QF0
Size	6"	8"
A	5.91	7.87
B	15.50	18.00
E	2.65	2.86
E1	8.50	10.62
D	1.48	1.88
G	0.06	0.06
H	9.50	11.75
K	11.00	13.50
T	1.00	1.12
M	0.88	0.88
N	8	8
P	4.92	5.51
S	0.79	1.30
L	40.63	12.87
H1	10.37	12.00
h	M12x1.75	M16x2.0
CV (GPM)	5100	9400

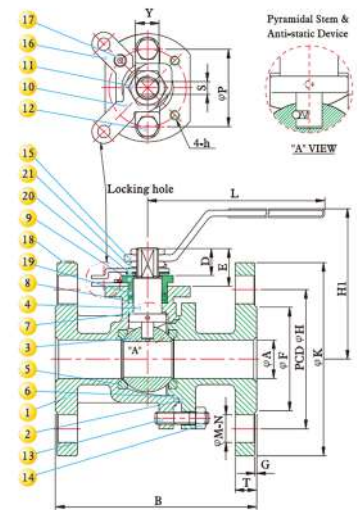
## Pressure-temperature chart



\*ME-PTFE is Molecular Enhanced PTFE

## Features:

- API 607 4th edition fire safe approval
- Vacuum service to 29" Hg
- Locking device
- Long cycle life
- Test standard: API 598
- Anti-static device



Part description	Qty	Material
1	1	ASTM A351-CF8M
2	1	ASTM A351-CF8M
3	1	ASTM A351-CF8M
4	1	ASTM A276 Gr. 316
5	2	ME-PTFE*
6	1	GRAFOIL
7	1	ME-PTFE*
8	1	GRAFOIL
9	1	ASTM A351-Gr. CF8
10	1	SS304
11	2	SS304
12	2	ASTM A193 Gr.B8
13	4-10	ASTM A193 Gr.B8
14	4-10	ASTM A194 Gr. 8
15	1	SS304
16	1	SS304
17	2	SS304
18	1	SS304
19	1	SS304
20	1	NYLON
21	1	SS304

Valve	136PF0	136QF0
Valve Size	6"	8"
Price List	<b>\$5,236.18</b>	<b>\$10,533.98</b>
Box Quantity	N/A	N/A



Double acting pneumatic actuator	Actuation kit	EA7D136PF0	EA9D136QF0
	Price List	<b>\$6,811.92</b>	<b>\$13,090.99</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$6,931.82</b>	<b>\$13,210.89</b>
Spring return pneumatic actuator	Actuation kit	EA10R136PF0	EA12R136QF0
	Price List	<b>\$8,583.14</b>	<b>\$16,641.16</b>
	List Price w/AD-1 solenoid valve(-001)	<b>\$8,703.04</b>	<b>\$16,761.07</b>



120 VAC, On/Off	Actuation kit	ET7B136PF0	ET9B136QF0
	Price List	<b>\$9,337.80</b>	<b>\$14,736.73</b>
24 VAC, On/Off	Actuation kit	ET7C136PF0	ET9C136QF0
	Price List	<b>\$9,701.01</b>	<b>\$14,944.97</b>

### Water flow ratings

Size	6"	8"
CV	5100	9400

### Torque for actuator sizing in-lb

Delta P -->	Valve torque	
	to open	to close
6"	2531.4	2531.4
8"	5753	5753

### Torque correction factors

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

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

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



**Effective March 1<sup>st</sup>, 2022**

 **ALL RIGHTS RESERVED | COPYRIGHT© RuB, Inc. 2022**

**RuB, Inc.** endeavors to provide comprehensive information about the installation, maintenance and operation of its products. For more details or clarification, please contact us. **RuB, Inc.** reserves the right to change or modify product design, construction, specifications, materials or the information herein without prior notice and without incurring any obligation to make such changes and modifications on products previously or subsequently sold. Content of this document is proprietary to **RuB, Inc.** and it may not be copied in part or in whole without prior written authorization. Recommendations on application design and material selection are based on available technical data and are offered as suggestions only. Each user should make his/her own tests to determine the suitability for his/her own particular use. **RuB, Inc.** gives no express or implied warranties concerning the form, fit, or function of a product in any application. **RuB, Inc.** does not accept liability for errors or omissions. Any undated reference to a code or standard shall be interpreted as referring to the latest edition.

**RuB** and triangles are all registered trademarks of our property. Other logos or trademarks are property of respective owners.  
For complete disclaimer: [www.rubinc.com/disclaimer](http://www.rubinc.com/disclaimer)







**VALVES & ACTUATORS**

***RUB, Inc.***

4401 Dean Lakes Blvd. - Shakopee, MN 55379-2715 (USA)

Tel: +1 (952) 857 1114 - Fax: +1 (952) 857 1118

[sales@rubinc.com](mailto:sales@rubinc.com) - [www.rubinc.com](http://www.rubinc.com)