



**BONOMI**  
NORTH AMERICA



**2018**



**PRICE LIST**  
**EFFECTIVE SEPTEMBER 1<sup>st</sup> 2018**



**VALPRES**

**VALBIA**



# POWER OF A GROUP



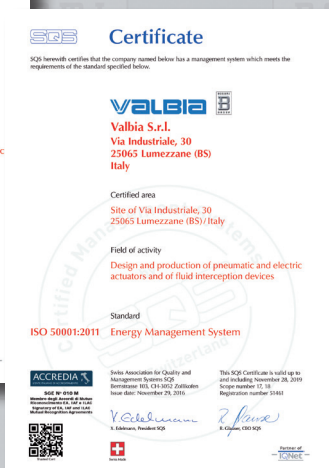
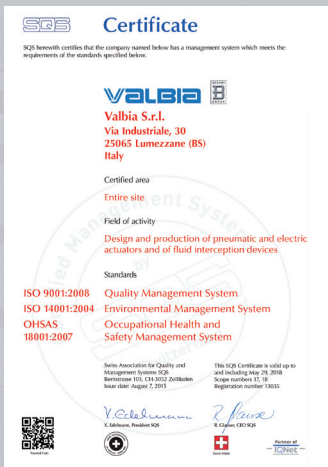
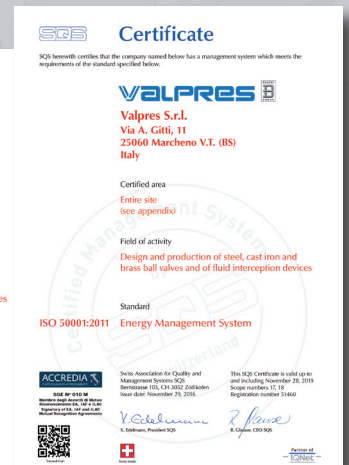
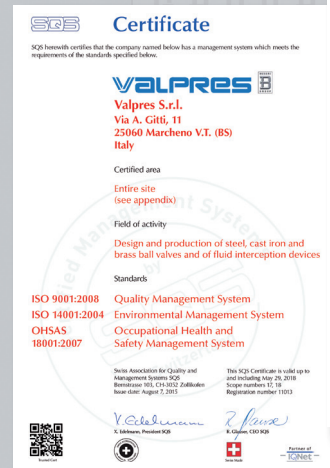
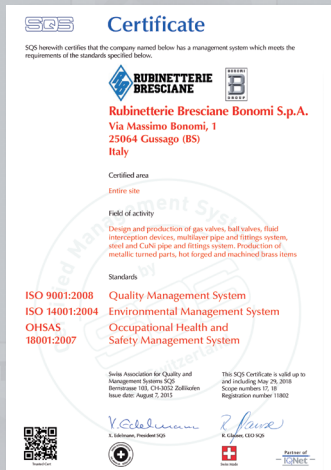
Only excellence allows Bonomi Group to compete in the international market.

The challenge can be met thanks to the passion and the energy of the researchers, who plan and manufacture avant-garde quality and technology, a team which is perfectly integrated for providing total customer satisfaction; we are ready!





## ISO 9001 - ISO 14001 - OHSAS 18001 - ISO 50001





# INSURANCE

Allianz @ RAS

Allianz S.p.A.  
Divisione Vita Italia  
CORONA ASSICURATIVA  
SPINALE ASSICURATIVA TORINO  
Via Molino, 5/7  
10128 TORINO (TO) - ITALY  
Tel. 011/23891111 - 0039/02/1049414  
Fax 011/23891112  
E-mail: 0210000000@allianz.it  
Pec: 0210000000@allianz.it

**CERTIFICATE OF INSURANCE**

By ALLIANZ S.p.A. hereby certify to have in force the insurance policy described herebelow and to be the Insurer in connection with the coverage, as hereinafter specified, provided by said policy.

**POLICY DESCRIPTION**  
Policy number: 72871022  
Name and address of the Insured: RUBINETTERIE BRESCIANE BONOME SPA  
VIA MASSIMO BONOME 1 - 25044 GUSGAGO BS ITALY  
Coverage and limits: Product Liability up to a limit of Euro 5.000.000,00 per event and per year  
Effective date - Midnight: 12.31.2018  
Expiration date - Midnight: 12.31.2018  
The premium has been paid.

Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all terms, exclusions and conditions of such policy.  
This certificate of insurance is not an insurance policy.  
This certificate is issued as a matter of information only and confers no rights upon the certificate holder.  
This certificate does not amend, extend or alter the coverage afforded by the above mentioned policy.

Date: 01.29.2018



**RUBINETTERIE  
BRESCIANE**

Allianz @ RAS

Allianz S.p.A.  
Divisione Vita Italia  
CORONA ASSICURATIVA  
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**CERTIFICATE OF INSURANCE**

By ALLIANZ S.p.A. hereby certify to have in force the insurance policy described herebelow and to be the Insurer in connection with the coverage, as hereinafter specified, provided by said policy.

**POLICY DESCRIPTION**  
Policy number: 72725887  
Name and address of the Insured: VALPRES SPA  
VIA ANGELO OTTE 11 20090 MARCHENO BS ITALY  
Coverage and limits: Product Liability up to a limit of Euro 5.000.000,00 per event and per year  
Effective date - Midnight: 12.31.2017  
Expiration date - Midnight: 12.31.2018  
The premium has been paid.

Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all terms, exclusions and conditions of such policy.  
This certificate of insurance is not an insurance policy.  
This certificate is issued as a matter of information only and confers no rights upon the certificate holder.  
This certificate does not amend, extend or alter the coverage afforded by the above mentioned policy.

Date: 01.29.2018

**VALPRES**

Allianz @ RAS

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Divisione Vita Italia  
CORONA ASSICURATIVA  
SPINALE ASSICURATIVA TORINO  
Via Molino, 5/7  
10128 TORINO (TO) - ITALY  
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Fax 011/23891112  
E-mail: 0210000000@allianz.it  
Pec: 0210000000@allianz.it

**CERTIFICATE OF INSURANCE**

By ALLIANZ S.p.A. hereby certify to have in force the insurance policy described herebelow and to be the Insurer in connection with the coverage, as hereinafter specified, provided by said policy.

**POLICY DESCRIPTION**  
Policy number: 72871011  
Name and address of the Insured: VALBIA SPA  
VIA GIOVANNI PALEOLOGO 20 20090 LUMIZZANO BS ITALY  
Coverage and limits: Product Liability up to a limit of Euro 5.000.000,00 per event and per year  
Effective date - Midnight: 12.31.2017  
Expiration date - Midnight: 12.31.2018  
The premium has been paid.

Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all terms, exclusions and conditions of such policy.  
This certificate of insurance is not an insurance policy.  
This certificate is issued as a matter of information only and confers no rights upon the certificate holder.  
This certificate does not amend, extend or alter the coverage afforded by the above mentioned policy.

Date: 01.29.2018

**VALBIA**



# AMERICAN APPROVALS

### Class Description

**CLASS NUMBER:** 3371-02 **DESCRIPTION:** VALVES (GAS)-Manually Operated For Use in House-Piping Systems-Certified to U.S. Standards

**COVERAGE:** The manual shaft valves listed in this section are of the manual type. They are for indoor installation and are for use in gas piping between the meter valve and the inlet connection to the valve of a gas appliance.

**REQUIREMENTS:**

- AS - U.S. Requirement 3-88 Manually Operated Gas Valves for Use in House Piping Systems

All valves listed in this section are suitable for use with natural, manufactured, mixed and liquefied petroleum gas and with LP gas-air mixtures.

These valves are intended for operation at ambient temperatures of 32°F to 125°F and at pressures up to 7 psig of piping.

Sizes shown are for standard female tapered pipe threads unless otherwise indicated.

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### Certification Record

CUSTOMER	CLASS	FILE
Rubinterrre Bresciane Bonomi S.p.A.	3371-02	112438_0_000
Via Industriale 30	VALVES (GAS)-Manually Operated For Use in House-Piping Systems-Certified to U.S. Standards	
Lamezzane (Brescia)		
Brescia		
Italy		

Model Number Size (Inches)

Model Number	Size (Inches)
171N	1/2
171N	3/4
171N	1
171N, 172N	1-1/4
171N, 172N	1-1/2
171N, 172N	2
171N, 172N	2-1/2
171N, 172N	3
171N, 172N	3-1/2
171N, 172N	4
171N, 172N	4-1/2
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	CENED Certificazione ENergetica degli Edifici Azienda certificata classe "A" - "A+" con certificato n.17081 - 000459/12 e 000460/12			Factory Mutual Research	
	AEOF Authorized Economic Operator (AEOF)			Underwriters Laboratories Inc.	
	PED CE 0036 TÜV Süddeutschland Bau und Betrieb GmbH Pressure Equipment Directive 2014/68/EU			Underwriters Laboratories Inc. ANSI/NSF 61 -372 Drinking Water System Components and Lead Content Verification	
	ATEX CE Ex TÜV Süddeutschland Bau und Betrieb GmbH Equipment for use in potentially explosive atmospheres 2014/34/EU			American Petroleum Institute API 6A License number 6A-1741	
	CPR CE 0086 BSI British Standards institute Construction Products Directive Regulation (EU) n. 305/2011			American Petroleum Institute API 6D License number 6D-1428	
	SIL TÜV Süddeutschland Bau und Betrieb GmbH Safety Integrity Level			Technical Standards and Safety Authority	
	<i>Ministero dell'Interno</i>			CSA International	
	RINA Registro Italiano Navale			Water Regulation Advisory Scheme (By WRC Evaluation & Testing Centre)	
	  			Lloyd's Register Marine	
	Deutscher Verein des Gas- und Wasserfaches DVGW W 534 - W 531 - VP 614 DVGW GW 335-B4 - DVGW G 5600-I			Bureau Veritas Industry and Marine Division	
	TÜV Süddeutschland Bau und Betrieb GmbH T.A. LUFT			Laboratoire Santé Environnement Hygiène de Lyon ACS: Attestation de Conformité Sanitaire	
	TÜV Bayern Hessen Sachsen Südwest E.V. FIRE SAFE BS 6755 Part.2, API Specification 6FA und ISO 10497			Certification body 3 - Zds "Tisk"	
	DBI GTI Gastecnologisches Institut UNI TS 11343			Declaration of conformity TP-TC 010/2011 Declaration of conformity TP-TC 032/2013	
	Germanischer Lloyd Maritime			Det Norske Veritas Maritime	
	Schweizerischer Verein des Gas- und Wasserfaches Europäische Vorschrift EN 331: 1998			GDV: GODKENDT TIL DRIKKEVAND	
	ÖSTERREICHISCHE VEREINIGUNG FÜR DAS GAS- UND WASSERFACH			VA	










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	<b>ANSI 600 WAFER BALL VALVE</b>	page 78		<b>STAINLESS STEE DIRECT MOUNT V-BALL VALVE</b>	page 101
	<b>ANSI 150 SPLIT BODY BALL VALVE DIRECT MOUNT</b>	page 80		<b>ANSI 150 WAFER V-BALL VALVE</b>	page 102
	<b>NEW</b>				
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## VALBIA

	<b>PNEUMATIC ACTUATORS</b>	page 122		<b>ELECTRIC ACTUATORS</b>	page 138
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## PRICE LIST

	<b>RUBINETTERIE BRESCIANE</b>	page 156		<b>NEW</b>	page 182
	<b>NEW</b>	page 165			



## SERIES 161N - 162N COMPACT STYLE

- Brass ball valve, FNPT threaded, full port sizes 1/2" to 4".
- Pressure rating 600 WOG-150 WSP.
  - Temperature range -4° F to +366 °F.
  - Blow out proof stem, chrome plated brass ball.
  - P.T.F.E. seats and double O-ring stem packing.
  - 100% electronically tested in the open and closed position at 80 psi.
  - Not to be used for drinking water.
  - Valve to be used in fully open or fully closed position.
  - ANSI B1.20.1 connections.

161N: LEVER HANDLE - size 1/2" to 4".

162N: T-HANDLE - size 1/2" to 1".

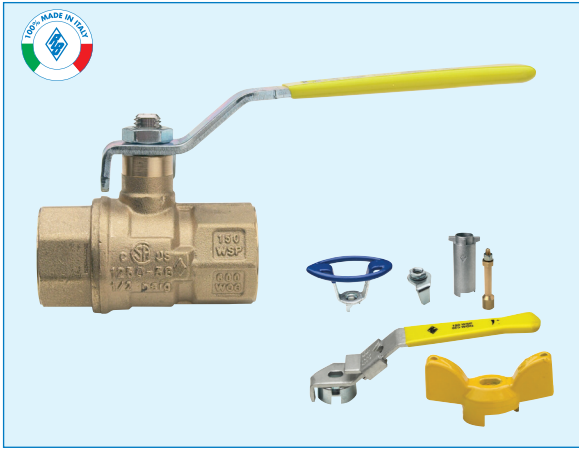
For sizes 1/4", 3/8" see 171N.



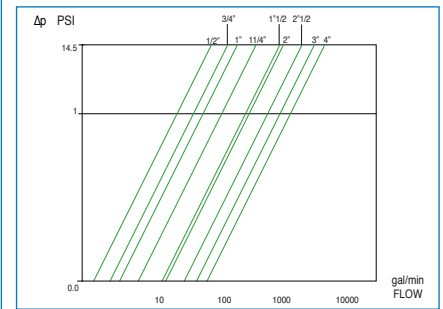
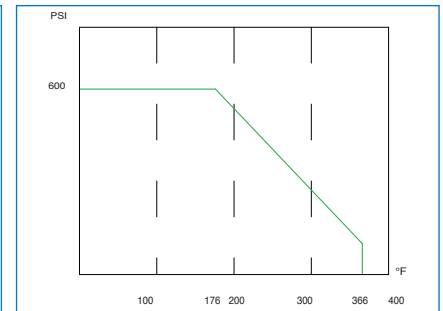
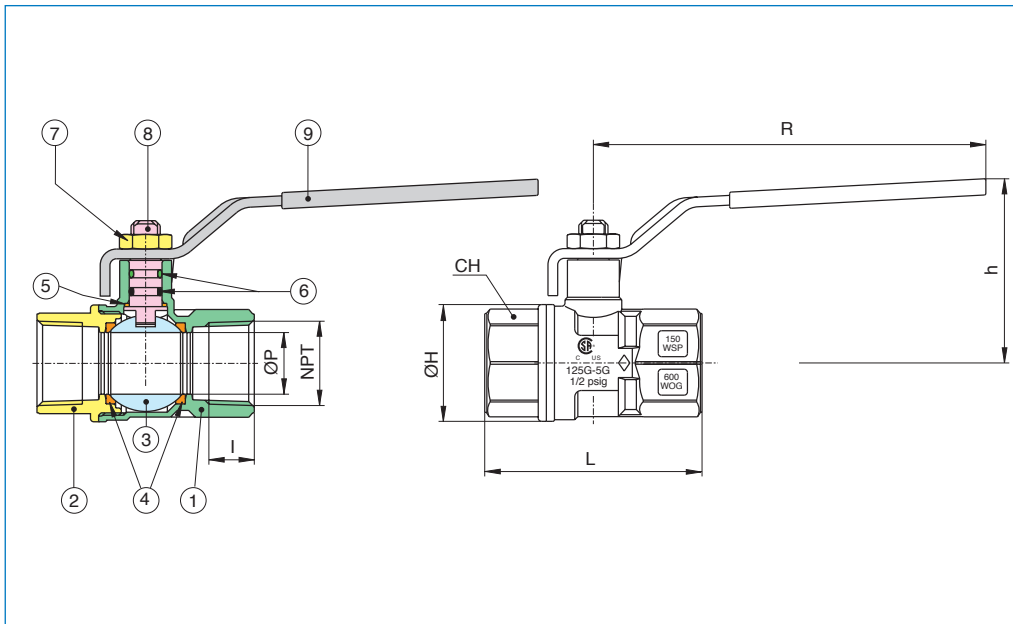
400 WOG



C US



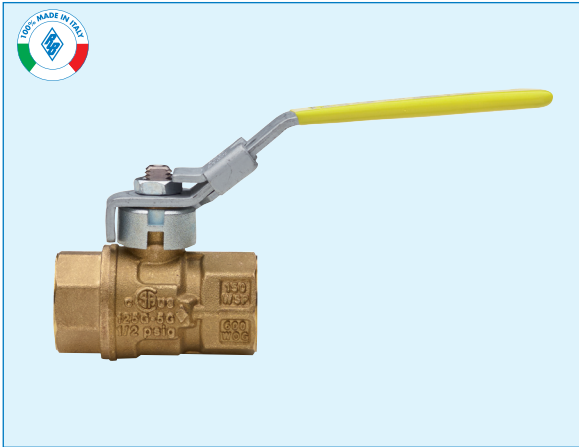
MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38000	1
4	BALL SEAT	P.T.F.E	2
5	THRUST WASHER	P.T.F.E	1
6	O-RING	FKM (VITON®) NBR	1 1
7	NUT	STEEL CL04	1
8	STEM	BRASS C38500	1
9	HANDLE	STEEL DD11	1

SIZE	ØP	I	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/2"	0.55	0.54	2.22	1.18	0.98	3.78	1.77	18.15	600	0.40
3/4"	0.75	0.55	2.46	1.42	1.22	4.76	2.22	32.37	600	0.68
1"	0.94	0.66	3.01	1.71	1.50	4.76	2.32	47.98	600	0.98
1 1/4"	1.19	0.68	3.37	2.09	1.89	5.94	2.85	97.80	600	1.66
1 1/2"	1.50	0.68	3.70	2.56	2.13	5.94	3.09	252.60	600	2.16
2"	1.95	0.70	4.31	3.39	2.64	6.30	3.70	290.75	600	3.52
2 1/2"	2.44	0.93	5.16	4.09	3.27	8.07	4.59	593.06	600	6.67
3"	2.99	1.02	5.94	4.96	3.86	8.07	4.98	958.84	600	9.82
4"	2.99	1.09	6.50	4.96	4.92	8.07	4.98	1526.59	600	12.57

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



## SERIES 161L COMPACT STYLE

Brass ball valve, FNPT threaded, full port sizes 1/2" to 4", with latch lock handle.

- Pressure rating 600 WOG-150 WSP.
- Temperature range -4°F to 366°F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E. seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.

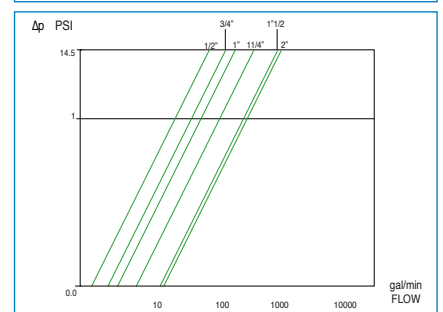
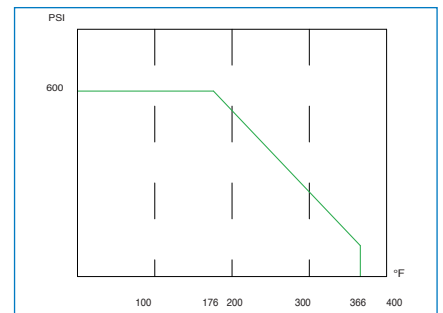
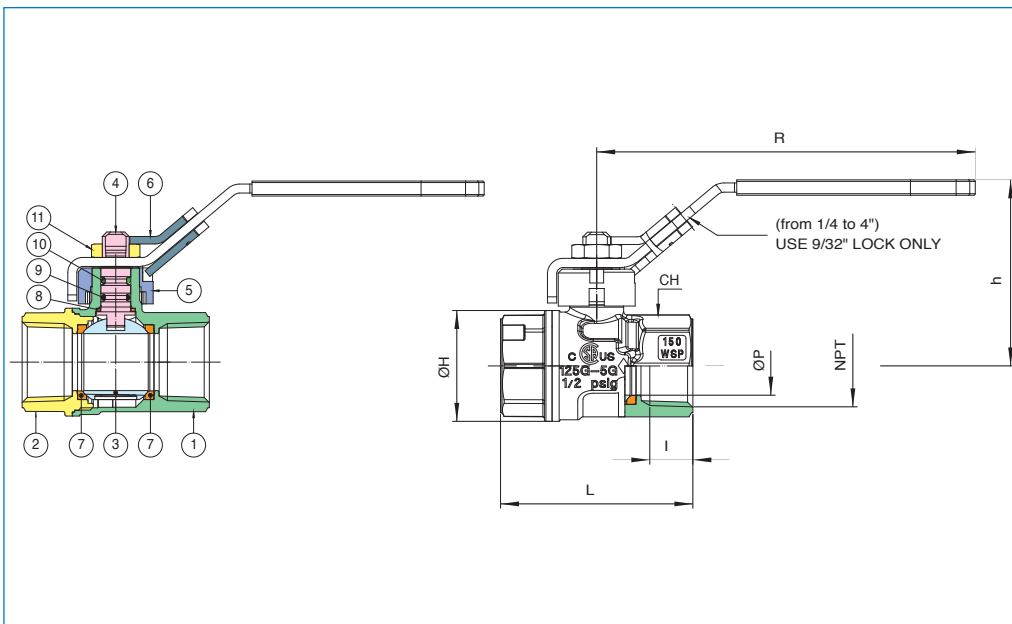
For sizes 1/4", 3/8" see 171L.



400 WOG



C US

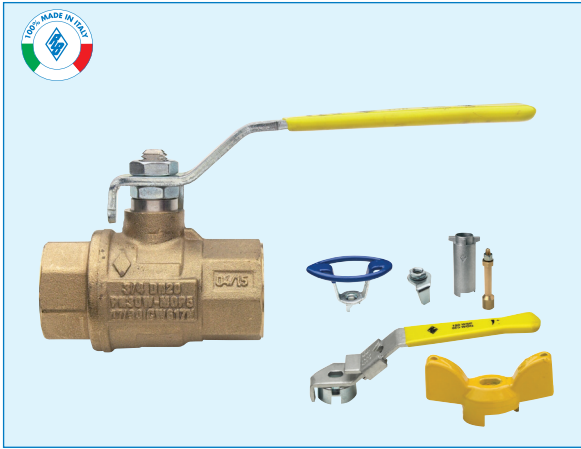


N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38000	1
4	STEM	BRASS C38500	1
5	BUSH	G Zn Al4	1
6	HANDLE	STEEL DD11	1
7	BALL SEAT	P.T.F.E.	2
8	THRUST WASHER	P.T.F.E.	1
9	O-RING	NBR	1
10	O-RING	FKM (Viton®)	1
11	NUT	STEEL CL04	1

SIZE	ØP	I	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/2"	0.55	0.54	2.22	1.18	0.98	3.78	1.91	18.15	600	0.46
3/4"	0.75	0.55	2.46	1.42	1.22	4.84	2.38	32.37	600	0.79
1"	0.94	0.66	3.01	1.71	1.50	4.84	2.48	47.98	600	1.10
1 1/4"	1.19	0.68	3.37	2.09	1.89	5.94	3.01	97.80	600	1.78
1 1/2"	1.50	0.68	3.70	2.56	2.13	5.94	3.23	252.60	600	2.34
2"	1.95	0.70	4.31	3.39	2.64	6.30	3.78	290.75	600	4.03
2 1/2"	2.44	0.93	5.16	4.09	3.27	8.07	4.59	593.06	600	6.67
3"	2.99	1.02	5.94	4.96	3.86	8.07	4.98	958.84	600	9.82
4"	2.99	1.09	6.50	4.96	4.92	8.07	4.98	1526.59	600	12.57

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





## SERIES 171N - 172N COMMERCIAL STYLE

- Brass ball valve, FNPT threaded, full port sizes 1/4" to 4".
- Pressure rating 600 WOG-150 WSP.
  - Temperature range -4° F to +366 °F.
  - Blow out proof stem, chrome plated brass ball.
  - P.T.F.E seats, seals, and thrust washer.
  - Adjustable stem packing.
  - 100% electronically tested in the open and closed position at 80 psi.
  - Not to be used for drinking water.
  - Valve to be used in fully open or fully closed position.
  - ANSI B1.20.1 connections.

171N: LEVER HANDLE - size 1/4" to 4".

172N: T HANDLE - size 1/4" to 1".

171C: NICKEL PLATED - size 1/4" to 4".

171S: BALL AND STEM IN STAINLESS STEEL AISI 316 - size 1/4" to 4".

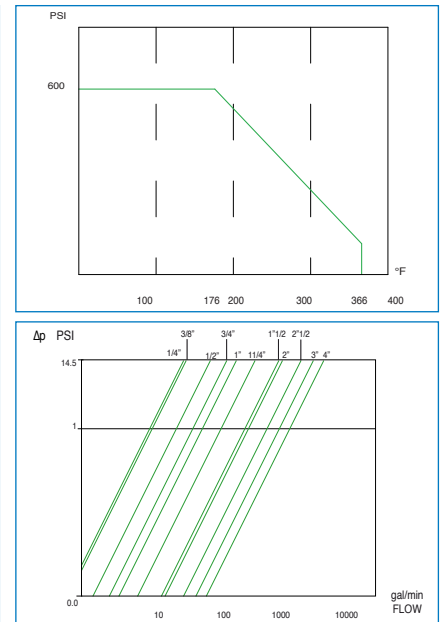
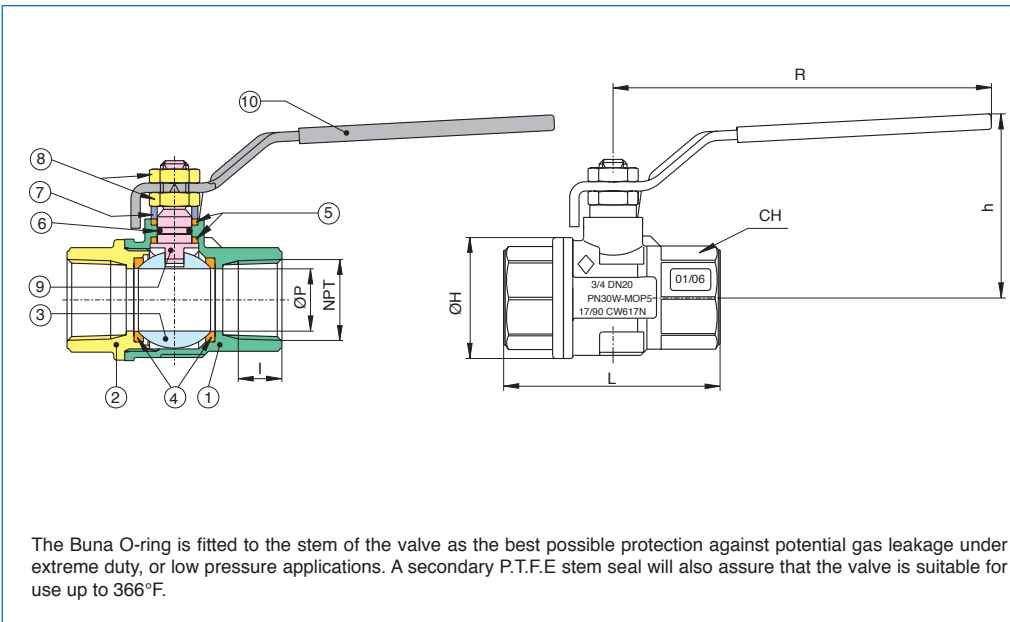
171NCR: CHROME PLATED - size 1/4" to 4".



up to 2"



MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38000	1
4	BALL SEAT	P.T.F.E	2
5	THRUST WASHER/STEM SEAT	P.T.F.E	2
6	O-RING	NBR	1
7	PACKING GLAND	BRASS C38500	1
8	NUT	STEEL CL 04	2
9	STEM	BRASS C38500	1
10	HANDLE	Fe DD11 UNI EN 10111	1

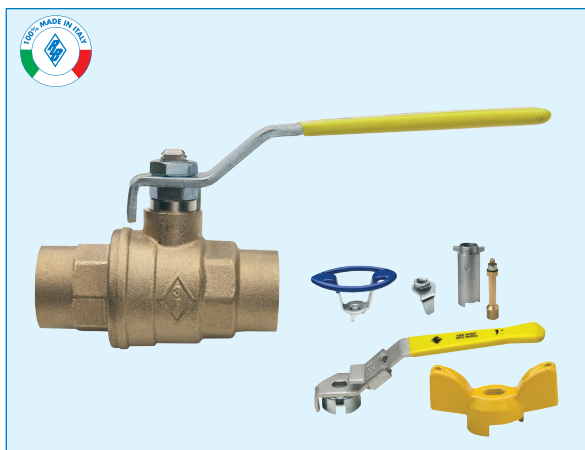
SIZE	ØP	I	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/4"	0.39	0.39	2.02	0.90	0.78	3.78	1.65	6.24	600	0.33
3/8"	0.39	0.40	2.02	0.90	0.78	3.78	1.65	6.94	600	0.30
1/2"	0.59	0.53	2.44	1.25	0.98	3.78	1.81	18.84	600	0.48
3/4"	0.78	0.55	2.71	1.53	1.22	4.76	2.28	34.10	600	0.79
1"	0.98	0.66	3.07	1.92	1.49	4.76	2.44	49.71	600	1.22
1 1/4"	1.25	0.68	3.42	2.32	1.88	5.94	3.00	102.89	600	2.14
1 1/2"	1.57	0.68	3.89	2.87	2.12	5.94	3.23	265.90	600	3.20
2"	1.94	0.69	4.33	3.38	2.63	6.30	3.74	306.36	600	4.08
2 1/2"	2.56	0.93	5.59	4.37	3.54	8.07	4.84	624.28	600	8.27
3"	3.15	1.02	6.46	5.35	4.13	8.07	5.24	1009.25	600	13.01
4"	3.94	1.09	7.60	6.54	5.12	10.24	6.50	1606.94	600	22.05

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





# SERIES 1715 - 1725 COMMERCIAL STYLE

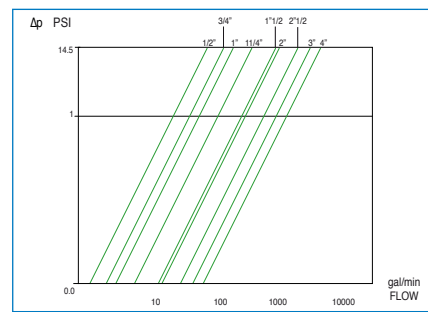
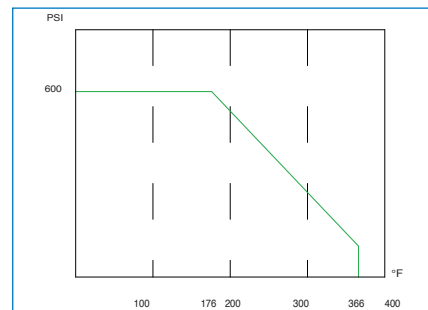
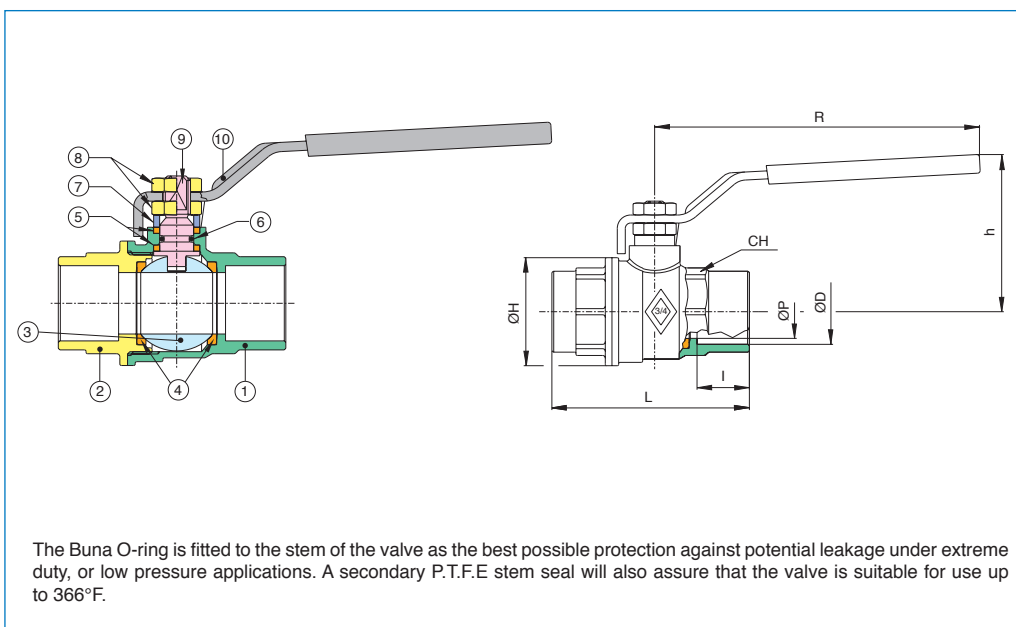


- Brass ball valve with solder ends, full port sizes 1/2" to 4".
- Pressure rating 600 WOG-150 WSP.
  - Temperature range -4° F to +366 °F.
  - Blow out proof stem, chrome plated brass ball.
  - P.T.F.E seats, seals, and thrust washer.
  - Adjustable stem packing.
  - 100% electronically tested in the open and closed position at 80 psi.
  - Not to be used for drinking water.
  - Valve to be used in fully open or fully closed position.
  - ANSI B16.18 connections.

1715: LEVER HANDLE - size 1/2" to 4".

1725: T-HANDLE - size 1/2" to 1".

MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38000	1
4	BALL SEAT	P.T.F.E	2
5	THRUST WASHER/STEM SEAT	P.T.F.E	2
6	O-RING	NBR	1
7	PACKING GLAND	BRASS C38500	1
8	NUT	STEEL 6/S	2
9	STEM	BRASS C38500	1
10	HANDLE	Fe DD11 UNI EN 10111	1

SIZE	ØP	L	I	h	R	ØD	ØH	CH	Cv	psi	Weight Lbs
1/2"	0.57	2.58	0.50	1.81	3.78	0.63	1.30	0.98	18.84	600	0.50
3/4"	0.76	3.00	0.75	2.28	4.76	0.88	1.53	1.22	34.10	600	0.77
1"	0.98	3.56	0.91	2.44	4.76	1.13	1.93	1.49	49.71	600	1.19
1 1/4"	1.26	4.09	0.96	3.00	5.94	1.38	2.32	1.89	102.89	600	2.20
1 1/2"	1.57	4.56	1.10	3.23	5.94	1.63	2.87	2.12	265.90	600	3.24
2"	1.95	5.45	1.34	3.74	6.30	2.13	3.38	2.64	306.36	600	4.21
2 1/2"	2.56	6.90	1.47	4.84	8.11	2.63	4.37	3.54	624.28	600	9.44
3"	3.05	8.05	1.67	5.23	8.11	3.13	5.35	4.13	1009.25	600	14.52
4"	3.94	10.25	2.16	6.49	10.27	4.13	6.53	5.12	1606.94	600	24.83

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



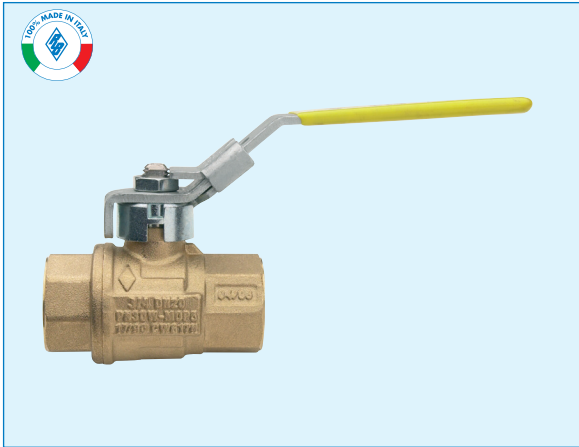




## SERIES 171L COMMERCIAL STYLE

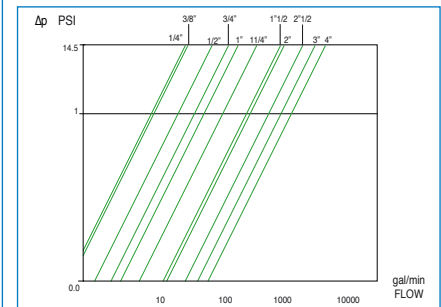
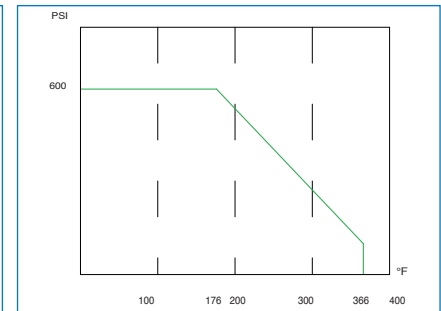
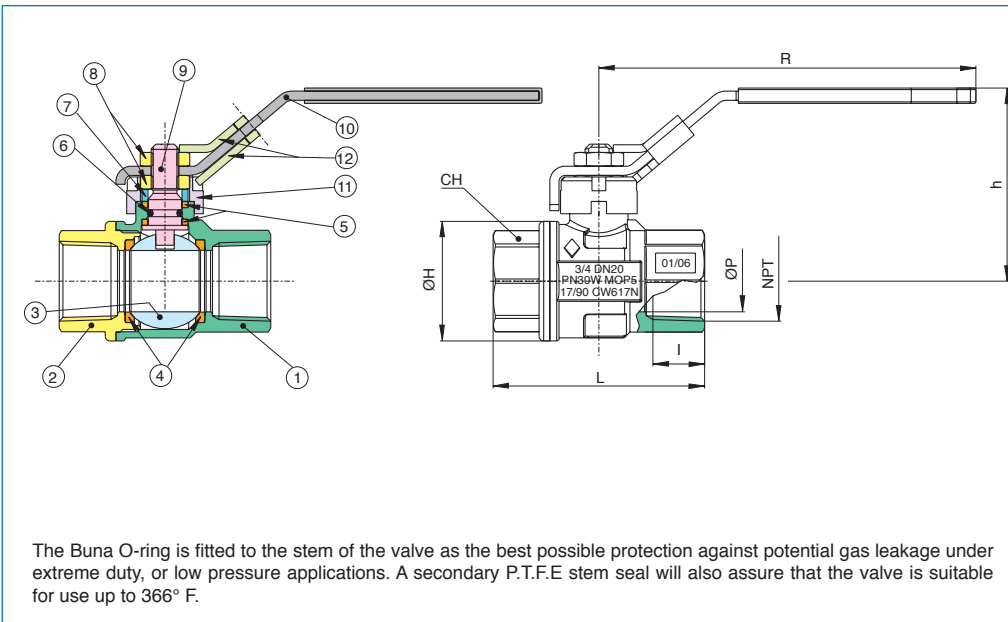
Brass ball valve, FNPT threaded, full port sizes 1/4" to 4", with latch lock handle.

- Pressure rating 600 WOG-150 WSP.
- Temperature range -4° F to +366 °F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E. seats, seals, and thrust washer.
- Adjustable stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.



MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.

171LCR: CHROME PLATED - size 1/4" to 4".



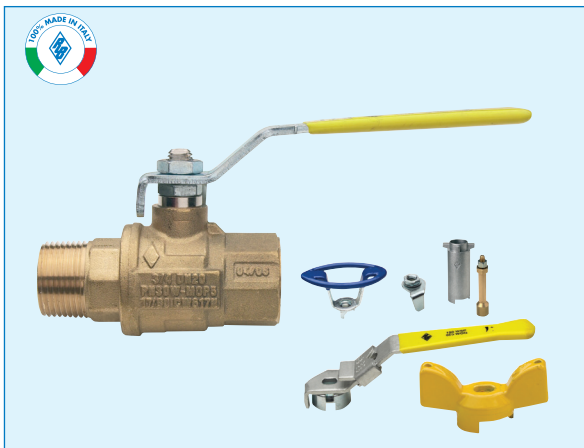
The Buna O-ring is fitted to the stem of the valve as the best possible protection against potential gas leakage under extreme duty, or low pressure applications. A secondary P.T.F.E stem seal will also assure that the valve is suitable for use up to 366° F.

N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38000	1
4	BALL SEAT	P.T.F.E	2
5	THRUST WASHER/STEM SEAL	P.T.F.E	2
6	O-RING	NBR	1
7	PACKING GLAND	BRASS C38500	1
8	NUT	STEEL CL 04	2
9	STEM	BRASS C38500	1
10	HANDLE	Fe DD11 UNI EN 10111	1
11	BUSH	ZAMA G Zn Al4 UNI EN 1774	1
12	LOCKING DEVICE	Fe DD11 UNI EN 10111	1

SIZE	ØP	I	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/4"	0.39	0.39	2.03	0.91	0.79	3.78	1.83	6.24	600	0.40
3/8"	0.39	0.41	2.03	0.91	0.79	3.78	1.83	6.94	600	0.37
1/2"	0.59	0.54	2.44	1.30	0.98	3.78	1.99	18.84	600	0.55
3/4"	0.79	0.55	2.72	1.54	1.22	4.84	2.48	34.10	600	0.90
1"	0.98	0.66	3.07	1.93	1.50	4.84	2.64	49.71	600	1.30
1 1/4"	1.26	0.68	3.43	2.32	1.89	5.94	3.15	102.89	600	2.25
1 1/2"	1.57	0.68	3.90	2.87	2.13	5.94	3.39	265.90	600	3.26
2"	1.95	0.70	4.31	3.39	2.64	6.30	3.82	306.36	600	4.52
2 1/2"	2.56	0.93	5.59	4.37	3.54	8.11	5.02	624.28	600	9.10
3"	3.15	1.02	6.46	5.35	4.13	8.11	5.45	1009.25	600	13.56
4"	3.94	1.09	7.60	6.54	5.12	10.28	6.56	1606.94	600	22.33

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





# SERIES 171M - 172M COMMERCIAL STYLE



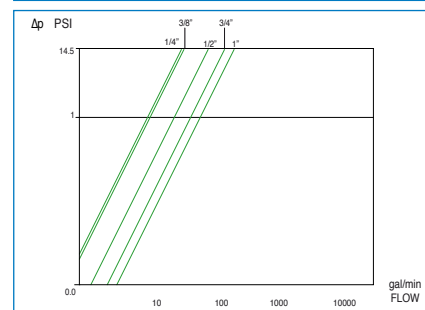
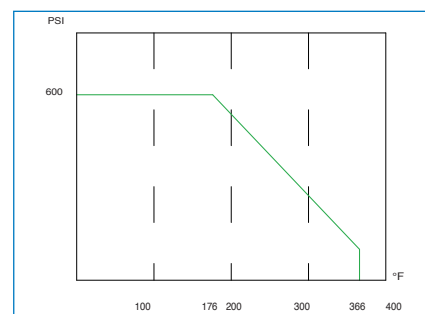
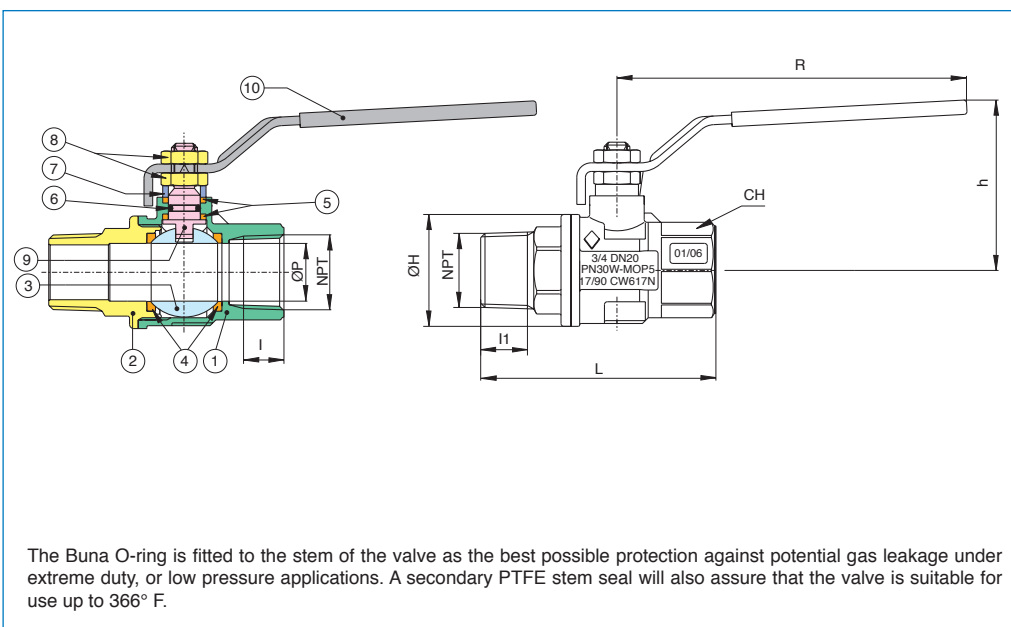
600 WOG

- Brass ball valve, MNPT X FNPT threaded, full port sizes 1/4" to 1".
- Pressure rating 600 WOG-150 WSP.
  - Temperature range -4° F to +366 °F.
  - Blow out proof stem, chrome plated brass ball.
  - P.T.F.E. seats, seals, and thrust washer.
  - Adjustable stem packing.
  - 100% electronically tested in the open and closed position at 80 psi.
  - Not to be used for drinking water.
  - Valve to be used in fully open or fully closed position.
  - ANSI B1.20.1 connections.

171M: LEVER HANDLE - size 1/4" to 1".

172M: T-HANDLE - size 1/4" to 1".

171MCR: CHROME PLATED - size 1/4" to 1".



N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38000	1
4	BALL SEAT	P.T.F.E	2
5	THRUST WASHER/STEM SEAL	P.T.F.E	2
6	O-RING	NBR	1
7	PACKING GLAND	BRASS C38500	1
8	NUT	Steel 6S	2
9	STEM	BRASS C38500	1
10	HANDLE	Fe DD11 UNI EN 10111	1

SIZE	ØP	I	I1	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/4"	0.39	0.39	0.40	2.30	0.91	0.79	3.78	1.69	6.24	600	0.33
3/8"	0.39	0.41	0.41	2.32	0.91	0.79	3.78	1.69	6.94	600	0.34
1/2"	0.59	0.54	0.53	2.85	1.30	0.98	3.78	1.85	18.84	600	0.52
3/4"	0.79	0.55	0.55	3.21	1.54	1.22	4.76	2.32	34.10	600	0.84
1"	0.98	0.66	0.68	3.62	1.93	1.50	4.76	2.48	49.71	600	1.27

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

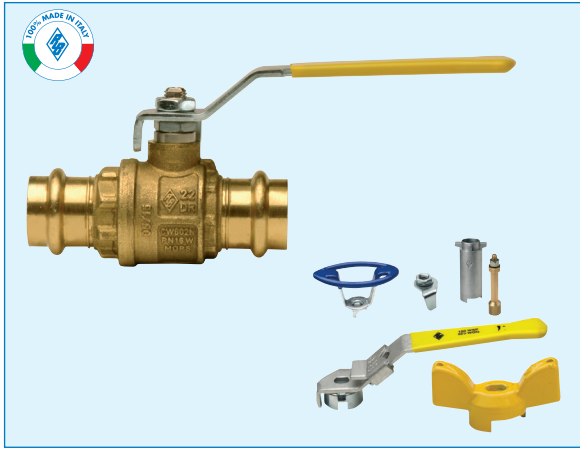




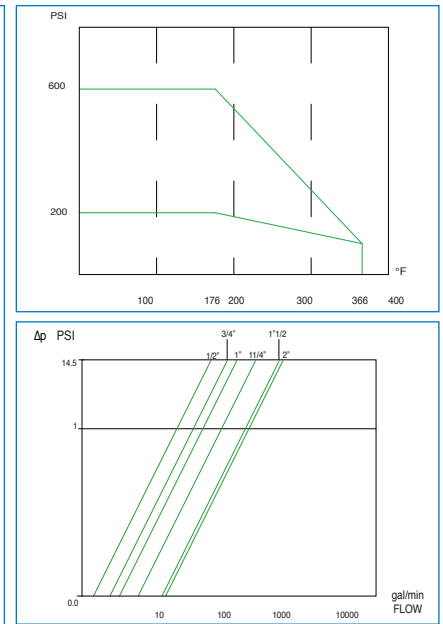
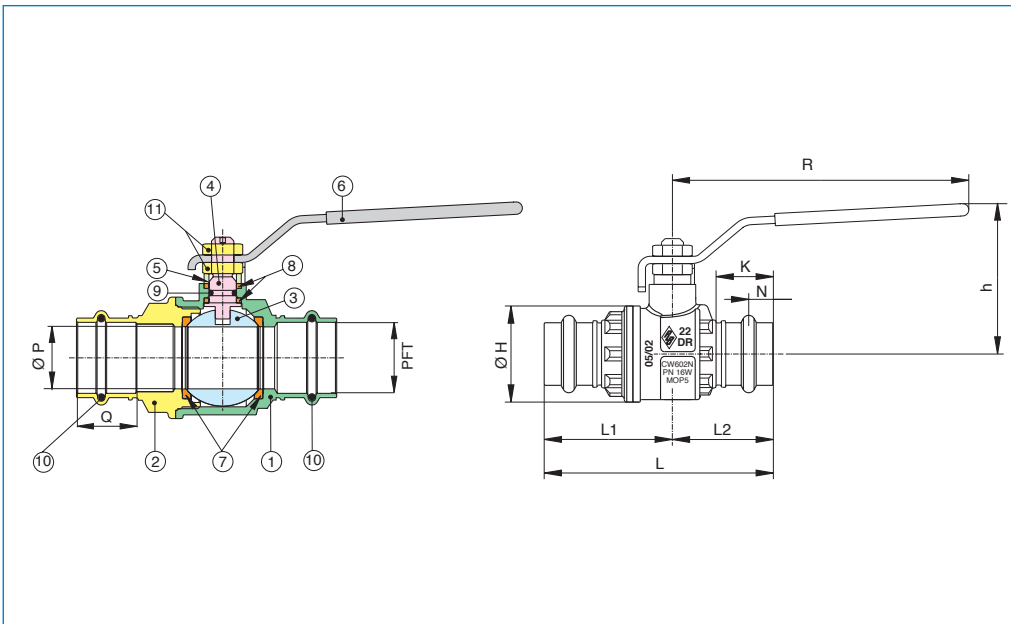
## SERIES 1970



200 WOG



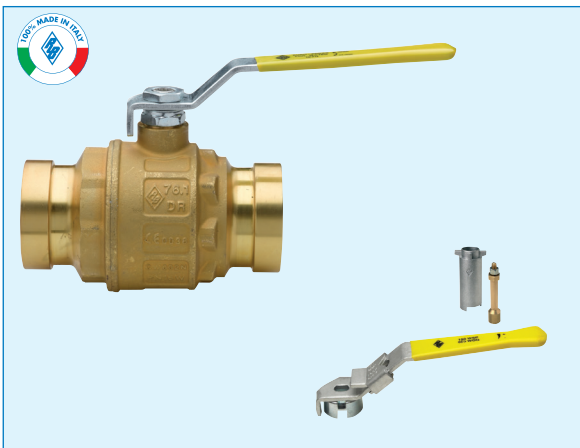
- Brass ball valve, EURO-PRESS connections, full port 1/2"- 2".
- Test pressure rating 600 CWP-working pressure 200 psi.
- Temperature range -4° F to +250 °F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats, seals, and thrust washer.
- Adjustable stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Valve to be used in fully open or fully closed position.
- Made in dezincification resistant brass (DZR).
- Press alert O-rings.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	DZR BRASS C35330	1
2	END CONNECTION	DZR BRASS C35330	1
3	BALL	BRASS C38000	1
4	STEM	BRASS C38500	1
5	PACKING GLAND	BRASS C38500	1
6	HANDLE	Fe DD11 UNI EN 10111	1
7	BALL SEAT	P.T.F.E.	2
8	STEM SEAL/THRUST WASHER	P.T.F.E.	2
9	O-RING	NBR	1
10	O-RING	EPDM	2
11	NUT	STEEL CL 04	2

PFT	ØP	Q	K	N	ØH	L	L1	L2	h	R	Cv	MAX WORK PRESS psi	MAX TEST PRESS psi	Weight Lbs
1/2"	0.59	0.71	0.67	0.31	1.30	3.13	1.71	1.42	1.89	3.86	18.84	200	600	0.49
3/4"	0.79	0.91	0.83	0.39	1.54	3.66	2.05	1.61	2.28	4.80	34.10	200	600	0.82
1"	0.98	0.94	0.83	0.39	1.93	4.13	2.32	1.81	2.44	4.80	49.71	200	600	1.25
1 1/4"	1.26	1.02	0.83	0.39	2.32	4.41	2.44	1.97	3.07	6.02	102.89	200	600	1.98
1 1/2"	1.57	1.42	1.02	0.49	2.87	5.63	2.91	2.72	3.35	6.02	265.90	200	600	3.40
2"	1.95	1.57	1.20	0.59	3.39	6.52	3.41	3.11	3.80	6.38	306.36	200	600	4.50

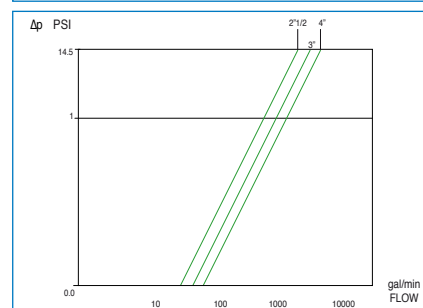
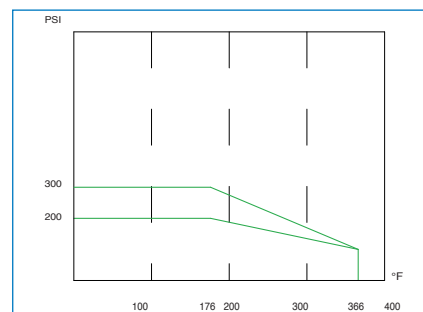
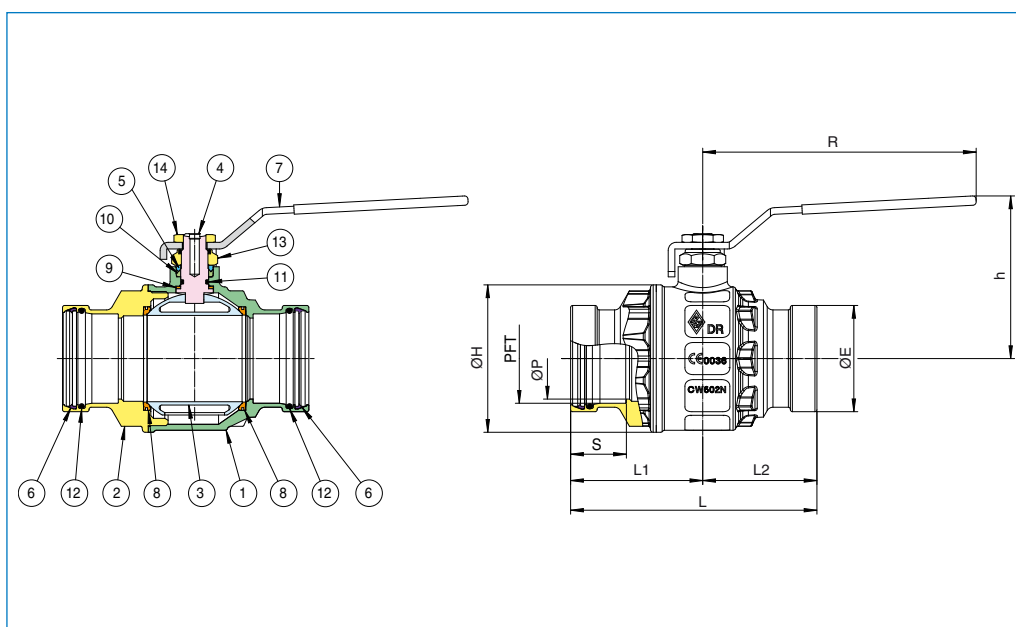
**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



## SERIES 1970XLC

Brass ball valve EURO-PRESS connections, full port sizes 2" 1/2"- 4".

- Test pressure rating 300 CWP up to 3" and 200 CWP for the 4" working pressure 200 psi.
- Temperature range -4° F to +250 °F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats, seals, and thrust washer.
- Adjustable stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Valve to be used in fully open or fully closed position.
- Made in dezincification resistant brass (DZR).



N POS	PART NAME	MATERIAL	N PCS	PFT	ØP	S	ØH	ØE	L	L1	L2	h	R	Cv	MAX WORK PRESS psi	MAX TEST PRESS psi	Weight Lbs	
1	BODY	DZR BRASS C35330	1	2 1/2"	2.40	1.65	4.37	3.15	7.30	3.94	3.39	5.08	8.07	624.28	200	300	9.04	
2	END CONNECTION	DZR BRASS C35330	1		3"	2.87	1.91	5.35	3.66	8.60	4.63	4.00	5.51	8.07	1009.25	200	300	14.55
3	BALL	BRASS CB 753-S	1			4"	3.82	2.42	6.54	4.69	10.26	5.30	4.98	6.30	10.24	1606.94	200	200
4	STEM	BRASS C38500	1															
5	PACKING GLAND	BRASS C38500	1															
6	CIRCLIP	STEEL 38NiCrMo4	2															
7	HANDLE	Fe DD11 UNI EN 10111	1															
8	BALL SEAT	P.T.F.E.	2															
9	STEM SEAL/THRUST WASHER	P.T.F.E.	1															
10	STEM SEAL	P.T.F.E.	1															
11	O-RING	NBR	1															
12	O-RING	EPDM	2															
13	NUT	STEEL CL 04	1															
14	NUT	STEEL CL 04	1															

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).







## SERIES 250N - 253N DIRECT MOUNT 2 WAY BALL VALVE

Brass ball valve, FNPT threaded, full port with ISO 5211 pad for actuator, sizes from 1/4" to 4".

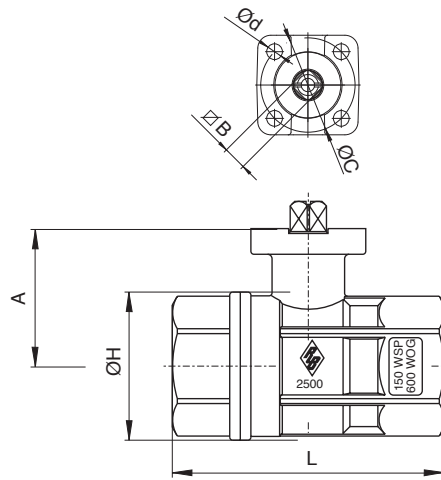
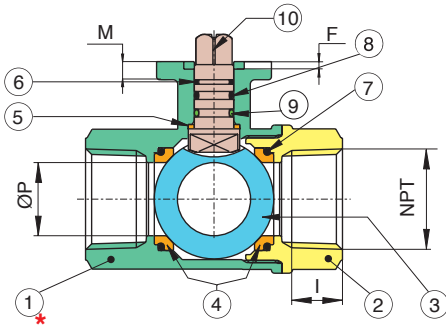
- Pressure rating 600 WOG-150 WSP.
- Temperature range -4° F to +366 °F.
- Blow out proof stem.
- P.T.F.E seats with O-ring backing for low operating torque.
- P.T.F.E seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.

**250N:** WITH BRASS BALL AND STEM - size up to 4".

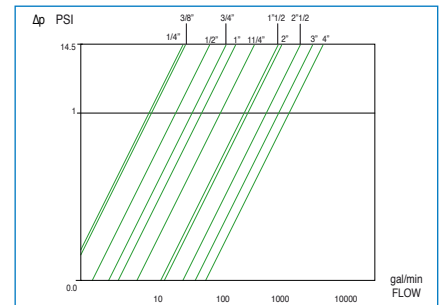
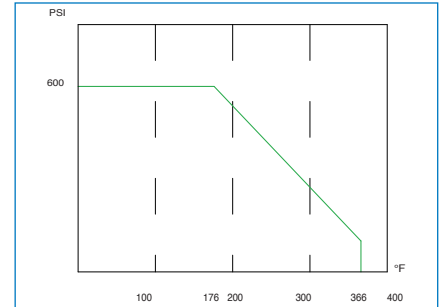
**253N:** WITH STAINLESS STEEL BALL AND STEM - size up to 2".

MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.

### O-RING BACKING P.T.F.E. SEATS



(in-Lbs) Torque values in the table are measured in laboratory tests under the following conditions:  
TEMPERATURE: 68°F  
PRESSURE: 0 psi  
FLUID: PURIFIED WATER

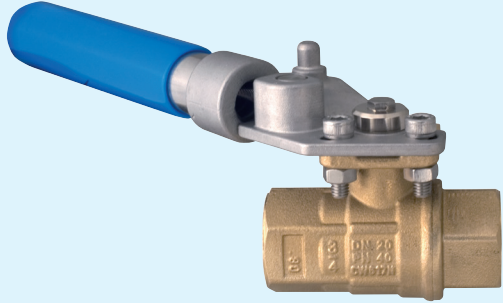


N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38000	1
4	BALL SEAT	P.T.F.E	2
5	THRUST WASHER	P.T.F.E	1
6	STEM SEAL	P.T.F.E	1
7	O-RING	FKM (Viton®)	2
8	O-RING	EPDM	1
9	O-RING	FKM (VITON®)	1
9	STEM	BRASS C38500	1

SIZE	A	ØC ISO 5211	F	∅B mm	Ød	ØH	I	L	CH	M	ØP	Cv	psi	Weight Lbs	Torque in-Lbs
1/4"	1.28	1.42 (ISO F03)	0.08	9	0.24	1.32	0.39	2.64	1.06	0.22	0.39	6.24	600	0.81	17.70
3/8"	1.28	1.42 (ISO F03)	0.08	9	0.24	1.32	0.41	2.64	1.06	0.22	0.39	6.94	600	0.79	17.70
1/2"	1.28	1.42 (ISO F03)	0.08	9	0.24	1.32	0.54	2.64	1.06	0.22	0.55	18.84	600	0.68	17.70
3/4"	1.36	1.42 (ISO F03)	0.12	9	0.24	1.57	0.55	2.99	1.26	0.20	0.75	34.10	600	0.88	26.60
1"	1.79	1.42 (ISO F03)	0.12	9	0.24	1.93	0.66	3.35	1.61	0.24	0.95	49.71	600	1.59	26.60
1 1/4"	1.93	1.42 (ISO F03)	0.12	9	0.24	2.30	0.68	3.66	1.97	0.24	1.18	102.89	600	2.23	53.10
1 1/2"	2.52	1.97 (ISO F05)	0.12	11	0.28	2.87	0.68	4.13	2.17	0.31	1.50	265.90	600	3.70	88.50
2"	2.88	1.97 (ISO F05)	0.12	11	0.28	3.60	0.70	4.80	2.76	0.31	1.98	306.36	600	3.95	106.20
2 1/2"	3.48	2.76 (ISO F7)	0.12	14	0.35	4.51	0.93	6.10	3.54	0.35	2.52	624.28	600	9.57	274.40
3"	3.86	2.76 (ISO F7)	0.12	14	0.35	5.35	1.02	6.89	4.13	0.35	2.99	1009.25	600	13.38	354.30
4"	4.59	2.76 (ISO F7)	0.12	17	0.35	6.54	1.09	8.03	5.12	0.33	3.74	1606.94	600	21.16	575.30

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



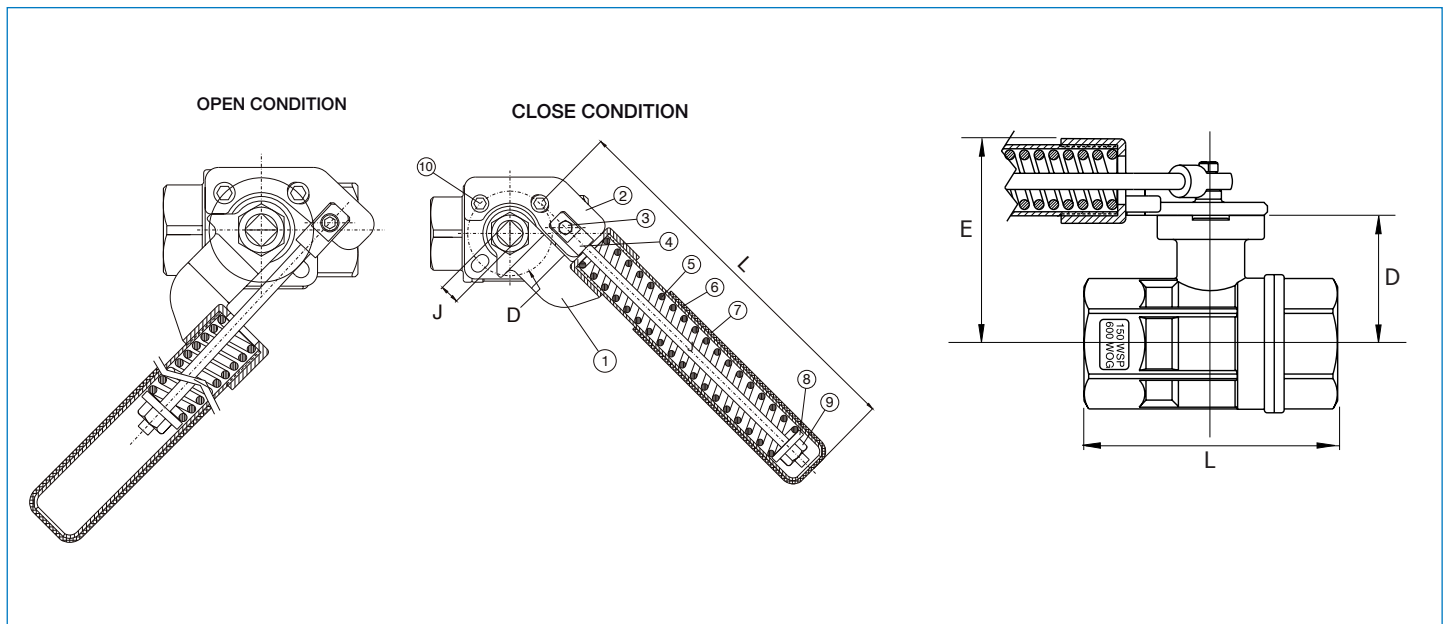


## SERIES 250N SRL DEADMAN SPRING RETURN

Deadman spring lever brass 2 way 2 piece, full port ball valve, FNPT threaded 1/4" to 3".

- Pressure rating 600 WOG-150 WSP.
- Temperature range -4 °F to +366° F.
- Blow out proof stem.
- P.T.F.E seats and double O-ring stem packing.
- P.T.F.E seats with O-ring backing for low operating torque.
- Adjustable spring return lever.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- ANSI B1.20.1 connections.

**250N LF SRL:** LEAD FREE BRASS VERSION AVAILABLE UP TO 2".

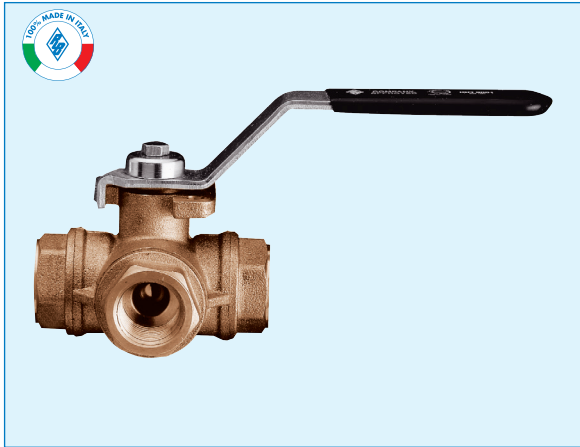


N POS	PART NAME	MATERIAL	SIZE	L	J mm	D ISO 5211	HANDLE TORQUE In-Lbs	E	D	L
1	HANDLE HEAD	ASTM A351 - CF8M	1/4"	6.70	9	F03	132	1.78	1.28	2.64
2	ANCHOR	ASTM A351 - CF8M	3/8"	6.70	9	F03	132	1.78	1.28	2.64
3	ANCHOR SCREW	STAINLESS STEEL 316	1/2"	6.70	9	F03	132	1.78	1.28	2.64
4	SPRING ROD	STAINLESS STEEL 316	3/4"	6.70	9	F03	132	1.86	1.36	3.00
5	SPRING	STAINLESS STEEL 301	1"	6.70	9	F03	132	2.29	1.79	3.35
6	HANDLE EXTENSION	STAINLESS STEEL 304	1 1/4"	6.70	9	F03	132	2.43	1.93	3.66
7	SLEEVE	VINYL	1 1/2"	8.65	11	F05	195	3.02	2.52	4.13
8	WASHER	STAINLESS STEEL 304	2"	8.65	11	F05	195	3.38	2.88	4.80
9	HEX NUT	STAINLESS STEEL 304	2 1/2"	11.00	14	F07	195	3.99	3.49	6.10
10	SOCKET HEAD SCREW	STAINLESS STEEL 304	3"	11.00	14	F07	195	4.35	3.85	6.89

Valve materials and size: see table page 15 art. 250N

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





## SERIES 355N (T) - 365N (L) DIRECT MOUNT 3 WAY BALL VALVE

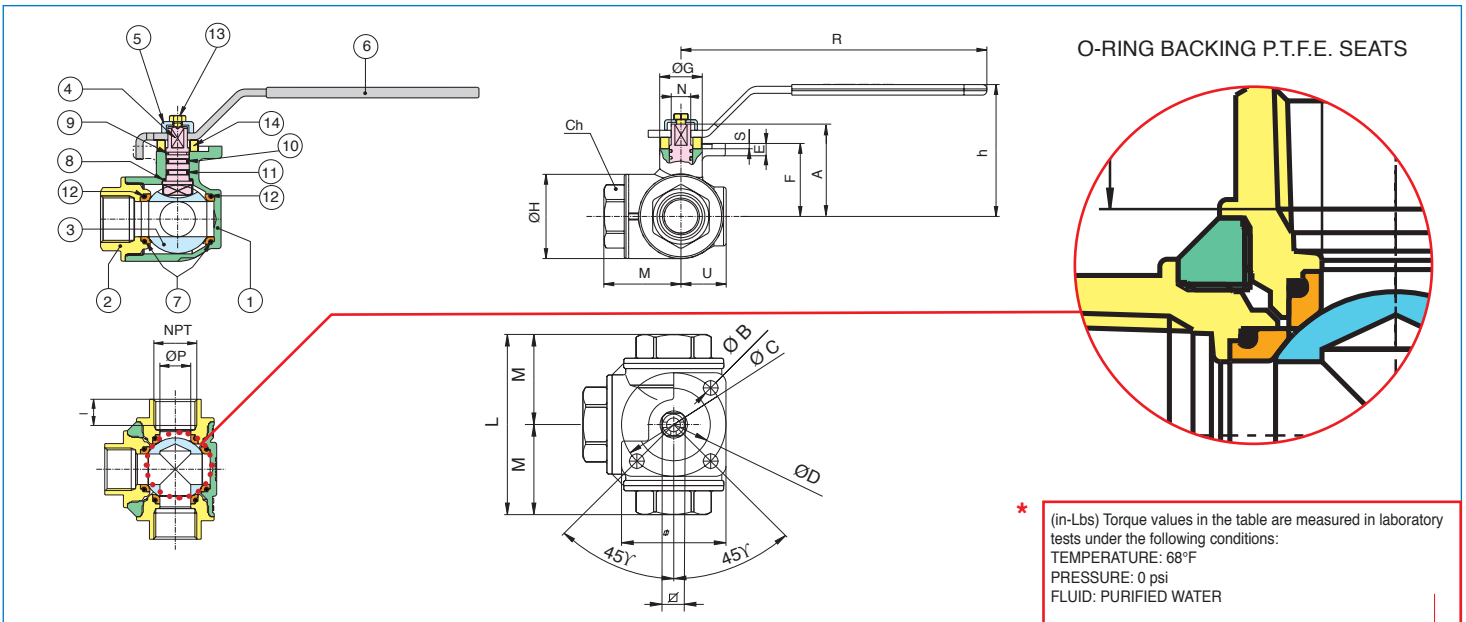
3 way brass ball valve with ISO 5211 pad for actuator, standard port, sizes from 1/4" to 3" FNPT.

- Pressure rating 400 WOG-100 WSP.
- Temperature range -4° F to +366 °F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats with O-ring backing for low operating torque.
- P.T.F.E seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Four seat design for sealing between pressurized ports.
- Model 355N (90° and 180° flow path).
- Model 365N (90° with off position).
- ANSI B1.20.1 connections.

**355N:** LEVER HANDLE - size 1/4" to 3", "T" flow pattern.

**365N:** LEVER HANDLE - size 1/4" to 3", "L" flow pattern.

MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.



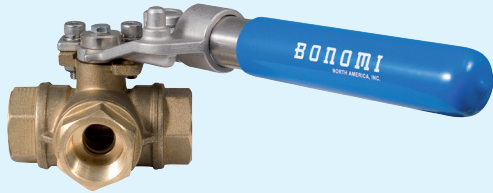
N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	3
3	BALL	BRASS C38000	1
4	STEM	BRASS C38500	1
5	BUSH	BRASS C38500	1
6	HANDLE	Fe DD 11 UNI EN 10111	1
7	BALL SEAT	P.T.F.E	4
8	THRUST WASHER	P.T.F.E	1
9	THRUST WASHER	P.T.F.E	1
10	O-RING	EPDM	1
11	O-RING	FKM (Viton®)	1
12	O-RINGS BODY	FKM (Viton®)	4
13	SCREW	STEEL CL 8.8	1
14	WASHER	NYLON (PA6)	1

SIZE	ØP	ØH	I	L	M	CH	R	h	ØG	ØB	Øc	U	E	F	A	mm	N	Cv <sub>355N</sub>	Cv <sub>365N</sub>	psi	Weight Lbs	Torque in-Lbs
1/4"	0.39	1.34	0.39	2.64	1.32	0.87	4.72	2.44	0.87	0.24	1.42 (ISO F03)	0.77	0.20	1.20	0.35	9	0.35	3.24	3.24	400	1.23	17.70
3/8"	0.43	1.34	0.41	2.64	1.32	0.87	4.72	2.44	0.87	0.24	1.42 (ISO F03)	0.77	0.20	1.20	0.35	9	0.35	3.47	3.47	400	1.14	17.70
1/2"	0.43	1.34	0.54	2.87	1.44	1.06	4.72	2.44	0.87	0.24	1.42 (ISO F03)	0.77	0.20	1.20	0.35	9	0.35	4.16	4.16	400	1.21	17.70
3/4"	0.55	1.54	0.55	3.19	1.59	1.26	4.72	2.52	0.87	0.24	1.42 (ISO F03)	0.87	0.20	1.29	0.35	9	0.35	7.05	7.05	400	1.48	26.60
1"	0.75	1.89	0.66	3.74	1.87	1.61	6.79	2.95	0.94	0.28	1.97 (ISO F05)	1.00	0.28	1.63	0.43	11	0.43	12.83	12.83	400	2.69	26.60
1 1/4"	0.95	2.36	0.68	4.39	2.19	1.97	6.79	3.17	0.94	0.28	1.97 (ISO F05)	1.22	0.28	1.85	0.43	11	0.43	18.73	18.73	400	4.14	53.10
1 1/2"	1.18	2.83	0.68	4.86	2.43	2.17	6.79	3.66	1.26	0.28	1.97 (ISO F05)	1.49	0.28	2.34	0.43	11	0.43	29.71	29.71	400	6.46	88.50
2"	1.50	3.39	0.70	5.73	2.86	2.76	9.06	4.37	1.46	0.35	2.76 (ISO F07)	1.75	0.31	2.91	0.59	14	0.55	43.81	43.81	400	11.07	106.20
2 1/2"	1.95	4.37	0.93	6.93	3.46	3.35	9.06	4.80	1.46	0.35	2.76 (ISO F07)	2.20	0.31	3.35	0.59	14	0.55	70.05	70.05	400	19.78	274.40
3"	1.95	4.45	1.02	7.09	3.54	4.13	9.06	4.80	1.46	0.35	2.76 (ISO F07)	2.20	0.31	3.35	0.59	14	0.55	70.05	70.05	400	19.64	354.30

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).







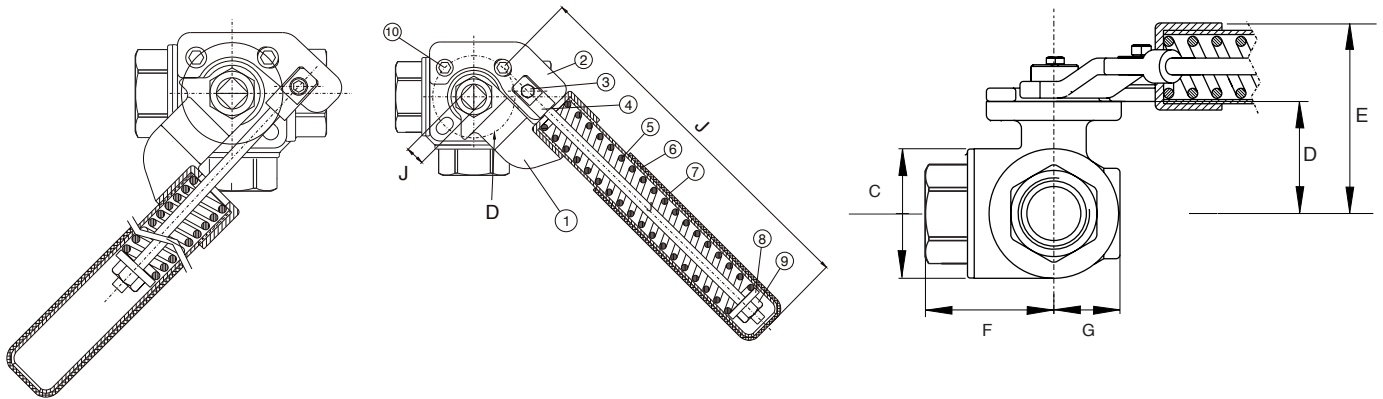
## SERIES 355NSRL (T)-365NSRL (L) DEADMAN SPRING RETURN

3 way brass ball valve, FNPT, threaded standard port, with deadman spring return handle, from 1/4" to 2".

- Pressure rating 400 WOG-100 WSP.
- Temperature range -4° F to +366 °F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats with O-ring backing for low operating torque.
- P.T.F.E seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Four seat design for sealing between pressurized ports.
- ANSI B1.20.1 connections.

OPEN CONDITION

CLOSE CONDITION

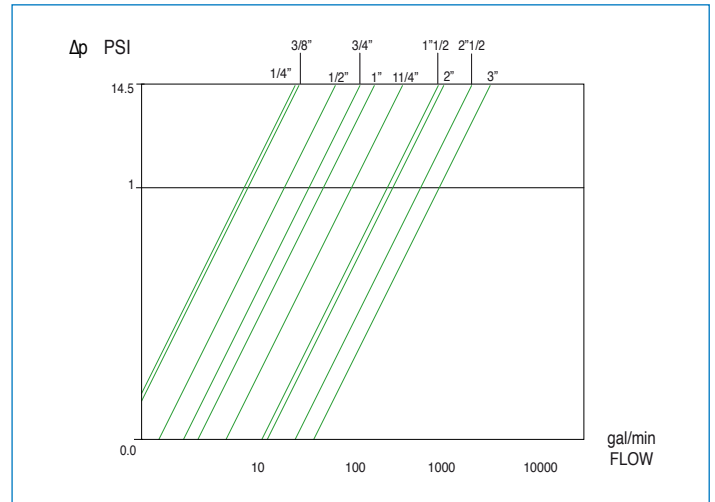
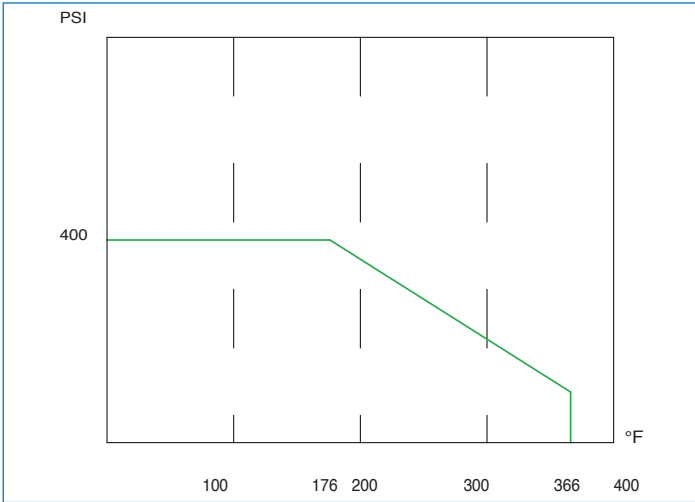


N POS	PART NAME	MATERIAL
1	HANDLE HEAD	ASTM A351 - CF8M
2	ANCHOR	ASTM A351 - CF8M
3	ANCHOR SCREW	STAINLESS STEEL 316
4	SPRING ROD	STAINLESS STEEL 316
5	SPRING	STAINLESS STEEL 301
6	HANDLE EXTENSION	STAINLESS STEEL 304
7	SLEEVE	VINYL
8	WASHER	STAINLESS STEEL 304
9	HEX NUT	STAINLESS STEEL 304
10	SOCKET HEAD SCREW	STAINLESS STEEL 304

SIZE	L	J mm	D ISO 5211	HANDLE TORQUE In-Lbs	E	D	C	F	G
1/4"	6.70	9	F03	132	1.70	1.20	1.34	1.32	0.77
3/8"	6.70	9	F03	132	1.70	1.20	1.34	1.32	0.77
1/2"	6.70	9	F03	132	1.70	1.20	1.34	1.44	0.77
3/4"	6.70	9	F03	132	1.79	1.29	1.53	1.60	0.87
1"	6.70	9	F03	132	2.79	1.63	1.89	1.87	1.00
1 1/4"	6.70	9	F03	132	2.93	1.85	2.36	2.20	1.22
1 1/2"	8.65	11	F05	195	3.52	2.34	2.83	2.43	1.79
2"	8.65	11	F05	195	3.82	2.90	3.38	2.87	1.75

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





## FLOW PATH VARIATIONS

	355N				365N		
	A	B	C	D	A	B	C
Lever Assembly							
Position 1							
Position 2							
Note	To achieve other flow paths, simply remove the handle and reorient the valve stem to the desired flow path. Refer to the markings on top of the ball valve stem for proper position. When finished, re-attach the handle.						



# SERIES 383N - 383M MINI BALL VALVE

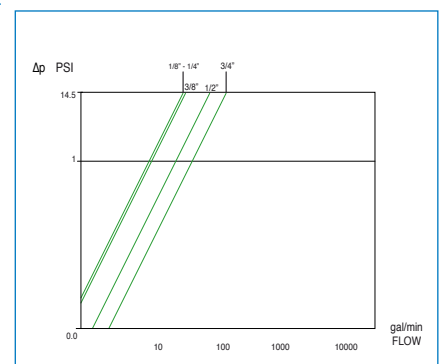
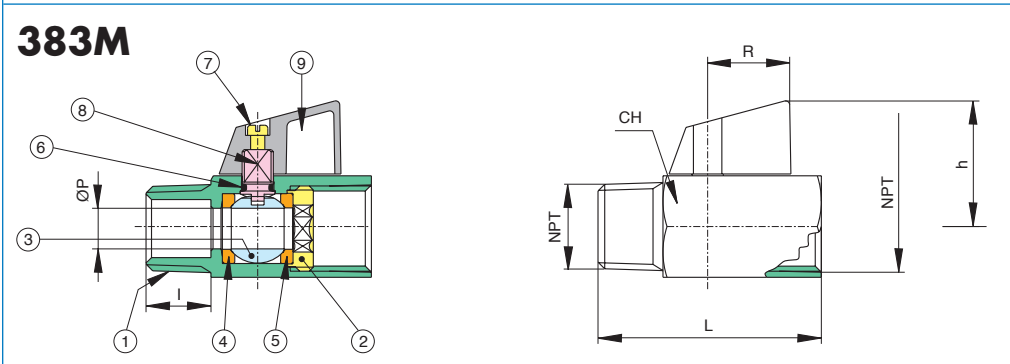
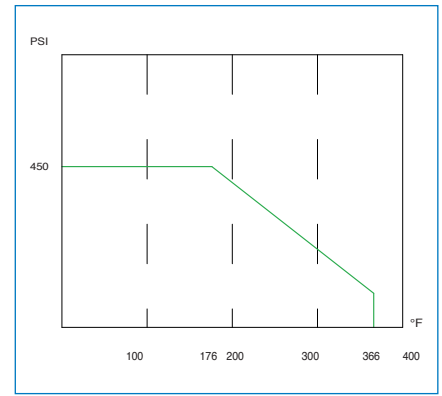
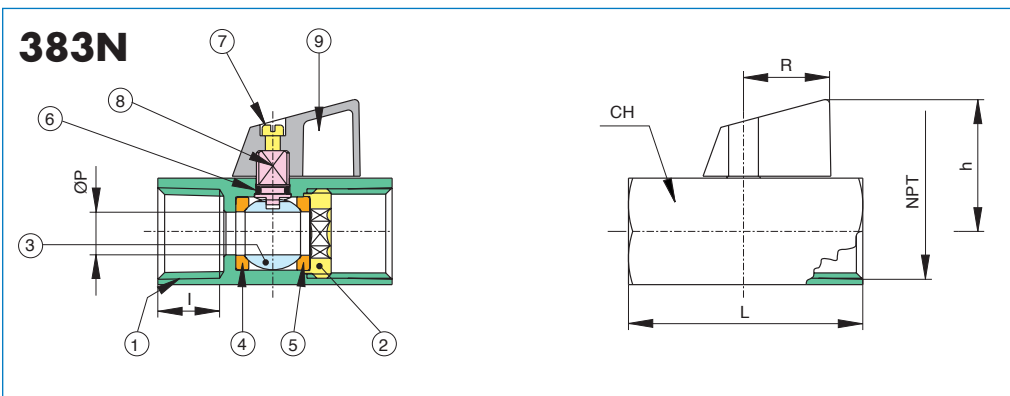


Nickel plated brass ball valve mini series, standard port from 1/8" to 3/4".

- Pressure rating 450 psi.
- Temperature range -4° F to +330 °F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats and viton seal.
- 100% electronically tested in the open and closed position at 80 psi.
- Not to be used for drinking water.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.

**383N:** FNPT THREADED  
**383M:** MNPT X FNPT THREADED

MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.



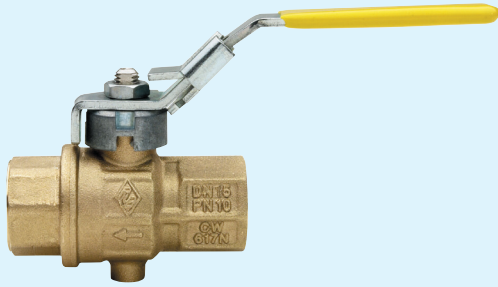
N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	RETAINING BUSH	BRASS C38500	1
3	BALL	BRASS C38500	1
4	BALL SEAT	P.T.F.E	1
5	BALL SEAT	P.T.F.E	1
6	O-RING	FKM (VITON®)	1
7	SCREW	STEEL DD11	1
8	STEM	BRASS C38500	1
9	HANDLE	GLASS REINFORCED NYLON	1

SIZE	ØP	CH	l	h	L	R	Cv	psi	Weight Lbs 383N	Weight Lbs 383M
1/8"	0.31	0.83	0.27	1.16	1.61	0.81	4.97	450	0.23	0.19
1/4"	0.31	0.83	0.39	1.16	1.69	0.81	4.97	450	0.22	0.18
3/8"	0.31	0.83	0.41	1.16	1.69	0.81	3.12	450	0.19	0.17
1/2"	0.39	0.98	0.54	1.24	2.17	0.81	6.24	450	0.33	0.31
3/4"	0.47	1.18	0.56	1.32	2.36	0.81	8.44	450	0.49	0.46

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



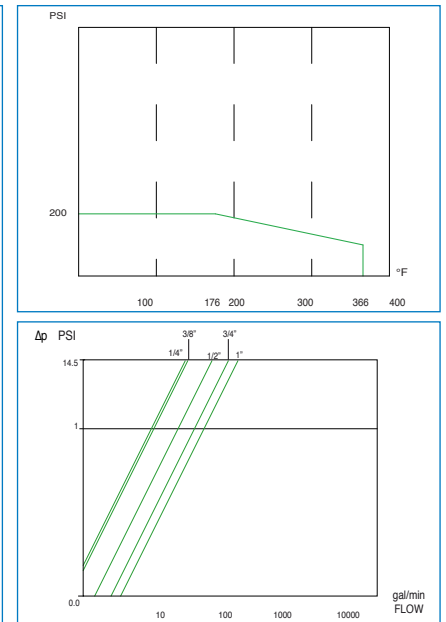
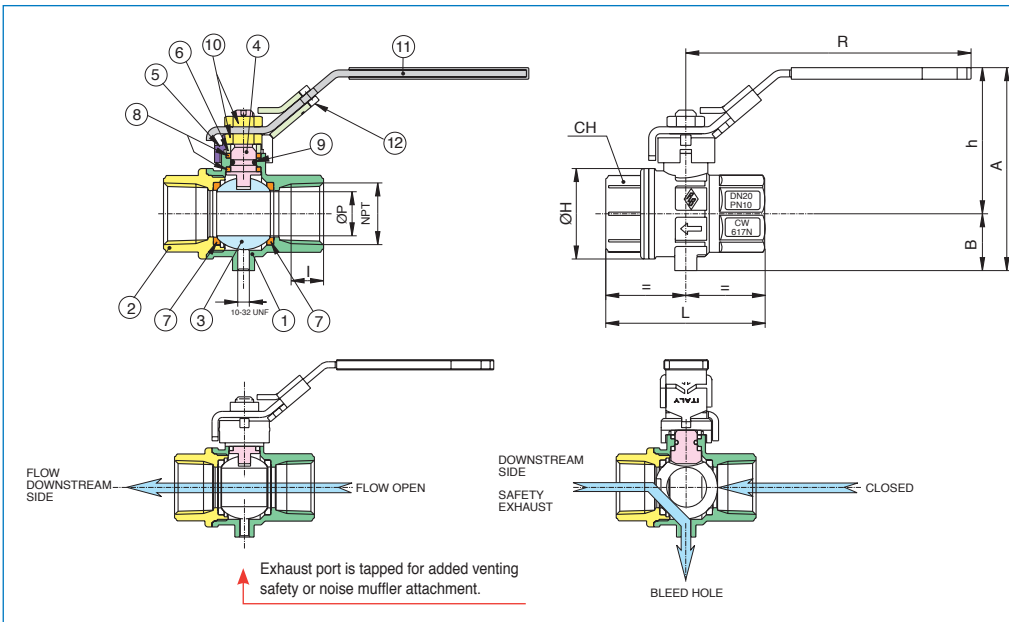




## SERIES 511L SAFETY EXHAUST

Exhaust brass ball valve, full port with bleed hole, FNPT threaded, from 1/4" to 1", with latch lock handle.

- Pressure rating 200 psi.
- Temperature range -4 °F to +350° F.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats, seals and thrust washer.
- Adjustable stem packing.
- 100% electronically tested in the open position 80 psi.
- Valve to be used in fully open or fully closed position.
- With reference to OSHA requirement.
- ANSI B1.20.1 connections.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	BALL	BRASS C38500	1
4	STEM	BRASS C38500	1
5	BUSH	ZAMA G Zn Al4 UNI EN 1774	1
6	PACKING GLAND	BRASS C38500	1
7	SEAT BALL	P.T.F.E	2
8	THRUST WASHER/STEM SEAL	P.T.F.E	2
9	O-RING	NBR	1
10	NUT	STEEL CL 04	2
11	HANDLE	Fe DD 11 UNI EN 10111	1
12	LOCKING DEVICE	Fe DD11 UNI EN 10111	1

SIZE	ØP	A	B	h	ØH	l	L	R	CH	Cv	psi	Weight Lbs
1/4"	0.39	2.58	0.69	1.89	1.10	0.39	2.01	3.78	0.87	6.24	200	0.49
3/8"	0.39	2.58	0.69	1.89	1.10	0.41	2.01	3.78	0.87	6.94	200	0.46
1/2"	0.55	2.78	0.79	1.99	1.30	0.54	2.44	3.78	0.98	18.84	200	0.53
3/4"	0.75	3.44	0.96	2.48	1.54	0.55	2.72	4.84	1.22	34.10	200	0.90
1"	0.94	3.78	1.14	2.64	1.93	0.66	3.07	4.84	1.50	49.71	200	1.32

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.

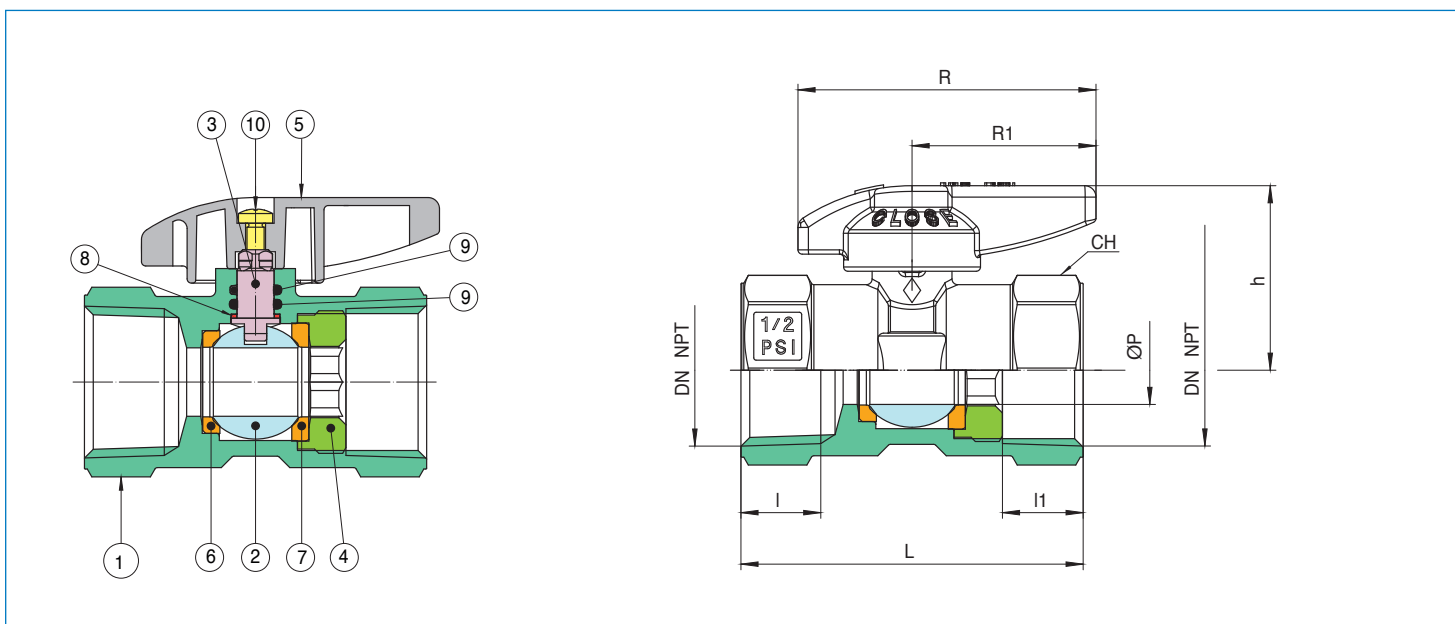
## SERIES 9280 FIP-FIP GAS BALL VALVE



Gas ball valve unibody design, standard port, FIP x FIP threaded.  
According to:

- CAN 1-9.1 - US REQUIREMENTS 3-88.
- CGA CR 91-002 - ANSI Z21.15
- UL 125 "LP GAS" - UL 842 - SUBJECT 258.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.

### ONE PIECE BODY

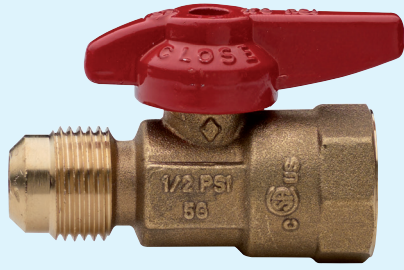


N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	BALL	BRASS C38500	1
3	STEM	BRASS C38500	1
4	RING NUT	BRASS C38500	1
5	HANDLE	G Zn Al4 UNI 3717 ALLOY	1
6	BALL SEAT	P.T.F.E	1
7	BALL SEAT	P.T.F.E	1
8	THRUST WASHER	PE	1
9	O-RING	NBR	2
10	SCREW	STEEL	1

SIZE	ØP	I	I1	L	R	R1	CH	h	Weight Lbs
3/8" FIP X 3/8" FIP	0.31	0.41	0.41	1.69	2.06	1.27	0.79	1.06	0.20
1/2" FIP X 1/2" FIP	0.39	0.54	0.54	2.17	2.06	1.27	0.98	1.14	0.31
3/4" FIP X 3/4" FIP	0.47	0.55	0.56	2.36	2.06	1.27	1.22	1.28	0.49

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





## SERIES 9281 FIP-FLARE GAS BALL VALVE

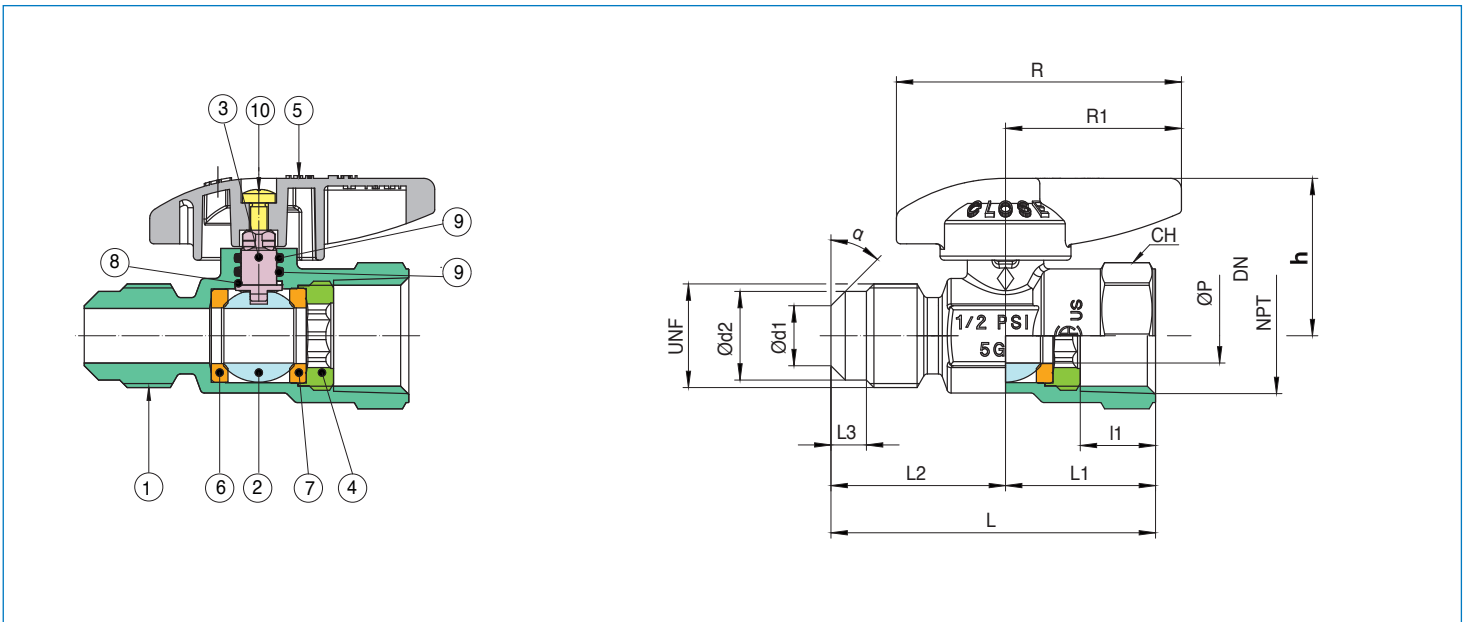


Gas ball valve unibody design, standard port, FIP x FLARE threaded.  
According to:

- CAN 1-9.1 - US REQUIREMENTS 3-88.
- CGA CR 91-002 - ANSI Z21.15.
- UL 125 "LP GAS" - UL 842 - SUBJECT 258.
- Blow out proof stem, chrome plated brass ball.
- P.T.F.E seats.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.

### ONE PIECE BODY

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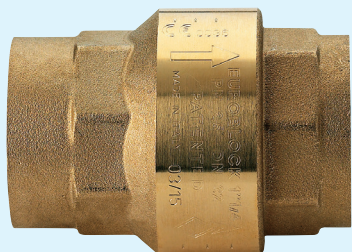


N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	BALL	BRASS C38500	1
3	STEM	BRASS C38500	1
4	RING NUT	BRASS C38500	1
5	HANDLE	G Zn Al4 UNI 3717 ALLOY	1
6	BALL SEAT	P.T.F.E	1
7	BALL SEAT	P.T.F.E	1
8	THRUST WASHER	PE	1
9	O-RING	NBR	2
10	SCREW	STEEL	1

SIZE	UNF	NPT	ØP	I1	L	L1	L2	L3	Ød1	Ød2	R	R1	a	CH	h	Weight Lbs
3/8" FIP X 3/8" FLARE	5/8" X18	3/8" X18	0.28	0.41	1.93	0.85	1.08	0.22	0.31	0.53	2.06	1.27	45°	0.79	1.06	0.20
1/2" FIP X 3/8" FLARE	5/8" X18	1/2" X14	0.28	0.54	2.24	1.08	1.16	0.22	0.31	0.53	2.06	1.27	45°	0.98	1.14	0.26
1/2" FIP X 1/2" FLARE	3/4" X16	1/2" X14	0.39	0.54	2.34	1.08	1.26	0.26	0.43	0.64	2.06	1.27	45°	0.98	1.14	0.29

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## SERIES 100002 - 100003 CHECK VALVE

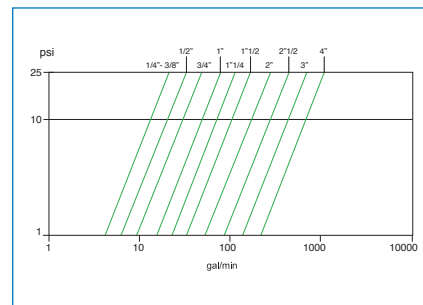
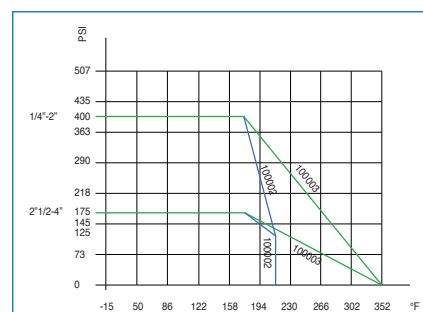
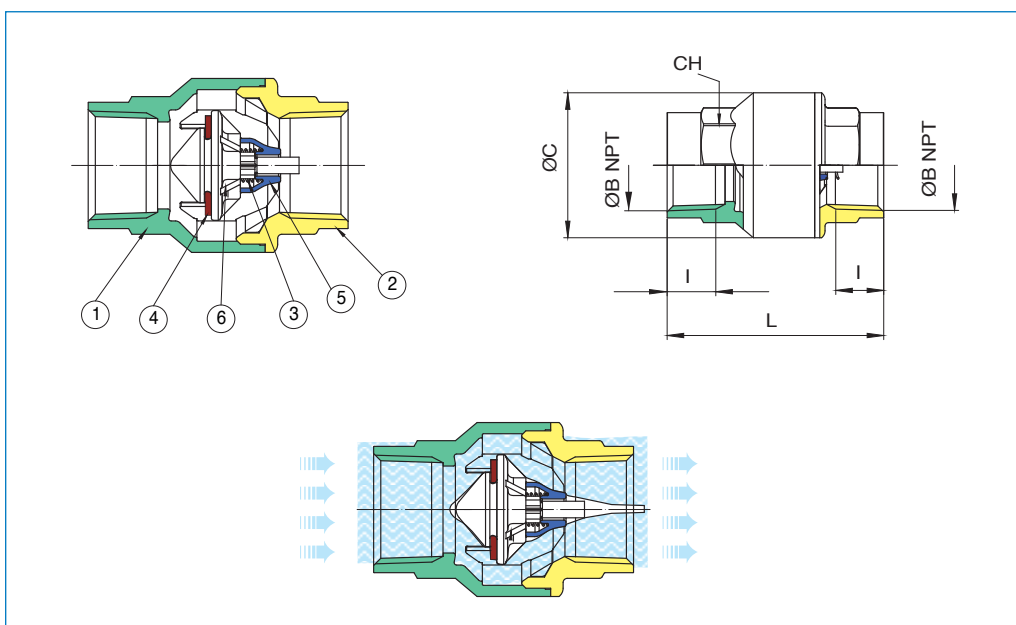
High flow rate brass, FNPT threaded, in-line spring loaded check valve.

- Pressure rating: size 1/4"-2" 400 WOG / 2 1/2"-4" 175 WOG.
- Soft seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure 1/2 psi.
- Flow pattern to minimize head loss.
- Perfect sealing both at high and low pressure wide temperature range: +10° to 210°F.
- High technology materials to ensure best resistance in any condition.
- Patented disc to prevent side loading.
- Not to be used for drinking water.
- ANSI B1.20.1 connections.

100002: NBR for water, oils and general purpose.

100003: with Viton® seal for fuels and hydrocarbons.

Max working TEMPERATURE 366°F/125 psi steam - 3/8"-4".



N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	SPRING	STAINLESS STEEL AISI 302	1
4	SEAT	100002 NBR	1
		100003 FKM (Viton®)	1
5	SUPPORT	POM	1
6	DISC	POLYETHERIMIDE	1

SIZE	L	ØB	ØC	I	CH	Cv	psi	Weight Lbs
1/4" *	1.73	0.79	1.06	0.39	0.79	4.28	400	0.22
3/8"	1.73	0.79	1.06	0.41	0.79	4.28	400	0.37
1/2"	2.32	0.98	1.36	0.54	0.98	6.71	400	0.32
3/4"	2.56	1.20	1.65	0.55	1.22	9.95	400	0.49
1"	2.76	1.48	1.93	0.66	1.50	15.97	400	0.68
1 1/4"	2.93	1.87	2.40	0.68	1.89	23.37	400	1.12
1 1/2"	3.17	2.11	2.87	0.68	2.13	35.75	400	1.61
2"	3.37	2.68	3.46	0.70	2.64	56.46	400	2.28
2 1/2"	4.37	3.23	4.39	0.93	3.27	91.87	175	4.83
3"	4.86	3.84	5.24	1.02	3.86	144.51	175	6.70
4"	5.41	5.00	6.42	1.09	5.04	224.92	175	12.43

\* Art. 100003 not available in 1/4" size.

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

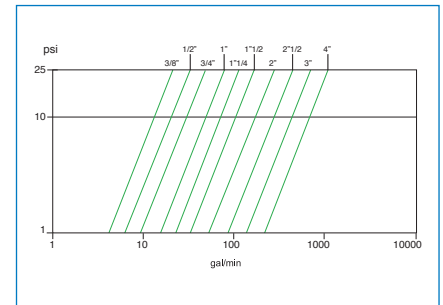
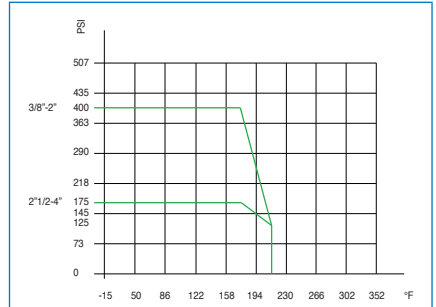
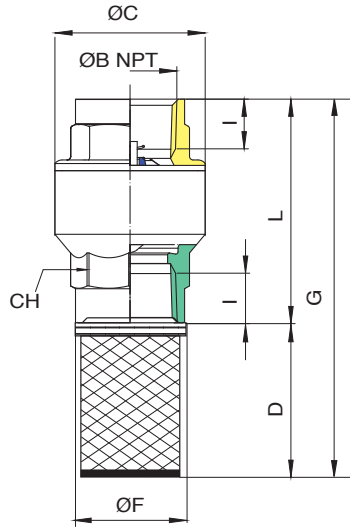
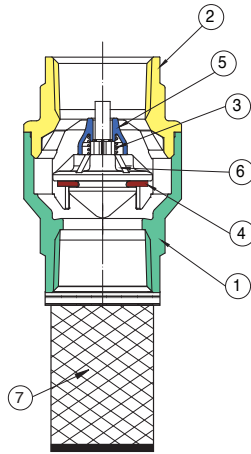




## SERIES 100102 FOOT VALVE

High flow rate, brass FNPT threaded, spring loaded foot valve.

- Pressure rating: sizes 3/8"-2" 400 WOG - 2 1/2"-4" 175 WOG.
- Soft seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure 1/2 psi.
- Flow pattern to minimize head loss.
- Perfect sealing both at high and low pressure wide temperature range: +10°F to 210°F.
- High technology materials to ensure best resistance in any condition.
- Patented disc to prevent side loading.
- Stainless steel 1000 micron strainer.
- Not to be used for drinking water.
- ANSI B1.20.1 connections.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	BRASS C38000	1
2	END CONNECTION	BRASS C38000	1
3	SPRING	STAINLESS STEEL	1
4	SEAT	NBR	1
5	SUPPORT	POM	1
6	DISC	POLYETHERIMIDE	1
7	SCREEN	STAINLESS STEEL NYLON 1000 MICRON	1

SIZE	L	ØB	ØC	D	ØE	ØF	G	CH	I	Cv	psi	Weight Lbs
3/8"	1.73	0.79	1.06	1.67	0.79	0.91	3.41	0.79	0.41	4.28	400	0.21
1/2"	2.32	0.98	1.36	1.69	0.91	1.02	4.02	0.98	0.54	6.71	400	0.36
3/4"	2.56	1.20	1.65	1.89	1.14	1.26	4.45	1.22	0.55	9.95	400	0.52
1"	2.76	1.48	1.93	1.89	1.50	1.61	4.65	1.50	0.66	15.97	400	0.80
1 1/4"	2.93	1.87	2.40	2.24	1.77	1.93	5.18	1.89	0.68	23.37	400	1.26
1 1/2"	3.17	2.11	2.87	2.68	1.97	2.17	5.85	2.13	0.68	35.75	400	1.76
2"	3.37	2.68	3.46	3.27	2.44	2.64	6.63	2.64	0.70	56.46	400	2.39
2 1/2"	4.37	3.23	4.39	3.29	3.23	3.39	7.66	3.27	0.93	91.87	175	4.98
3"	4.86	3.84	5.24	3.90	3.70	3.90	8.76	3.86	1.02	144.51	175	7.27
4"	5.41	5.00	6.42	4.53	4.61	4.80	9.94	5.04	1.09	224.92	175	12.22

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

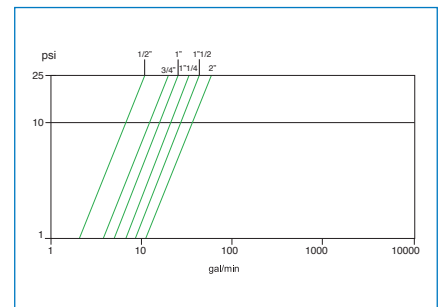
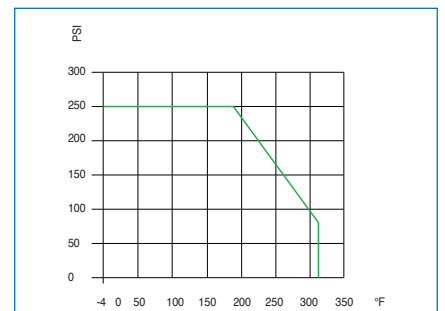
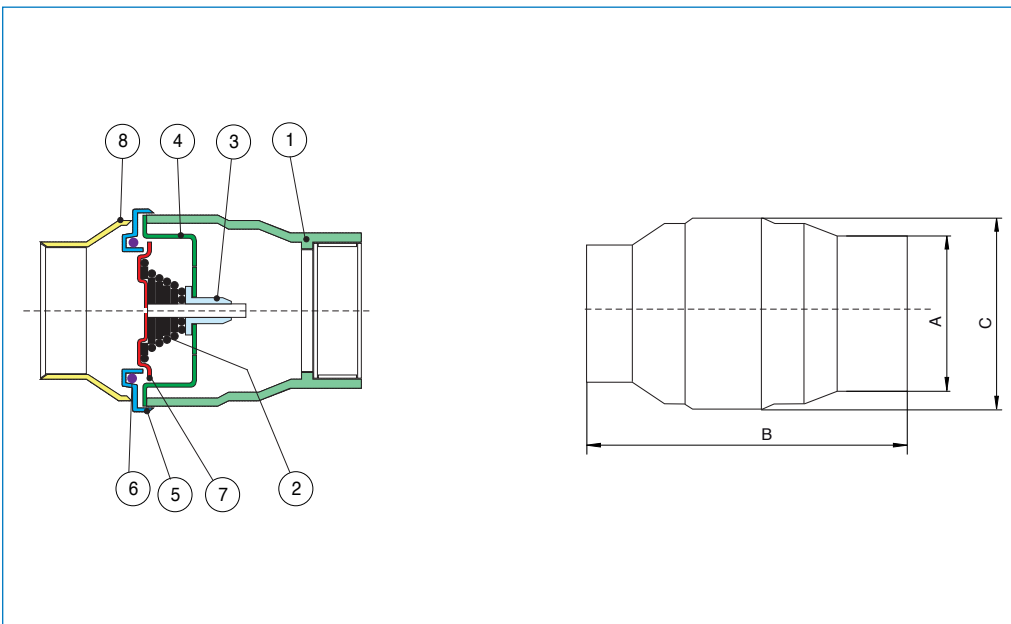




## SERIES S250 CHECK VALVE

High capacity, in-line spring loaded, stainless check valve, FNPT threaded.  
Pressure rating: size 1/2"-2", 250 WOG.

- FKM (Viton®) seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure at 1/2 psi.
- Flow profile designed to minimize head loss.
- Temperature range: -4°F to +302°F.
- Corrosion resistant.
- AISI 316 cold formed stainless steel.
- ANSI B1.20.1 connections.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	AISI 316	1
2	SPRING	AISI 316	1
3	GUIDE BUSH	P.T.F.E	1
4	DISC GUIDE	AISI 316	1
5	SEAL RING HOUSING	AISI 316	1
6	GASKET	FKM (Viton®)	1
7	FLOW CONTROL DISC	AISI 316	1
8	END CAP	AISI 316	1

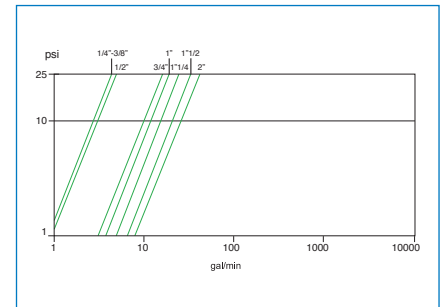
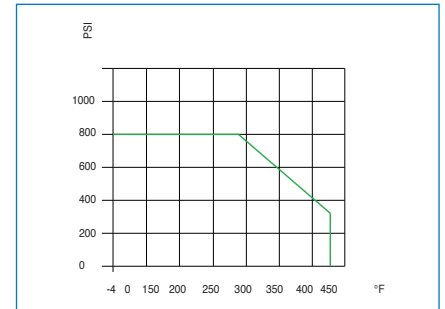
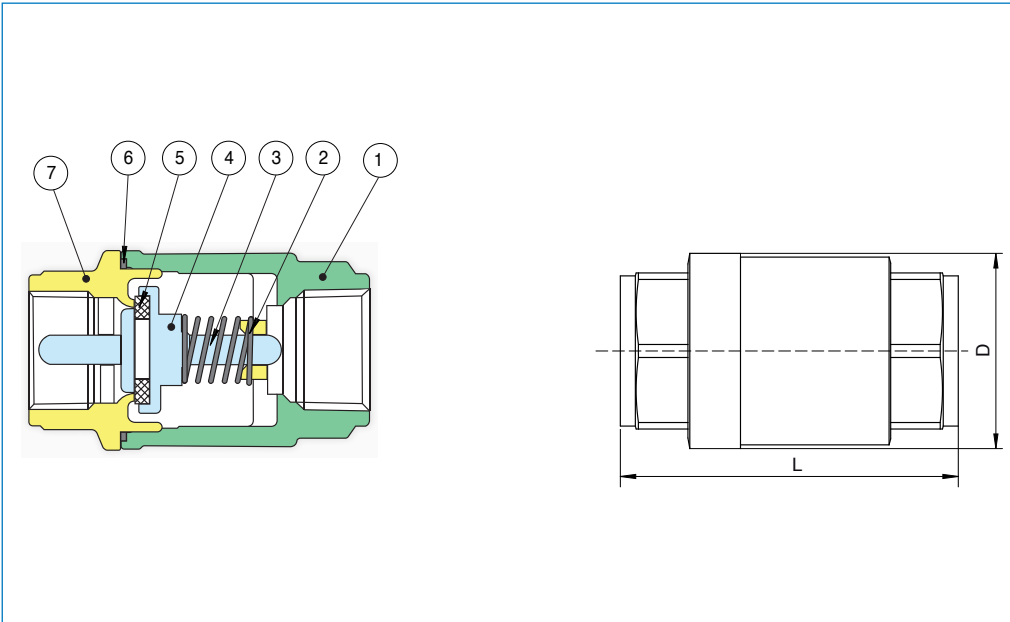
SIZE	A	B	C	Cv	psi	Weight Lbs
1/2"	0.98	2.17	1.26	9.13	250	0.21
3/4"	1.18	2.63	1.73	15.95	250	0.28
1"	1.41	3.27	2.09	21.62	250	0.42
1 1/4"	1.77	3.82	2.44	35.84	250	0.62
1 1/2"	2.00	4.53	3.07	47.40	250	0.86
2"	2.48	4.74	3.50	64.74	250	1.55

## SERIES S800 CHECK VALVE

High capacity, in-line spring loaded stainless steel check valve, FNPT threaded.

- Pressure rating: size 1/4"-2" 800 WOG.
- Soft P.T.F.E seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure 1/2 psi.
- Flow profile designed to minimize head loss.
- Perfect sealing both at high and low pressure, wide temperature range: +10°F to 450°F.
- Corrosion resistant-excellent for use on chemicals.
- ASTM A351-CF8M investment casting.
- 125 WSP saturated steam.
- ANSI B1.20.1 threads.
- Dual guided stem and disc.

S800FV: STAINLESS STEEL FOOT VALVE DESIGN.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	ASTM A351-CF8M	1
2	SPRING	SS316	1
3	CENTER GUIDE	ASTM A351-CF8M	1
4	DISC	ASTM A351-CF8M	1
5	SEAT	P.T.F.E	1
6	GASKET	P.T.F.E	1
7	END CAP	ASTM A351-CF8M	1

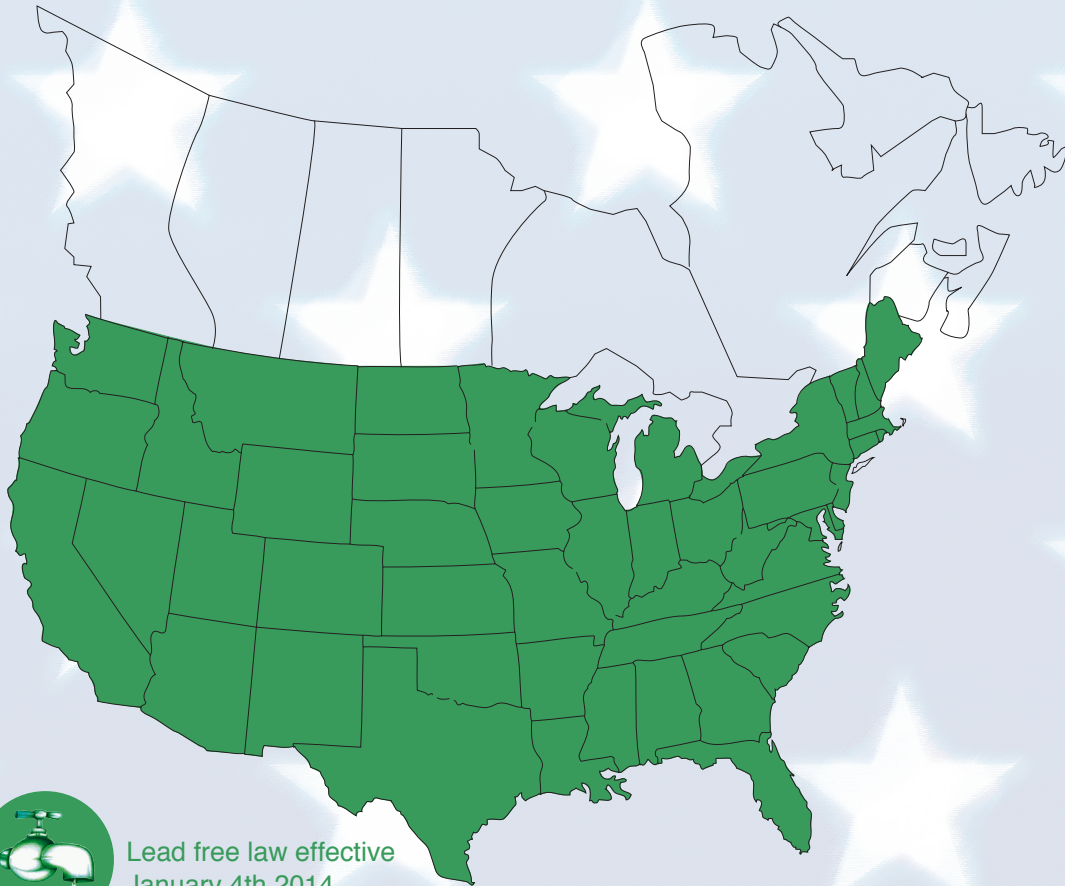
SIZE	D	L	Cv	psi	Weight Lbs
1/4"	1.35	2.31	3.50	800	0.42
3/8"	1.35	2.31	3.50	800	0.42
1/2"	1.35	2.31	5.20	800	0.40
3/4"	1.81	2.87	10.00	800	0.85
1"	2.13	3.50	15.00	800	1.30
1 1/4"	2.46	4.18	24.50	800	2.50
1 1/2"	2.88	4.93	35.20	800	3.40
2"	3.56	6.00	52.00	800	6.00





# BONOMI

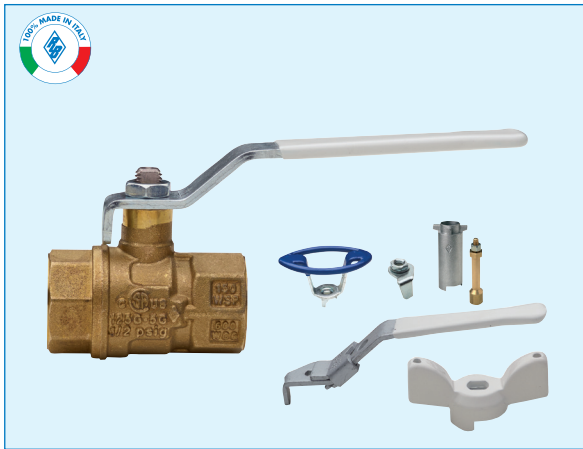
## NORTH AMERICA



Lead free law effective  
January 4th 2014

## LEAD FREE VALVES AND FORGINGS

At Bonomi North America we are dedicated to providing the best possible lead free brass material in the industry today. Our lead free brass is basically the same material we have always used, less the lead. No new element has been added, only more of the existing elements. There is no bismuth nor silicon lead replacement filler present in our material, therefore no worry about having to use higher temperature fluxes and special solders. Our valves are soldered just like a leaded valve... no change. We have had many years of experience with our lead free material in different parts of the world, and our acceptance in North America has been very positive. There is no good reason to switch to valves requiring either high temperature solders-fluxes, nor need to worry about potential long term material brittleness, when Bonomi lead free valves are available. Brass forgings vs. bronze sand castings. Another advantage Bonomi valves have over other lead free valves is that Bonomi lead free brass valves are forged and not sand cast. Brass forged valve bodies are far superior to bronze sand cast bodies, offering higher tensile strength, lighter weight, and zero porosity, unlike bronze sand cast parts. At Bonomi North America, we are dedicated to providing only the safest, highest performing valves that eliminate problems for specifiers and installers.



# SERIES 161N LF - 162N LF COMPACT STYLE

Lead free brass ball valve, FNPT threaded, full port sizes 1/2" up to 4".

- Pressure rating 600 WOG-150 WSP.
- Temperature range -4°F to 366°F.
- Blow out proof stem, T.E.A. coated LF brass ball.
- P.T.F.E. seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.

**161N LF:** LEVER HANDLE - size 1/2" to 4".

**162N LF:** T- HANDLE - size 1/2" to 1".

Sizes 1/4" and 3/8" see 171N LF.



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61



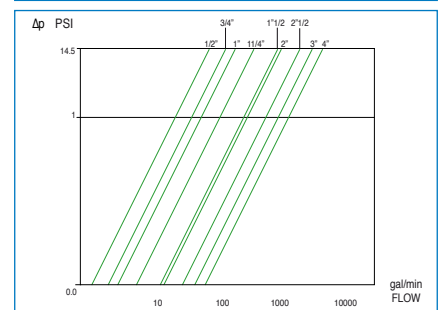
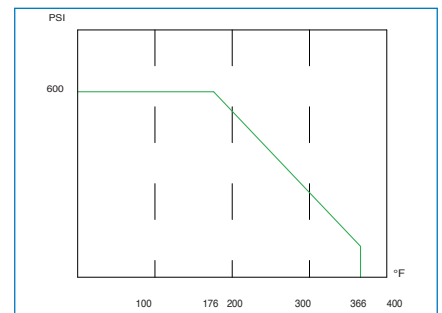
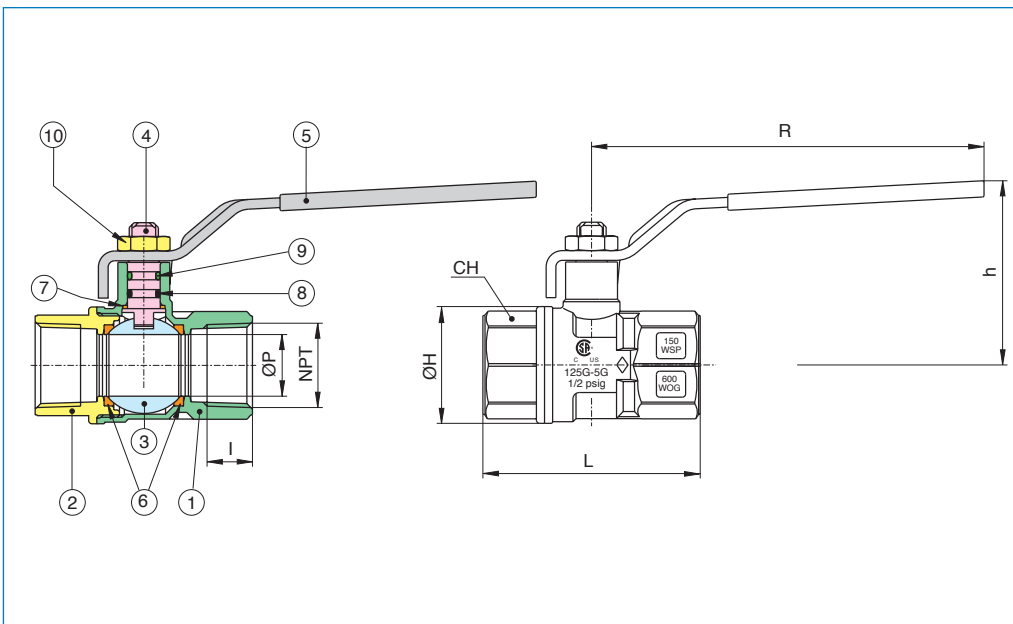
400 WOG up to 2"



C US



MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500 *	1
2	END CONNECTION	LF BRASS C28500 *	1
3	BALL BALL (2 1/2" to 4")	LF BRASS C28500 * STEEL 1.4401	1 1
4	STEM	LF BRASS C28500 *	1
5	HANDLE	STEEL DD11	1
6	BALL SEAT	P.T.F.E	2
7	THRUST WASHER	P.T.F.E	1
8	O-RING	NBR	1
9	O-RING	FKM (Viton®)	1
10	NUT	STEEL CL04	1

SIZE	ØP	I	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/2"	0.55	0.54	2.22	1.22	0.98	3.78	1.77	18.15	600	0.40
3/4"	0.75	0.55	2.46	1.46	1.22	4.76	2.22	32.37	600	0.66
1"	0.94	0.66	3.01	1.76	1.50	4.76	2.32	47.98	600	0.99
1 1/4"	1.19	0.68	3.37	2.11	1.89	5.94	2.85	97.80	600	1.60
1 1/2"	1.50	0.68	3.70	2.64	2.13	5.94	3.09	252.60	600	2.19
2"	1.95	0.70	4.31	3.39	2.64	6.30	3.70	290.75	600	3.97
2 1/2"	2.44	0.93	5.16	4.09	3.27	8.07	4.59	593.06	600	7.58
3"	2.99	1.02	5.94	4.96	3.86	8.07	4.98	958.84	600	11.90
4"	3.94	1.09	7.60	6.54	4.92	10.31	6.56	1526.59	600	24.69

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content= 0.25%. Source: California health & Safety code (116875). Vermont Act 193.

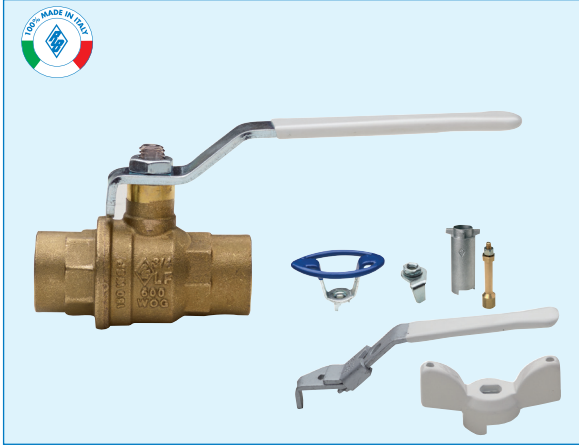
**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# SERIES 1615 LF - 1625 LF COMPACT STYLE



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61



Lead free brass ball valve with solder ends, full port sizes 1/2" up to 4".

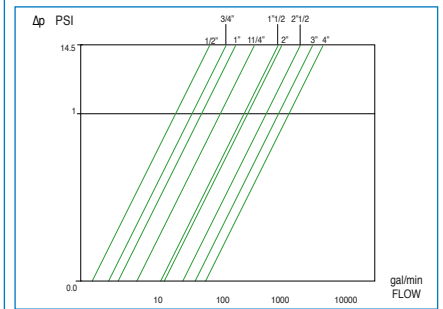
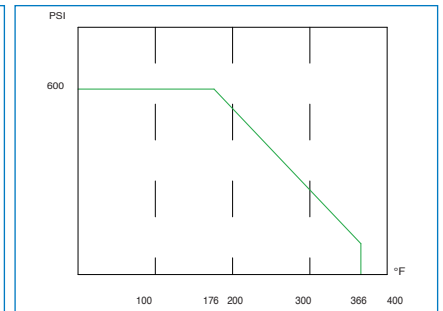
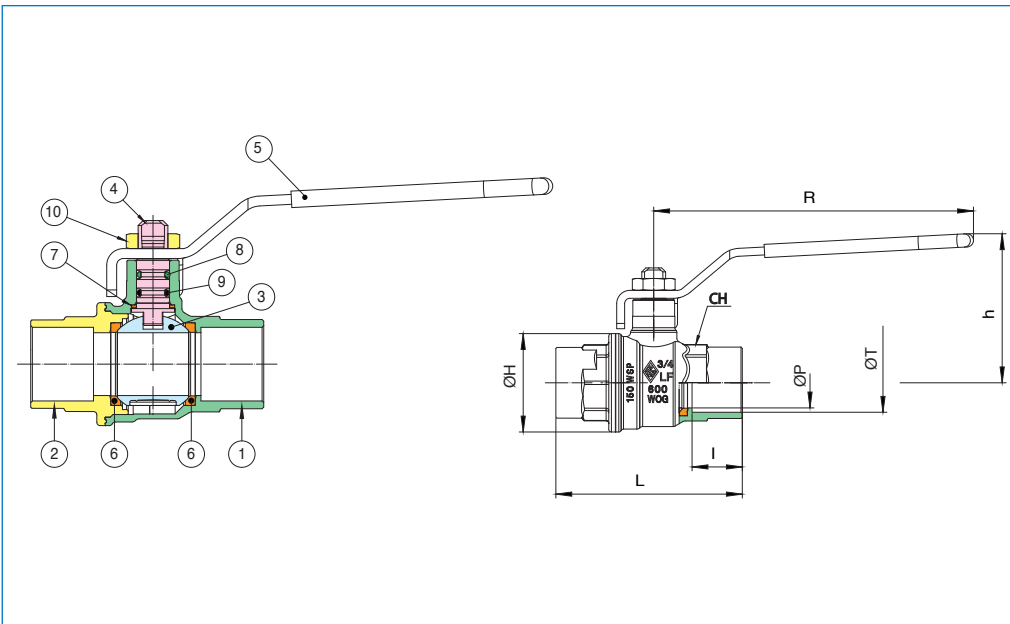
- Pressure rating 600 WOG-150 WSP.
- Temperature range -4°F to 366° F.
- Blow out proof stem, T.E.A. coated LF brass ball.
- P.T.F.E. seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- ANSI B16.18 connections.

TRADITIONAL SWEATING PROCEDURES RECOMMENDED

1615 LF: LEVER HANDLE - size 1/2" to 4".

1625 LF: T-HANDLE - size 1/2" to 1".

MEETS THE DESIGN CRITERIA OF MSS\_SP\_110.



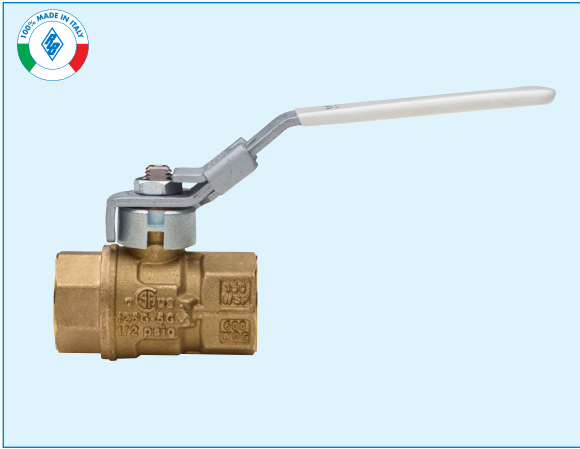
N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500 *	1
2	END CONNECTION	LF BRASS C28500 *	1
3	BALL	LF BRASS C28500 * S.STEEL 1.4401 (2 1/2" to 4")	1
4	STEM	LF BRASS C28500 *	1
5	HANDLE	STEEL DD11	1
6	BALL SEAT	P.T.F.E	2
7	THRUST WASHER	P.T.F.E	1
8	O-RING	FKM (Viton®)	1
9	O-RING	NBR	1
10	NUT	STEEL CL 04	1

SIZE	ØP	I	ØT	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/2"	0.55	0.50	0.63	2.19	1.22	0.87	3.78	1.77	18.15	600	0.40
3/4"	0.75	0.75	0.88	2.78	1.46	1.06	4.76	2.22	32.37	600	0.63
1"	0.94	0.91	1.13	3.37	1.76	1.34	4.76	2.32	47.98	600	0.95
1 1/4"	1.19	0.97	1.38	3.86	2.11	1.69	5.94	2.85	97.80	600	1.64
1 1/2"	1.50	1.10	1.63	4.48	2.64	1.97	5.94	3.09	252.60	600	2.36
2"	1.95	1.34	2.13	5.33	3.39	2.44	6.30	3.70	290.75	600	4.17
2 1/2"	2.44	1.48	2.63	6.14	4.09	3.27	8.07	4.59	593.06	600	7.85
3"	2.99	1.67	3.13	7.17	4.96	3.54	8.07	4.98	958.84	600	11.73
4"	3.94	2.17	4.13	10.08	6.54	4.92	10.24	6.54	1526.59	600	30.65

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content= 0.25%. Source: California health & Safety code (116875). Vermont Act 193.

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





## SERIES 161L LF COMPACT STYLE

Lead free brass ball valve, FNPT threaded, full port sizes 1/2" to 4", with latch lock handle.

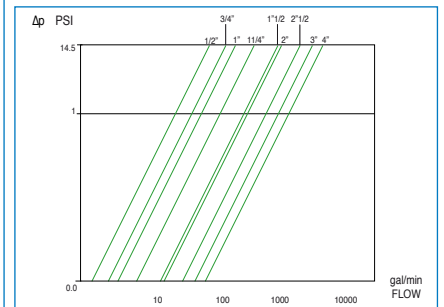
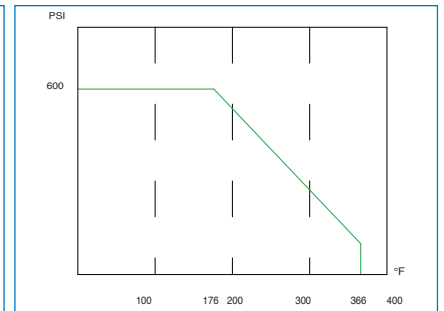
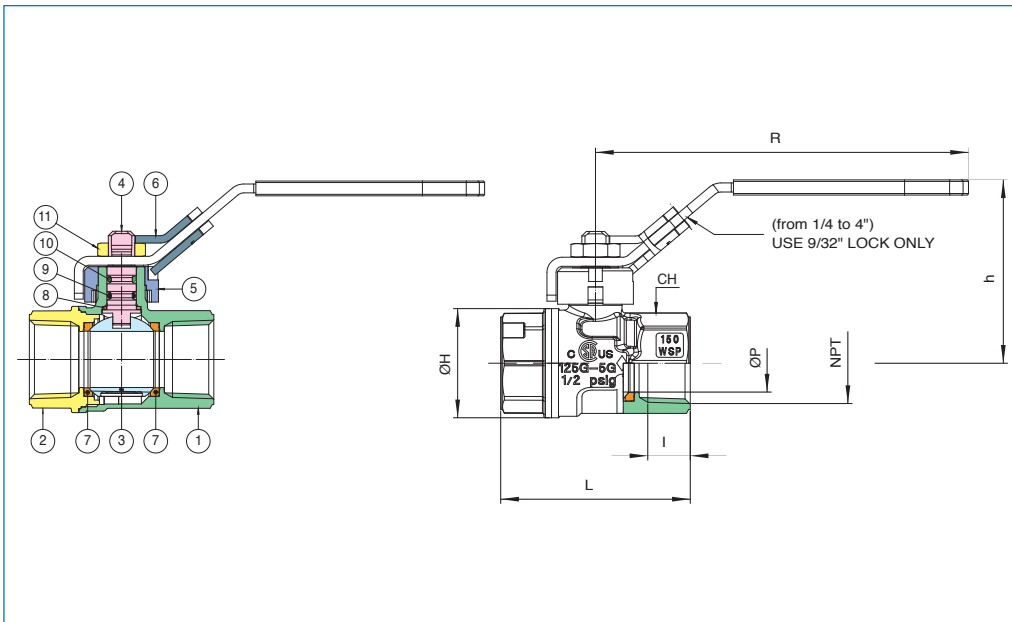
- Pressure rating 600 WOG-150 WSP.
- Temperature range -4°F to 366°F.
- Blow out proof stem, T.E.A. coated LF brass ball.
- P.T.F.E. seats, seals, and thrust washer.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61



400 WOG up to 2"

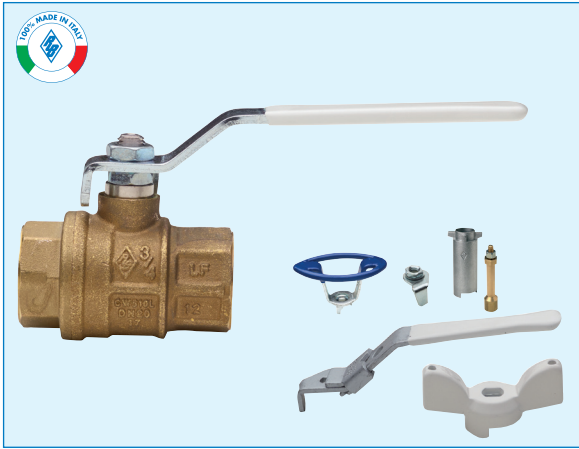


N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500 *	1
2	END CONNECTION	LF BRASS C28500 *	1
3	BALL BALL 2 1/2" to 4")	LF BRASS C28500 * STEEL 1.4401	1 1
4	STEM	LF BRASS C28500 *	1
5	BUSH	G Zn Al4	1
6	HANDLE	STEEL DD11	1
7	BALL SEAT	P.T.F.E.	2
8	THRUST WASHER	P.T.F.E.	1
9	O-RING	NBR	1
10	O-RING	FKM (Viton®)	1
11	NUT	STEEL CL04	1
12	BUSH (2 1/2" to 4")	PET	1

SIZE	ØP	I	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/2"	0.55	0.54	2.22	1.22	0.98	3.78	1.91	18.15	600	0.45
3/4"	0.75	0.55	2.46	1.46	1.22	4.84	2.38	32.37	600	0.76
1"	0.94	0.66	3.01	1.76	1.50	4.84	2.48	47.98	600	1.09
1 1/4"	1.19	0.68	3.37	2.11	1.89	5.94	2.99	97.80	600	1.77
1 1/2"	1.50	0.68	3.70	2.64	2.13	5.94	2.05	252.60	600	2.33
2"	1.95	0.70	4.31	3.39	2.64	6.30	3.76	290.75	600	4.37
2 1/2"	2.44	0.93	5.16	4.09	3.27	8.11	4.78	593.06	600	8.67
3"	2.99	1.02	5.94	4.96	3.86	8.11	5.20	958.84	600	13.24
4"	3.94	1.09	7.60	6.54	4.92	10.28	6.56	1526.59	600	27.66

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content=0.25%. Source: California health & Safety code (116875). Vermont Act 193.

**⚠ WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



## SERIES 171N LF - 172N LF COMMERCIAL STYLE

Lead free brass ball valve, FNPT threaded, full port sizes 1/4" up to 2", steel handle, white grip.

- Pressure rating 600 WOG-150 WSP.
- Temperature range -4°F to 366°F.
- Blow out proof stem, T.E.A. coated LF brass ball.
- P.T.F.E seats, seals, and thrust washer.
- Adjustable stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.

• ANSI B1.20.1 connections.

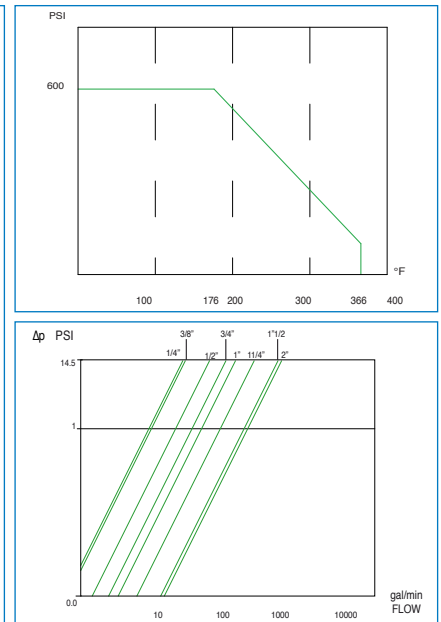
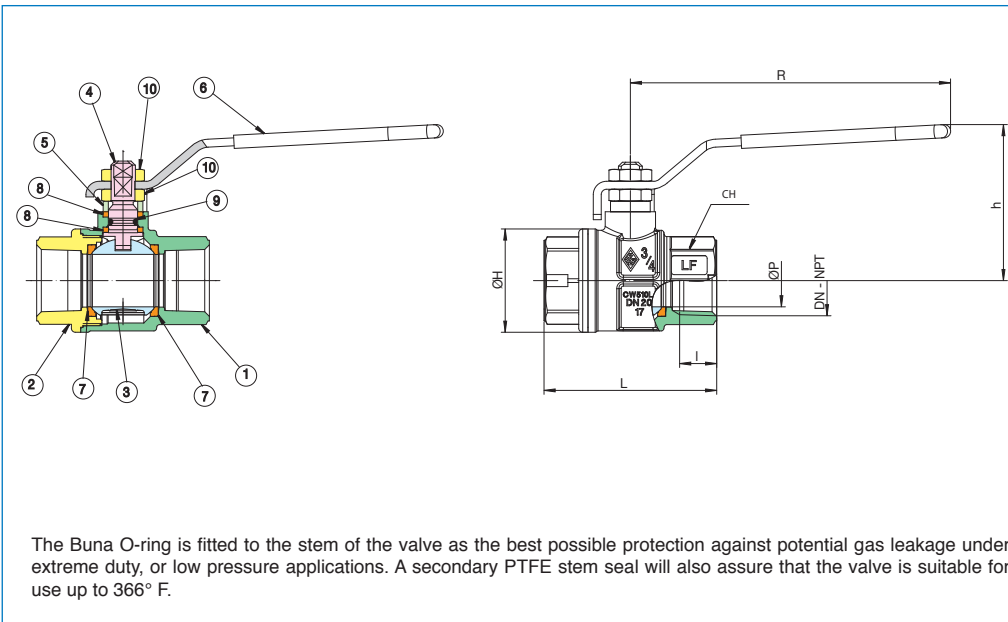
**171N LF:** LEVER HANDLE - size 1/4" to 2".

**171L LF:** LOCKING HANDLE - size 1/4" to 2".

**172N LF:** T-HANDLE size 1/4" to 1".

**171S LF:** BALL AND STEM IN STAINLESS STEEL AISI 316 - SIZE 1/4" - 2".

For sizes 2 1/2", 3" and 4" see 161N LF.

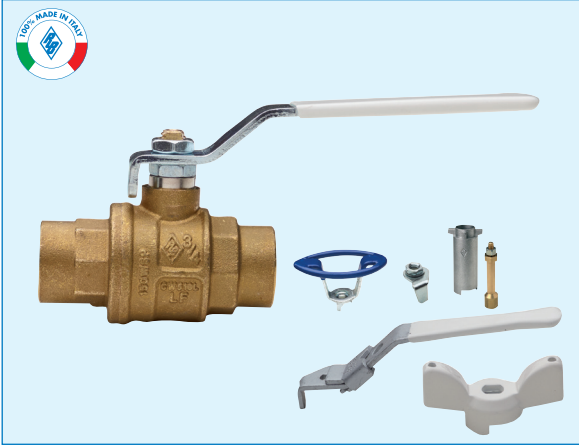


N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500*	1
2	END CONNECTION	LF BRASS C28500*	1
3	BALL	LF BRASS C28500* TEA COATED	1
4	BALL SEAT	P.T.F.E	2
5	THRUST WASHER/STEM SEAT	P.T.F.E	2
6	O-RING	NBR	1
7	PACKING GLAND	BRASS C38500	1
8	NUT	STEEL CL04	2
9	STEM	LF BRASS C28500*	1
10	HANDLE	STEEL DD11	1

SIZE	ØP	I	L	ØH	CH	R	h	Cv	psi	Weight Lbs
1/4"	0.39	0.39	1.91	0.91	0.79	3.78	1.69	6.24	600	0.31
3/8"	0.39	0.41	1.91	0.91	0.79	3.78	1.69	6.94	600	0.29
1/2"	0.59	0.54	2.34	1.30	0.98	3.78	1.83	18.84	600	0.46
3/4"	0.79	0.55	2.56	1.54	1.22	4.76	2.32	34.10	600	0.82
1"	0.98	0.66	3.07	1.93	1.50	4.76	2.48	49.71	600	1.15
1 1/4"	1.26	0.68	3.43	2.32	1.89	5.94	2.99	102.89	600	2.03
1 1/2"	1.57	0.68	3.90	2.87	2.13	5.94	3.25	265.90	600	3.02
2"	1.95	0.70	4.37	3.43	2.64	6.30	3.76	306.36	600	4.96

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content= 0.25%. Source: California health & Safety code (116875). Vermont Act 193.

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# SERIES 1715 LF - 1725 LF COMMERCIAL STYLE



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61

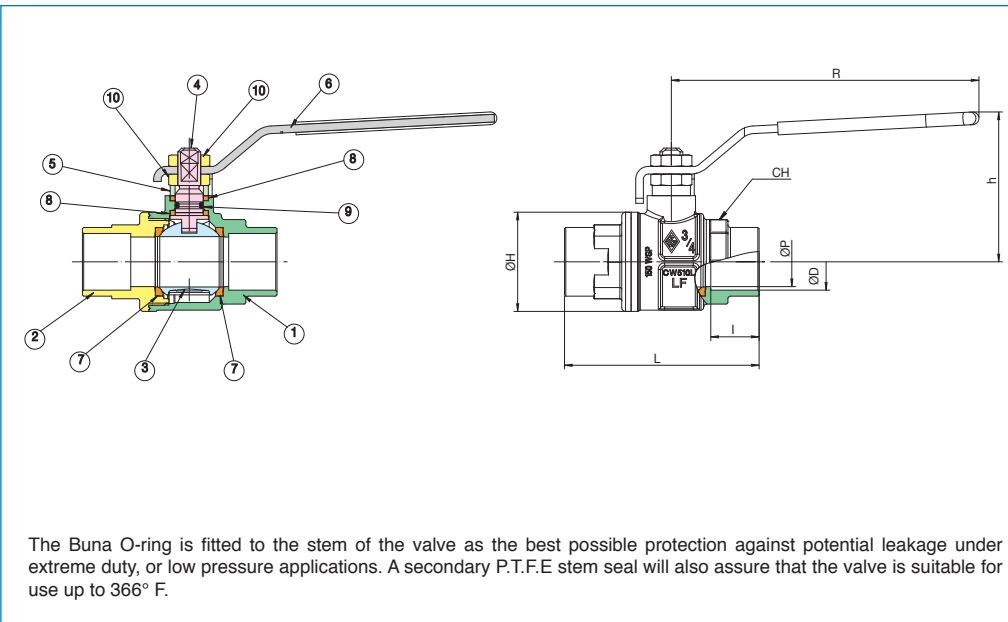
Lead free brass ball valve with solder ends, full port sizes 1/2" up to 2".

- Pressure rating 600 WOG-150 WSP.
- Temperature range -4°F to 366°F.
- Blow out proof stem, T.E.A. coated LF brass ball.
- P.T.F.E. seats, seals, and thrust washer.
- Adjustable stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- ANSI B16.18 connections.

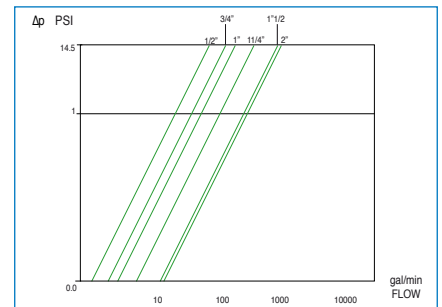
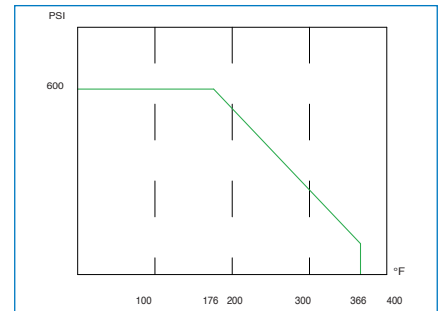
TRADITIONAL SWEATING PROCEDURES RECOMMENDED

1715 LF: LEVER HANDLE size 1/2" to 2".

1725 LF: T-HANDLE size 1/2" to 1".



The Buna O-ring is fitted to the stem of the valve as the best possible protection against potential leakage under extreme duty, or low pressure applications. A secondary P.T.F.E stem seal will also assure that the valve is suitable for use up to 366° F.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500 *	1
2	END CONNECTION	LF BRASS C28500 *	1
3	BALL	LF BRASS C28500 * TEA COATED	1
4	STEM	LF BRASS C28500 *	2
5	PACKING GLAND	BRASS C38500	2
6	HANDLE	STEEL DD11	1
7	BALL SEAT	P.T.F.E	1
8	THRUST WASHER/STEM SEAT	P.T.F.E	2
9	O-RING	NBR	1
10	NUT	STEEL CL04	1

SIZE	ØP	I	CH	ØD	ØH	L	h	R	Cv	psi	Weight Lbs
1/2"	0.59	0.50	0.98	0.63	1.30	2.58	1.85	3.78	18.84	600	0.49
3/4"	0.79	0.75	1.22	0.88	1.54	3.01	2.32	4.76	34.10	600	0.79
1"	0.98	0.91	1.50	1.13	1.93	3.56	2.48	4.76	49.71	600	1.17
1 1/4"	1.26	0.97	1.89	1.38	2.32	4.09	2.99	5.94	102.89	600	2.14
1 1/2"	1.57	1.10	2.13	1.63	2.87	4.57	3.25	5.94	265.90	600	3.20
2"	1.95	1.34	2.64	2.13	3.43	5.47	3.78	6.30	306.36	600	4.25

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content= 0.25%. Source: California health & Safety code (116875). Vermont Act 193.

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).





## SERIES 1670 LF

Lead free brass ball valve with EURO-PRESS connections full port sizes 1/2" - 2".

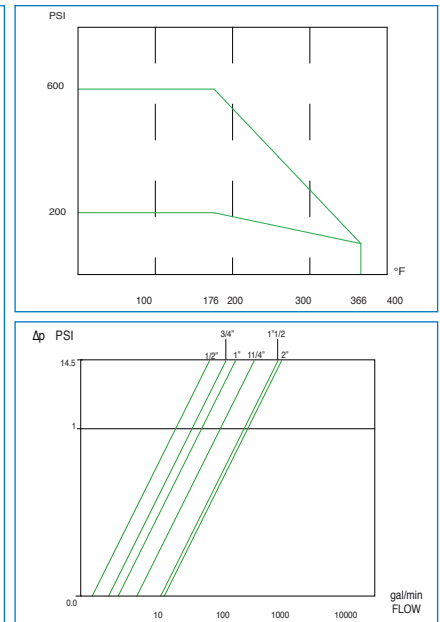
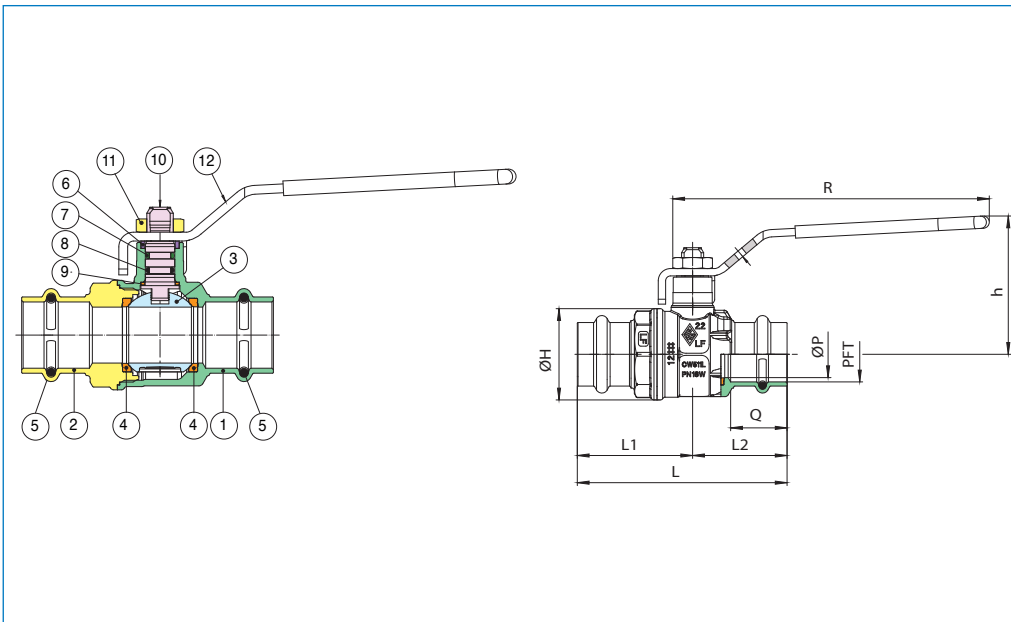
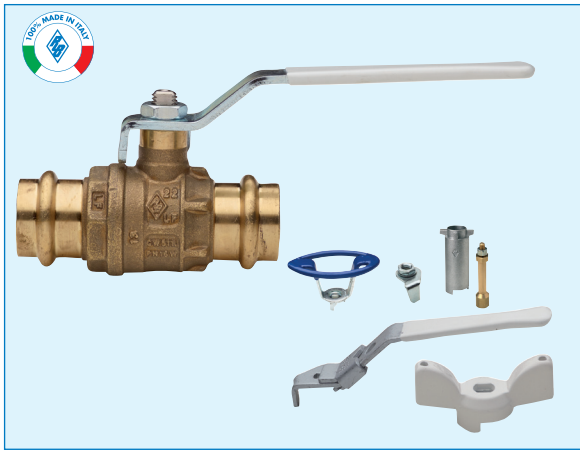
- Test pressure rating 600 CWP, working pressure 200 psi.
- Temperature range -4° F to 250° F.
- Blow out proof stem, T.E.A. coated LF brass.
- P.T.F.E. seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- Made in lead free dezincification resistant brass (LF-DZR).
- Press alert O-rings.



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61



200 WOG



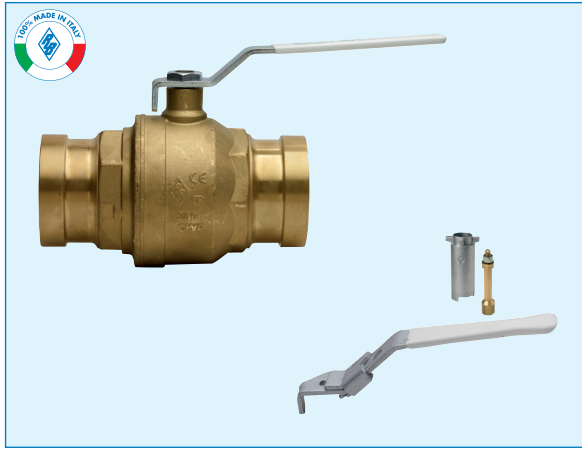
N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF DZR BRASS C27453 *	1
2	END CONNECTION	LF DZR BRASS C27453 *	1
3	BALL	LF BRASS C28500 *	1
4	BALL SEAT	PTFE	2
5	O-RING	EPDM	2
6	STEAM SEAL	PTFE	1
7	O-RING	FKM	1
8	O-RING	NBR	1
9	THRUST WASHER	P.T.F.E.	1
10	STEM	LF BRASS C28500 *	1
11	NUT	STEEL CL04	1
12	HANDLE	STEEL DD11	1

PFT	ØP	Q	ØH	L	L1	L2	h	R	Cv	psi MAX WORK PRESS	psi MAX TEST PRESS	Weight Lbs
1/2"	0.55	0.71	1.22	2.93	1.62	1.31	1.77	3.78	18.15	200	600	0.44
3/4"	0.75	0.91	1.46	3.37	1.85	1.52	2.22	4.76	32.37	200	600	0.72
1"	0.94	0.94	1.76	3.81	2.11	1.70	2.32	4.76	47.98	200	600	1.12
1 1/4"	1.19	1.02	2.11	4.17	2.24	1.93	2.85	5.94	97.80	200	600	1.55
1 1/2"	1.50	1.42	2.64	5.23	2.78	2.45	3.09	5.94	252.60	200	600	2.51
2"	1.95	1.57	3.39	6.27	3.29	2.98	3.70	6.30	290.75	200	600	4.48

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content= 0.25%. Source: California health & Safety code (116875). Vermont Act 193.

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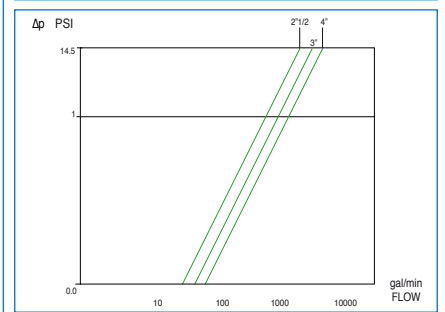
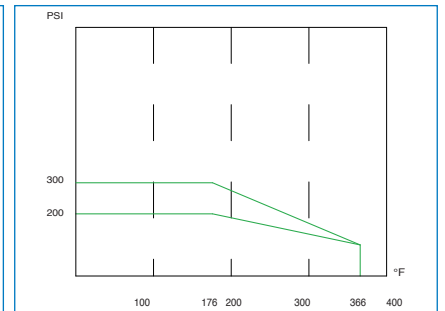
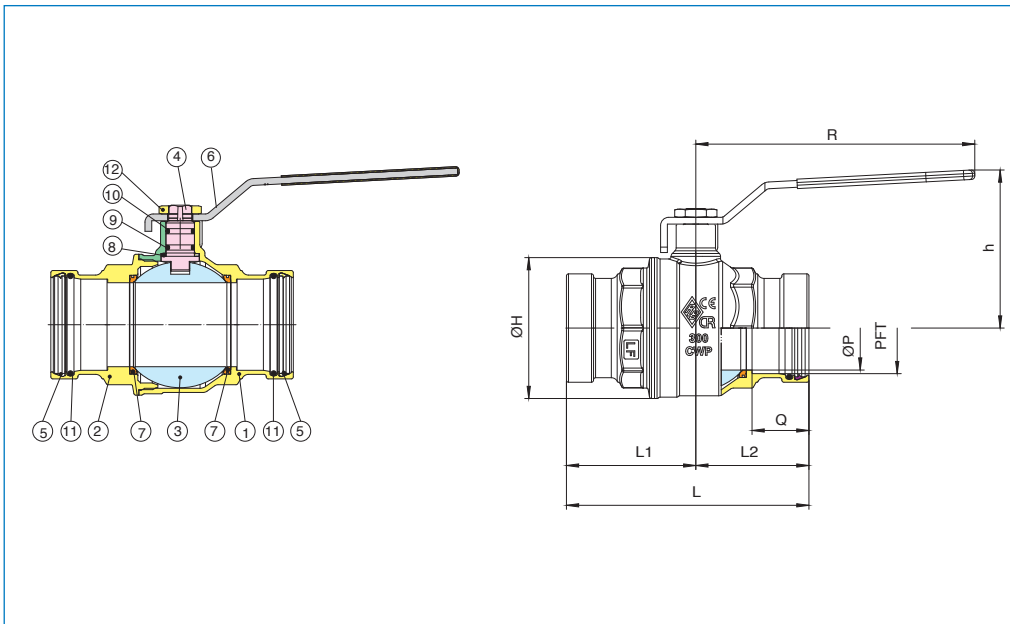
## SERIES 1670XLC LF



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61

Lead free brass ball valve with XLC EURO-PRESS connections full port, sizes 2 1/2" - 4".

- Test pressure rating 300 psi up to 3" and 200 psi for the 4".
- Temperature range -4° F to 250° F.
- Blow out proof stem, stainless steel ball.
- P.T.F.E. seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- Made in lead free dezincification resistant brass (LF-DZR).



N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C27453*	1
2	END CONNECTION	LF BRASS C27453*	1
3	BALL	STEEL 1.4408	1
4	STEM	LF BRASS C28500 *	1
5	COMPRESSION RING	STEEL 38NiCrMo4	2
6	HANDLE	STEEL DD11	1
7	BALL SEAT	P.T.F.E.	1
8	THRUST WASHER	P.T.F.E.	1
9	O-RING	NBR	1
10	O-RING	FKM (Viton®)	1
11	O-RING	EPDM PEROX	2
12	NUT	STEEL CL04	1

PFT	ØP	Q	ØH	L	L1	L2	h	R	Cv	MAX WORK PRESS psi	MAX TEST PRESS psi	Weight Lbs
2 1/2"	2.44	1.65	4.09	7.05	3.76	3.29	4.57	8.07	593.06	200	300	8.70
3"	2.99	1.91	4.96	8.27	4.45	3.82	4.98	8.07	958.84	200	300	13.60
4"	3.94	2.42	6.54	10.26	5.28	4.98	6.54	10.31	1526.59	200	200	28.39

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content=0.25%. Source: California health & Safety code (116875). Vermont Act 193.

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# SERIES 1970 LF

Lead free brass ball valve with EURO-PRESS connections full port, sizes 1/2" - 2".

- Test pressure rating 600 CWP, working pressure 200 psi.
- Temperature range -4° F to 250° F.
- Blow out proof stem, T.E.A coated LF brass ball.
- P.T.F.E seats, seals, and thrust washer.
- Adjustable stem packing
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- Made in lead free dezincification resistant brass (LF-DZR).
- Press alert O-rings.

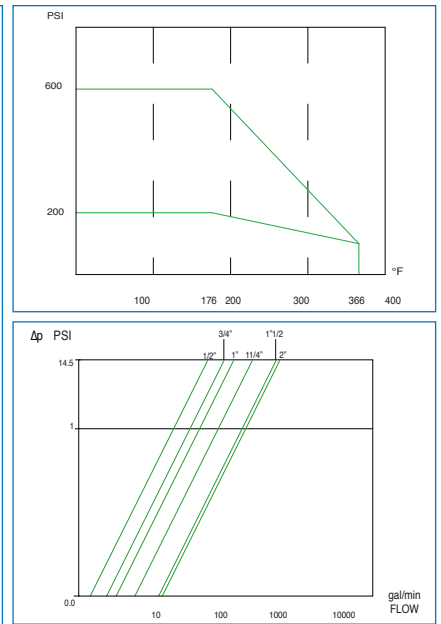
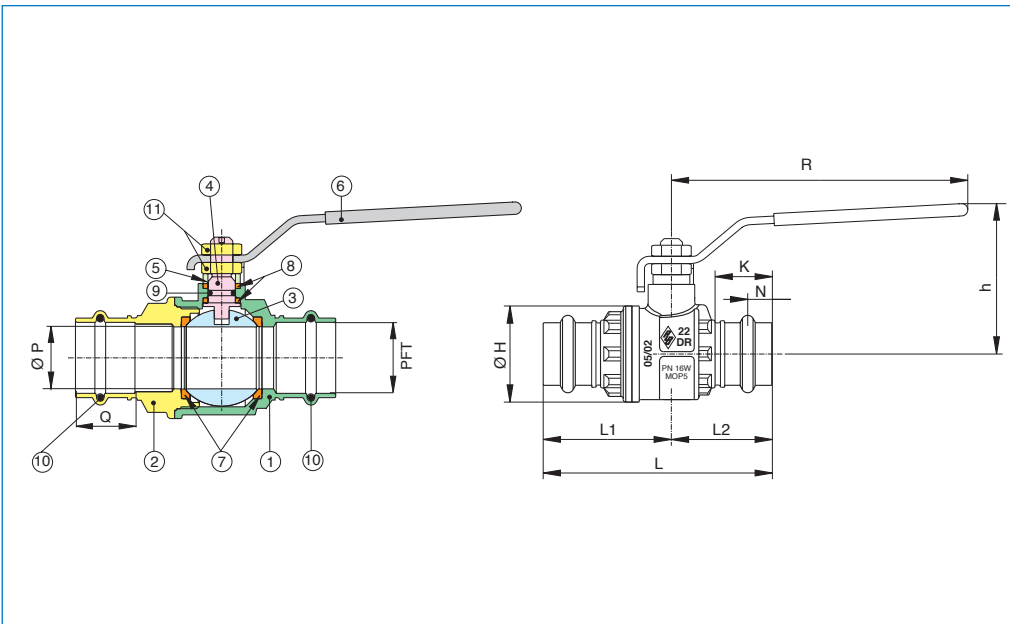
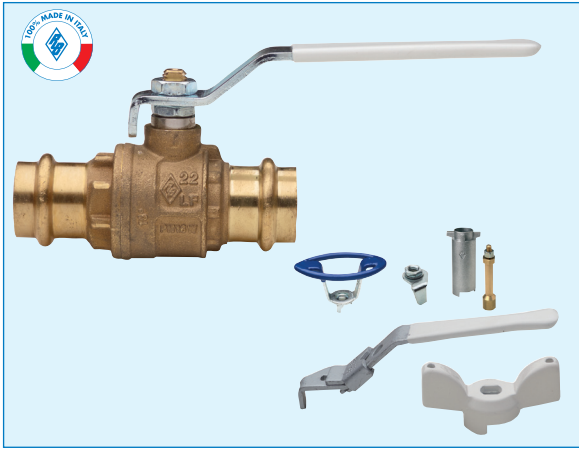
For size 2 1/2", 3" and 4" see 1670XLC LF



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61



200 WOG



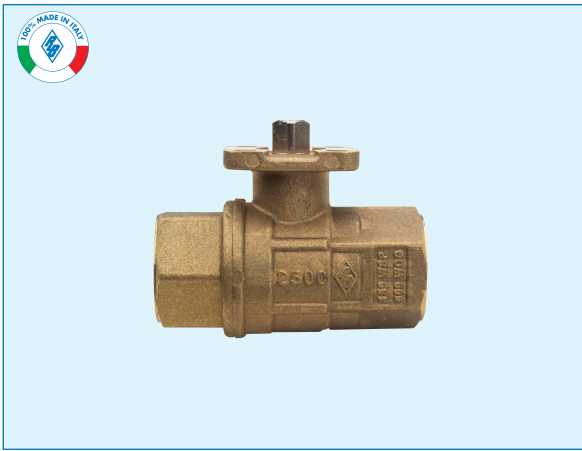
N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF DZR BRASS C27453*	1
2	END CONNECTION	LF DZR BRASS C27453*	1
3	BALL	LF BRASS C28500*	1
4	STEM	LF BRASS C28500*	1
5	PACKING GLAND	BRASS C38500	1
6	HANDLE	STEEL DD11	1
7	BALL SEAT	P.T.F.E.	2
8	STEM SEAL/THRUST WASHER	P.T.F.E.	2
9	O-RING	NBR	1
10	O-RING	EPDM	2
11	NUT	STEEL CL 04	2

PFT	ØP	Q	K	N	ØH	L	L1	L2	h	R	Cv	MAX WORK PRESS psi	MAX TEST PRESS psi	Weight Lbs
1/2"	0.59	0.71	0.67	0.31	1.30	2.99	1.71	1.30	1.89	3.78	18.84	200	600	0.48
3/4"	0.79	0.91	0.83	0.39	1.57	3.50	1.93	1.57	2.32	4.76	34.10	200	600	0.85
1"	0.98	0.94	0.83	0.39	1.93	3.92	2.19	1.73	2.48	4.76	49.71	200	600	1.24
1 1/4"	1.26	1.02	0.83	0.39	2.32	4.23	2.30	1.93	2.99	5.94	102.89	200	600	2.01
1 1/2"	1.57	1.42	1.02	0.49	2.87	5.33	2.78	2.56	3.25	5.94	265.90	200	600	3.34
2"	1.95	1.57	1.26	0.59	3.43	6.28	3.30	2.98	3.78	6.30	306.36	200	600	5.61

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content= 0.25%. Source: California health & Safety code (116875). Vermont Act 193.

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# SERIES 250N LF DIRECT MOUNT 2 WAY BALL VALVE

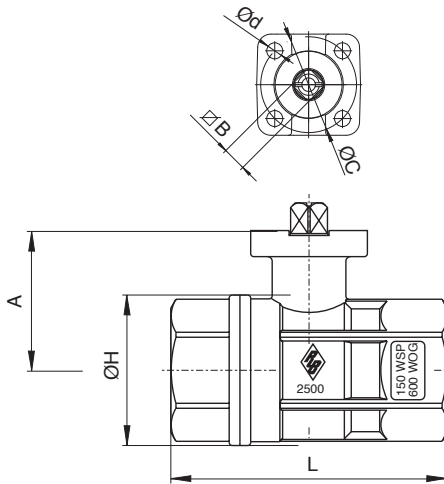
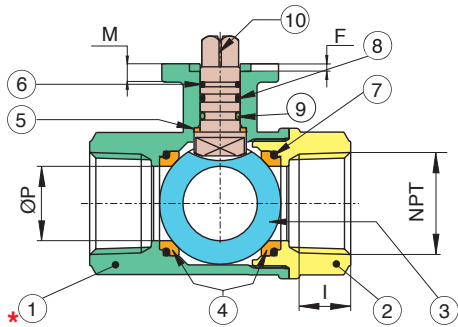


HEALTH EFFECTS US-CA NSF 372 NSF 61

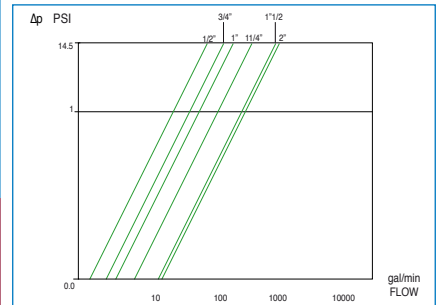
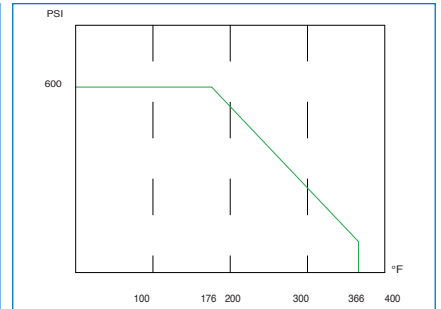
Lead free brass ball valve, FNPT threaded, with ISO 5211 pad for actuator, full port sizes 1/2" to 2".

- Pressure rating 600 WOG-150 WSP.
- Temperature range -4°F to 366°F.
- Blow out proof stem, T.E.A. coated LF brass ball.
- P.T.F.E. seats with O-ring backing for low operating torque.
- P.T.F.E. seats and double O-ring stem packing.
- 100% electronically tested in the open and closed position at 80 psi.
- Valve to be used in fully open or fully closed position.
- ANSI B1.20.1 connections.

### O-RING BACKING P.T.F.E. SEATS



(in-Lbs) Torque values in the table are measured in laboratory tests under the following conditions:  
TEMPERATURE: 68°F  
PRESSURE: 0 psi  
FLUID: PURIFIED WATER



N POS	PART NAME	MATERIAL	N PCS	SIZE	A	ØC ISO 5211	F	B mm	Ød	ØH	I	L	CH	M	ØP	Cv	psi	Weight Lbs	Torque in-Lbs*
1	BODY	LF BRASS C28500*	1	1/2"	1.28	1.42 (ISO F03)	0.08	9	0.24	1.32	0.54	2.64	1.06	0.22	0.55	18.84	600	0.68	17.70
2	END CONNECTION	LF BRASS C28500*	1	3/4"	1.36	1.42 (ISO F03)	0.12	9	0.24	1.57	0.55	2.99	1.26	0.20	0.75	34.10	600	0.88	26.60
3	BALL	LF BRASS C28500*	1	1"	1.79	1.42 (ISO F03)	0.12	9	0.24	1.93	0.66	3.35	1.61	0.24	0.94	49.71	600	1.59	26.60
4	BALL SEAT	P.T.F.E	2	1 1/4"	1.93	1.42 (ISO F03)	0.12	9	0.24	2.30	0.68	3.66	1.97	0.24	1.18	102.89	600	2.23	53.10
5	THRUST WASHER	P.T.F.E	1	1 1/2"	2.52	1.97 (ISO F05)	0.12	11	0.28	2.87	0.68	4.13	2.17	0.31	1.50	265.90	600	3.70	88.50
6	STEM SEAL	P.T.F.E	1	2"	2.88	1.97 (ISO F05)	0.12	11	0.28	3.60	0.70	4.80	2.76	0.31	1.97	306.36	600	3.95	106.20
7	O-RING	FKM (Viton®)	2																
8	O-RING	EPDM	1																
9	O-RING	FKM (Viton®)	1																
10	STEM	LF BRASS C28500*	1																

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content=0.25%. Source: California health & Safety code (116875). Vermont Act 193.

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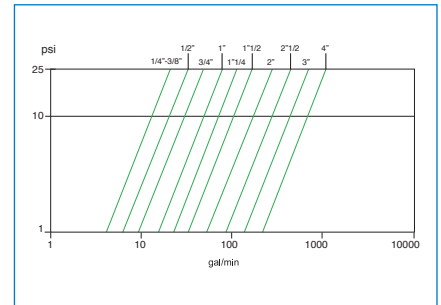
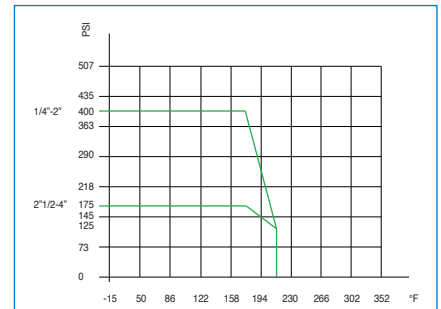
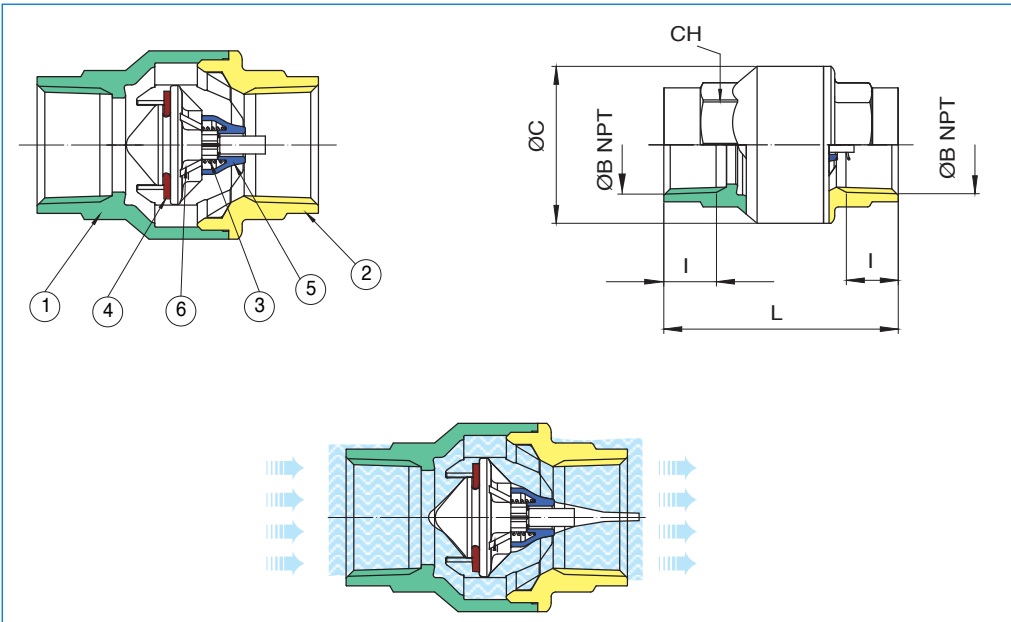
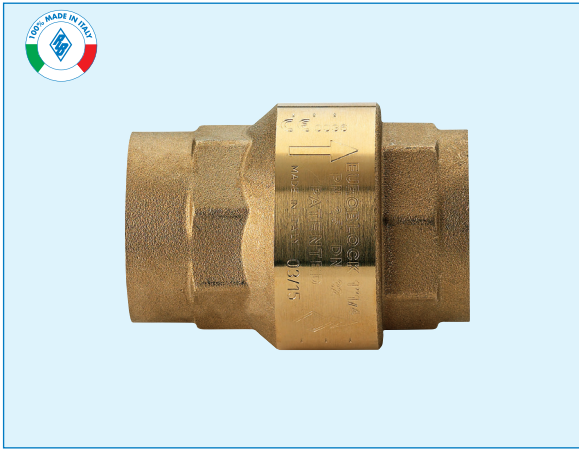
# SERIES 100012 LF CHECK VALVE



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61

High flow rate, lead free brass, FNPT threaded, in-line spring loaded check valve.

- Pressure rating size 1/4" up to 2" 400 WOG, 2 1/2" - 4" 175 WOG.
- Soft seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure 1/2 psi.
- Flow pattern to minimize head loss.
- Perfect sealing both at high and low pressure wide temperature range: +10°F to 210°F.
- High technology materials to ensure best resistance in any condition.
- Patented disc to prevent side loading.
- ANSI B1.20.1 connections.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500*	1
2	END CONNECTION	LF BRASS C28500*	1
3	SPRING	STAINLESS STEEL AISI 302	1
4	SEAT	NBR	1
5	SUPPORT	POM	1
6	DISC	POLYETHERIMIDE	1

SIZE ØB	I	L	ØC	CH	psi	Cv	Weight Lbs
1/4"	0.39	1.73	1.06	0.79	400	4.28	0.22
3/8"	0.41	1.73	1.06	0.79	400	4.28	0.18
1/2"	0.54	2.22	1.36	0.98	400	6.71	0.30
3/4"	0.55	2.48	1.65	1.22	400	9.95	0.49
1"	0.66	2.85	1.93	1.50	400	15.97	0.72
1 1/4"	0.68	3.13	2.40	1.89	400	23.37	1.19
1 1/2"	0.68	3.31	2.87	2.13	400	35.75	1.59
2"	0.70	3.62	3.44	2.64	400	56.46	2.30
2 1/2"	0.93	4.37	4.39	3.27	175	91.87	4.80
3"	1.02	4.86	5.24	3.86	175	144.51	6.83
4"	1.09	5.45	6.42	5.04	175	224.92	11.68

\* Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content= 0.25%. Source: California health & Safety code (116875). Vermont Act 193.

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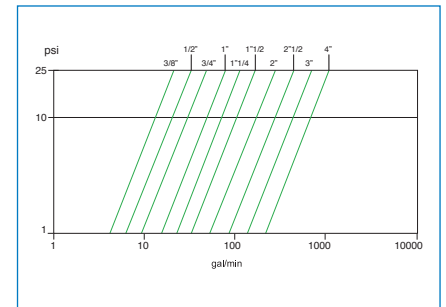
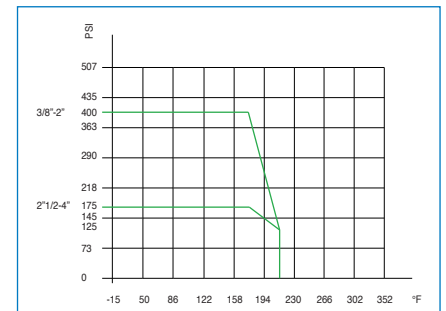
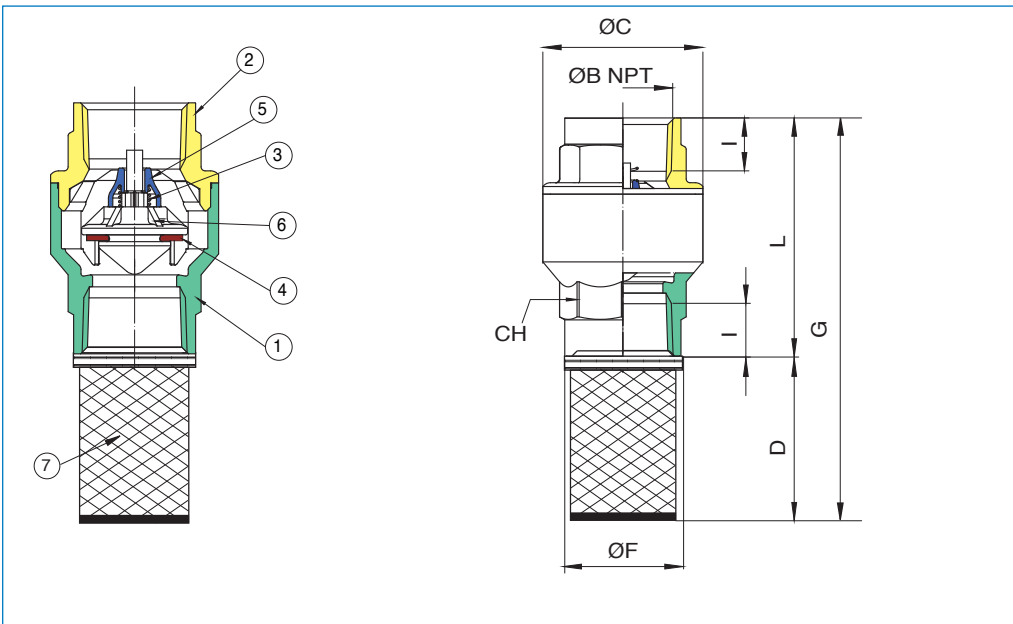
# SERIES 100112 LF FOOT VALVE

High flow rate, lead free brass, FNPT threaded, in-line spring loaded check valve.

- Pressure rating sizes 3/8"-2" 400 WOG - 2 1/2"- 4" 175 WOG.
- Soft seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure 1/2 psi.
- Flow pattern to minimize head loss.
- Perfect sealing both at high and low pressure wide temperature range: +10°F to 210°F.
- High technology materials to ensure best resistance in any condition.
- Patented disc to prevent side loading.
- Stainless steel 1000 micron strainer.
- ANSI B1.20.1 connections.



HEALTH EFFECTS US-CA  
NSF 372  
NSF 61



N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500*	1
2	END CONNECTION	LF BRASS C28500*	1
3	SPRING	STAINLESS STEEL AISI 302	1
4	SEAT	NBR	1
5	SUPPORT	POM	1
6	DISC	POLYETHERIMIDE	1
7	STRAINER	STAINLESS STEEL NYLON 1000 MICRON	1

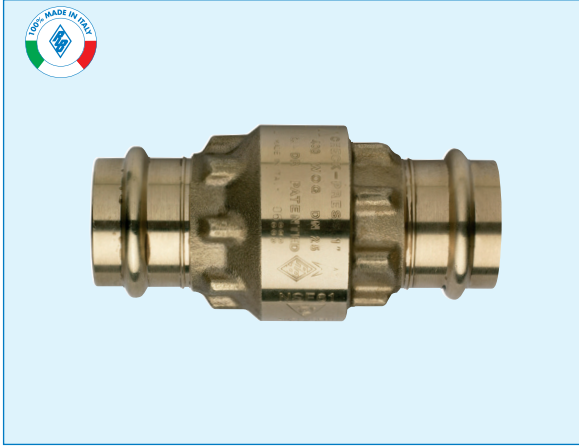
SIZE ØB	I	L	ØC	D	ØF	G	CH	psi	Cv	Weight Lbs
3/8"	0.41	1.73	1.06	1.67	0.91	3.41	0.79	400	4.28	0.21
1/2"	0.54	2.32	1.36	1.69	1.02	4.02	0.98	400	6.70	0.36
3/4"	0.55	2.56	1.65	1.89	1.26	4.45	1.22	400	9.94	0.52
1"	0.66	2.76	1.93	1.89	1.61	4.65	1.50	400	15.95	0.80
1 1/4"	0.68	2.93	2.40	2.24	1.93	5.18	1.89	400	23.35	1.26
1 1/2"	0.68	3.17	2.87	2.68	2.17	5.85	2.13	400	35.72	1.76
2"	0.70	3.37	3.46	3.27	2.64	6.63	2.64	400	56.41	2.39
2 1/2"	0.93	4.37	4.39	3.29	3.39	7.66	3.27	175	91.79	4.98
3"	1.02	4.86	5.24	3.90	3.90	8.76	3.86	175	144.38	7.27
4"	1.09	5.41	6.42	4.53	4.80	9.94	5.04	175	224.73	12.22

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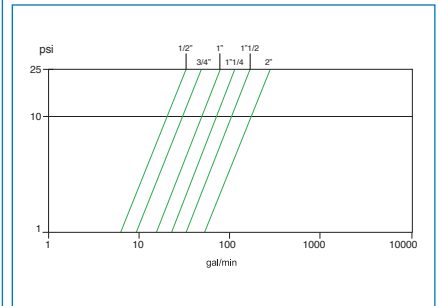
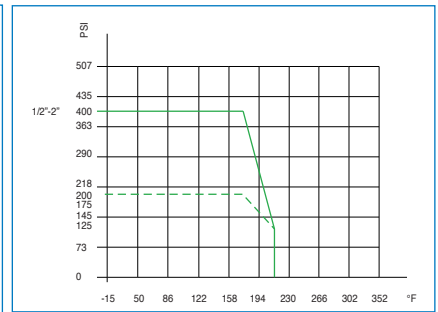
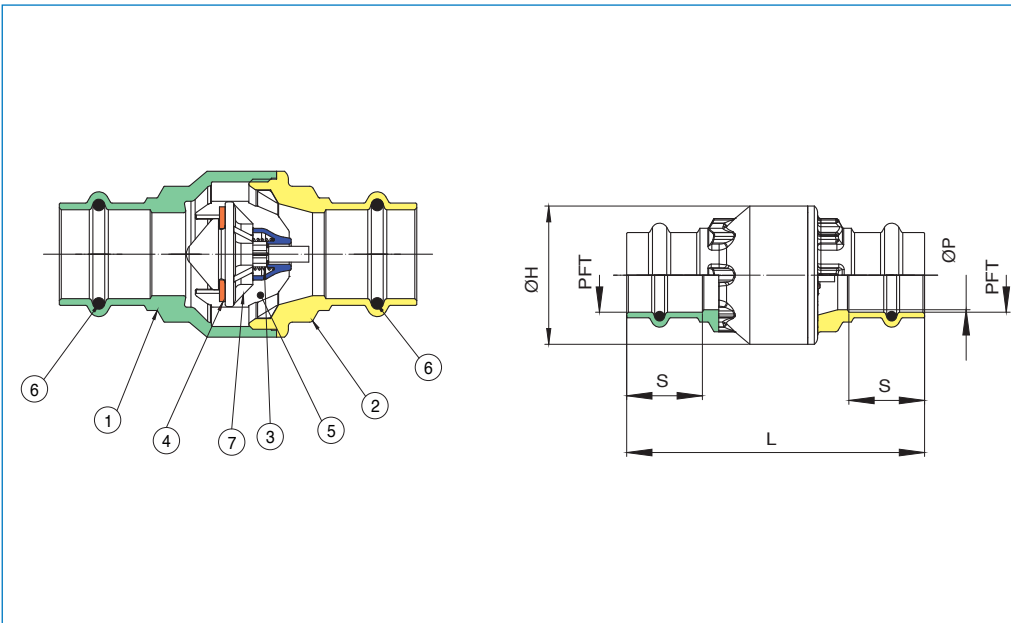
# SERIES 100612 LF PRESS CHECK VALVE



High flow rate, lead free brass, EURO-PRESS connections, in-line spring loaded check valve.

Pressure rating size 1/2" - 2" 200 WOG.

- Soft seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure 1/2 psi.
- Flow profile designed to minimize head loss.
- Perfect sealing both at high and low pressure wide temperature range: +10°F to 210°F.
- High technology materials to ensure the best corrosion resistance for any water application.
- Patented disc guide to prevent side loading.
- Press system for easy assembly of pipe.
- Press alert O-rings.



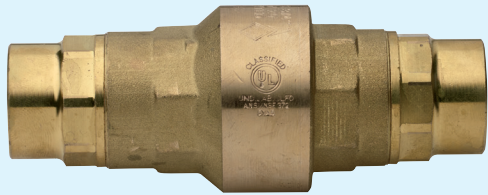
N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF DZR BRASS C27453*	1
2	END CONNECTION	LF DZR BRASS C27453*	1
3	SPRING	STAINLESS STEEL AISI 302	1
4	SEAT	NBR	1
5	SUPPORT	POM	1
6	O-RING	EPDM	2
7	DISC	POLYETHERIMIDE	1

PFT	ØP	S	L	ØH	Cv	MAX WORK PRESS psi	MAX TEST PRESS psi	Weight Lbs
1/2"	0.59	0.71	2.99	1.36	6.71	200	400	0.30
3/4"	0.79	0.91	3.56	1.65	9.95	200	400	0.53
1"	0.98	0.94	3.94	1.93	15.97	200	400	0.72
1 1/4"	1.26	1.02	4.09	2.40	23.37	200	400	1.17
1 1/2"	1.57	1.42	4.96	2.87	35.75	200	400	1.81
2"	1.97	1.57	5.57	3.44	56.46	200	400	2.50

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# SERIES 100712 LF

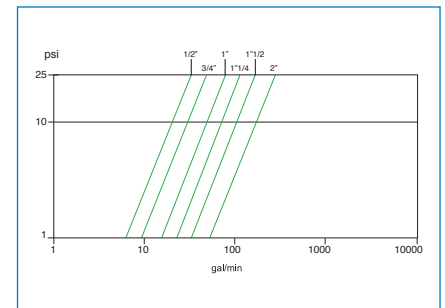
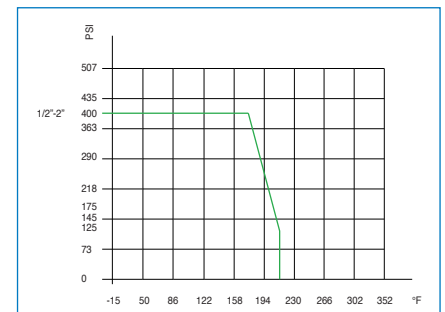
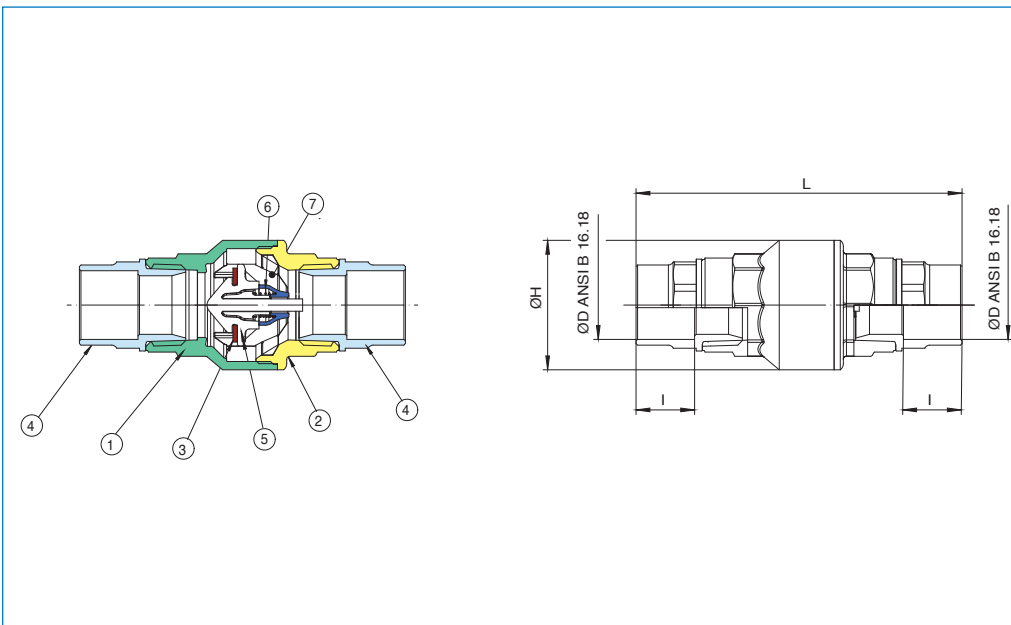
## IN-LINE SWEAT ENDS CHECK VALVE



High flow rate, lead free brass, solder ends, in-line spring loaded check valve.

Pressure rating size 1/2"- 2" 400 WOG.

- Soft seat for bubble tight shutoff, spring loaded for fast seating action.
- Low cracking pressure 1/2 psi.
- Flow profile designed to minimize head loss.
- Perfect sealing both at high and low pressure wide temperature range: +10°F to 210°F.
- High technology materials to ensure the best resistance in any condition.
- Patented disc guide to prevent side loading.
- ANSI B16.18 connections.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	LF BRASS C28500*	1
2	END CONNECTION	LF BRASS C28500*	1
3	SEAT	NBR	1
4	CONNECTION	LF BRASS C28500	1
5	DISC	POLYETHERIMIDE	1
6	SPRING	STAINLES STEEL AISI 302	2
7	SUPPORT	POM	1

SIZE	ØD	I	L	ØH	Cv	psi	Weight Lbs
1/2"	0.63	0.50	3.43	1.36	6.71	400	0.45
3/4"	0.88	0.75	4.17	1.65	9.95	400	0.77
1"	1.13	0.91	4.88	1.93	15.97	400	1.16
1 1/4"	1.38	0.97	5.26	2.40	23.37	400	1.81
1 1/2"	1.63	1.10	5.79	2.87	35.75	400	2.53
2"	2.13	1.34	6.56	3.44	56.46	400	3.50

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# FORGED BRASS VALVES

## INSTALLATION, OPERATION AND MAINTENANCE GUIDE

### INTRODUCTION

Considerations for media, pressure, flow, and temperature should be made prior to valve installation, as well as the conditions for pipe line expansion and contraction. When choosing valves, proper sizing, seat, stem, and body materials will greatly increase performance and reduce the chance of failure. Properly installed in piping systems that comply to ANSI B31 standards, Bonomi brass ball valves are suitable for applications including potable water (Lead Free valves), hot water, gas, steam, oil, and vacuum.

### INSTALLATION-THREADED

All pipe and valve connections should be free of dirt, grease, and metal. Unclean pipe/valve connections are the number one cause of connection leakage.

Proper connection and thread seal is generally made by the use of any Teflon™ products, including PTFE formulated pipe compound. Teflon pipe compound is recommended on all pipe installations that are not Teflon-restricted applications because of the excellent sealing capabilities at all temperatures and pressures of threaded brass ball valves. Do not use Teflon in applications restricting its use (oxygen, tobacco, etc.). All pipe-joint tape and compounds must be non-toxic, NSF/UPS listed to maintain certifications (UL157). Be sure to apply enough sealant to fill the first 3 to 4 threads, as the screwing action will move the sealant up and around the threads.

Always tighten valve components with two wrenches; one holding the valve end closest to the pipe joint/fitting being tightened, and the other around the pipe/fitting to tighten the connection. This prevents transmitting torque through the valve body joint. To avoid damage to valve, seal, or seat, NEVER over-tighten a valve connection. Twist valve on until it stops, and use the wrenches to make 1-1/2 more turns. Wipe or cut any extra, unused sealant from the connection for a clean, professional result.

For ease of maintenance, two-piece valve connections usually have a union connection close to the valve in the pipe system.

### INSTALLATION-SOLDER END

After cutting tubing square, use 100-180 grit emery cloth to burnish the end of the tube. Clean and prepare the pipe and valve with a clean rag.

For drinking water systems (Lead Free valves), apply a non-toxic, water-based solder/flux compliant with NSF 61 to maintain certification throughout the piping system. Never use lead-based, acid flux on drinking water systems. Apply to the pipe and valve, and make connection.

Always open the valve before heating the joint. Use only solders with melt points below 500°F.

During soldering, the mid-portion of the valve should not exceed 300°F. Heat absorbing techniques are recommended to protect the valve components and seats. Excessive heat input will damage the valves seals and seats.

Apply heat directly to, and away from the valve end and the pipe. Continue heating from the bottom of the valve while placing non-toxic solder to the top of the connection.

Move the torch up and around both sides of the joint while maintaining pressure on the solder at the top.

When the solder melts rapidly and is sucked into the joint, continuing applying solder until it drips from the bottom of the connection.

Remove heat and wipe excess flux/solder from connection for a clean, professional connection.

Maintaining copper pipe systems is less critical of valve required unions than with ordinary, steel piping systems. Cramped or difficult to maintain areas are generally fitted with 2 unions between the longest span incorporating the valves. If a failure exists, or maintenance is required, the entire section can be removed to make the necessary adjustments.

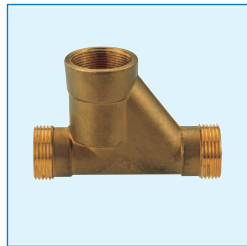
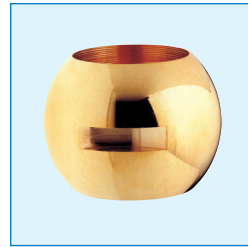
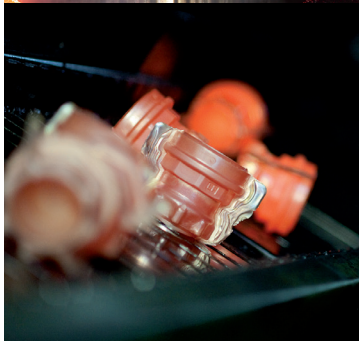
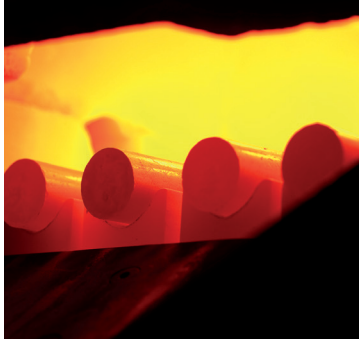
### MAINTENANCE

Under normal conditions, scheduled maintenance should not be required.

Spare parts are not available for these series of valves. In case of valve through leakage, joint or stem leakage, the valve must be replaced.

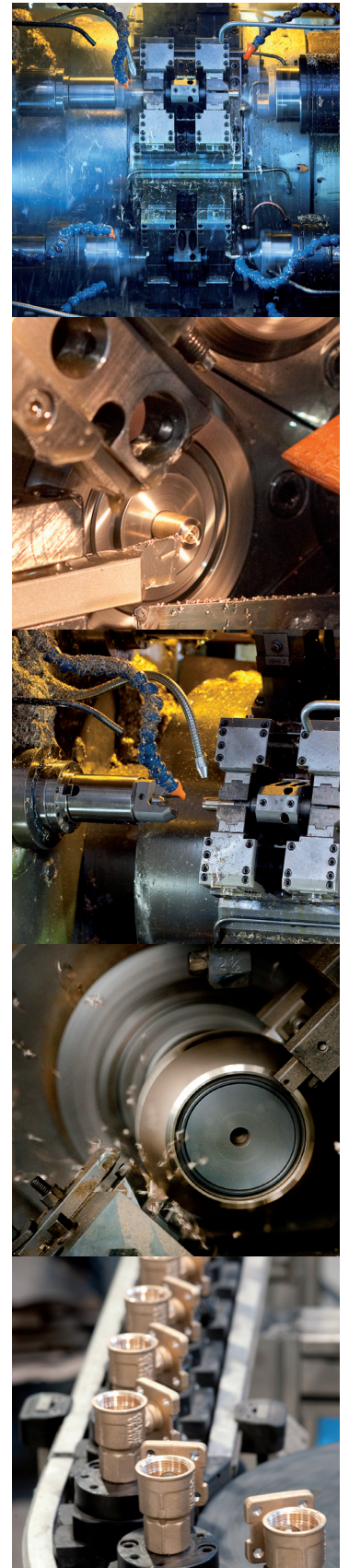




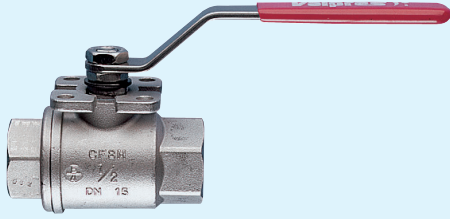


Rubinetterie Bresciane manufactures, according to customers' drawings, metallic turned parts, hot forged and machined brass items, fittings of any kind, by means of technologically advanced machines, where highly skilled people are employed, to guarantee the highest quality for our customers.

For the continuous improvement of total quality, Rubinetterie Bresciane submits the entire production to accurate controls and rigorous verification procedures.



These procedures allowed Rubinetterie Bresciane, among other few Italian companies, to obtain not only certification ISO 9001, certifying the quality management system, but also certification ISO 14001, concerning the environmental management system, ISO 50001 concerning the energy management system, as well as certification OHSAS18001, concerning the occupational health and safety management system.



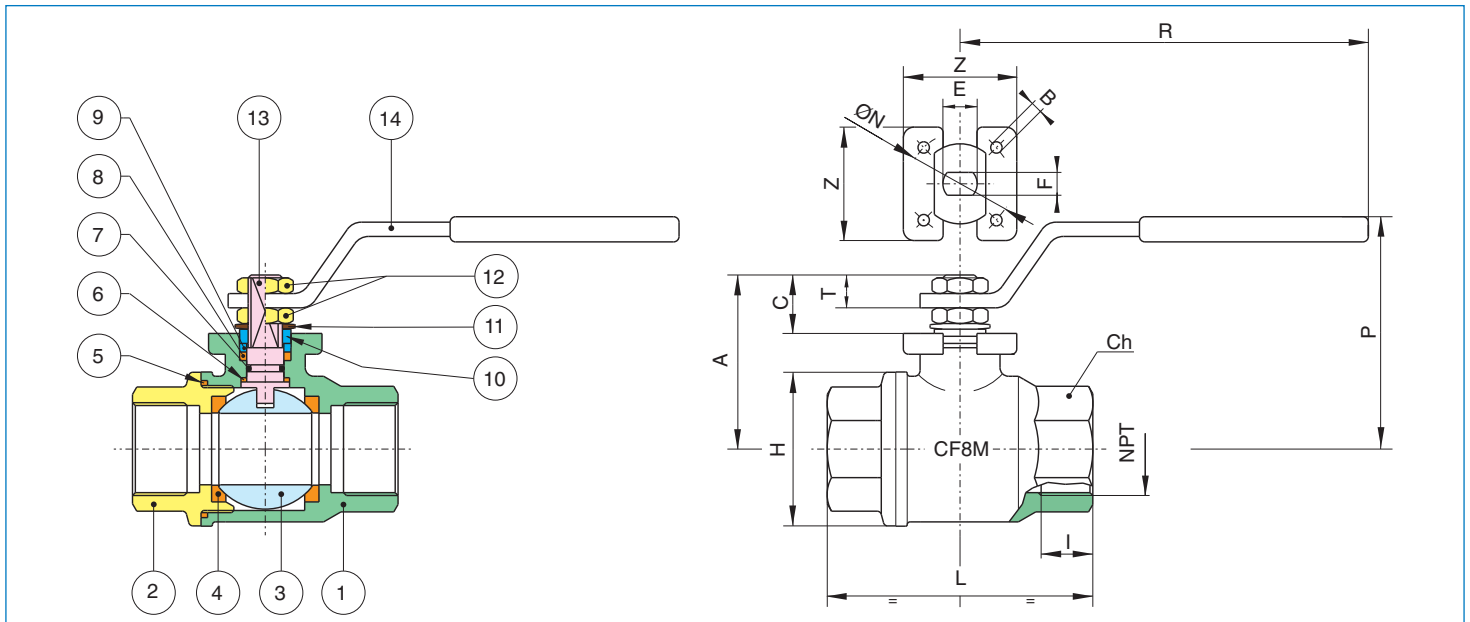
## SERIES 700001 STAINLESS STEEL BALL VALVE

2 piece stainless steel FNPT threaded ball valve.

- Full port sizes 1/8" to 4".
- Pressure rating 2000 psi to 1/2", 1500 psi 3/4" to 1", 1000 psi 1 1/4" to 2", 150 psi steam.
- Temperature range -4° F to +366° F.
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, packing, and thrust washer.
- ISO 5211 mounting pad and double "D" stem.
- 100% electronically tested in the open and closed position at 80 psi.
- TUV T.A. Luft approved.
- ANSI B1.20.1 connections.

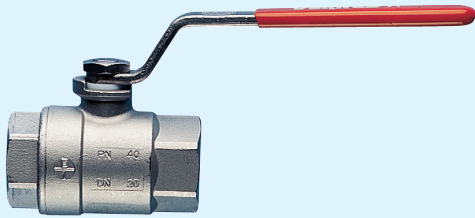
700071: FIRE SAFE APPROVED WITH ANTISTATIC STEM AND CARBON FILLED P.T.F.E.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	1
3	BALL	AISI 316 - CF8M	1
4	BALL SEAT	P.T.F.E.	2
5	SEAT	P.T.F.E.	1
6	THRUST WASHER	P.T.F.E.	1
7	O-RING	FKM (Viton®)	1
8	STEM SEAL	P.T.F.E.	1
9	PACKING GLAND	AISI 303 (1/8" - 2") STEEL (2 1/2" - 4")	1
10	END STOP	AISI 430 (1/8" - 2") STEEL (2 1/2" - 4")	2
11	SPRING WASHER	STEEL (2 1/2" - 4")	1
12	NUT	AISI 304 (1/8" - 2") STEEL (2 1/2" - 4")	2
13	STEM	AISI 316	1
14	HANDLE	AISI 430 (1/8" - 2") STEEL (2 1/2" - 4")	1

SIZE	I	L	H	CH	R	P	A	C	T	E	F	ØN ISO 5211	B	Z	Cv	psi	Weight Lbs
1/8"	0.29	2.18	1.18	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	F03	0.21	1.41	5.80	2000	0.59
1/4"	0.43	2.18	1.18	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	F03	0.21	1.41	6.36	2000	0.57
3/8"	0.44	2.18	1.18	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	F03	0.21	1.41	9.83	2000	0.52
1/2"	0.59	2.59	1.41	1.06	4.35	2.08	1.49	0.53	0.35	0.31	0.19	F03	0.21	1.41	22.21	2000	0.70
3/4"	0.64	3.11	1.77	1.25	5.17	2.67	2.00	0.59	0.39	0.39	0.27	F04	0.21	1.65	40.50	1500	1.19
1"	0.77	3.66	2.12	1.61	6.88	3.11	2.36	0.76	0.49	0.47	0.31	F04	0.21	1.65	74.63	1500	2.18
1 1/4"	0.84	3.93	2.51	1.96	6.88	3.28	2.53	0.76	0.49	0.47	0.31	F04	0.21	1.65	120.10	1000	2.95
1 1/2"	0.84	4.33	3.14	2.16	9.84	3.93	3.11	0.94	0.64	0.62	0.39	F05	0.25	1.96	201.32	1000	4.71
2"	1.01	5.15	3.74	2.75	9.84	4.21	3.38	0.94	0.64	0.62	0.39	F05	0.25	1.96	348.60	1000	7.40
2 1/2"	1.18	6.25	4.80	3.54	12.65	5.00	4.09	1.12	0.72	0.78	0.55	F07	M8	2.51	631.37	350	14.10
3"	1.31	7.28	5.66	4.13	12.65	5.41	4.48	1.10	0.70	0.78	0.55	F07	M8	2.51	1009.48	350	22.04
4"	1.54	8.74	6.96	5.11	15.01	6.16	5.39	1.35	0.86	0.94	0.70	F10	M10	3.62	1577.34	350	39.90

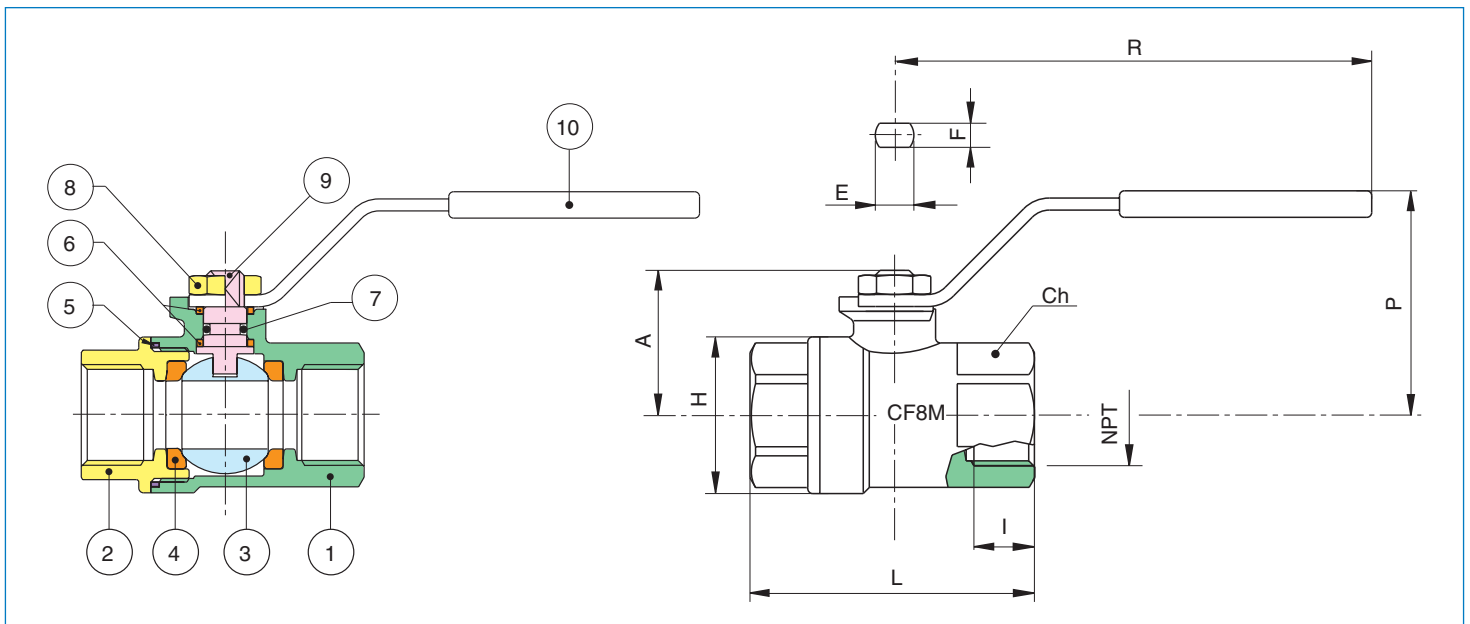


# SERIES 700023 STAINLESS STEEL BALL VALVE

2 piece stainless steel FNPT threaded ball valve.

- Full port sizes 1/4" to 2".
- Pressure rating 1000 psi - 150 psi steam.
- Temperature -4° F to +366° F.
- Blow out proof stem.
- P.T.F.E. seats, packing, and thrust washer.
- 100% electronically tested in the open and closed position at 80 psi.
- ANSI B1.20.1 connections.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N.PCS	PART NAME	MATERIAL	N.PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	1
3	BALL	AISI 316 - CF8M	1
4	BALL SEAT	P.T.F.E.	2
5	SEAL	P.T.F.E.	1
6	STEM SEAL	P.T.F.E.	2
7	O-RING	FKM (Viton®)	1
8	NUT	AISI 304	1
9	STEM	AISI 316	1
10	HANDLE	AISI 430	1

SIZE	A	H	L	R	CH	I	E	F	P	Cv	psi	Weight Lbs
1/4"	1.10	1.18	2.10	4.35	0.86	0.39	0.31	0.19	1.75	6.36	1000	0.48
3/8"	1.10	1.18	2.10	4.35	0.86	0.39	0.31	0.19	1.75	9.83	1000	0.44
1/2"	1.20	1.27	2.36	4.35	1.06	0.51	0.31	0.19	1.85	22.21	1000	0.55
3/4"	1.45	1.57	2.75	5.17	1.25	0.55	0.39	0.27	2.14	40.50	600	1.00
1"	1.61	1.92	3.11	5.17	1.61	0.66	0.39	0.27	2.30	74.63	600	1.88
1 1/4"	1.96	2.44	3.58	6.87	1.96	0.74	0.47	0.31	0.27	120.10	350	2.66
1 1/2"	2.24	2.95	4.05	6.87	2.16	0.76	0.47	0.31	3.01	201.32	350	4.00
2"	2.59	3.74	4.88	6.87	2.75	0.88	0.47	0.31	3.38	348.60	350	6.00



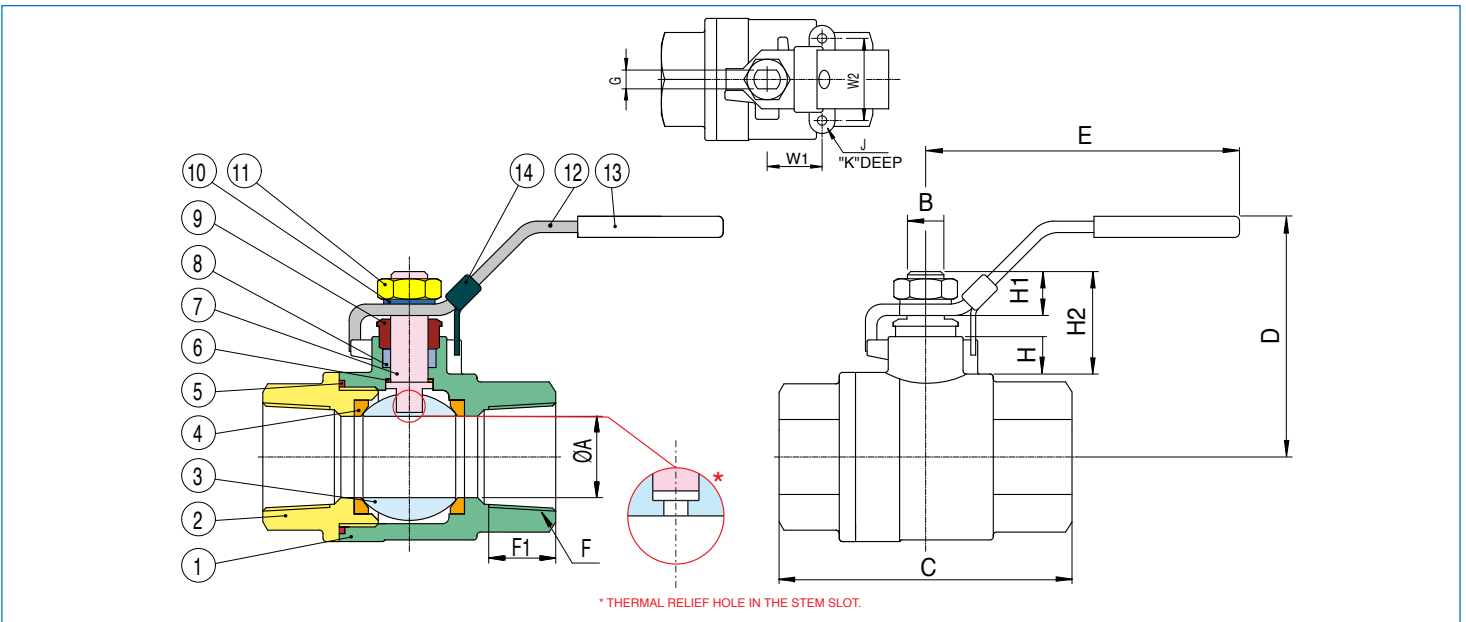


## SERIES 700 LL STAINLESS STEEL BALL VALVE



- 2 piece stainless steel, FNPT threaded ball valve with locking handle.
- Full port sizes 1/4" to 2".
  - Self adjusting stem packing.
  - Blow-out proof stem design.
  - 100% air tested under water at 80 psi.
  - Working pressure is 2000 psi (1/4" to 1"), 1500 psi (1 1/4" to 2")-150 psi steam.
  - Temperature range -4° F to 450° F.
  - Mounting pad for actuator.
  - ANSI B1.20.1 connections.

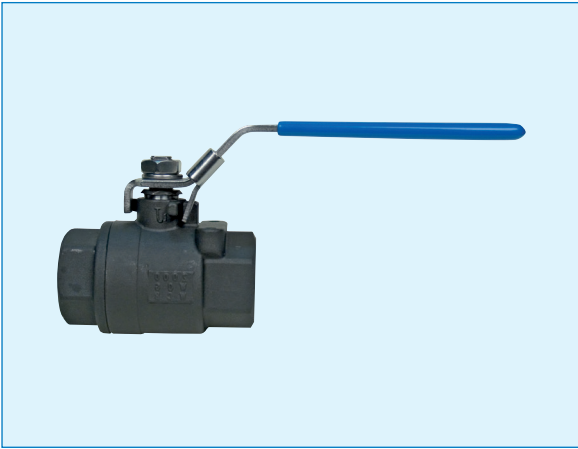
7700LL: SEAL WELD VERSION AVAILABLE.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CAP	CF8M	1
3	BALL	SS316	1
4	SEAT	R.T.F.E.	2
5	JOINT GASKET	P.T.F.E.	1
6	THRUST WASHER	P.T.F.E.	1
7	STEM	SS316	1
8	V RING PACKING	P.T.F.E.	1
9	GLAND BUSH	SS304	1
10	STEM WASHER	SS304	1
11	STEM NUT	SS304	1
12	HANDLE	SS304	1
13	HANDLE SLEEVE	VINYL	1
14	LOCKING DEVICE	SS304	1

SIZE	ØA	B	C	D	E	F1	J	K	G	H	H1	H2	W1	W2	Cv	Weight Lbs
1/4"	0.45	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.20	0.31	0.38	0.87	0.50	1.12	8	0.51
3/8"	0.49	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.20	0.31	0.38	0.87	0.50	1.12	10	0.51
1/2"	0.59	0.37	2.55	2.36	5.11	0.62	10-24UNC	0.19	0.26	0.41	0.43	1.00	0.50	1.12	15	0.83
3/4"	0.78	0.37	2.93	2.51	5.11	0.66	10-24UNC	0.27	0.26	0.41	0.43	1.00	0.88	1.37	34	1.14
1"	0.98	0.43	3.46	2.79	6.49	0.94	10-24UNC	0.27	0.31	0.45	0.53	1.24	0.92	1.37	56	2.02
1 1/4"	1.25	0.43	4.01	3.07	6.49	0.86	1/4-20UNC	0.27	0.31	0.45	0.53	1.24	1.00	1.50	85	2.70
1 1/2"	1.49	0.55	4.33	3.38	7.48	0.88	1/4-20UNC	0.27	0.38	0.47	0.61	1.38	1.00	1.50	125	4.18
2"	1.96	0.55	4.92	3.74	7.48	1.02	1/4-20UNC	0.27	0.38	0.37	0.61	1.02	1.00	1.50	250	6.86



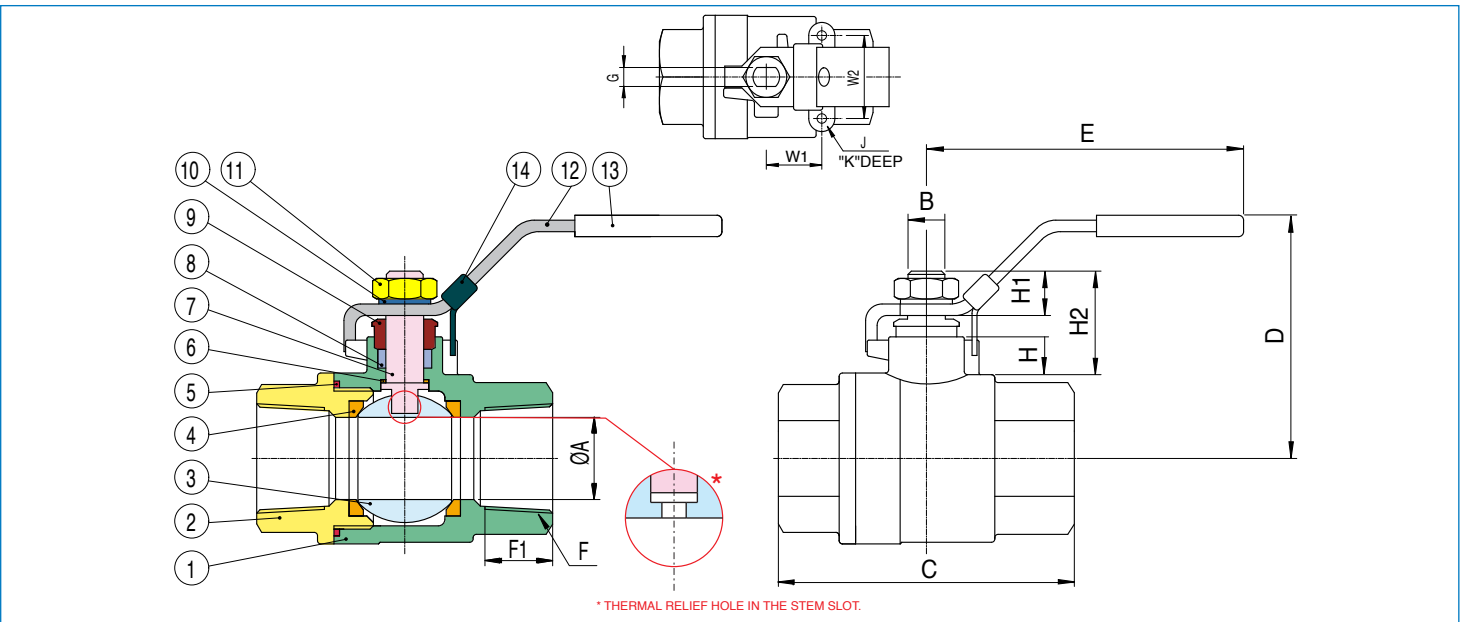


## SERIES 600 LL CARBON STEEL BALL VALVE

2 piece carbon steel FNPT threaded ball valve with locking handle.

- Full port sizes 1/4" to 2".
- Self adjusting stem packing.
- Blow-out proof stem design.
- 100% air tested under water at 80 psi.
- Working pressure is 2000 psi (1/4" to 1"), 1500 psi (1 1/4" to 2")-150 psi steam.
- Temperature range -4° F to 450° F.
- Mounting pad for actuator.
- ANSI B1.20.1 connections.

6600LL: SEAL WELD VERSION AVAILABLE.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	WCB	1
2	END CAP	WCB	1
3	BALL	AISI 316	1
4	SEAT	R.T.F.E.	2
5	JOINT GASKET	P.T.F.E.	1
6	THRUST WASHER	P.T.F.E.	1
7	STEM	AISI 316	1
8	V RING PACKING	P.T.F.E.	1
9	GLAND BUSH	STEEL	1
10	STEM WASHER	STEEL	1
11	STEM NUT	STEEL	1
12	HANDLE	STEEL	1
13	HANDLE SLEEVE	VINYL	1
14	LOCKING DEVICE	SS304	1

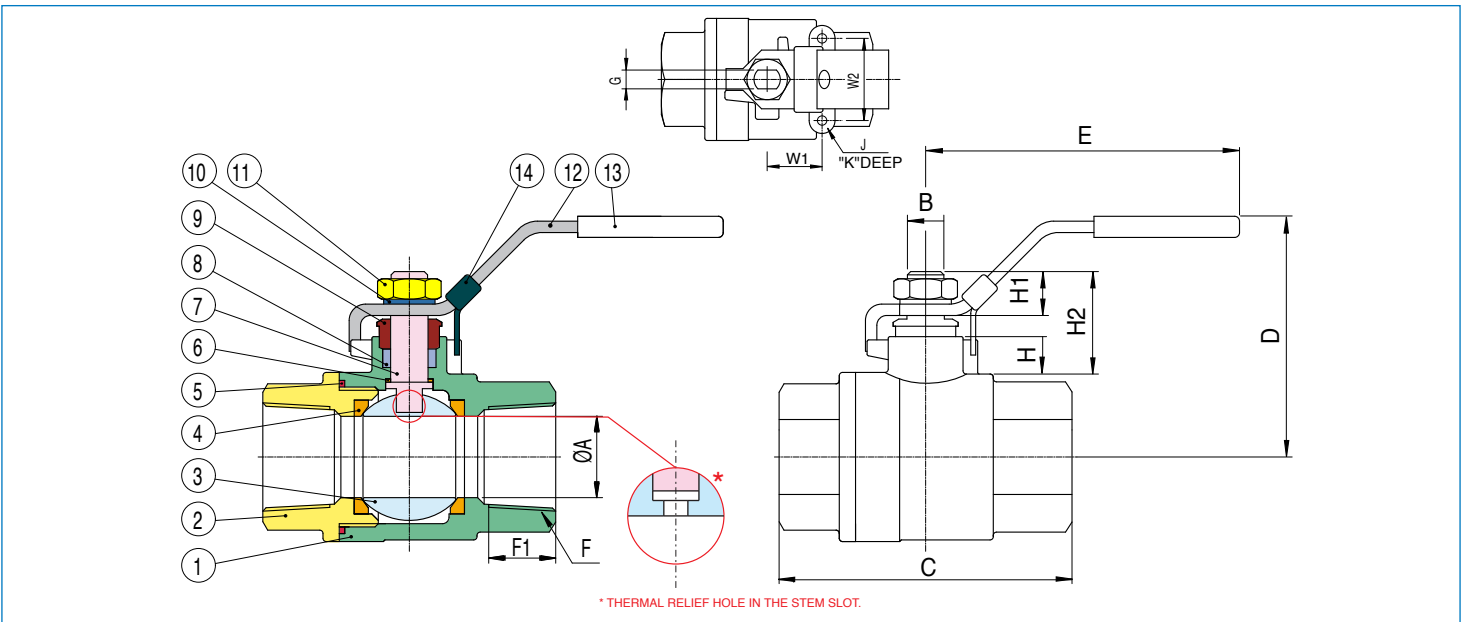
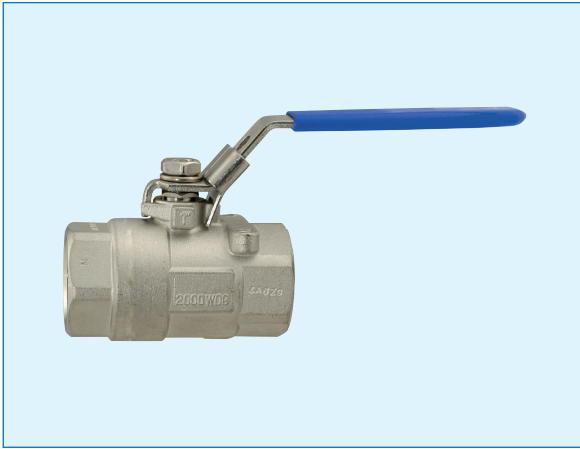
SIZE	ØA	B	C	D	E	F1	J	K	G	H	H1	H2	W1	W2	Cv	Weight Lbs
1/4"	0.45	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.019	0.31	0.38	0.87	0.50	1.12	8	0.51
3/8"	0.49	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.19	0.31	0.38	0.87	0.50	1.12	10	0.51
1/2"	0.59	0.37	2.55	2.36	5.11	0.62	10-24UNC	0.19	0.25	0.41	0.43	1.00	0.50	1.12	15	0.83
3/4"	0.78	0.37	2.93	2.51	5.11	0.66	10-24UNC	0.27	0.25	0.41	0.43	1.00	0.88	1.37	34	1.14
1"	0.98	0.43	3.46	2.79	6.49	0.94	10-24UNC	0.27	0.31	0.45	0.53	1.24	0.92	1.37	56	2.02
1 1/4"	1.25	0.43	4.01	3.07	6.49	0.86	1/4-20UNC	0.27	0.31	0.45	0.53	1.24	1.00	1.50	85	2.70
1 1/2"	1.49	0.55	4.33	3.38	7.48	0.88	1/4-20UNC	0.27	0.38	0.47	0.61	1.38	1.00	1.50	125	4.18
2"	1.96	0.55	4.92	3.74	7.48	1.02	1/4-20UNC	0.27	0.38	0.37	0.61	1.02	1.00	1.50	250	6.86

## SERIES 7700 LL

### STAINLESS STEEL SEAL WELD BALL VALVE

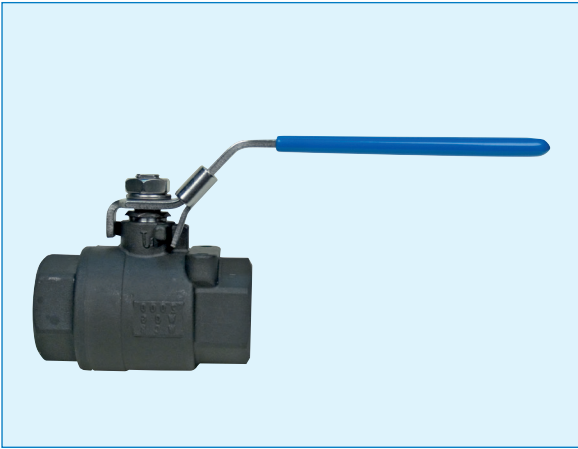
Unibody Stainless Steel FNPT, seal welded threaded ball valve with locking handle.

- Full port sizes 1/4" to 2".
- Self-adjusting stem packing.
- Blow-out proof stem design.
- 100% air tested under water at 80 psi.
- Working pressure is 2000 psi (1/4" to 2") - 200 psi steam.
- Temperature range -4°F to 450°F.
- Mounting pad for actuator.
- 25% carbon filled TFE seats.
- Graphite stem packing.
- API 607 Certified.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CAP	CF8M	1
3	BALL	SS316	1
4	SEAT	R.T.F.E.	2
5	JOINT GASKET	P.T.F.E.	1
6	THRUST WASHER	P.T.F.E.	1
7	STEM	SS316	1
8	V RING PACKING	P.T.F.E.	1
9	GLAND BUSH	SS304	1
10	STEM WASHER	SS304	1
11	STEM NUT	SS304	1
12	HANDLE	SS304	1
13	HANDLE SLEEVE	VINYL	1
14	LOCKING DEVICE	SS304	1

SIZE	ØA	B	C	D	E	F1	J	K	G	H	H1	H2	W1	W2	Cv	Weight Lbs
1/4"	0.45	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.20	0.31	0.38	0.87	0.50	1.12	8	0.51
3/8"	0.49	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.20	0.31	0.38	0.87	0.50	1.12	10	0.51
1/2"	0.59	0.37	2.55	2.36	5.11	0.62	10-24UNC	0.19	0.26	0.41	0.43	1.00	0.50	1.12	15	0.83
3/4"	0.78	0.37	2.93	2.51	5.11	0.66	10-24UNC	0.27	0.26	0.41	0.43	1.00	0.88	1.37	34	1.14
1"	0.98	0.43	3.46	2.79	6.49	0.94	10-24UNC	0.27	0.31	0.45	0.53	1.24	0.92	1.37	56	2.02
1 1/4"	1.25	0.43	4.01	3.07	6.49	0.86	1/4-20UNC	0.27	0.31	0.45	0.53	1.24	1.00	1.50	85	2.70
1 1/2"	1.49	0.55	4.33	3.38	7.48	0.88	1/4-20UNC	0.27	0.38	0.47	0.61	1.38	1.00	1.50	125	4.18
2"	1.96	0.55	4.92	3.74	7.48	1.02	1/4-20UNC	0.27	0.38	0.37	0.61	1.02	1.00	1.50	250	6.86

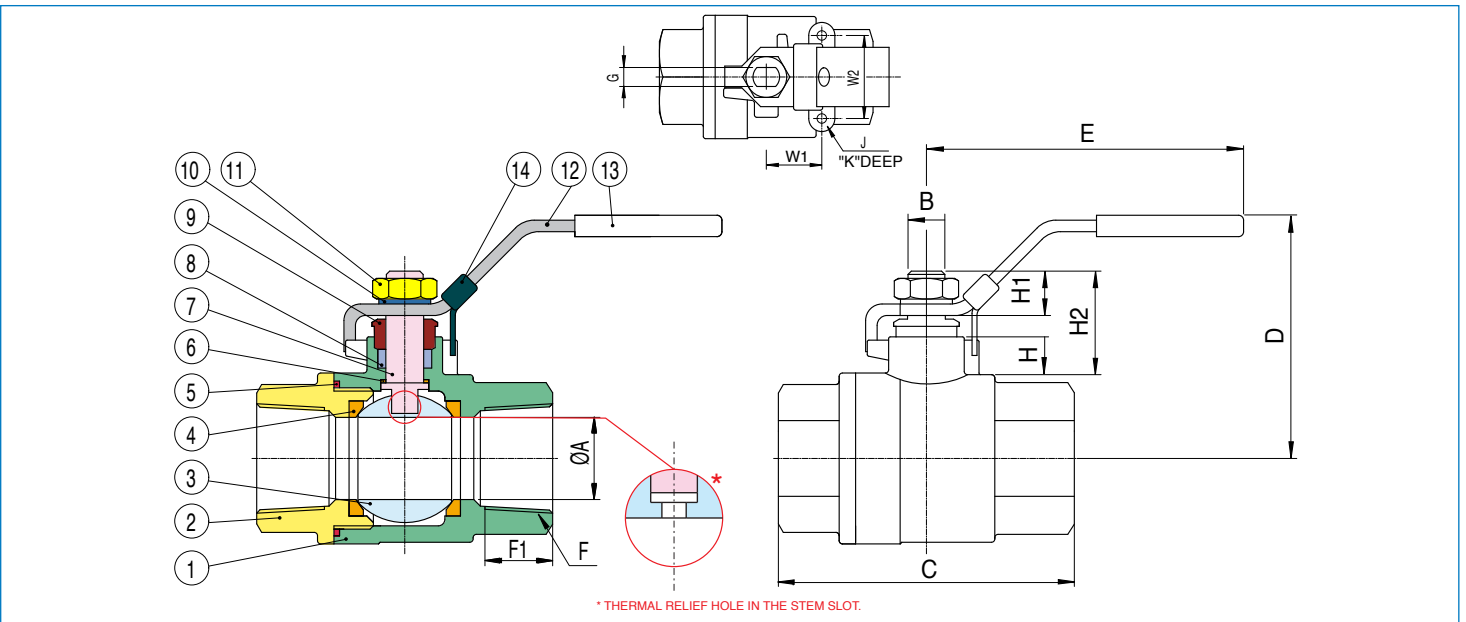


## SERIES 6600 LL

### CARBON STEEL SEAL WELD BALL VALVE

Unibody Carbon Steel FNPT, seal welded threaded ball valve with locking handle.

- Full port sizes 1/4" to 2".
- Self-adjusting stem packing.
- Blow-out proof stem design.
- 100% air tested under water at 80 psi.
- Working pressure is 2000 psi (1/4" to 2") - 200 psi steam.
- Temperature range -4°F to 450°F.
- Mounting pad for actuator.
- 25% carbon filled TFE seats.
- Graphite stem packing.
- Fire-safe design.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	WCB	1
2	END CAP	WCB	1
3	BALL	AISI 316	1
4	SEAT	R.T.F.E.	2
5	JOINT GASKET	P.T.F.E.	1
6	THRUST WASHER	P.T.F.E.	1
7	STEM	AISI 316	1
8	V RING PACKING	P.T.F.E.	1
9	GLAND BUSH	STEEL	1
10	STEM WASHER	STEEL	1
11	STEM NUT	STEEL	1
12	HANDLE	STEEL	1
13	HANDLE SLEEVE	VINYL	1
14	LOCKING DEVICE	SS304	1

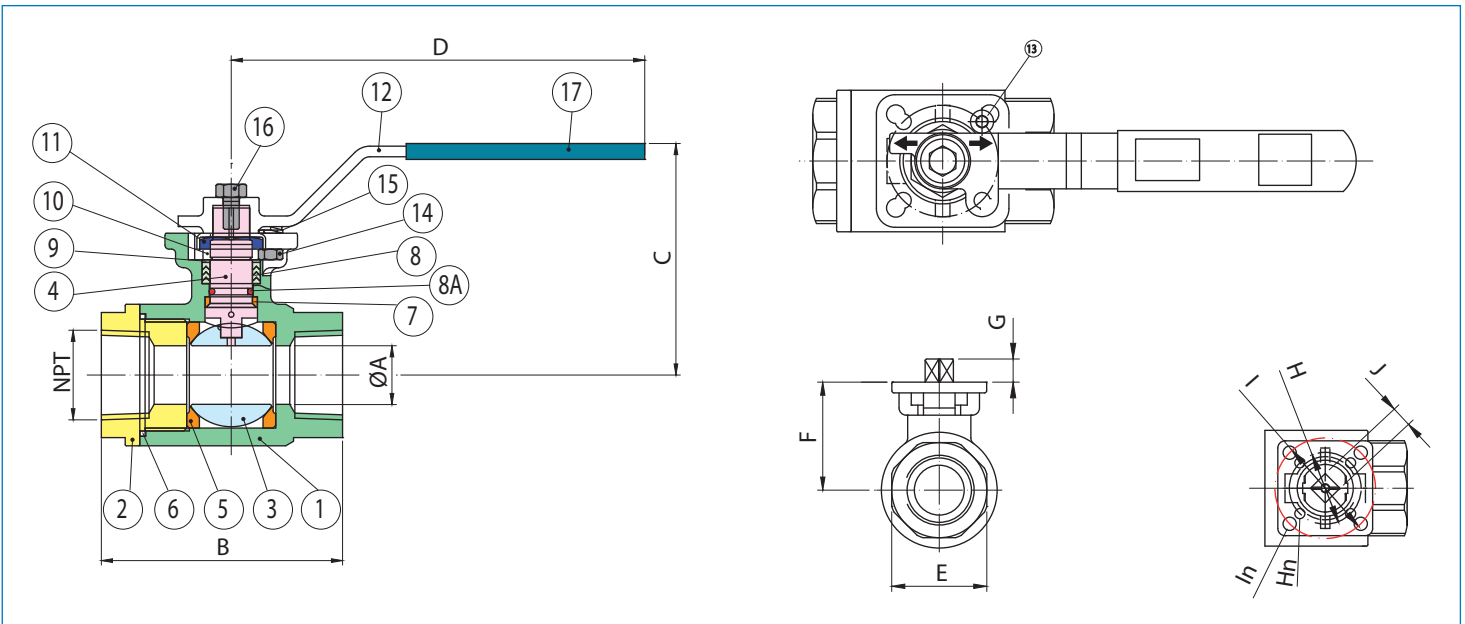
SIZE	ØA	B	C	D	E	F1	J	K	G	H	H1	H2	W1	W2	Cv	Weight Lbs
1/4"	0.45	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.019	0.31	0.38	0.87	0.50	1.12	8	0.51
3/8"	0.49	0.31	2.16	1.96	3.93	0.59	10-24UNC	0.23	0.19	0.31	0.38	0.87	0.50	1.12	10	0.51
1/2"	0.59	0.37	2.55	2.36	5.11	0.62	10-24UNC	0.19	0.25	0.41	0.43	1.00	0.50	1.12	15	0.83
3/4"	0.78	0.37	2.93	2.51	5.11	0.66	10-24UNC	0.27	0.25	0.41	0.43	1.00	0.88	1.37	34	1.14
1"	0.98	0.43	3.46	2.79	6.49	0.94	10-24UNC	0.27	0.31	0.45	0.53	1.24	0.92	1.37	56	2.02
1 1/4"	1.25	0.43	4.01	3.07	6.49	0.86	1/4-20UNC	0.27	0.31	0.45	0.53	1.24	1.00	1.50	85	2.70
1 1/2"	1.49	0.55	4.33	3.38	7.48	0.88	1/4-20UNC	0.27	0.38	0.47	0.61	1.38	1.00	1.50	125	4.18
2"	1.96	0.55	4.92	3.74	7.48	1.02	1/4-20UNC	0.27	0.38	0.37	0.61	1.02	1.00	1.50	250	6.86

## SERIES 3000 - 3100

**CARBON STEEL STAINLESS STEEL**



- 2 piece, FNPT threaded, direct mount ball valve.
- Full port sizes 1/4" to 1 1/2", 2" reduced port.
- Pressure rating 3000 psi (100°F)
- Temperature range -20°F to 185°F.
- Blow out proof stem/anti-static design.
- ISO 5211 mounting pad.
- Nace MR-0175.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M/WCB	1
2	END CAP	CF8M/WCB	1
3	BALL	CF8M	1
4	ANTI-STATIC STEM	SS316	1
5	BALL SEAT	DELTRIN	2
6	BODY SEAL	P.T.F.E	1
7	THRUST WASHER	P.T.F.E	1
8	STEM PACKING	P.T.F.E	1
8A	O-RING	VITON	1
9	THRUST WASHER	50%SS - 50% P.T.F.E	1
10	STEM NUT	SS304	1
11	LOCK SADDLE	SS304	1
12	HANDLE	SS304	1
13	STOP BOLT	SS304	1
14	STOP NUT	SS304	1
15	STOP WASHER	SS304	1
16	HANDLE BOLD	SS304	1
17	HANDLE SLEEVE	VINYL	1

SIZE	ØA	B	C	D	E	F	G	ISO 5211	Hn	In	J mm	Cv	Torque in-Lbs	Weight Lbs
1/4"	0.38	2.95	2.31	6.30	1.02	1.61	0.31	F03-F04 1.42"-1.65"	0.22	0.22	9	5.3	101	1.4
3/8"	0.38	2.95	2.31	6.30	1.02	1.61	0.31	F03-F04 1.42"-1.65"	0.22	0.22	9	8	104	1.4
1/2"	0.50	2.95	2.31	6.30	1.28	1.61	0.31	F03-F04 1.42"-1.65"	0.22	0.22	9	19	130	1.5
3/4"	0.69	3.19	2.60	6.30	1.51	1.72	0.31	F03-F04 1.42"-1.65"	0.22	0.22	9	35	156	2.0
1"	0.87	3.58	3.02	6.30	1.86	2.11	0.39	F04-F05 1.65"-1.97"	0.28	0.24	11	50	208	3.1
1 1/4"	1.14	4.33	3.19	6.30	2.32	2.32	0.39	F04-F05 1.65"-1.97"	0.28	0.24	11	110	390	4.8
1 1/2"	1.37	4.76	3.84	8.27	2.96	2.96	0.51	F05-F07 1.97"-2.76"	0.36	0.28	14	180	468	8.1
2"	1.37	5.71	4.14	8.27	2.96	2.96	0.51	F05-F07 1.97"-2.76"	0.36	0.28	14	210	468	10.5

\* Varies with size.



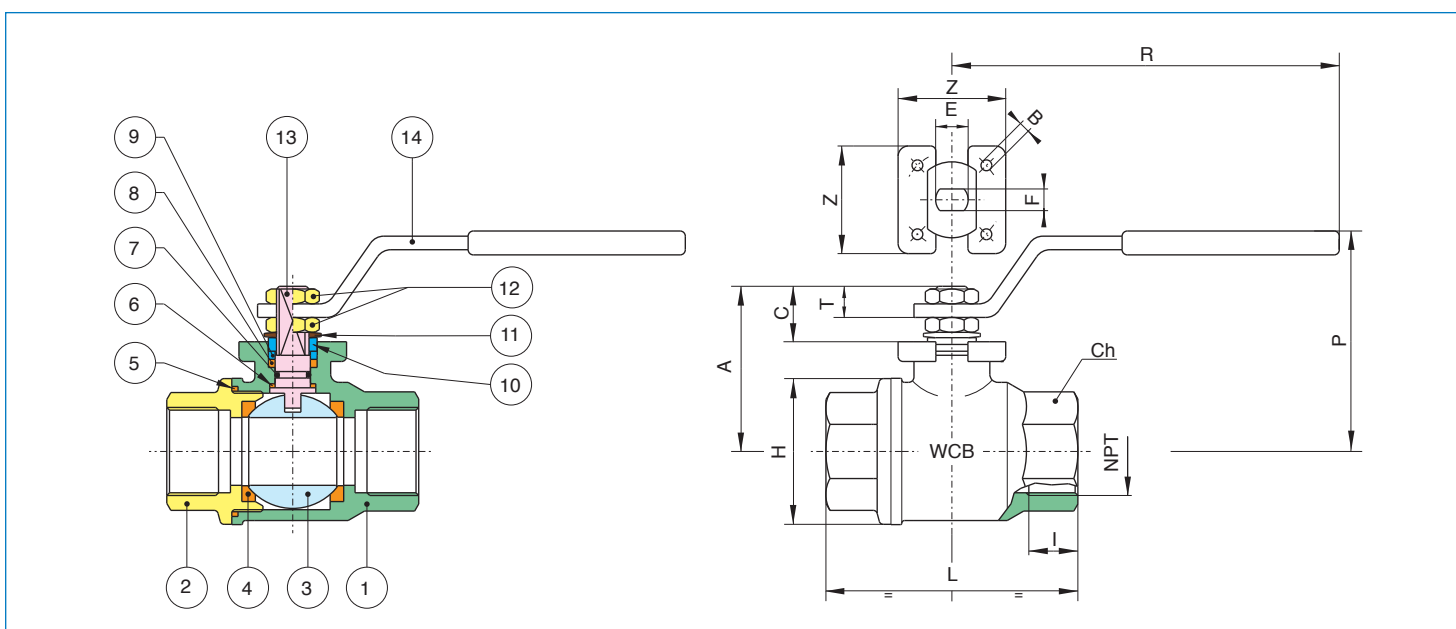
# SERIES 700056 CARBON STEEL BALL VALVE

2 piece carbon steel, FNPT threaded ball valve, stainless steel ball and stem.

- Full port sizes 1/4" to 2".
- Pressure rating 1000 psi -150 psi steam.
- Temperature -4° F to +366° F.
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, packing and thrust washer.
- 100% electronically tested in the open and closed position at 80 psi.
- TUV T.A. luft approved.
- ISO 5211 pad with double "D" stem.
- ANSI B1.20.1 connections.

**700077: FIRE SAFE APPROVED WITH ANTISTATIC STEM DEVICE AND P.T.F.E CARBON SEATS.**

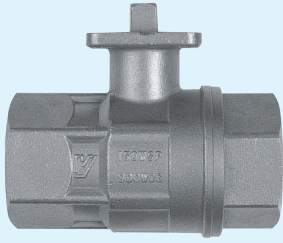
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N POS
1	BODY	ASTM A105-WCB	1
2	END CONNECTION	ASTM A105-WCB	1
3	BALL	AISI 304 - CF8	1
4	BALL SEAT	P.T.F.E	2
5	SEAL	P.T.F.E.	1
6	THRUST WASHER	P.T.F.E.	1
7	O-RING	FKM (Viton®)	1
8	STEM SEAL	P.T.F.E.	1
9	PACKING GLAND	STEEL	1
10	END STOP	AISI 430	2
11	NUT	STEEL	2
12	STEM	AISI 304	1
13	HANDLE	STEEL	1

SIZE	I	L	H	Ch	R	P	A	C	T	E	F	ISO 5211	B	Z	Cv	psi	Weight Lbs
1/4"	0.43	2.17	1.18	0.87	4.33	1.97	1.38	0.53	0.31	0.31	0.20	F03	0.22	1.42	6.36	1000	0.57
3/8"	0.45	2.17	1.18	0.87	4.33	1.97	1.38	0.53	0.31	0.31	0.20	F03	0.22	1.42	9.83	1000	0.53
1/2"	0.59	2.60	1.42	1.06	4.33	2.09	1.50	0.53	0.31	0.31	0.20	F03	0.22	1.42	22.21	1000	0.73
3/4"	0.64	3.11	1.77	1.26	5.16	2.68	2.01	0.59	0.39	0.39	0.28	F04	0.22	1.65	40.50	1000	1.32
1"	0.75	3.66	2.13	1.61	6.85	3.11	2.36	0.77	0.49	0.47	0.31	F04	0.22	1.65	74.63	1000	2.25
1 1/4"	0.84	3.86	2.52	1.97	6.85	3.27	2.52	0.77	0.49	0.47	0.31	F04	0.22	1.65	120.10	1000	3.09
1 1/2"	0.84	4.33	3.15	2.17	9.84	3.94	3.11	0.94	0.65	0.63	0.39	F05	0.26	1.97	201.32	1000	5.31
2"	1.01	5.12	3.74	2.76	9.84	4.21	3.39	0.94	0.65	0.63	0.39	F05	0.26	1.97	348.60	1000	7.80

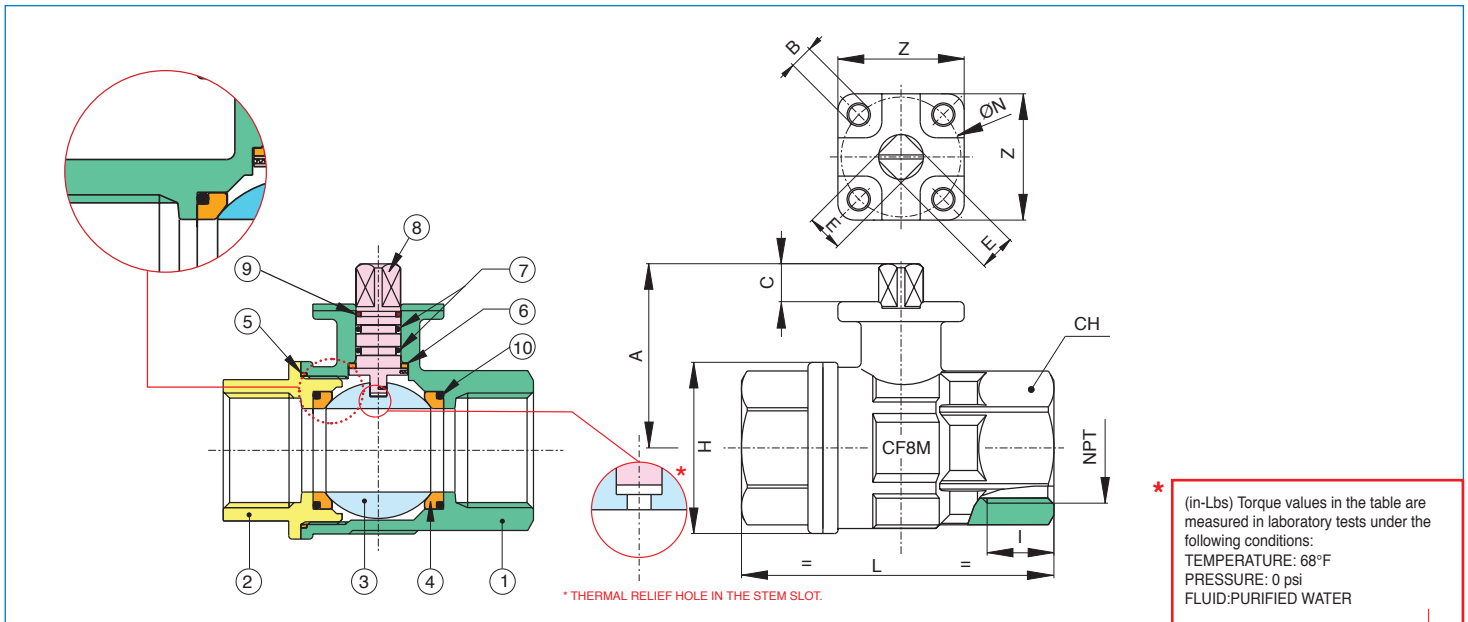




## SERIES 700076 STAINLESS STEEL DIRECT MOUNT BALL VALVE

- 2 piece stainless steel FNPT threaded, direct mount ball valve.
- Full port sizes 1/4" to 3".
  - Pressure rating 1000 psi, 150 psi steam.
  - Temperature -4° F to +366° F.
  - Blow out proof stem.
  - P.T.F.E. seats with O-ring backing for low operating torque.
  - P.T.F.E. seals and double O-ring stem packing.
  - 100% electronically tested in the open and closed position at 80 psi.
  - ISO 5211 mounting pad.
  - ANSI B1.20.1 connections.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	1
3	BALL	AISI316-CF8M	1
4	BALL SEAT	P.T.F.E.	2
5	SEAL	P.T.F.E.	1
6	STEM SEAL	P.T.F.E.	1
7	O-RING	FKM (Viton®)	2
8	STEM	AISI 316	1
9	STEM SEAL	P.T.F.E.	1
10	O-RING	FKM (Viton®)	2

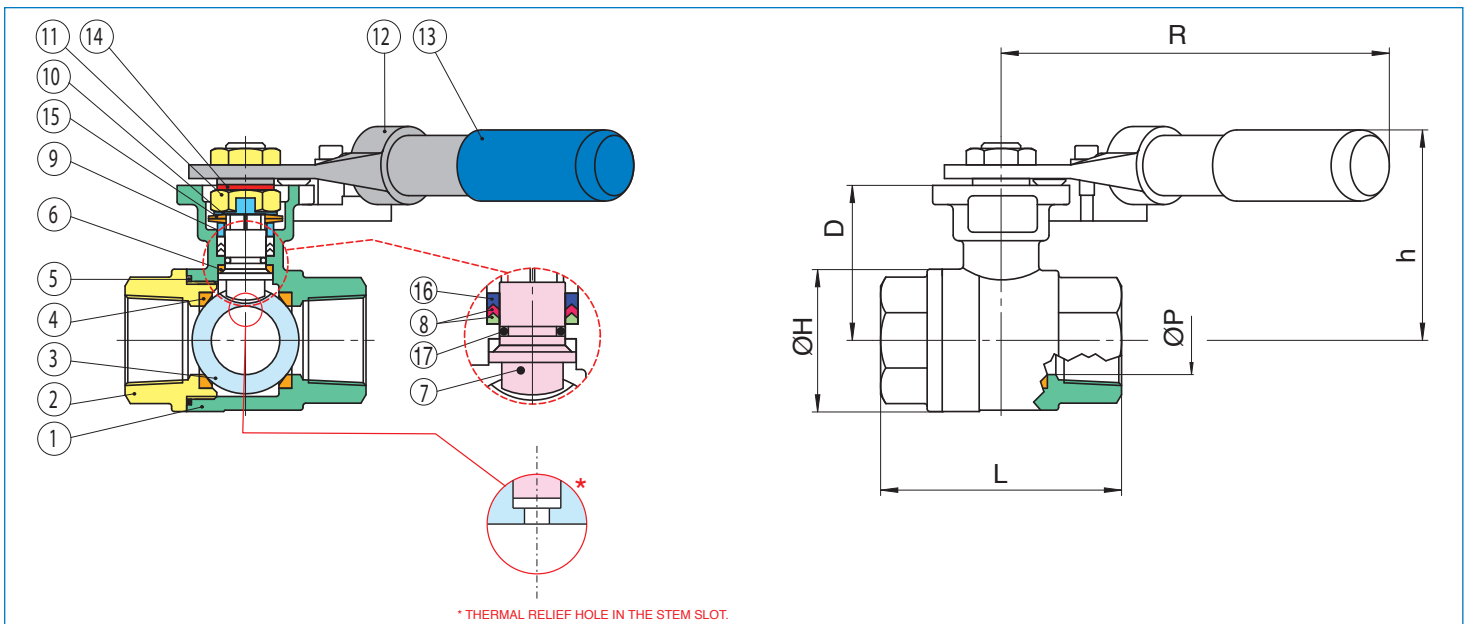
SIZE	I	L	H	CH	A	C	E mm	ISO 5211	B	Z	Cv	psi	Weight Lbs	* Torque in-Lbs
1/4"	0.59	2.56	1.44	1.02	1.78	0.26	9	F03/F04 1.42-1.65	0.24	1.65	7.91	1000	0.95	60
3/8"	0.59	2.56	1.44	1.02	1.78	0.26	9	F03/F04 1.42-1.65	0.24	1.65	10.22	1000	0.89	60
1/2"	0.59	2.63	1.35	1.06	1.63	0.35	9	1.42 (ISO F03)	0.23	1.49	22.21	1000	0.68	53.10
3/4"	0.64	3.07	1.65	1.25	1.71	0.35	9	1.42 (ISO F03)	0.23	1.49	40.50	1000	0.91	53.10
1"	0.75	3.54	2.02	1.61	2.10	0.35	9	1.42 (ISO F03)	0.23	1.49	74.63	1000	1.35	53.10
1 1/4"	0.84	3.93	2.53	1.96	2.24	0.35	9	1.42 (ISO F03)	0.23	1.49	120.10	1000	2.22	53.10
1 1/2"	0.84	4.40	3.03	2.16	2.91	0.43	11	1.97 (ISO F05)	0.27	1.96	201.32	1000	3.69	150.46
2"	1.01	5.31	3.81	2.75	3.27	0.43	11	1.97 (ISO F05)	0.27	1.96	348.60	1000	6.49	150.46
2 1/2"	1.22	6.32	4.64	3.39	4.94	0.66	17	F07/F10 2.76-4.02	0.39 0.47	3.64	631.37	800	16.38	484
3"	1.34	7.01	5.48	4.09	5.34	0.71	17	F07/F10 2.76-4.02	0.39 0.47	3.64	1009.48	800	22.82	772

## SERIES 2200 SRL STAINLESS STEEL BALL VALVE



Deadman spring return lever, stainless steel, FNPT threaded ball valve.

- Full port sizes 1/4" to 2".
- Temperature range -4° F to 450° F.
- Working pressure to 1000 psi 1/4" - 2"
- Blow-out proof stem.
- Adjustable spring return lever.
- Anti-static design.
- ANSI B1.20.1 connections.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CAP	CF8M	1
3	BALL	SS316	1
4	SEAT	P.T.F.E.	2
5	JOINT GASKET	P.T.F.E.	1
6	STEM SEAL	R.T.F.E.	1
7	STEM	SS316	1
8	STEM PACKING	P.T.F.E.	2
9	GLAND	SS304	1
10	LOCK SADDLE	SS304	1
11	STEM NUT	SS304	2
12	HANDLE	SS304	1
13	HANDLE SLEEVE	VINYL	1
14	STEM WASHER	SS304	1
15	BELLEVILLE WASHER	SS301	1
16	STEM PACKING	25% GLASS FIBER FILLED+P.T.F.E.	1
17	O-RING	VITON	1

SIZE	ØA	R	D	ØH	h	L	ISO 5211	Cv	psi	Weight Lbs
1/4"	0.45	6.30	1.52	1.46	2.31	2.56	F03/F04	8	1000	1.80
3/8"	0.49	6.30	1.52	1.46	2.31	2.56	F03/F04	10	1000	1.80
1/2"	0.59	6.30	1.52	1.46	2.31	2.56	F03/F04	15	1000	1.70
3/4"	0.79	6.30	1.82	1.69	2.60	2.94	F03/F04	34	1000	2.00
1"	0.98	6.30	2.23	2.05	3.02	3.47	F04/F05	56	1000	2.80
1 1/4"	1.26	6.30	2.40	2.48	3.19	4.02	F04/F05	85	1000	3.80
1 1/2"	1.50	8.27	3.05	2.87	3.84	4.33	F05/F07	125	1000	6.60
2"	1.97	8.27	3.35	3.54	4.14	4.92	F05/F07	250	1000	8.80



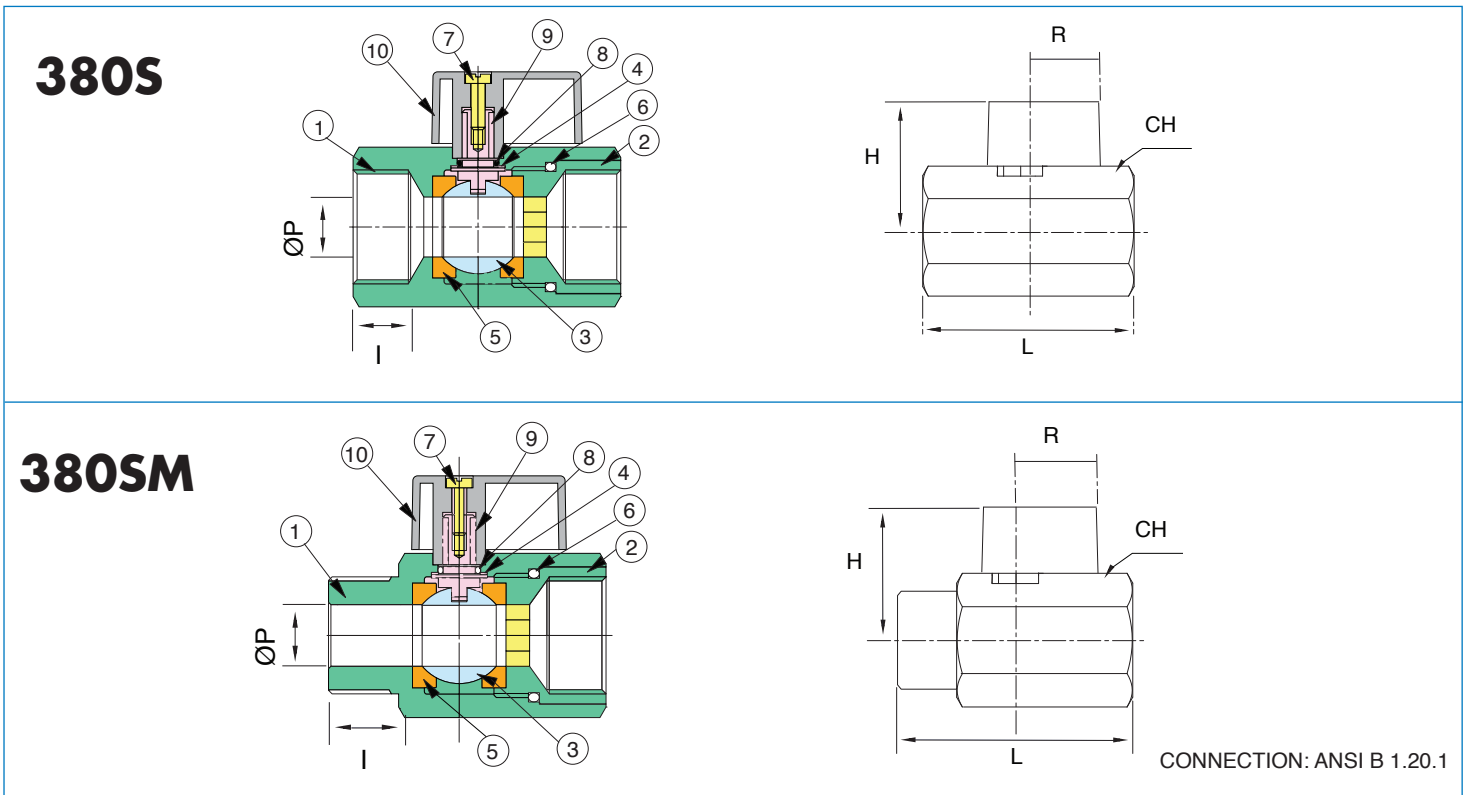
## SERIES 380S - 380SM MINI BALL VALVE

Stainless steel ball valve mini series, standard port from 1/4" to 1/2".

- Pressure rating 800 psi WOG.
- Temperature -4° F to +350° F.
- Stem O-ring viton, seal P.T.F.E
- P.T.F.E. seats.
- Stainless steel body, ball and stem.
- Wedge lever handle.
- ANSI B1.20.1 connections.

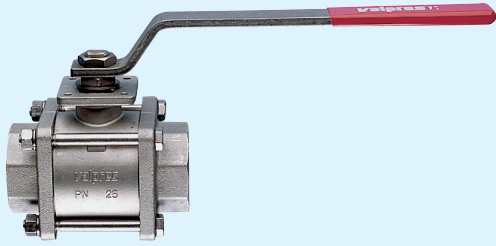
**380S:** FNPT THREADED.

**380SM:** MNPT x FNPT THREADED.



N Pos	PART NAME	MATERIAL	N PCS
1	BODY	AISI 316	1
2	RETAINING BUSH	AISI 316	1
3	BALL	AISI 316	1
4	BALL SEAT	P.T.F.E	1
5	BALL SEAT	P.T.F.E	1
6	O-RING	FKM (Viton®)	1
7	SCREW	SS304	1
8	O-RING	FKM (Viton®)	1
9	STEM	AISI316	1
10	HANDLE	ABS	1

SIZE	ØP	CH	l	h	L	R	Cv	psi	Weight Lbs 380S	Weight Lbs 380SM
1/4"	0.31	0.82	0.39	1.16	1.69	0.80	5.00	450	0.42	0.36
3/8"	0.31	0.82	0.40	1.16	1.69	0.80	3.13	450	0.37	0.35
1/2"	0.39	0.98	0.53	1.24	2.16	0.80	6.26	450	0.37	0.35



## SERIES 710001 - 711000 - 712000 STAINLESS STEEL 3-PC BALL VALVE

3 piece stainless steel ball valve.

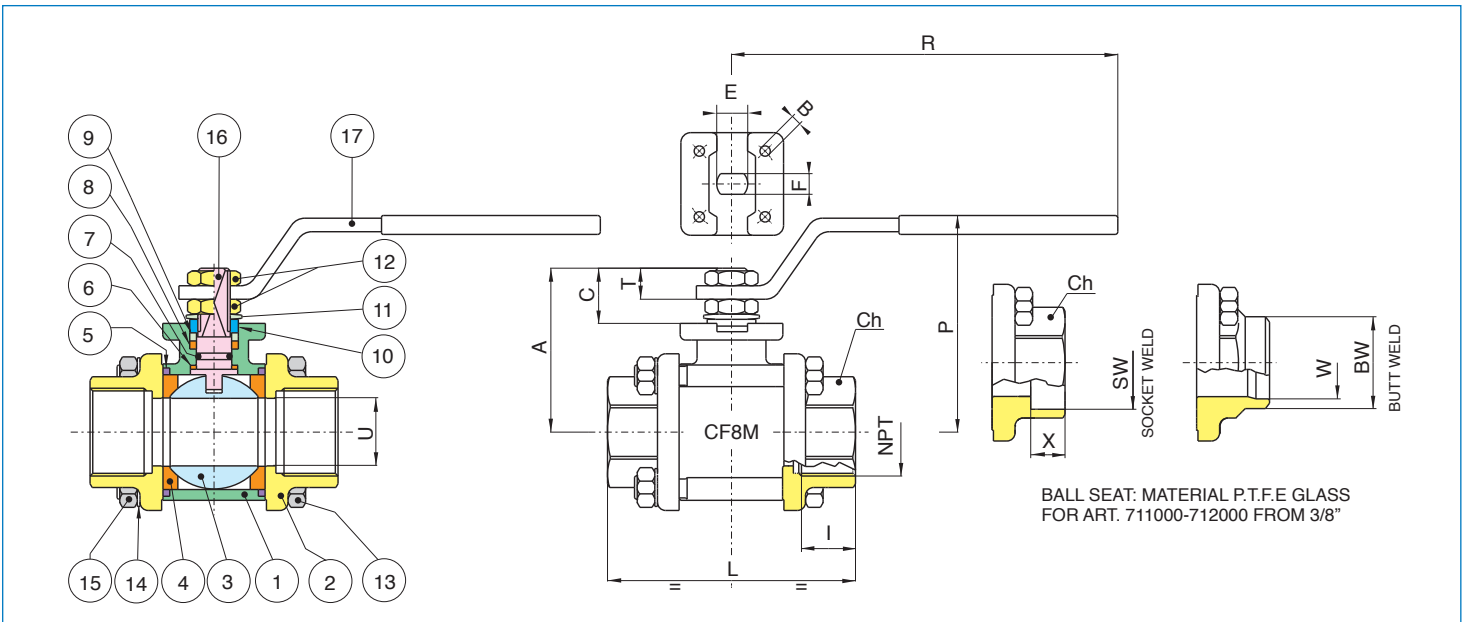
- Full port sizes 1/4" to 4".
- Pressure rating 1000 psi WOG, 150 psi steam.
- Temperature -4° F to +366° F.
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, packing and thrust washer.
- ISO 5211 mounting pad with double "D" stem.
- 100% electronically tested in the open and closed position at 80 psi.
- TUV T.A. Luft approved.

710001: NPT THREADED - ANSI B1.20.1 CONNECTIONS.

711000: SOCKET WELD.

712000: BUTT WELD.

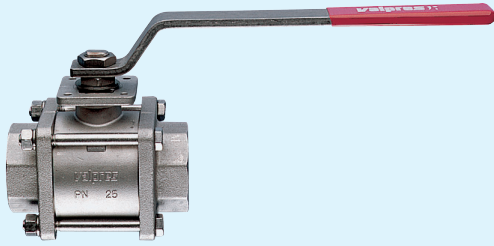
\* On request available with gas antistatic device.  
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N.PCS	PART NAME	MATERIAL	N.PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	2
3	BALL	AISI316-CF8M	1
4	BALL SEAT	P.T.F.E	2
5	SEAL	P.T.F.E	2
6	STEM SEAL	P.T.F.E	1
7	O-RING	FKM (Viton®)	1
8	STEM SEAL	P.T.F.E	1
9	PACKING GLAND	AISI 303 (1/4" - 2") STEEL (2 1/2" - 4")	1
10	END STOP	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	2
11	SPRING WASHER	STEEL (2 1/2" - 4")	1
12	NUT	AISI 303 (1/4" - 2") STEEL (2 1/2" - 4")	2
13	BOLT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
14	WASHER	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
15	NUT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
16	STEM	AISI 316	1
17	HANDLE	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	1

SIZE	U	I	SW	X	BW	W	L	CH	R	P	A	C	T	E	F	ISO 5211	B	Cv	psi	Weight Lbs
1/4"	0.39	0.43	-	-	-	-	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	6.36	1000	0.61
3/8"	0.39	0.44	0.71	0.37	0.67	0.49	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	9.83	1000	0.61
1/2"	0.59	0.59	0.88	0.37	0.83	0.62	2.55	1.06	5.17	2.51	1.85	0.59	0.39	0.39	0.27	F03	0.23	22.21	1000	0.88
3/4"	0.78	0.64	1.09	0.43	1.05	0.82	2.99	1.25	5.17	2.67	2.02	0.59	0.39	0.39	0.27	F04	0.21	40.50	600	1.32
1"	0.98	0.75	1.35	0.50	1.31	1.04	3.62	1.61	6.87	3.09	2.36	0.76	0.49	0.47	0.31	F04	0.23	74.63	600	2.42
1 1/4"	1.25	0.84	1.70	0.56	1.66	1.38	4.19	1.96	6.87	3.28	2.53	0.76	0.49	0.47	0.31	F04	0.21	120.10	350	3.36
1 1/2"	1.49	0.84	1.94	0.62	1.90	1.61	4.56	2.16	9.86	3.93	3.11	0.94	0.64	0.62	0.39	F05	0.25	201.32	350	4.61
2"	1.96	1.01	2.44	0.68	2.37	2.06	5.35	2.75	9.86	4.21	3.38	0.94	0.64	0.62	0.39	F05	0.25	348.60	350	7.03
2 1/2"	2.55	1.18	3.01	0.78	2.87	2.46	6.04	3.54	12.65	4.98	4.05	1.10	0.70	0.78	0.55	F07	M8	631.37	230	18.24
3"	3.15	1.31	3.52	0.78	3.50	3.06	7.08	4.13	12.65	5.41	4.48	1.10	0.70	0.78	0.55	F07	M8	1009.48	230	29.45
4"	3.93	1.54	4.52	0.78	4.50	4.02	8.54	5.11	15.01	6.16	5.39	1.35	0.86	0.94	0.70	F10	M10	1577.34	230	46.79





## SERIES 710190 - 710061 - 710062 STAINLESS STEEL 3-PC BALL VALVE

3 piece stainless steel ball valve.

- Full port sizes 1/4" to 4".
- Blow out proof stem, adjustable stem packing.
- ISO 5211 mounting pad with double "D" stem.
- 100% electronically tested in the open and closed position at 80 psi.
- TUV T.A. Luft approved.
- Steam pressure to 250 psi.
- 25% carbon filled P.T.F.E. ball seats.
- Temperature range: -4°F to 406° F.

710190: NPT THREADED - ANSI B1.20.1 CONNECTIONS.

710061: SOCKET WELD.

710062: BUTT WELD.

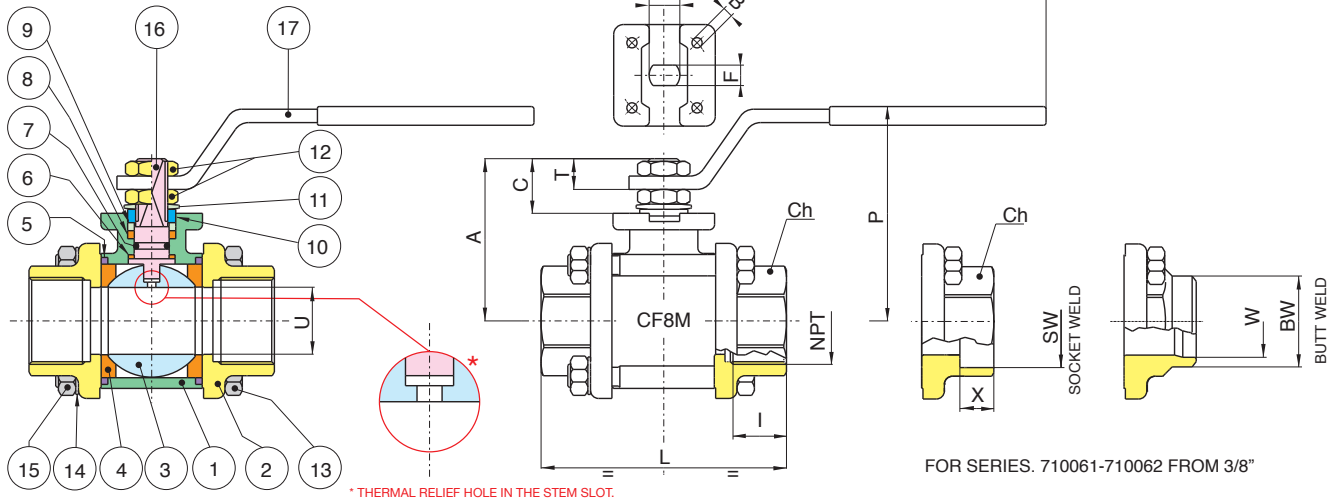
**FOR STEAM**

\* On request available with gas antistatic device.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

MAXIMUM WORKING PRESSURE 250 psi

STEAM PRESSURE IN psi	15	29	44	58	73	87	102	116	131	145	160	174	189	203	220
STEAM TEMPERATURE IN °F	212	248	271	289	306	316	329	338	347	356	363	370	376	383	388



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	2
3	BALL	AISI316	1
4	BALL SEAT	R.P.T.F.E	2
5	O-RING	FKM	2
6	STEM SEAL	R.P.T.F.E	1
7	O-RING	FKM (Viton®)	1
8	STEM SEAL	R.P.T.F.E	1
9	PACKING GLAND	AISI 303 (1/4" - 2") STEEL (2 1/2" - 4")	1
10	END STOP	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	2
11	SPRING WASHER	STEEL (2 1/2" - 4")	2
12	NUT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	2
13	BOLT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
14	WASHER	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
15	NUT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
16	STEM	AISI 316	1
17	HANDLE	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	1

SIZE	U	I	SW	X	BW	W	L	CH	R	P	A	C	T	E	F	ISO 5211	B	Cv	psi	Weight Lbs
1/4"	0.39	0.43	-	-	-	-	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	6.36	250	0.61
3/8"	0.39	0.44	0.71	0.37	0.67	0.49	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	9.83	250	0.61
1/2"	0.59	0.59	0.88	0.37	0.83	0.62	2.55	1.06	5.17	2.51	1.85	0.59	0.39	0.39	0.27	F03	0.23	22.21	250	0.88
3/4"	0.78	0.64	1.09	0.43	1.05	0.82	2.99	1.25	5.17	2.67	2.02	0.59	0.39	0.39	0.27	F04	0.21	40.50	250	1.32
1"	0.98	0.75	1.35	0.50	1.31	1.04	3.62	1.61	6.87	3.09	2.36	0.76	0.49	0.47	0.31	F04	0.23	74.63	250	2.42
1 1/4"	1.25	0.84	1.70	0.56	1.66	1.38	4.19	1.96	6.87	3.28	2.53	0.76	0.49	0.47	0.31	F04	0.21	120.10	250	3.36
1 1/2"	1.49	0.84	1.94	0.62	1.90	1.61	4.56	2.16	9.86	3.93	3.11	0.94	0.64	0.62	0.39	F05	0.25	201.32	250	4.61
2"	1.96	1.01	2.44	0.68	2.37	2.06	5.35	2.75	9.86	4.21	3.38	0.94	0.64	0.62	0.39	F05	0.25	348.60	250	7.03
2 1/2"	2.55	1.18	3.01	0.78	2.87	2.46	6.04	3.54	12.65	4.98	4.05	1.10	0.70	0.78	0.55	F07	M8	631.37	250	18.24
3"	3.15	1.31	3.52	0.78	3.50	3.06	7.08	4.13	12.65	5.41	4.48	1.10	0.70	0.78	0.55	F07	M8	1009.48	250	29.45
4"	3.93	1.54	4.52	0.78	4.50	4.02	8.54	5.11	15.01	6.16	5.39	1.35	0.86	0.94	0.70	F10	M10	1577.34	250	46.79



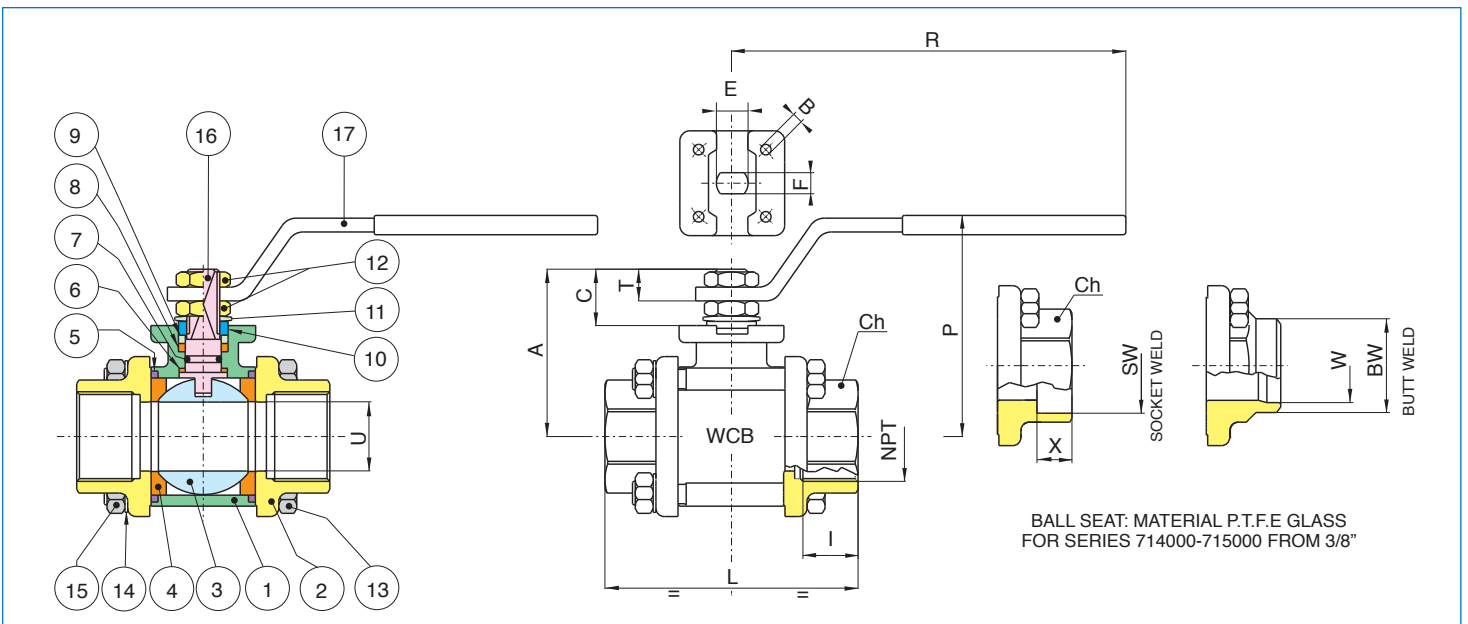




## SERIES 710003 - 714000 - 715000 CARBON STEEL 3-PC BALL VALVE

- 3 piece carbon steel ball valve, stainless steel ball and stem.
- Full port sizes 1/4" to 4".
  - Pressure rating 1000 psi WOG, 150 psi steam.
  - Temperature -4° F to +366° F.
  - Blow out proof stem, adjustable stem packing.
  - P.T.F.E. seats, packing and thrust washer.
  - ISO 5211 mounting pad with double "D" stem.
  - 100% electronically tested in the open and closed position at 80 psi.
  - TUV T.A. Luft approved.
- 710003: NPT THREADED - ANSI B1.20.1 CONNECTIONS.  
714000: SOCKET WELD.  
715000: BUTT WELD.

\* On request available with gas antistatic device.  
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	ASTM A105- WCB	1
2	END CONNECTION	ASTM A105- WCB	2
3	BALL	AISI 304-CF8	1
4	BALL SEAT	P.T.F.E	2
5	SEAL	P.T.F.E	2
6	STEM SEAL	P.T.F.E	1
7	O-RING	FKM (Viton®)	1
8	STEM SEAL	P.T.F.E	1
9	PACKING GLAND	STEEL	1
10	END STOP	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	2 1
11	SPRING WASHER	STEEL (2 1/2"-4")	2
12	NUT	STEEL	2
13	BOLT	STEEL(1/4" - 2") STEEL (2 1/2" - 4")	4 6
14	WASHER	STEEL(1/4" - 2") STEEL (2 1/2" - 4")	4 6
15	NUT	STEEL(1/4" - 2") STEEL (2 1/2" - 4")	4 6
16	STEM	AISI 304	1
17	HANDLE	STEEL	1

SIZE	U	I	SW	X	BW	W	L	CH	R	P	A	C	T	E	F	ISO 5211	B	Cv	psi	Weight Lbs
1/4"	0.39	0.43	-	-	-	-	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	6.36	1000	0.61
3/8"	0.39	0.44	0.71	0.37	0.67	0.49	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	9.83	1000	0.61
1/2"	0.59	0.59	0.88	0.37	0.83	0.62	2.55	1.06	5.17	2.51	1.85	0.59	0.39	0.39	0.27	F03	0.23	22.21	1000	0.88
3/4"	0.78	0.64	1.09	0.43	1.05	0.82	2.99	1.25	5.17	2.67	2.02	0.59	0.39	0.39	0.27	F04	0.21	40.50	600	1.32
1"	0.98	0.75	1.35	0.50	1.31	1.04	3.62	1.61	6.87	3.09	2.36	0.76	0.49	0.47	0.31	F04	0.23	74.63	600	2.42
1 1/4"	1.25	0.84	1.70	0.56	1.66	1.38	4.19	1.96	6.87	3.28	2.53	0.76	0.49	0.47	0.31	F04	0.21	120.10	350	3.36
1 1/2"	1.49	0.84	1.94	0.62	1.90	1.61	4.56	2.16	9.86	3.93	3.11	0.94	0.64	0.62	0.39	F05	0.25	201.32	350	4.61
2"	1.96	1.01	2.44	0.68	2.37	2.06	5.35	2.75	9.86	4.21	3.38	0.94	0.64	0.62	0.39	F05	0.25	348.60	350	7.03
2 1/2"	2.55	1.18	3.01	0.78	2.87	2.46	6.04	3.54	12.65	4.98	4.05	1.10	0.70	0.78	0.55	F07	M8	631.37	230	18.24
3"	3.15	1.31	3.52	0.78	3.50	3.06	7.08	4.13	12.65	5.41	4.48	1.10	0.70	0.78	0.55	F07	M8	1009.48	230	29.45
4"	3.93	1.54	4.52	0.78	4.50	4.02	8.54	5.11	15.01	6.16	5.39	1.35	0.86	0.94	0.70	F10	M10	1577.34	230	46.79





## SERIES 710085 - 710064 - 710065 CARBON STEEL 3-PC BALL VALVE

- 3 piece carbon steel ball valve, stainless steel ball and stem.
- Full port sizes 1/4" to 4".
  - Blow out proof stem, adjustable stem packing.
  - ISO 5211 mounting pad with double "D" stem.
  - 100% electronically tested in the open and closed position at 80 psi.
  - TUV T.A. Luft approved.
  - Steam pressure to 250 psi.
  - Temperature range: -4° F to 406° F.
  - 25% carbon filled P.T.F.E ball seats.

710085: NPT THREADED - ANSI B1.20.1 CONNECTIONS.

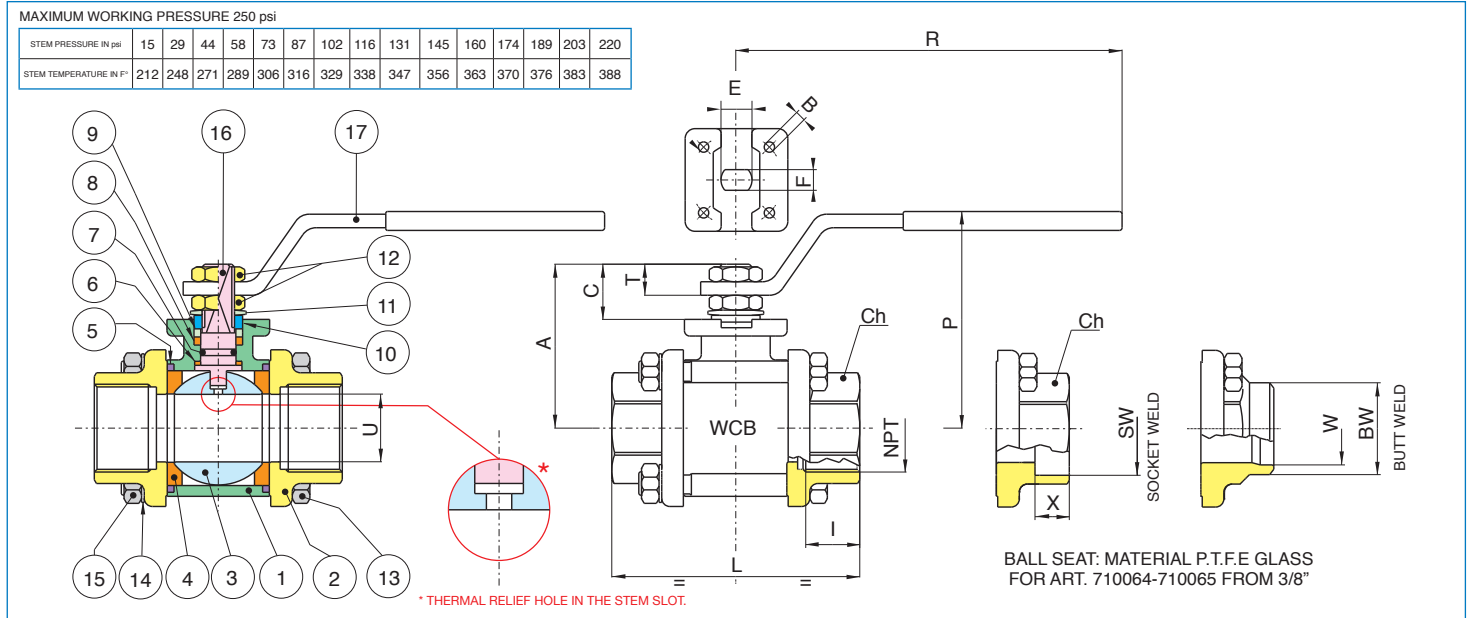
710064: SOCKET WELD.

710065: BUTT WELD.

**FOR STEAM**

\* On request available with gas antistatic device.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	ASTM A105- WCB	1
2	END CONNECTION	ASTM A105- WCB	2
3	BALL	AISI 304-CF8	1
4	BALL SEAT	R.P.T.F.E	2
5	SEAL	VITON	2
6	STEM SEAL	R.P.T.F.E	1
7	O-RING	FKM (Viton®)	1
8	STEM SEAL	R.P.T.F.E	1
9	PACKING GLAND	STEEL	1
10	END STOP	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	2 1
11	SPRING WASHER	STEEL (2 1/2"-4")	2
12	NUT	STEEL	2
13	BOLT	STEEL(1/4" - 2") STEEL (2 1/2" - 4")	4 6
14	WASHER	STEEL(1/4" - 2") STEEL (2 1/2" - 4")	4 6
15	NUT	STEEL(1/4" - 2") STEEL (2 1/2" - 4")	4 6
16	STEM	AISI 304	1
17	HANDLE	STEEL	1

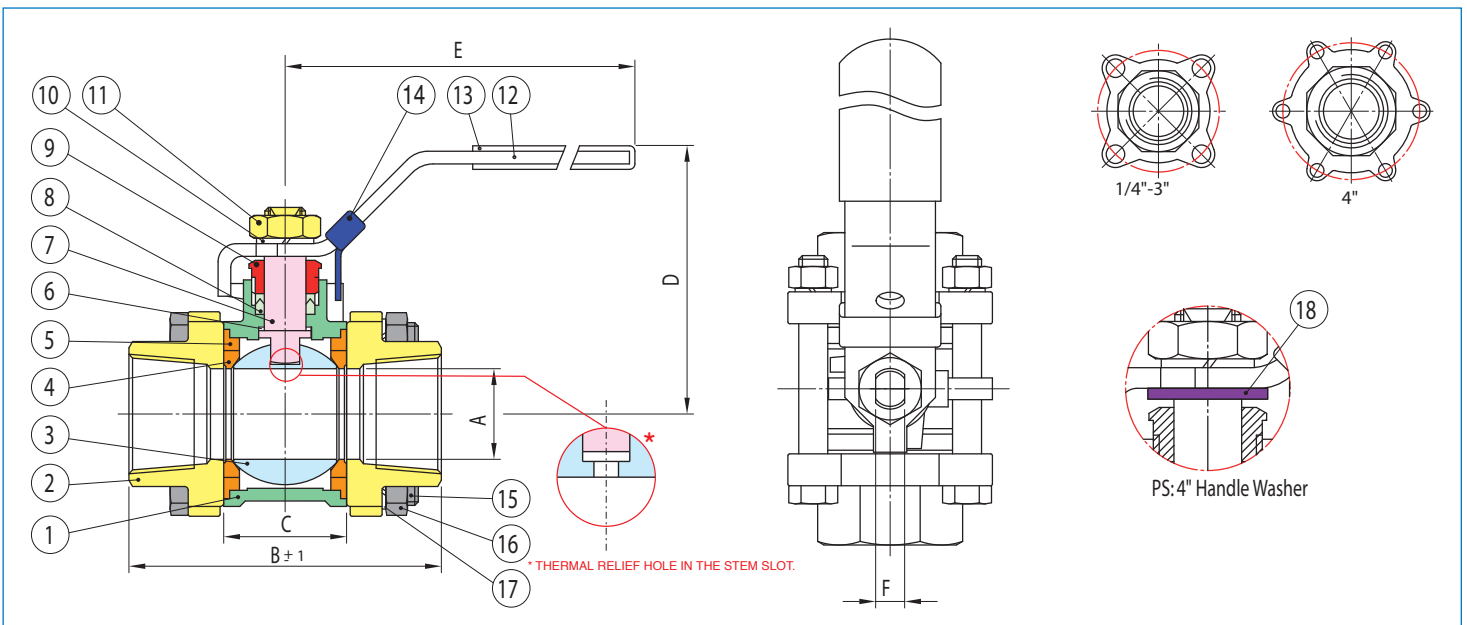
SIZE	U	I	SW	X	BW	W	L	CH	R	P	A	C	T	E	F	ISO 5211	B	Cv	psi	Weight Lbs
1/4"	0.39	0.43	-	-	-	-	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	6.36	250	0.61
3/8"	0.39	0.44	0.71	0.37	0.67	0.49	2.24	0.86	4.35	1.96	1.37	0.53	0.35	0.31	0.19	-	-	9.83	250	0.61
1/2"	0.59	0.59	0.88	0.37	0.83	0.62	2.55	1.06	5.17	2.51	1.85	0.59	0.39	0.39	0.27	F03	0.23	22.21	250	0.88
3/4"	0.78	0.64	1.09	0.43	1.05	0.82	2.99	1.25	5.17	2.67	2.02	0.59	0.39	0.39	0.27	F04	0.21	40.50	250	1.32
1"	0.98	0.75	1.35	0.50	1.31	1.04	3.62	1.61	6.87	3.09	2.36	0.76	0.49	0.47	0.31	F04	0.23	74.63	250	2.42
1 1/4"	1.25	0.84	1.70	0.56	1.66	1.38	4.19	1.96	6.87	3.28	2.53	0.76	0.49	0.47	0.31	F04	0.21	120.10	250	3.36
1 1/2"	1.49	0.84	1.94	0.62	1.90	1.61	4.56	2.16	9.86	3.93	3.11	0.94	0.64	0.62	0.39	F05	0.25	201.32	250	4.61
2"	1.96	1.01	2.44	0.68	2.37	2.06	5.35	2.75	9.86	4.21	3.38	0.94	0.64	0.62	0.39	F05	0.25	348.60	250	7.03
2 1/2"	2.55	1.18	3.01	0.78	2.87	2.46	6.04	3.54	12.65	4.98	4.05	1.10	0.70	0.78	0.55	F07	M8	631.37	250	18.24
3"	3.15	1.31	3.52	0.78	3.50	3.06	7.08	4.13	12.65	5.41	4.48	1.10	0.70	0.78	0.55	F07	M8	1009.48	250	29.45
4"	3.93	1.54	4.52	0.78	4.50	4.02	8.54	5.11	15.01	6.16	5.39	1.35	0.86	0.94	0.70	F10	M10	1577.34	250	46.79





**SERIES 610LL FNPT - 710LL FNPT**  
**SERIES 611LL SW - 711LL SW**  
**SERIES 612LL BW - 712LL BW**  
**CARBON STEEL    STAINLESS STEEL**

- 3 piece ball valve, with latch locking lever.
- Full port sizes 1/4" to 4".
  - Pressure rating 1/4" to 2" 1000 psi, 2 1/2" to 4" 800 psi - 150 psi steam.
  - Temperature range -60°F + 440°F.
  - Blow out proof stem, adjustable multi-layer V-ring stem packaging.
  - TFM 1600 seats, P.T.F.E. packing and thrust washer.

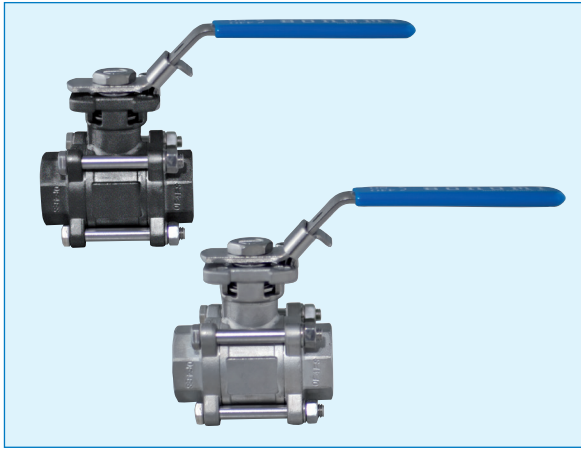


N POS	PART NAME	MATERIAL	N POS
1	BODY	WCB/CF8M	1
2	END CAP	WCB/CF8M	2
3	BALL	SS316	1
4	SEAT	TFM1600	2
5	JOIN GASKET	P.T.F.E	2
6	STEM SEAL	P.T.F.E	1
7	STEM	SS316	1
8	STEM PACKING	P.T.F.E	*
9	GLAND NUT	SS304	1
10	STEM WASHER	SS304	1
11	STEM NUT	SS304	1
12	HANDLE	SS304	1
13	HANDLE SLEEVE	VINYL	1
14	LOCKING DEVICE	SS304	1
15	BOLT	SS304	*
16	BOLT NUT	SS304	*
17	BLOT WASHER	SS304	*
18	HANDLE WASHER	SS304	1

SIZE	A	B	C	D	E	F	Cv	Weight Lbs
1/4"	0.46	2.23	0.73	2.13	4.02	0.20	8	0.77
3/8"	0.50	2.23	0.73	2.13	4.02	0.20	10	0.77
1/2"	0.59	2.59	0.93	2.52	5.20	0.26	15	1.23
3/4"	0.79	3.00	1.10	2.64	5.20	0.26	34	1.65
1"	0.98	3.39	1.34	2.95	6.58	0.32	56	2.29
1 1/4"	1.26	4.05	1.67	3.15	6.58	0.32	85	3.84
1 1/2"	1.50	4.70	2.09	3.54	7.56	0.38	125	5.31
2"	1.97	5.17	2.54	3.86	7.56	0.38	250	8.07
2 1/2"	2.56	6.46	3.43	5.39	9.92	0.47	320	15.65
3"	3.15	7.19	3.90	5.79	9.92	0.47	580	23.15
4"	3.94	9.28	5.00	6.89	11.10	0.59	1020	45.78

\* Depending on size.



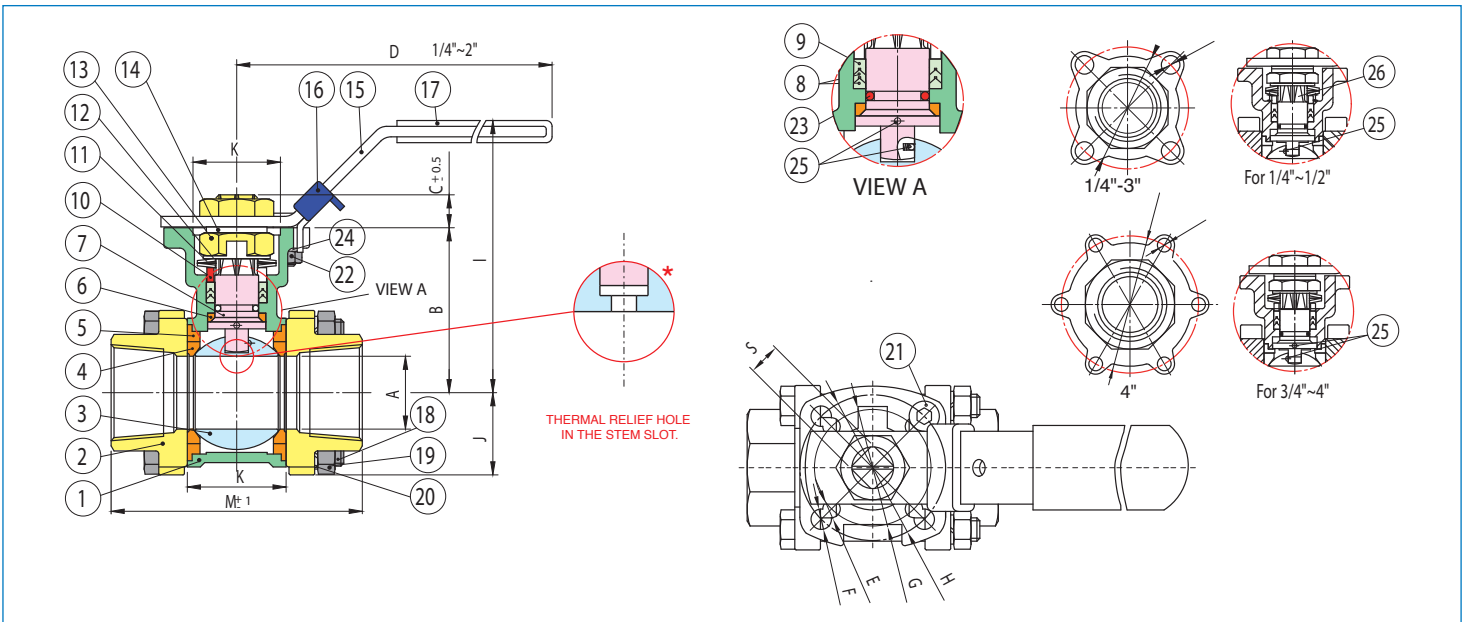


## SERIES 620LL FNPT - 720LL FNPT SERIES 621LL SW - 721LL SW SERIES 622LL BW - 722LL BW

**CARBON STEEL      STAINLESS STEEL**

3-piece direct mount ball valve with latch locking handle.

- Full port sizes 1/4" to 4".
- ISO 5211 mounting pad/square stem.
- Pressure rating 1/4" to 2" 1000 psi, 2 1/2" to 4" 800 psi - 150 psi steam.
- Temperature range -60°F to +440° F.
- Blow out proof stem, multi-layer V-ring adjustable stem packing.
- TFM 1600 seats, P.T.F.E. packing and thrust washer.



N POS	PART NAME	MATERIAL	N POS
1	BODY	CF8M/WCB	1
2	END CAP	CF8M/WCB	2
3	BALL	SS316	1
4	SEAT	TFM1600	2
5	JOIN GASKET	P.T.F.E	2
6	STEM SEAL	R.T.F.E	1
7	STEM	SS316	1
8	STEM PACKING	P.T.F.E	1
9	STEM PACKING	TFM	*
10	GLAND	SS304	1
11	BELLEVILLE WASHER	SS304	2
12	LOCK SADDLE	SS304	1
13	STEM NUT	SS304	2
14	STEM WASHER	SS304	1
15	HANDLE	SS304	1
16	LOCKING DEVICE	SS304	1
17	HANDLE SLEEVE	VINYL	1
18	BOLT	SS304	*
19	BOLT NUT	SS304	*
20	BOLT WASHER	SS304	*
21	STOP PIN	SS304	1
22	PIN NUT	SS304	1
23	O-RING	VITON	1
24	WASHER	SS304	1
25	ANTI-STATIC DEVICE	SS316	1
26	SPRING	SS316	1

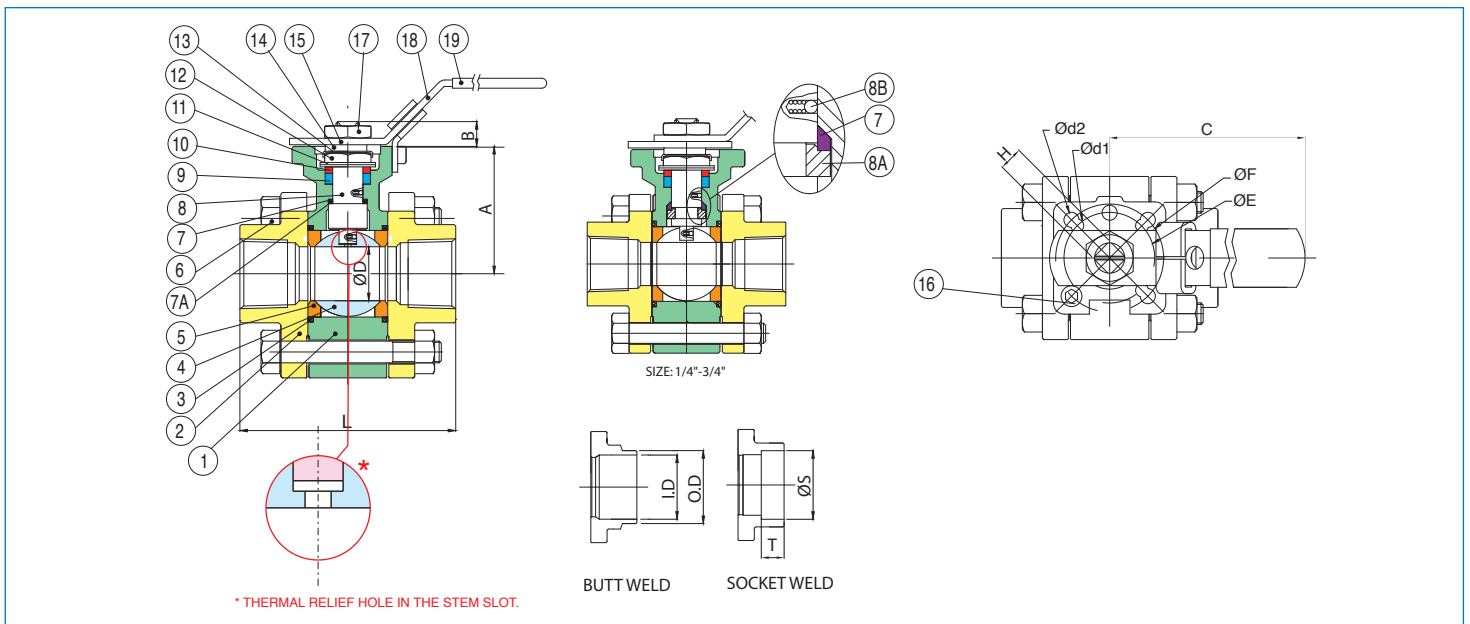
SIZE	ØA	B	C	D	ØE	ØF	ØG	ØH	I	J	K	L	M	ØN	ØO	S in	S mm	Cv	Torque in-Lbs	ISO 5211
1/4"	0.46	1.66	0.25	5.47	0.24	0.24	1.42	1.65	3.03	0.92	0.93	0.98	2.51	1.81	0.34	0.35	9	8	55	F03/F04
3/8"	0.50	1.66	0.25	5.47	0.24	0.24	1.42	1.65	3.03	0.92	0.93	0.98	2.51	1.81	0.34	0.35	9	10	55	F03/F04
1/2"	0.59	1.66	0.25	5.47	0.24	0.24	1.42	1.65	3.03	0.92	0.93	0.98	2.59	1.81	0.34	0.35	9	15	55	F03/F04
3/4"	0.79	1.89	0.27	5.47	0.24	0.24	1.42	1.65	3.27	1.00	1.10	0.98	3.00	2.05	0.34	0.35	9	34	69	F03/F04
1"	0.98	2.23	0.44	6.45	0.24	0.28	1.65	1.97	3.78	1.11	1.34	1.18	3.39	2.36	0.34	0.43	11	56	127	F04/F05
1 1/4"	1.26	2.34	0.44	6.45	0.24	0.28	1.65	1.97	3.94	1.36	1.67	1.18	4.05	2.89	0.43	0.43	11	85	173	F04/F05
1 1/2"	1.50	3.05	0.56	8.47	0.30	0.35	1.97	2.76	5.00	1.55	2.10	1.38	4.70	3.37	0.47	0.55	14	125	243	F05/F07
2"	1.97	3.35	0.56	8.47	0.30	0.35	1.97	2.76	5.28	1.86	2.54	1.38	5.17	4.09	0.52	0.55	14	250	346	F05/F07
2 1/2"	2.56	4.28	0.67	11.81	0.39	0.47	2.76	4.02	6.58	2.30	3.43	2.17	6.46	5.12	0.60	0.67	17	320	518	F07/F010
3"	3.15	4.63	0.67	14.57	0.39	0.47	2.76	4.02	6.93	2.72	3.90	2.17	7.19	6.12	0.68	0.67	17	580	806	F07/F010
4"	3.94	5.22	0.67	14.57	0.39	0.47	2.76	4.02	7.56	3.76	5.00	2.17	9.28	7.40	0.68	0.67	17	1020	1094	F07/F010



## SERIES 630LL FNPT - 730LL FNPT SERIES 631LL SW - 731LL SW SERIES 632LL BW - 732LL BW

### CARBON STEEL STAINLESS STEEL

- Direct mount high performance 3 piece full port ball valves with locking lever.
- Class 900 sizes 1/4" to 2", class 600 sizes 2 1/2" - 4".
  - Carbon steel-2220 psi, stainless steel-2160 psi (1/4"-2"), 1500 psi (2 1/2"-4").
  - ISO 5211 mounting pad/square stem.
  - TFM-4215 ball seats.
  - Standard latch locking handle.
  - Conforms to ANSI 16.34, ANSI B1.20.1 thread depths, NACE MR0175.
  - Fire Safe to API 607-6th edition.
  - Grounded ball and stem.
  - Standard 316 stainless steel ball and stem in carbon steel models.
  - Temperature range: -50° F to 550° F.



N POS	PART NAME	MATERIAL	N POS
1	BODY	CF8M/WCB	1
2	END CAP	CF8M/WCB	2
3	GASKET (BODY)	TFM	2
4	BALL	SS 316	1
5	BALL SEATS	TFM/DERLIN/PEEK	2
6	BOLTS	SS 304	*
7	THRUST WASHER	TFM	1
7A	THRUST WASHER	PEEK	1
8	STEM	SS 316	1
8A	HALF SPILT RING	SS 316	1
8B	ANTI-STATIC	SS 316	1
9	STEM PACKING	TFM	1
10	GLAND WASHER	SS 304	1
11	DISK WASHER	SS 301	1
12	STEM NUT	SS 304	1
13	NUT STOP	SS 304	1
14	SPACE WASHER	SS 304	1
15	PLATER	SS 304	1
16	STOP IN	SS 304	1
17	HANDLE NUT	SS 304	1
18	HANDLE	SS 304	1
19	HANDLE COVER	PLASTISOL	1

\* Depending on the size.

SIZE	A	B	ØD	Ød1	Ød2	ISO 5211		H mm	L	SW		BW(40#)		Torque in-Lbs	Cv	Weight Lbs
						ØE	ØF			S	T	O.D	I.D			
1/4"	1.81	0.37	0.43	0.24	0.24	F03	F04	9	2.61	0.56	0.44	0.55	0.36	71	8.5	1.5
3/8"	1.81	0.37	0.49	0.24	0.24	F03	F04	9	2.61	0.69	0.44	0.67	0.50	71	8.5	1.5
1/2"	1.89	0.37	0.59	0.24	0.24	F03	F04	9	2.76	0.86	0.50	0.84	0.63	107	21	2.2
3/4"	2.08	0.47	0.79	0.24	0.24	F04	F05	11	3.62	1.07	0.56	1.05	0.82	133	50	3.8
1"	2.32	0.47	0.98	0.24	0.27	F04	F05	11	4.13	1.33	0.63	1.31	1.05	160	90	5.6
1 1/4"	2.44	0.57	1.26	0.27	0.36	F05	F07	14	4.37	1.67	0.69	1.66	1.38	222	110	7.0
1 1/2"	2.75	0.57	1.49	0.27	0.36	F05	F07	14	4.88	1.92	0.72	1.91	1.61	416	240	11
2"	3.54	0.75	1.97	0.36	0.45	F07	F10	17	5.91	2.41	0.84	2.38	2.06	736	400	22
2 1/2"	4.13	0.71	2.50	0.36	0.45	F07	F10	17	6.50	2.91	0.87	2.88	2.47	1461	700	32
3"	4.68	0.98	3.07	0.45	0.53	F10	F12	22	7.68	3.54	1.00	3.51	3.07	2213	980	44
4"	5.67	0.98	3.89	0.45	0.53	F10	F12	22	9.65	4.54	1.26	4.51	4.02	3368	1700	87





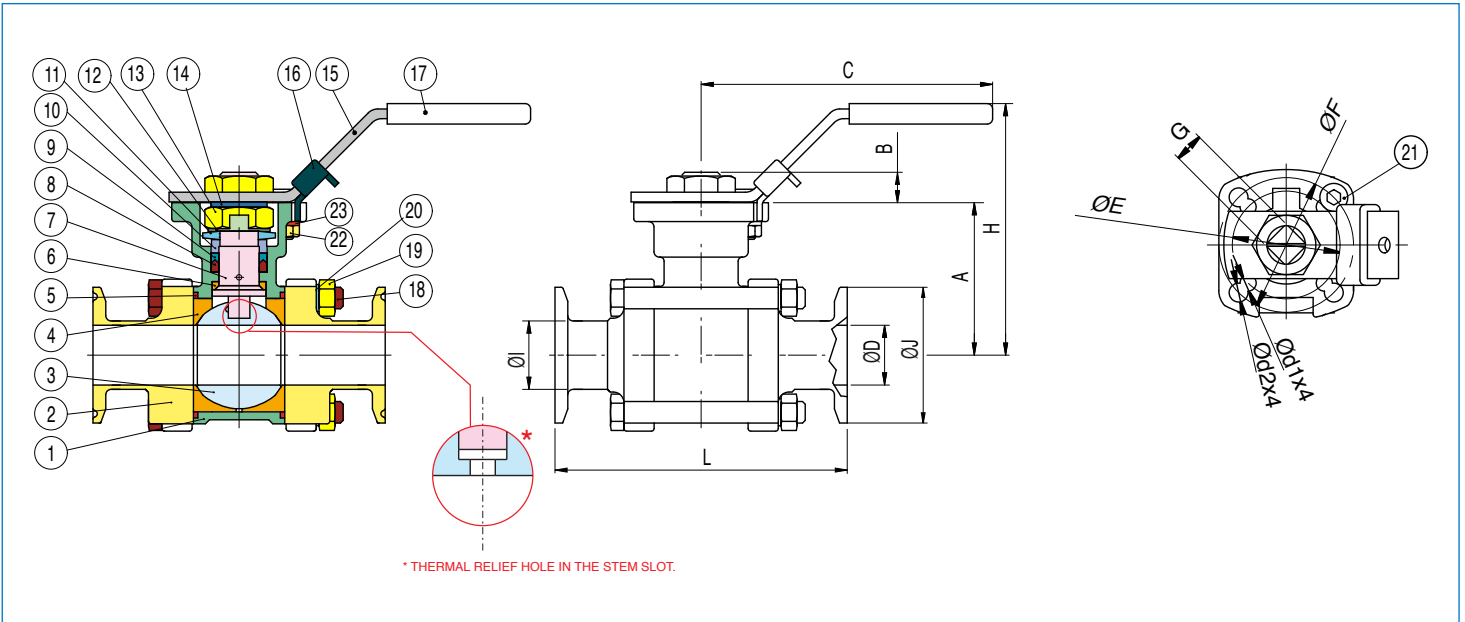
## SERIES 770 NON-CAVITY FILLED

## SERIES 771 CAVITY FILLED

# STAINLESS STEEL SANITARY BALL VALVE

Stainless steel, 3 piece direct mount, sanitary full port ball valves with latch locking lever.

- Blow-out proof stem.
- ISO 5211 direct mount pad/square stem.
- Working pressure 1000 psi WOG (1/2" to 2") 800 psi WOG (2 1/2" to 4").
- Temperature range -20° F to 450° F.
- Antistatic Device.
- International polishing to Ra 15 micron.
- Tri-clamp style end connections.
- Ball valves comply with standards: ISO 5211, ANSI B 16.11, MSS SP-25, MSS SP-55.
- Maintenance free live loaded double sealing stem.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF3M	1
2	END CONNECTION	CF3M	2
3	BALL	SS316L	1
4	SEATS	P.T.F.E	2
5	JOINT GASKET	P.T.F.E	2
6	STEM SEAL	R.T.F.E	1
7	STEM	SS316L	1
8	GLAND PACKING	P.T.F.E	2
9	GLAND PACKING	P.T.F.E+GLASS	1
10	GLAND BUSH	SS304	1
11	BELLEVILLE WASHER	SS301	2
12	STOP WASHER	SS304	1
13	STEM NUT	SS304	2
14	STEM WASHER	SS304	1
15	HANDLE	SS304	1
16	LOCKING DEVICE	SS304	1
17	HANDLE SLEEVE	VINYL	1
18	BOLT	SS304	4
19	BOLT NUT	SS304	4
20	BOLT WASHER	SS304	4
21	STOP PIN	SS304	1
22	PIN NUT	SS304	1
23	WASHER	SS304	1

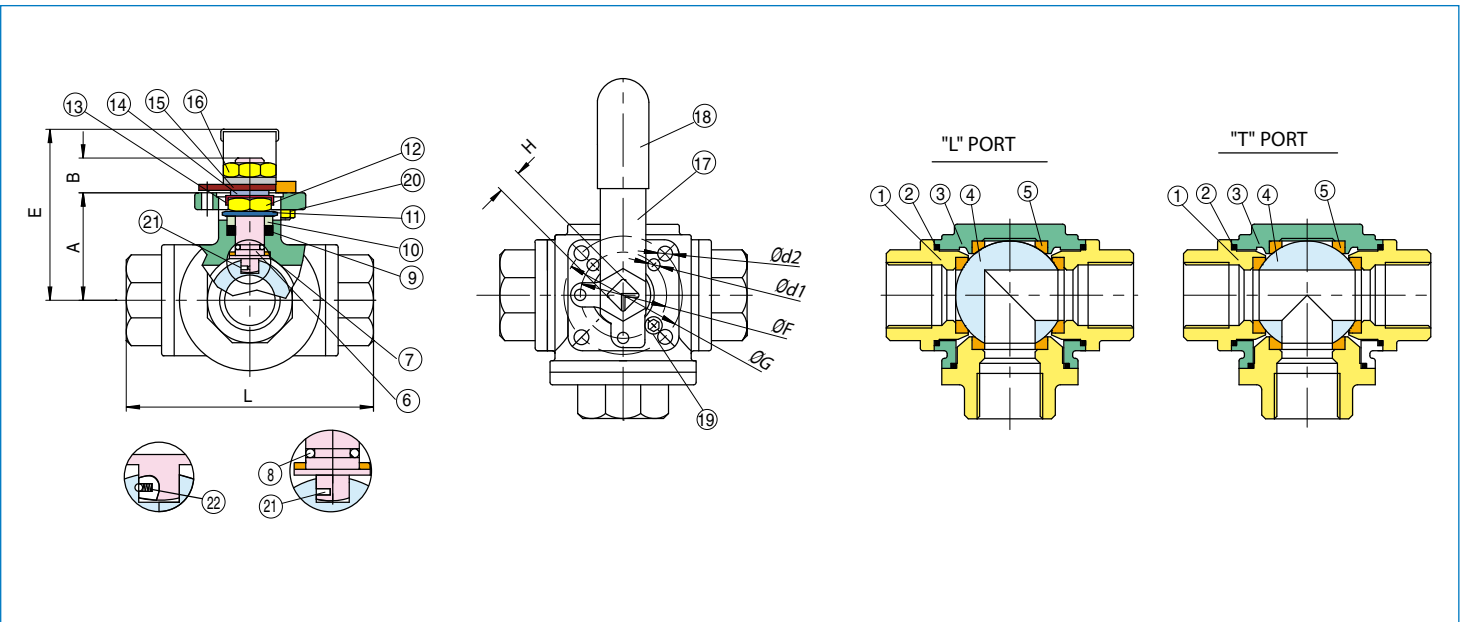
SIZE	ØD	ØI	ØJ	A	B	C	ØE	ØF	G mm	L	H	Ød1	Ød2	psi	ISO 5211	Weight Lbs
1/2"	0.37	0.50	0.99	1.65	0.25	5.47	1.41	1.65	9	3.50	3.03	0.23	0.23	1000	F03/F04	1.67
3/4"	0.62	0.74	0.99	1.88	0.27	5.47	1.41	1.65	9	4.00	3.26	0.23	0.23	1000	F03/F04	1.91
1"	0.87	1.00	1.98	2.22	0.44	6.49	1.65	1.96	11	4.50	3.77	0.23	0.27	1000	F04/F05	3.17
1 1/2"	1.37	1.5	1.98	3.05	0.55	8.46	1.96	2.75	14	5.51	5.00	0.29	0.35	1000	F05/F07	7.24
2"	1.87	2.00	2.51	3.35	0.55	8.46	1.96	2.75	14	6.25	5.27	0.29	0.35	1000	F05/F07	10.10
2 1/2"	2.37	2.50	3.04	4.27	0.67	11.81	2.75	4.01	17	6.85	6.57	0.39	0.47	800	F05/F07	21.80
3"	2.87	3.00	3.57	4.63	0.71	14.56	2.75	4.01	17	7.60	6.92	0.39	0.47	800	F05/F07	29.00
4"	3.83	4.00	4.68	5.21	0.67	14.56	2.75	4.01	17	8.89	7.55	0.39	0.47	800	F05/F07	46.50



**SERIES 955N (T) - 965N (L) • STANDARD PORT**  
**SERIES 956N (T) - 966N (L) • FULL PORT**  
**STAINLESS STEEL DIRECT MOUNT 3 WAY BALL VALVE**

Direct mount stainless steel three way ball valve FNPT threaded, full and reduced port full port sizes 1/4" to 2" - standard port sizes 1/2" to 3".

- Self adjusting stem packing.
- Blow-out proof stem design.
- 100% air tested under water at 80 psi.
- Working pressure is 1000 psi (1/4" to 1"), 800 psi (1 1/4" - 3").
- Temperature range -4° F to 450° F.
- ISO 5211 mounting pad/square stem.
- Locking handle.



N.PCS	PART NAME	MATERIAL	N.PCS
1	END CAP	A351 CF8M	3
2	GASKET	P.T.F.E.	3
3	BODY	A351 CF8M	1
4	BALL	SS316	1
5	SEATS	R.T.F.E.	4
6	STEM	SS316	1
7	STEM SEAL	R.P.T.F.E.	1
8	O-RING	FKM (Viton®)	1
9	STEM PACKING	P.T.F.E.	1
10	GLAND	SS304	1
11	DISK WASHER	SS301	2
12	STEM NUT	SS304	1
13	NUT STOP	SS304	1
14	SPACE WASHER	SS304	1
15	PLATE STOP	SS304	1
16	HANDLE NUT	SS304	1
17	HANDLE	SS304	1
18	HANDLE SLEEVE	VINYL	1
19	STOPPER	SS304	1
20	PIN NUT	SS304	1
21	INSERT PIN	SS316	1
22	ANTISTATIC DEVICE	SS316	1

SIZE	SIZE		A	B	Ød1	Ød2	E	ØF	ØG	H mm	L	Port	psi	ISO5211	Weight Lbs 956-966	Weight Lbs 955-965	Torque in-Lbs
	FULL PORT	STANDARD PORT															
1/4"	-		1.45	0.40	0.23	0.23	2.44	1.41	1.65	9	2.83	0.43	1000	F03/F04	1.45	-	105
3/8"	1/2"		1.45	0.40	0.23	0.23	2.44	1.41	1.65	9	2.83	0.47	1000	F03/F04	1.45	1.45	105
1/2"	3/4"		1.65	0.45	0.23	0.23	2.51	1.41	1.65	9	3.26	0.59	1000	F03/F04	1.90	1.90	138
3/4"	1"		1.65	0.59	0.23	0.27	3.22	1.65	1.96	11	3.89	0.78	1000	F04/F05	3.25	3.35	184
1"	1 1/4"		2.18	0.55	0.23	0.27	3.50	1.65	1.96	11	4.40	0.98	1000	F04/F05	4.90	4.80	323
1 1/4"	1 1/2"		2.48	0.64	0.27	0.36	3.85	1.96	2.75	14	4.92	1.25	800	F05/F07	7.10	7.45	461
1 1/2"	2"		2.88	0.62	0.27	0.36	4.25	1.96	2.75	14	5.86	1.49	800	F05/F07	11.80	11.60	633
2"	2 1/2"		3.63	0.96	-	0.36	5.19	-	2.75	14	6.64	1.97	800	F07	21.40	23.25	1037
-	3"		4.63	1.14	-	0.44	5.19	-	4.01	17	7.68	2.56	800	F10	-	23.23	1381

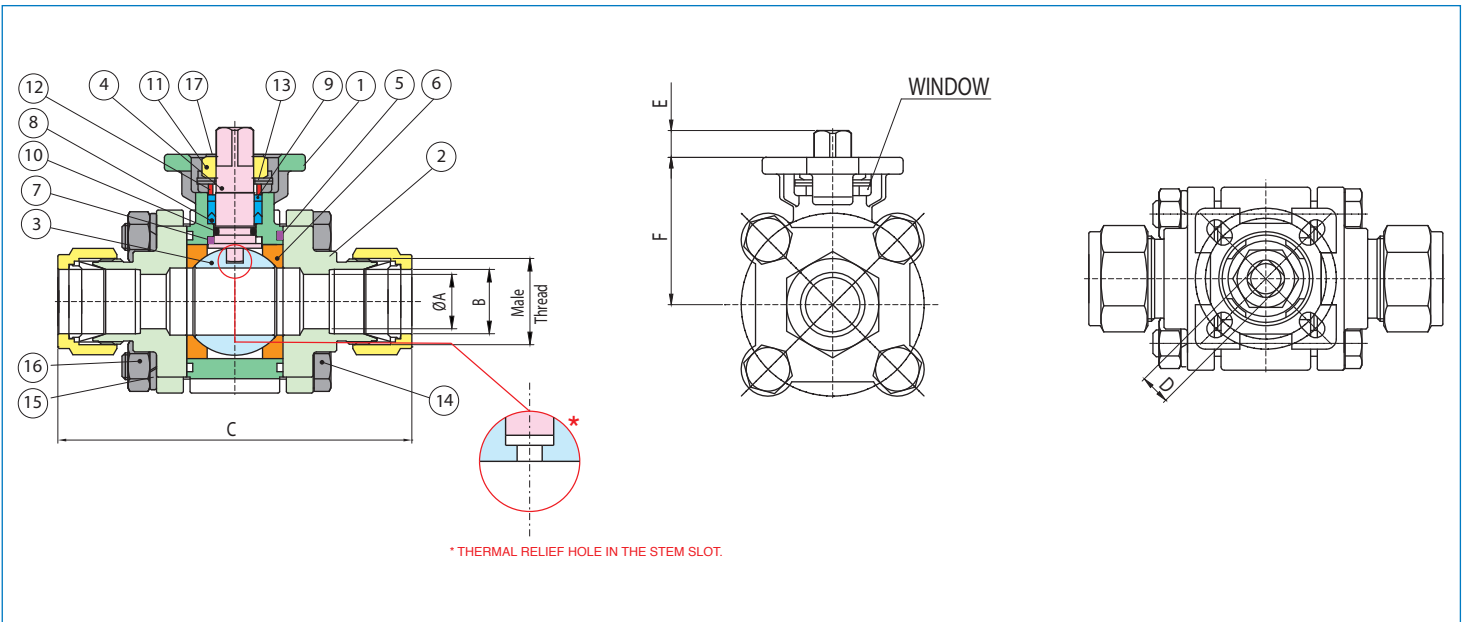
## SERIES 1300

### STAINLESS STEEL INSTRUMENTATION BALL



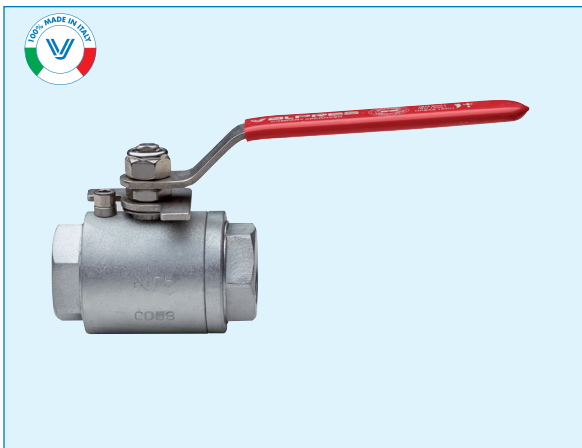
3 piece stainless steel standard port instrumentation ball, with locking lever valve.

- Standard port sizes 1/4" to 3/4".
- Working pressure to 2000 psi.
- Temperature range -4° F to 450° F.
- ISO 5211 mounting pad.
- Extremely high cycle life.
- Compression ends with heat treated ferrules.
- Latch locking handle.



N POS	PART NAME	MATERIAL	N POS
1	BODY	CF8M	1
2	END CAP	CF8M	2
3	BALL	SS316	1
4	STEM	SS316	1
5	PACKING	P.T.F.E	2
6	SEAT	TFM1600	2
7	STEM SEAL	P.T.F.E	1
8	V-RING PACKING	P.T.F.E	1 SET
9	BUSHING	50%SS-50%P.T.F.E	1
10	O-RING	FKM (Viton®)	1
11	STEM NUT	SS304	1
12	GLAND	SS304	1
13	BELLEVILLE WASHER	SS304	2
14	BOLT	SS304	4
15	WASHER	SS304	4
16	BOLT NUT	SS304	4
17	LOCK SADDLE	SS304	1

SIZE	ØA	B	C	D mm	E	F	ISO 5211	Cv	Torque in-Lbs	Weight Lbs
1/4"	0.18	0.26	3.74	9	0.35	1.60	F03/F04	5.3	46	0.8
3/8"	0.25	0.38	3.79	9	0.35	1.60	F03/F04	8	46	0.9
1/2"	0.37	0.51	4.02	9	0.35	1.60	F03/F04	19	46	0.9
3/4"	0.63	0.75	4.02	9	0.35	1.60	F03/F04	35	58	1.2



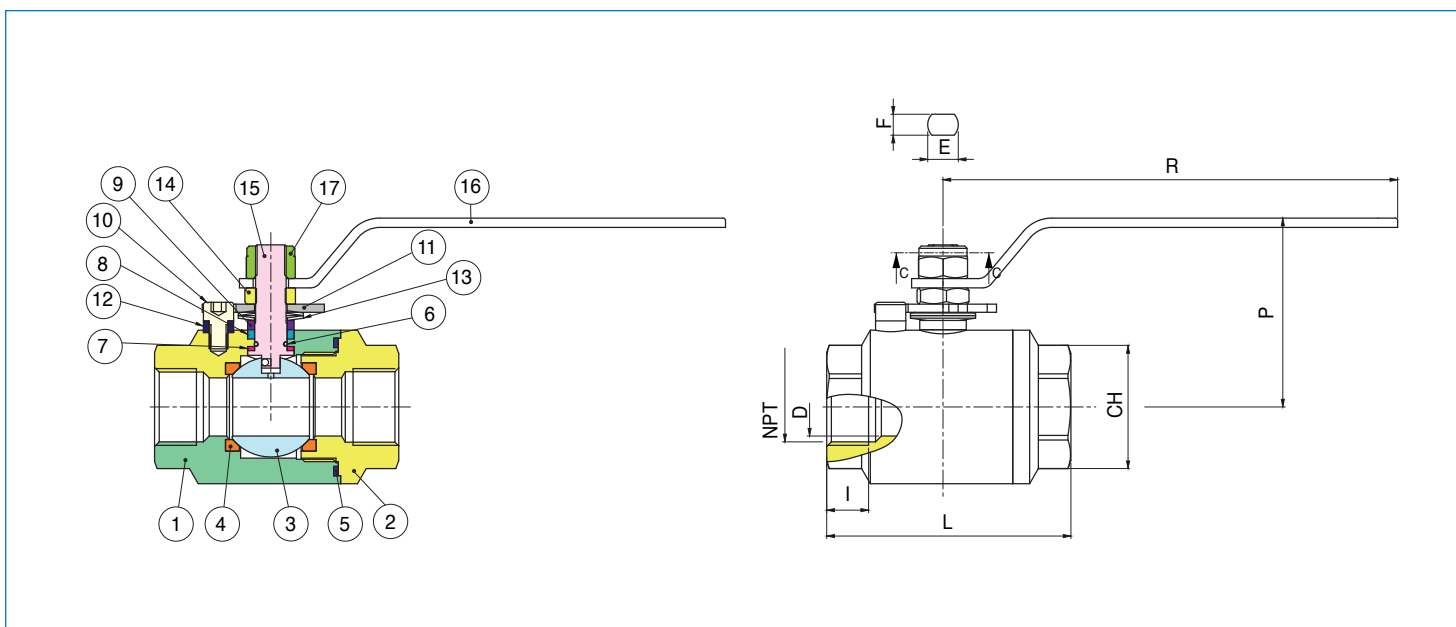
**SERIES 709001** STAINLESS STEEL (ANSI 316)

**SERIES 709101** CARBON STEEL (A105)

**HIGH PRESSURE BALL VALVE**

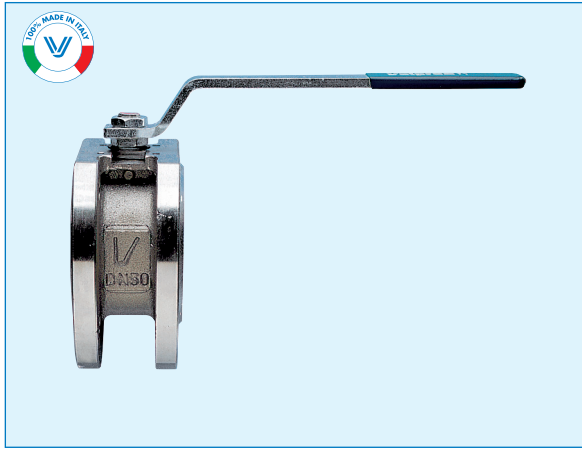
Bar stock ANSI class 800, FNPT threaded ball valve.

- Full port sizes 1/4" to 2".
- Temperature range -4° F to 366° F.
- Vacuum rating 10<sup>-3</sup> Torr.
- Antistatic device.



N POS	PART NAME	MATERIAL 709001	MATERIAL 709101	N POS
1	BODY	A182-F316 / F316L	ASTM-A105	1
2	END CONNECTION	A182-F316 / F316L	ASTM-A105	1
3	BALL	A182-F316	A182-F304	1
4	BALL SEAT	R.P.T.F.E	R.P.T.F.E	2
5	BODY SEAT	R.P.T.F.E	R.P.T.F.E	1
6	O-RING	FKM (VITON®)	FKM (VITON®)	1
7	THRUST WASHER	R.P.T.F.E	R.P.T.F.E	1
8	STEM SEAT	R.P.T.F.E	R.P.T.F.E	1
9	BUSH	STAINLESS STEEL	STAINLESS STEEL	1
10	SCREW	STAINLESS STEEL	STAINLESS STEEL	1
11	90° STOP	STAINLESS STEEL	STAINLESS STEEL	1
12	BUSH	STAINLESS STEEL	STAINLESS STEEL	2
13	SPRING WASHER	STAINLESS STEEL	CARBON STEEL	2
14	NUT	STAINLESS STEEL	STAINLESS STEEL	1
15	STEM	A182-F304	A182-F304	1
16	HANDLE	STAINLESS STEEL	STAINLESS STEEL	1
17	NUT	STAINLESS STEEL	STAINLESS STEEL	1

SIZE	D	I	L	R	P	E	F	CH	Cv	Weight Lbs
1/4"	0.39	0.39	2.76	5.24	2.20	M8	0.20	1.26	6.51	1.54
3/8"	0.39	0.39	2.76	5.24	2.20	M8	0.20	1.26	6.51	1.48
1/2"	0.51	0.51	3.35	6.30	2.52	M10	0.24	1.26	21.16	2.12
3/4"	0.79	0.67	3.74	7.09	2.87	M12	0.28	1.54	40.70	3.42
1"	0.98	0.67	4.13	7.68	3.15	M14	0.35	1.85	75.00	5.18
1 1/4"	1.26	0.79	4.72	8.27	3.19	M14	0.35	2.36	120.70	7.05
1 1/2"	1.50	0.91	5.12	10.63	3.78	M18	0.47	2.52	195.35	12.34
2"	1.97	0.91	5.91	10.63	4.09	M18	0.47	3.15	350.35	17.41



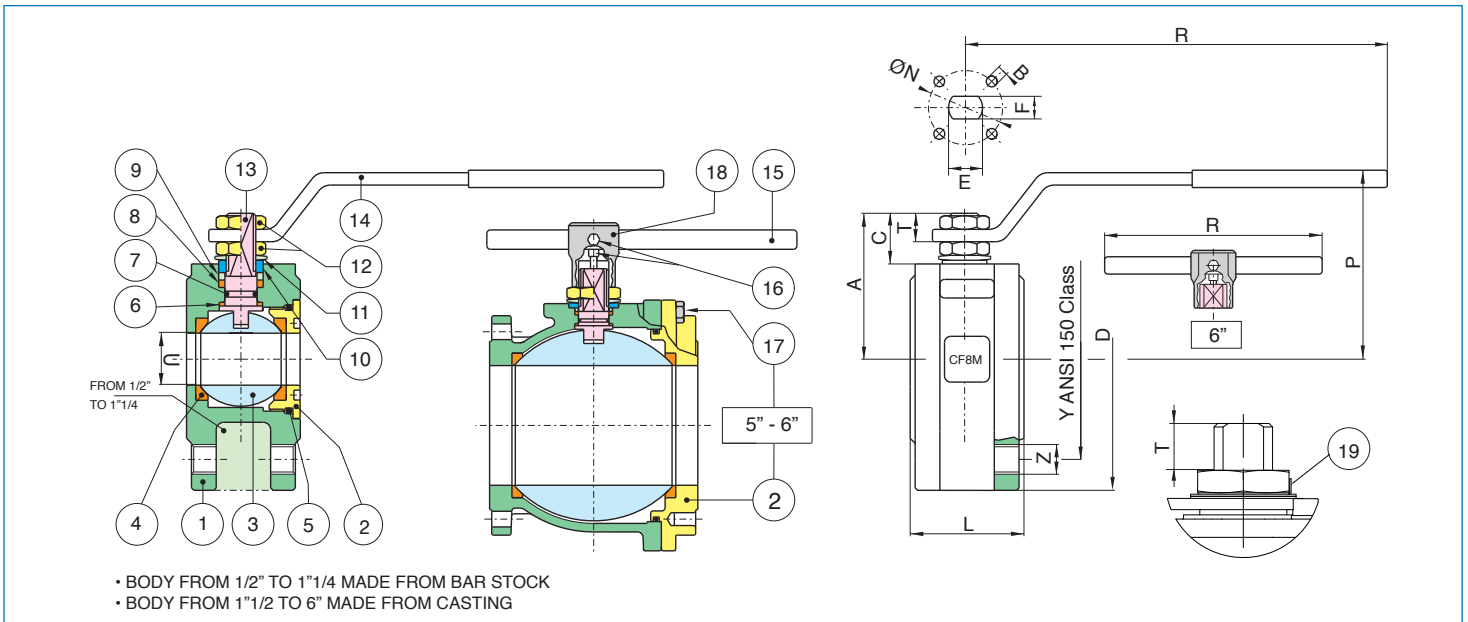
## SERIES 720016 STAINLESS STEEL WAFER BALL VALVE

Stainless steel ANSI class 150 flanged ball valve.

- Full port, sizes 1/2" to 6".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- R.P.T.F.E. seats, packing and thrust washer.
- Space saving design.
- 100% tested.
- TUV T.A. Luft approved.
- ANSI B16.34 design.
- ISO 5211 mounting pad with double "D" stem.
- Locking handles available.

720370: FIRE SAFE APPROVED WITH ANTISTATIC STEM DEVICE AND CARBON FILLED P.T.F.E SEATS.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



S N P O S	PART NAME	MATERIAL	Q T Y	SIZE	D	Y	Z UNC	L	R	P	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1	BODY	A479-316 / A351 CF8M	1	1/2"	3.50	2.38	4x1/2"	1.37	5.17	2.53	1.85	0.61	0.35	M10	0.27	1.26	4XM5	35	22.21	2.86
2	END CONNECTION	A479-316 / A351 CF8M	1																	
3	BALL	A479-316 / A351 CF8M	1	3/4"	3.88	2.75	4x1/2"	1.57	5.17	2.71	2.02	0.61	0.35	M10	0.27	1.26	4XM5	115	40.50	3.96
4	BALL SEATS	R.P.T.F.E	2																	
5	RING	FKM (Viton®)	1	1"	4.25	3.12	4x1/2"	1.81	6.87	3.16	2.40	0.76	0.45	M12	0.31	1.65 (F04)	4XM5	124	74.63	5.95
6	THRUST WASHER	P.T.F.E	1																	
7	RING	FKM (Viton®)	1	1 1/4"	4.62	3.50	4x1/2"	2.12	6.87	3.32	2.53	0.64	0.45	M12	0.31	1.65 (F04)	4XM5	150	120.10	9.47
8	STEM SEAL	P.T.F.E	1	1 1/2"	5.00	3.88	4x1/2"	2.50	9.86	4.03	3.07	0.96	0.51	M16	0.39	1.97 (F05)	4XM6	195	201.32	7.27
9	PACKING GLAND	STEEL	1																	
10	END STOP	AISI 430 (1/2"-2") STEEL (2 1/2"-6")	2 1	2"	6.00	4.75	4x5/8"	3.22	9.86	4.37	3.42	0.98	0.53	M16	0.39	1.97 (F05)	4XM6	292	348.60	12.12
11	SPRING WASHER	STEEL	2																	
12	NUT	STEEL	2	2 1/2"	7.00	5.50	4x5/8"	4.05	12.65	5.03	4.11	1.10	0.70	M20	0.55	2.76 (F07)	4XM8	540	631.37	21.16
13	STEM	A479-316	1	3"	7.50	6.00	4x5/8"	4.80	12.65	5.45	4.52	1.12	0.70	M20	0.55	2.76 (F07)	4XM8	637	1009.48	28.21
14	HANDLE	STEEL	1																	
15	HANDLE DN 150-200	STEEL	1																	
16	SCREW	STEEL	2	4"	9.00	7.50	8x5/8"	5.98	15.01	6.16	5.39	1.35	0.86	M24	0.70	4.02 (F10)	4XM10	956	1577.34	46.07
17	SCREW	STEEL	8	5"	10.00	8.50	8x3/4"	7.71	15.01	7.02	6.25	1.33	0.86	M24	0.70	4.02 (F10)	4XM10	1018	2730.87	82.67
18	BODY HANDLE DN150-200	CAST IRON	1																	
19	UNSCREWING GROWER	A182-F316	1	6"	11.00	9.50	8x3/4"	9.13	27.55	9.33	7.93	2.02	1.18	M42	1.18	4.92 (F12)	4XM12	2903	4247.46	101.63





## SERIES 720017 CARBON STEEL WAFER BALL VALVE

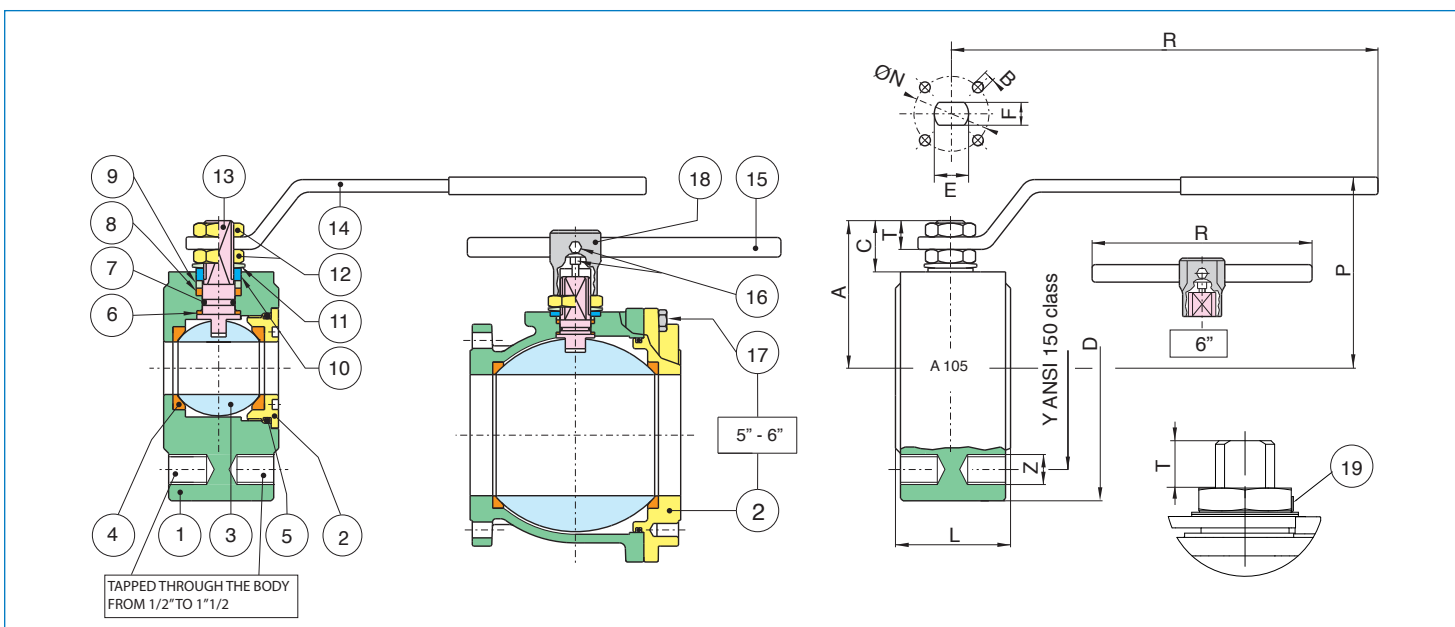
Carbon steel ANSI class 150 flanged ball valve.

- Full port sizes 1/2" to 6".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- R.P.T.F.E. seats, packing and thrust washer.
- Space saving design.
- 100% tested.
- TUV T.A. Luft approved.
- ANSI B16.34 design.
- ISO 5211 mounting pad with double "D" stem.
- Locking handles available.

720569: FIRE SAFE APPROVED WITH ANTISTATIC STEM DEVICE AND CARBON FILLED P.T.F.E SEATS.

720791: STEAM SERVICE TRIM.

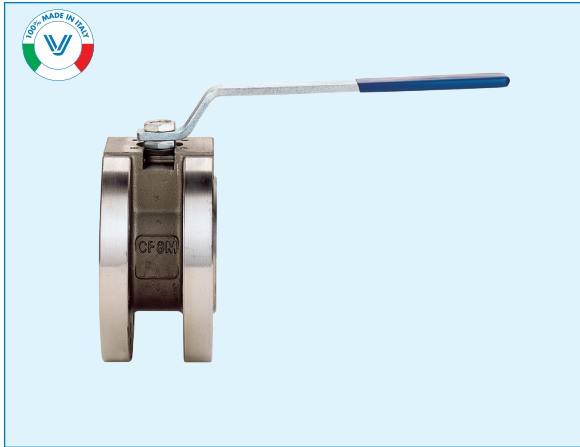
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	ASTM A105/WCB	1
2	END CONNECTION	ASTM A105/WCB	1
3	BALL	A479-304 / A351 CF8	1
4	BALL SEATS	R.P.T.F.E	2
5	O-RING	FKM (Viton®)	1
6	THRUST WASHER	P.T.F.E	1
7	RING	FKM (Viton®)	1
8	STEM SEAL	P.T.F.E	1
9	PACKING GLAND	STEEL	1
10	END STOP	STEEL	2-1
11	SPRING WASHER	STEEL	2
12	NUT	STEEL	2
13	STEM	AISI 304	1
14	HANDLE	STEEL	1
15	HANDLE DN 150-200	STEEL	1
16	SCREW	STEEL	2
17	SCREW	STEEL	8-12
18	BODY HANDLE DN150-200	CAST IRON	1
19	UNSCREWING GROWER	A182-F316	1

SIZE	D	Y	Z UNC	L	R	P	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1/2"	3.50	2.38	4x1/2"	1.37	5.17	2.53	1.85	0.61	0.35	M10	0.27	1.26	4XM5	35	22.21	2.86
3/4"	3.88	2.75	4x1/2"	1.57	5.17	2.71	2.02	0.61	0.35	M10	0.27	1.26	4XM5	115	40.50	3.96
1"	4.25	3.12	4x1/2"	1.81	6.87	3.16	2.40	0.76	0.45	M12	0.31	1.65 (F04)	4XM5	124	74.63	5.95
1 1/4"	4.62	3.50	4x1/2"	2.12	6.87	3.32	2.53	0.64	0.45	M12	0.31	1.65 (F04)	4XM5	150	120.10	9.47
1 1/2"	5.00	3.88	4x1/2"	2.50	9.86	4.03	3.07	0.96	0.51	M16	0.39	1.97 (F05)	4XM6	195	201.32	11.31
2"	6.00	4.75	4x5/8"	3.22	9.86	4.37	3.42	0.98	0.53	M16	0.39	1.97 (F05)	4XM6	292	348.60	19.18
2 1/2"	7.00	5.50	4x5/8"	4.05	12.65	5.03	4.11	1.10	0.70	M20	0.55	2.76 (F07)	4XM8	540	631.37	34.17
3"	7.50	6.00	4x5/8"	4.80	12.65	5.45	4.52	1.12	0.70	M20	0.55	2.76 (F07)	4XM8	637	1009.48	45.85
4"	9.00	7.50	8x5/8"	5.98	15.01	6.16	5.39	1.35	0.86	M24	0.70	4.02 (F10)	4XM10	956	1577.34	75.39
5"	10.00	8.50	8x3/4"	7.71	15.01	7.02	6.25	1.33	0.86	M24	0.70	4.02 (F10)	4XM10	1018	2730.87	115.74
6"	11.00	9.50	8x3/4"	9.13	27.55	9.33	7.93	2.02	1.18	M42	1.18	4.92 (F12)	4XM12	2903	4247.46	135.5





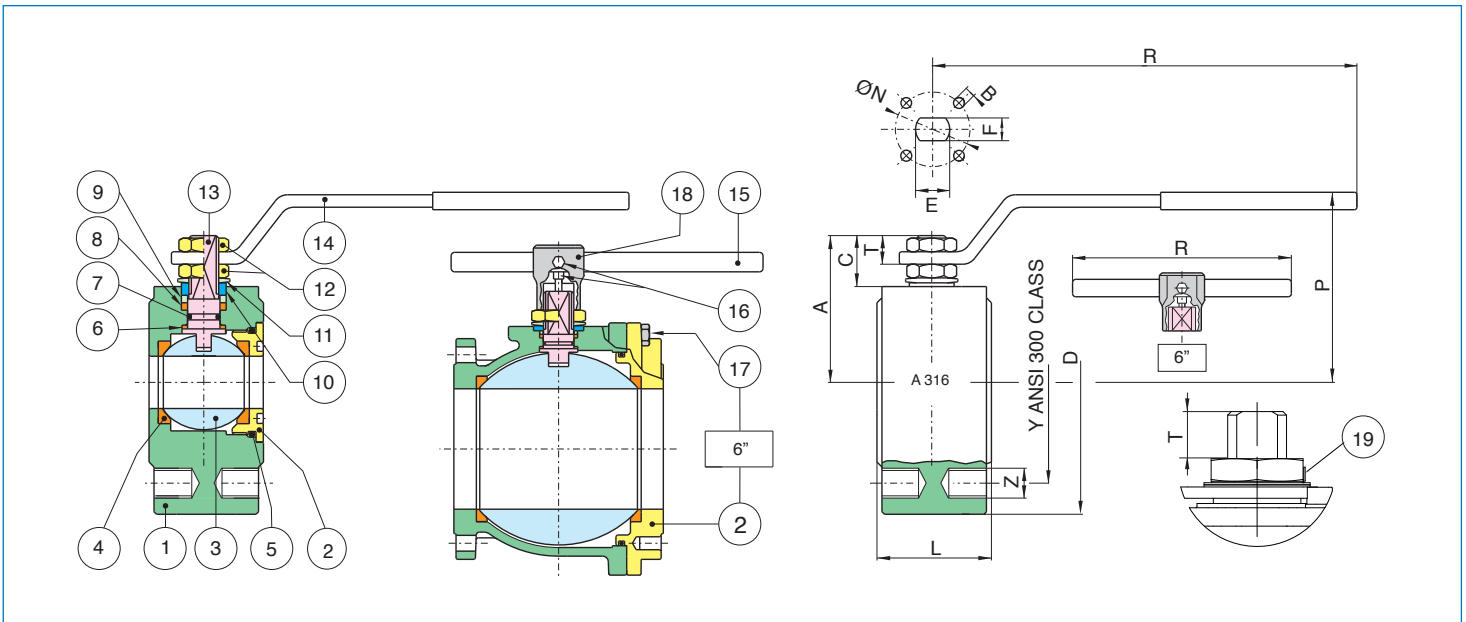
## SERIES 720288 STAINLESS STEEL WAFER BALL VALVE

Stainless steel, ANSI class 300 flanged ball valve, stainless steel ball and stem.

- Full port, sizes 1/2" to 6".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- R.P.T.F.E. seats, packing and thrust washer.
- Space saving design.
- 100% tested.
- TUV T.A. Luft approved.
- ANSI B16.34 design.
- ISO 5211 mounting pad with double "D" stem.

**720741:** FIRE SAFE APPROVED WITH ANTISTATIC STEM DEVICE AND P.T.F.E. CARBON FILLED P.T.F.E SEATS.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N POS	SIZE	D	Y	Z UNC	L	R	P	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1	BODY	A479-316/A351 CF8M	1	1/2"	3.75	2.62	4X1/2"	1.38	5.17	2.54	1.85	0.45	0.33	M10	0.28	1.26	4XM5	35	22.21	3.10
2	END CONNECTION	A479-316/A351 CF8M	1	3/4"	4.62	3.25	4X5/8"	1.57	5.17	2.71	2.03	0.37	0.33	M10	0.28	1.26	4XM5	115	40.50	5.50
3	BALL	A479-316/A351 CF8M	1	1"	4.88	3.50	4X5/8"	1.81	6.87	3.17	2.40	0.51	0.45	M12	0.32	1.65 (F04)	4XM5	124	74.63	6.80
4	BALL SEATS	R.P.T.F.E	2	1 1/4"	5.25	3.88	4X5/8"	2.12	6.87	3.33	2.54	0.65	0.45	M12	0.32	1.65 (F04)	4XM5	150	120.10	9.30
5	RING	FKM (Viton®)	1	1 1/2"	6.12	4.50	4X3/4"	2.50	9.86	4.03	3.07	0.80	0.47	M16	0.39	1.97 (F05)	4XM6	195	201.32	15.00
6	THRUST WASHER	P.T.F.E	1	2"	6.50	5.00	8X5/8"	3.23	9.86	4.43	3.43	0.63	0.47	M16	0.39	1.97 (F05)	4XM6	292	348.60	23.00
7	RING	FKM (Viton®)	1	2 1/2"	7.50	5.88	8X3/4"	4.05	12.66	5.08	4.11	0.73	0.67	M20	0.55	2.75 (F07)	4XM8	540	631.37	39.00
8	STEM SEAL	P.T.F.E	1	3"	8.25	6.62	8X3/4"	4.80	12.66	5.45	4.53	0.83	0.71	M20	0.55	2.75 (F07)	4XM8	637	1009.48	55.00
9	PACKING GLAND	STEEL	1	4"	10.00	7.88	8X3/4"	5.98	15.02	6.20	5.39	0.93	0.83	M24	0.71	4.02 (F10)	4XM10	956	1577.34	100.00
10	END STOP	STEEL	2-1	6"	12.50	10.62	12X3/4"	9.13	27.56	9.33	7.93	2.03	1.18	M42	1.18	4.92 (F12)	4XM12	2903	4247.46	223.00
11	SPRING WASHER	STEEL	2																	
12	NUT	STEEL	2																	
13	STEM	AISI 316	1																	
14	HANDLE	STEEL	1																	
15	HANDLE DN 150-200	STEEL	1																	
16	SCREW	STEEL	2																	
17	SCREW	STEEL	12																	
18	BODY HANDLE DN150-200	CAST IRON	1																	
19	UNSCREWING GROWER	A182-F316	1																	



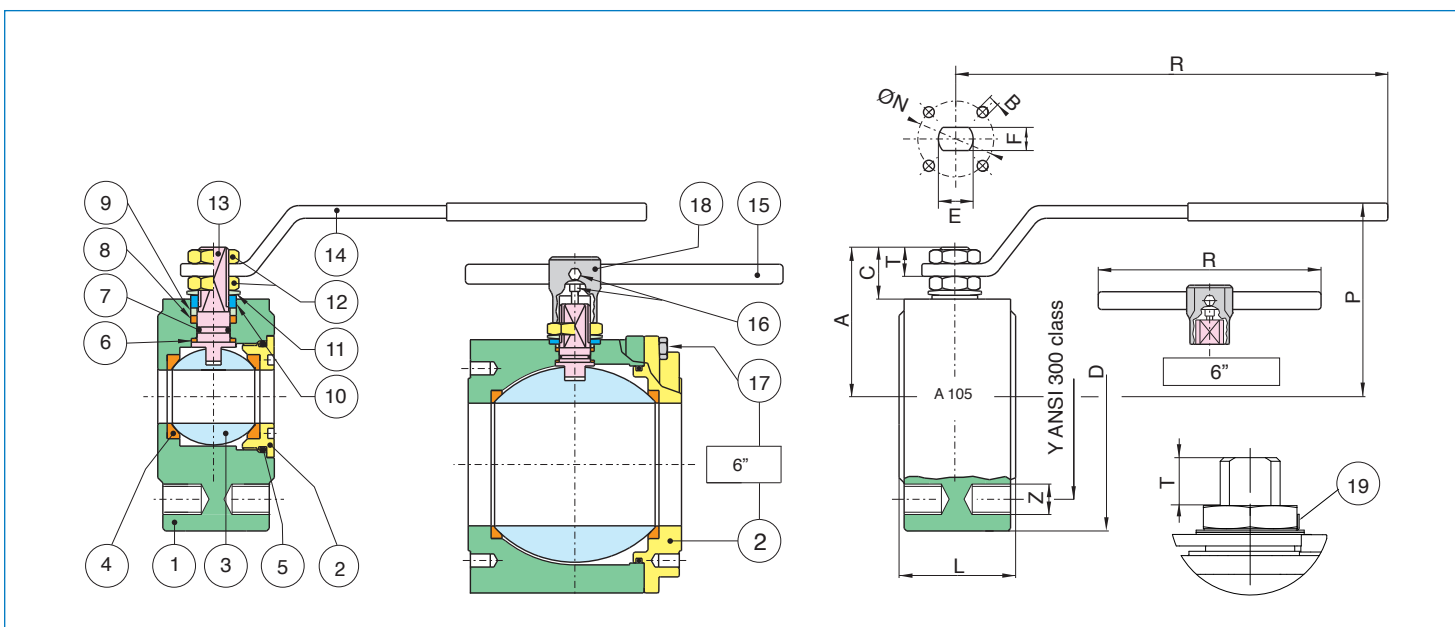
## SERIES 720289 CARBON STEEL WAFER BALL VALVE

Carbon steel, ANSI class 300 flanged ball valve, stainless steel ball and stem.

- Full port sizes 1/2" to 6".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- R.P.T.F.E. seats, packing and thrust washer.
- Space saving design.
- 100% tested.
- TUV T.A. Luft approved.
- ANSI B16.34 design.
- ISO 5211 mounting pad with double "D" stem.
- Locking handles available.

720744: FIRE SAFE APPROVED WITH ANTISTATIC STEM DEVICE AND P.T.F.E. CARBON FILLED SEATS.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	ASTM A105/WCB	1
2	END CONNECTION	ASTM A105	1
3	BALL	A479-304/A351CF8	1
4	BALL SEATS	R.P.T.F.E	2
5	RING	FKM (Viton®)	1
6	THRUST WASHER	P.T.F.E	1
7	RING	FKM (Viton®)	1
8	STEM SEAL	P.T.F.E	1
9	PACKING GLAND	STEEL	1
10	END STOP	STEEL	2-1
11	SPRING WASHER	STEEL	2
12	NUT	STEEL	2
13	STEM	AISI 304	1
14	HANDLE	STEEL	1
15	HANDLE DN 150-200	STEEL	1
16	SCREW	STEEL	2
17	SCREW	STEEL	12
18	BODY HANDLE DN150-200	CAST IRON	1
19	UNSCREWING GROWER	A182-F316	1

SIZE	D	Y	Z UNC	L	R	P	A	C	T	E	F	ISO 5211	B	Break Torque (in/ Lbs)	Cv	Weight Lbs
1/2"	3.75	2.62	4X1/2"	1.38	5.17	2.54	1.85	0.45	0.33	M10	0.28	1.26	4XM5	35	22.21	3.10
3/4"	4.62	3.25	4X5/8"	1.57	5.17	2.71	2.03	0.37	0.33	M10	0.28	1.26	4XM5	115	40.50	5.50
1"	4.88	3.50	4X5/8"	1.81	6.87	3.17	2.40	0.51	0.45	M12	0.32	1.65 (F04)	4XM5	124	74.63	6.80
1 1/4"	5.25	3.88	4X5/8"	2.12	6.87	3.33	2.54	0.35	0.45	M12	0.32	1.65 (F04)	4XM5	150	102.10	9.30
1 1/2"	6.12	4.50	4X3/4"	2.50	9.86	4.03	3.07	0.80	0.47	M16	0.39	1.97 (F05)	4XM6	195	201.32	15.00
2"	6.50	5.00	8X5/8"	3.23	9.86	4.43	3.43	0.63	0.47	M16	0.39	1.97 (F05)	4XM6	292	348.60	23.00
2 1/2"	7.50	5.88	8X3/4"	4.05	12.66	5.08	4.11	0.73	0.67	M20	0.55	2.76 (F07)	4XM8	540	631.37	39.00
3"	8.25	6.62	8X3/4"	4.80	12.66	5.45	4.53	0.83	0.71	M20	0.55	2.76 (F07)	4XM8	637	1009.48	55.00
4"	10.00	7.88	8X3/4"	5.98	15.02	6.20	5.39	0.93	0.83	M24	0.71	4.02 (F10)	4XM10	956	1577.34	100.00
6"	15.74	10.62	12X3/4"	9.13	27.56	9.33	7.93	2.03	1.18	M42	1.18	4.92 (F12)	4XM12	2903	4247.46	223.00

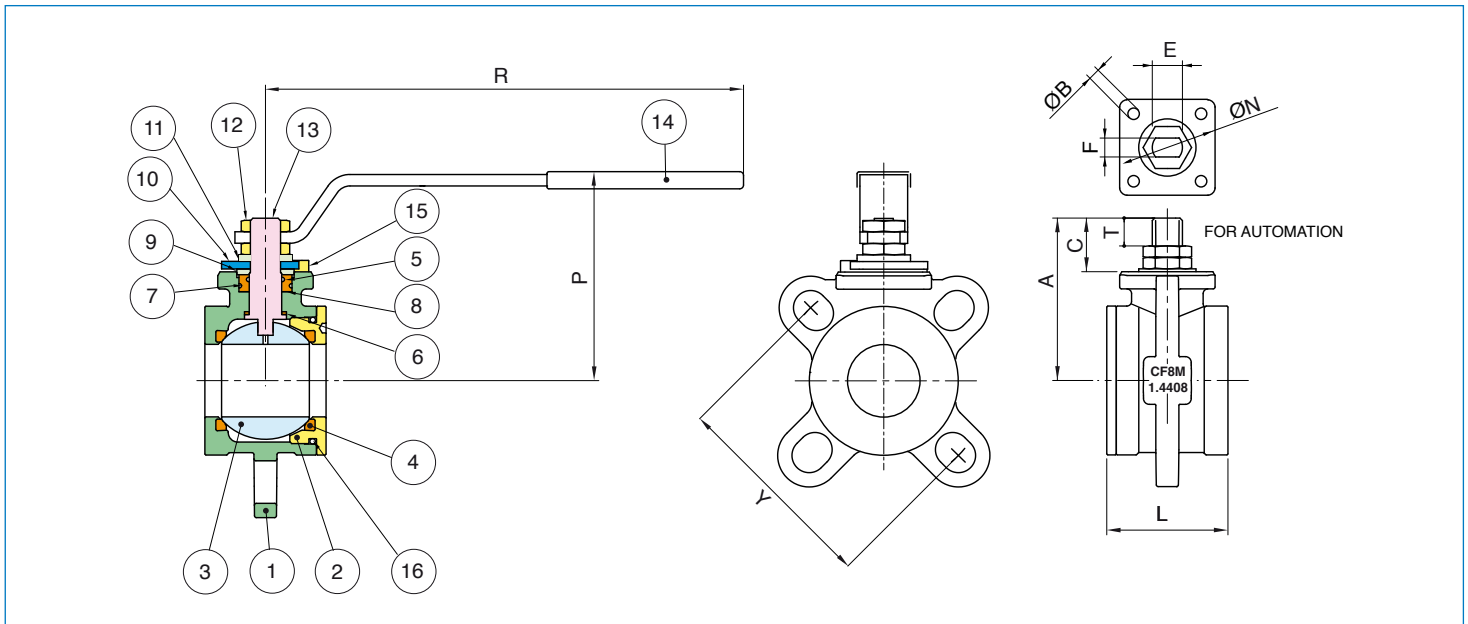
## SERIES 725002 STAINLESS STEEL WAFER BALL VALVE



- Stainless steel, ANSI class 150 flanged ball valve.
- Full port, sizes 1" to 4".
  - Temperature range -4° F to 406° F.
  - Blow out proof stem.
  - R.P.T.F.E. seats, packing and thrust washer.
  - Space saving design.
  - 100% tested.
  - TUV T.A. Luft approved.
  - Antistatic stem device.
  - Steam service trim (250 WSP).
  - ISO 5211 mounting pad with double "D" stem.

FOR STEAM

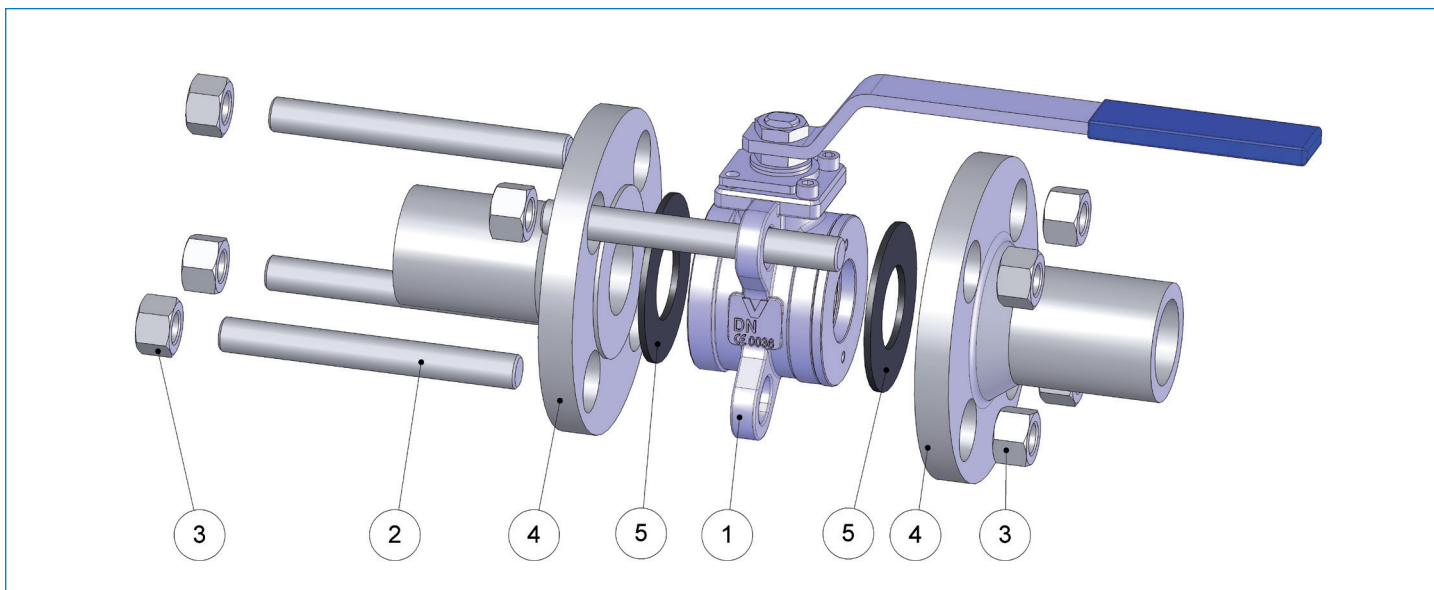
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	A351 - CF8M	1
2	END CONNECTION	A479-316	1
3	BALL	A479-316/A351 CF8M	1
4	BALL SEAT	R.P.T.F.E	2
5	O-RING	FKM (VITON®)	1
6	THRUST WASHER	P.T.F.E.	1
7	RING	FKM (VITON®)	1
8	STEM SEAL	P.T.F.E.	1
9	PACKING GLAND	A479-316	1
10	END STOP	CARBON STEEL	1
11	SPRING WASHER	CARBON STEEL	2
12	NUT	CARBON STEEL	2
13	STEM	A479-316	1
14	HANDLE	CARBON STEEL	1
15	SCREW	CARBON STEEL	2
16	O-RING	FKM (VITON®)	1

SIZE	Y	L	R	P	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1"	ANSI-150	1.81	6.85	3.58	2.81	0.90	0.41	M12	0.31	1.65 (F04)	4XM5	124	74.63	2.86
1 1/4"	ANSI-150	2.12	6.85	3.74	2.95	0.90	0.41	M12	0.31	1.65 (F04)	4XM5	150	120.10	3.64
1 1/2"	ANSI-150	2.50	9.84	4.33	3.34	1.10	0.59	M16	0.39	1.96 (F05)	4XM6	195	201.32	4.74
2"	ANSI-150	3.23	9.84	4.68	3.68	1.10	0.59	M16	0.39	1.96 (F05)	4XM6	292	348.60	8.27
2 1/2"	ANSI-150	4.05	12.63	5.70	4.78	1.31	0.70	M20	0.55	2.76 (F07)	4XM8	540	631.37	16.20
3"	ANSI-150	4.80	12.63	6.06	5.15	1.31	0.70	M20	0.55	2.76 (F07)	4XM8	637	1009.48	22.71
4"	ANSI-150	5.60	12.63	6.57	5.67	1.31	0.70	M20	0.55	2.76 (F07)	4XM8	956	1577.34	35.28

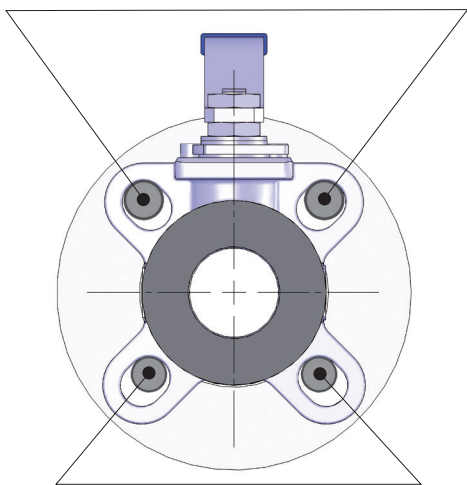
## ASSEMBLING BETWEEN FLANGES LAYOUT



POS.	PART NAME
1	BODY
2	BOLT
3	NUT
4	END CONNECTION
5	TIGHTENING SEAL

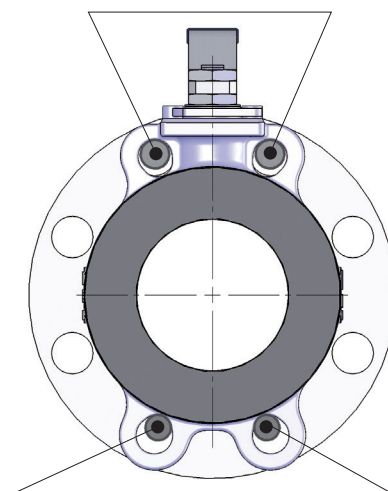
### VALVE ALIGNMENT SIZES FROM (1" TO 3")

First insert the two bottom bolts. Let the valve lean, insert the two upper bolts, tighten the nuts.

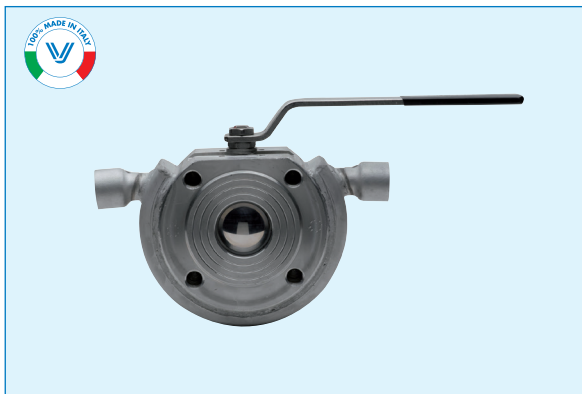


### VALVE ALIGNMENT (4")

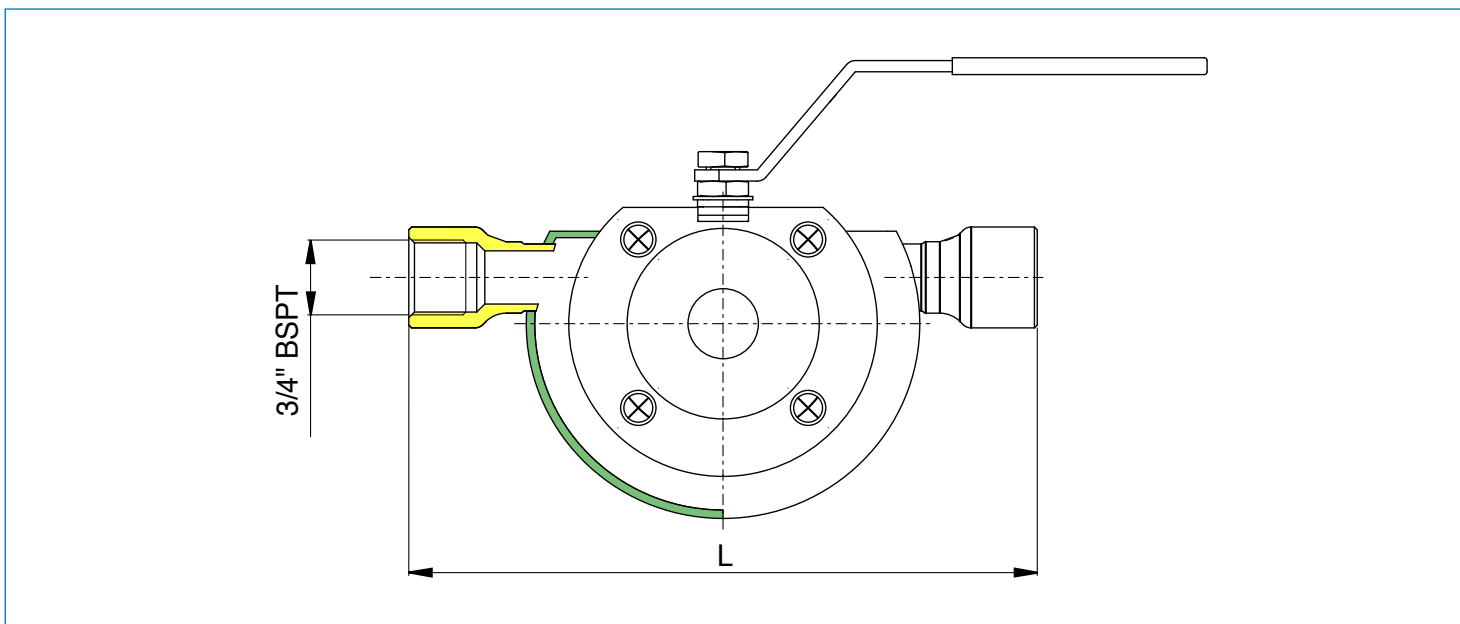
First insert the two upper bolts. Let the valve lean, put the two bottom bolts, tighten the nuts.



## SERIES WAFER - SPECIAL USES



Flanged ball valve, with heating jacket in stainless or carbon steel.  
 • Full port sizes from 1/2" to 6".



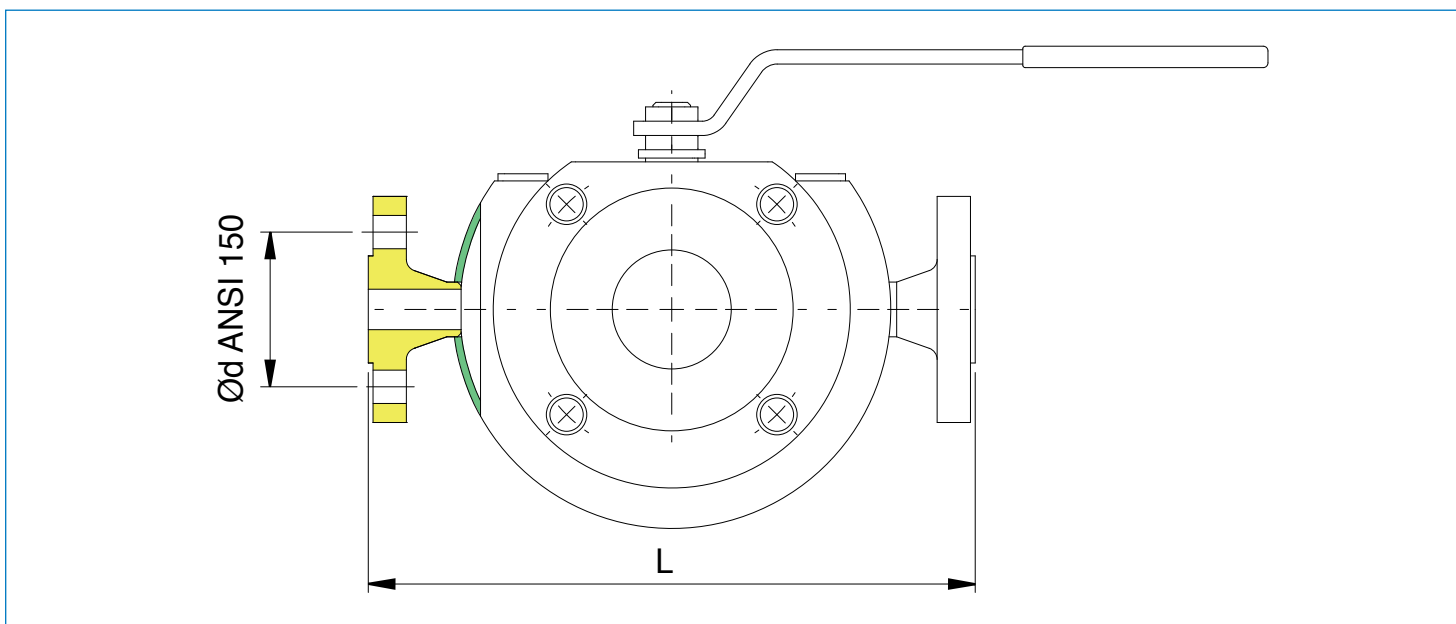
SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	
Ød	3/4" BSPT									1" BSPT		
L	CARBON STEEL	8.86	9.25	8.86	9.45	9.84	10.24	10.83	11.42	11.81	12.60	14.17
	STAINLESS STEEL							10.63	10.63	10.63	12.01	13.39



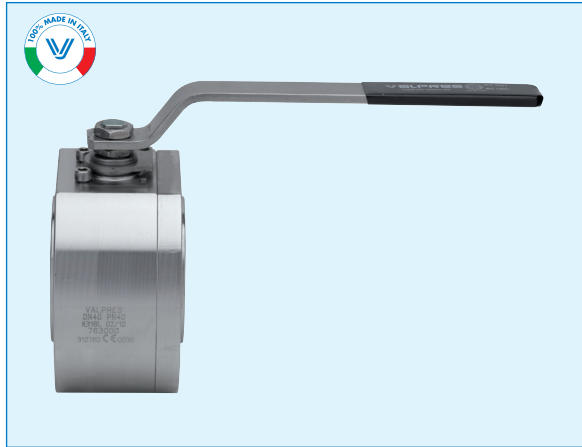


## SERIES WAFER - SPECIAL USES

Flanged ball valve, with heating jacket in stainless or carbon steel.  
 • Full port sizes from 1/2" to 6".



SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	
Ød	1/2"								1"			
CARBON STEEL	7.87	8.27	8.27	9.05	9.45	10.04	10.83	11.42	12.60	14.96	16.34	
STAINLES STEEL							10.24	10.83	11.81	14.96	16.34	

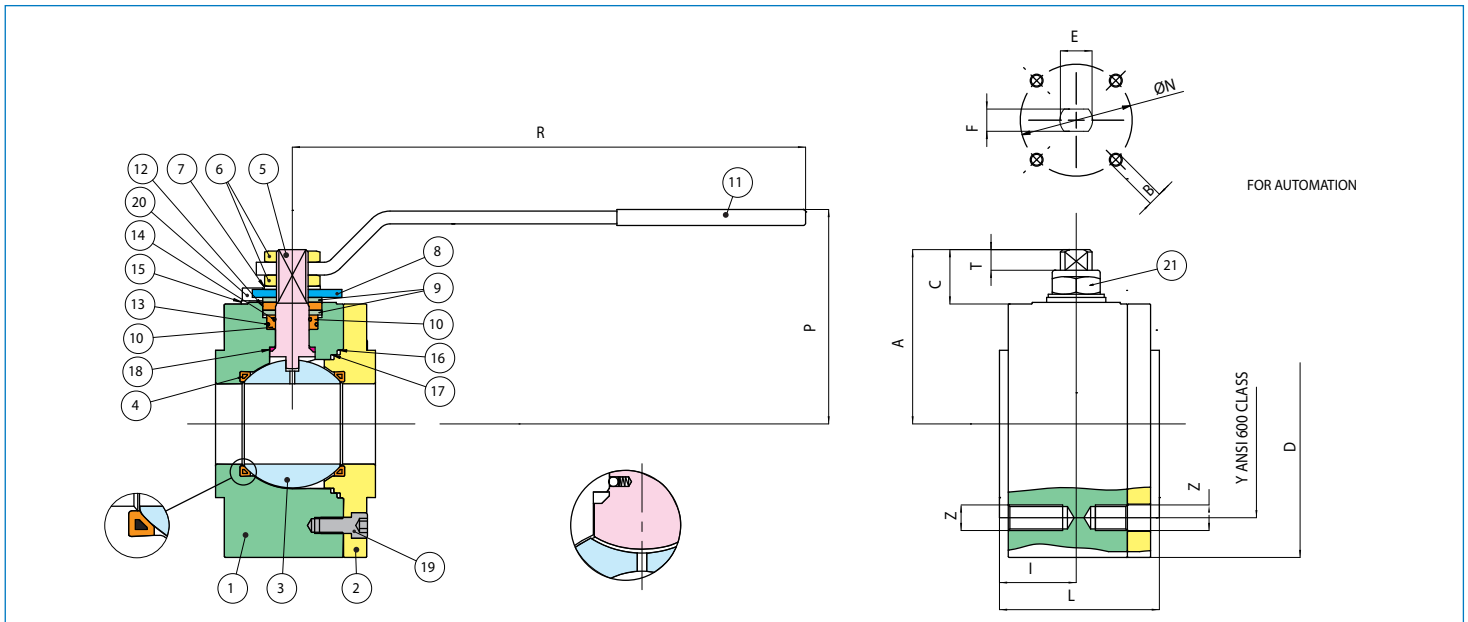


## SERIES 763100 STAINLESS STEEL WAFER BALL VALVE

Stainless steel, ANSI class 600 flanged ball valve.

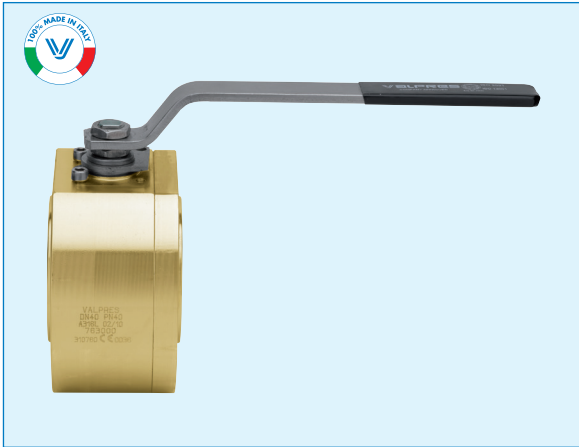
- Full port, sizes 1/2" to 4".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- Metal filled P.T.F.E. seats.
- Space saving design.
- 100% tested.
- Fire Safe certified to API 607 6th edition.
- ANSI B16.34 design.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	A479-316/316L	1
2	END CONNECTION	A479-316/316L	1
3	BALL	A479-316/A351-CF8M	1
4	BALL SEAT	R.P.T.F.E.	2
5	STEM	A479-316	1
6	NUT	STAINLESS STEEL	2
7	SPRING WASHER	STAINLESS STEEL	2
8	90° STOP	STAINLESS STEEL	1
9	BUSH	A479-316	2
10	STEM SEAL	P.T.F.E.	1
11	HANDLE	STAINLESS STEEL	1
12	STEM SEAL	GRAPHOIL	1
13	RING	FKM (VITON)	1
14	RING	FKM (VITON)	1
15	WASHER	A479-304	2
16	BODY SEAL	GRAPHOIL	1
17	BODY SEAL	P.T.F.E.	1
18	THRUST WASHER	P.T.F.E.	1
19	SCREW	STAINLESS STEEL	3-4-7
20	SCREW	STAINLESS STEEL	2
21	NUT	STAINLESS STEEL	1

SIZE	D	Y	Z	I	L	R	P	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1/2"	3.74	2.63	4x1/2"	0.93	2.17	5.16	2.80	2.07	0.69	0.30	M10	0.28	1.65-F04	M5	58	22.21	5.29
3/4"	4.53	3.25	4x5/8"	0.94	2.36	6.85	3.46	2.66	0.89	0.40	M12	0.31	1.65-F04	M5	93	40.50	8.38
1"	4.92	3.50	4x5/8"	1.04	2.56	6.85	3.62	2.85	0.93	0.43	M12	0.31	1.65-F04	M5	177	74.63	10.58
1 1/2"	6.10	4.50	4x3/4"	1.50	3.35	9.88	5.16	4.21	1.26	0.48	M16	0.39	1.97-F05	M6	354	201.32	24.68
2"	6.50	5.00	8x5/8"	1.89	3.94	12.64	5.28	4.29	1.34	0.51	M20	0.55	2.76-F07	M8	443	348.60	30.86
3"	8.27	6.63	8x3/4"	2.95	5.91	15.00	6.10	5.20	1.71	0.63	M24	0.71	2.76-F07	M8	2213	1009.48	70.53
4"	10.83	8.50	8x7/8"	3.64	7.28	15.00	7.28	6.50	1.71	0.75	M24	0.71	4.02-F10	M10	2478	1577.34	154.28

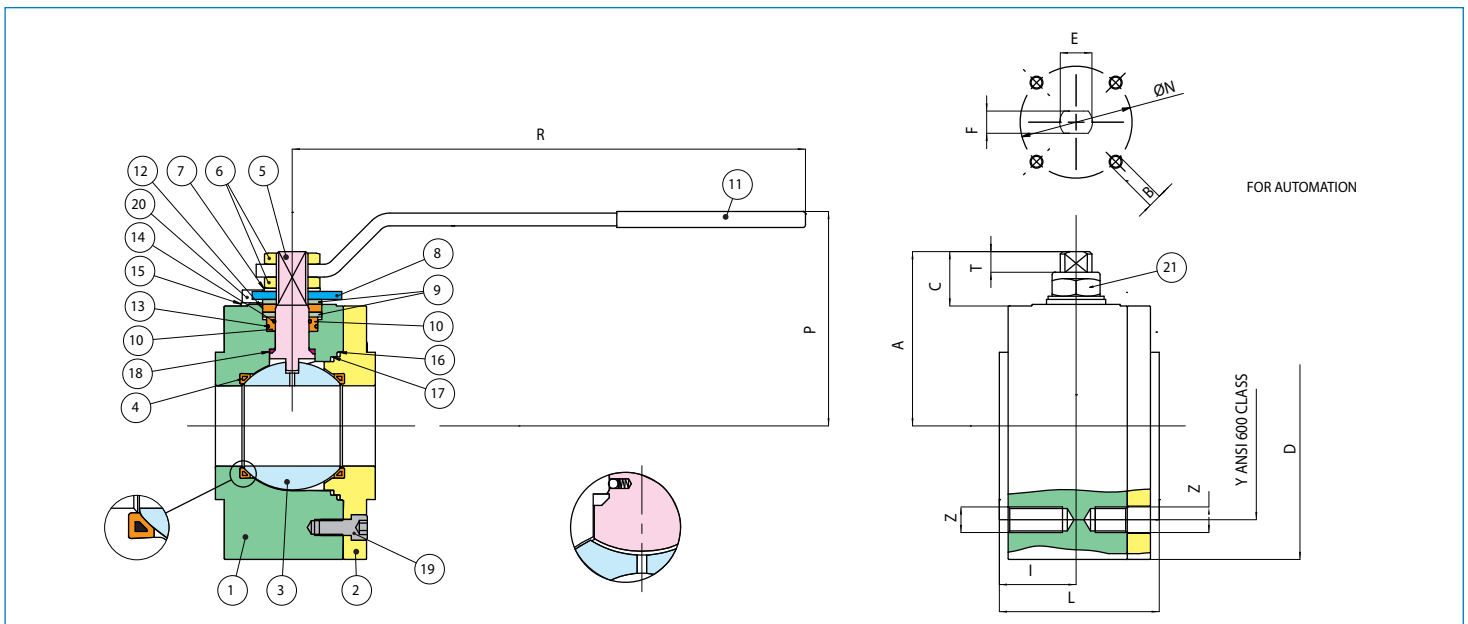


## SERIES 764100 LOW TEMPERATURE CARBON STEEL WAFER BALL VALVE

Carbon steel, ANSI class 600 flanged ball valve.

- Full port, sizes 1/2" to 4".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- Metal filled P.T.F.E. seats.
- Space saving design.
- 100% tested.
- Fire Safe certified to API 607 6th edition.
- ANSI B16.34 design.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



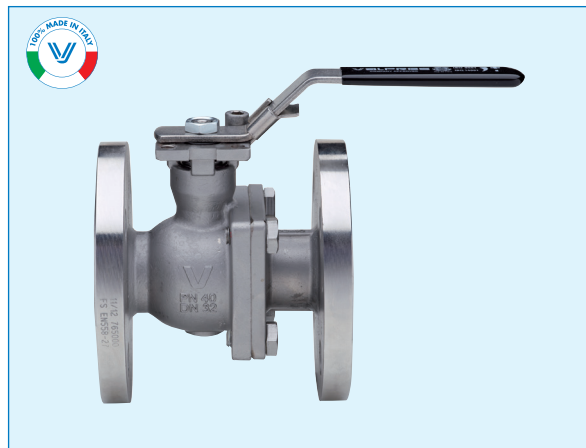
N POS	PART NAME	MATERIAL	N PCS
1	BODY	A350 - LF2	1
2	END CONNECTION	A350 - LF2	1
3	BALL	A479-304/A351-CF8	1
4	BALL SEAT	R.P.T.F.E.	2
5	STEM	A182 - F304	1
6	NUT	CARBON STEEL	2
7	SPRING WASHER	CARBON STEEL	2
8	90° STOP	CARBON STEEL	1
9	BUSH	A479-316	2
10	STEM SEAL	P.T.F.E.	1
11	HANDLE	CARBON STEEL	1
12	STEM SEAL	GRAPHOIL	1
13	RING	FKM (VITON)	1
14	RING	FKM (VITON)	1
15	WASHER	A479-304	2
16	BODY SEAL	GRAPHOIL	1
17	BODY SEAL	P.T.F.E.	1
18	THRUST WASHER	P.T.F.E.	1
19	SCREW	CARBON STEEL	3-4-7
20	SCREW	STAINLESS STEEL	2
21	NUT	STAINLESS STEEL	1

SIZE	D	Y	Z	I	L	R	P	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1/2"	3.74	2.63	4x1/2"	0.93	2.17	5.16	2.80	2.07	0.69	0.30	M10	0.28	1.65-F04	M5	58	22.21	5.29
3/4"	4.53	3.25	4x5/8"	0.94	2.36	6.85	3.46	2.66	0.89	0.40	M12	0.31	1.65-F04	M5	93	40.50	8.38
1"	4.92	3.50	4x5/8"	1.04	2.56	6.85	3.62	2.85	0.93	0.43	M12	0.31	1.65-F04	M5	177	74.63	10.58
1 1/2"	6.10	4.50	4x3/4"	1.50	3.35	9.88	5.16	4.21	1.26	0.48	M16	0.39	1.97-F05	M6	354	201.32	24.68
2"	6.50	5.00	8x5/8"	1.89	3.94	12.64	5.28	4.29	1.34	0.51	M20	0.55	2.76-F07	M8	443	348.60	30.86
3"	8.27	6.63	8x3/4"	2.95	5.91	15.00	6.10	5.20	1.71	0.63	M24	0.71	2.76-F07	M8	2213	1009.48	70.53
4"	10.83	8.50	8x7/8"	3.64	7.28	15.00	7.28	6.50	1.71	0.75	M24	0.71	4.02-F10	M10	2478	1577.34	154.28



**VALPRES**



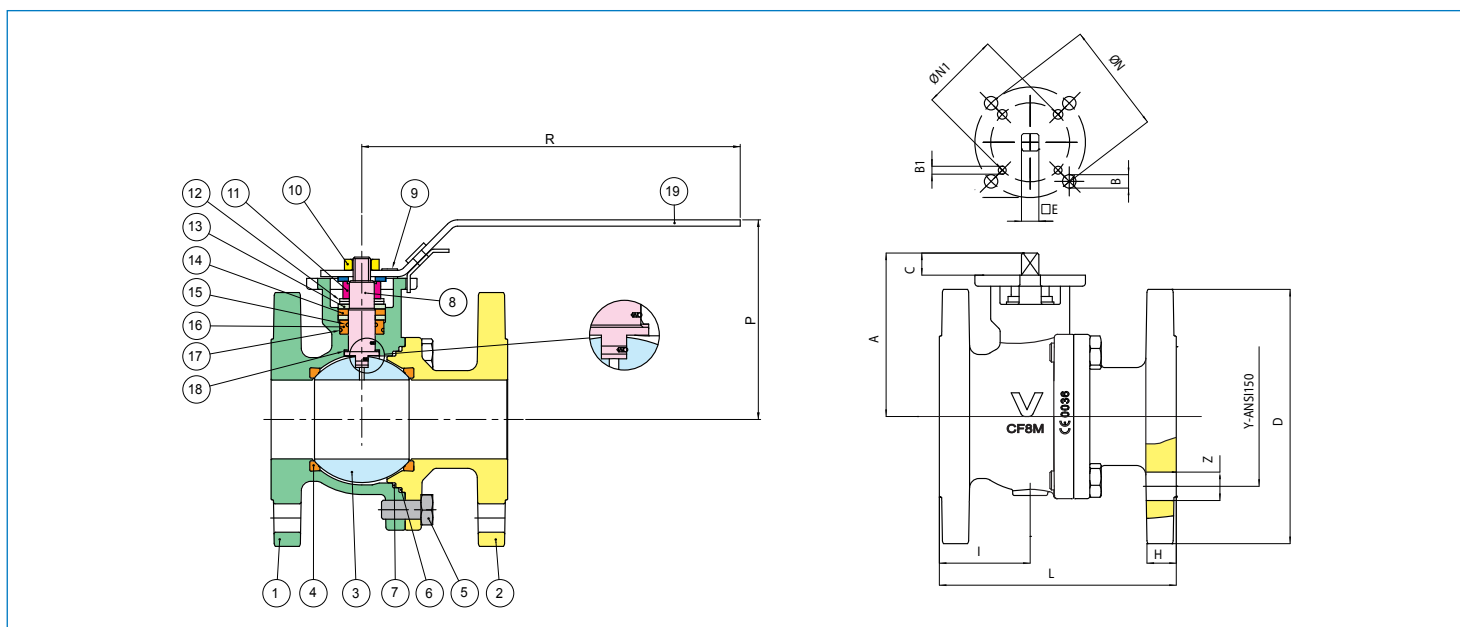


## SERIES 766000 STAINLESS STEEL - DIRECT MOUNT BALL VALVE

Stainless steel, ANSI class 150 flanged ball valve with locking handle.

- Direct mount ISO 5211/square stem.
- Full port, sizes 1" to 4".
- Temperature range -4° F to 366° F.
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, packing and thrust washer and FKM Viton O-rings.
- Fire safe certified to API 607 6th edition.
- 100% tested.
- ANSI B16.5, B16.10, B16.34. design.
- Antistatic Device.
- Standard locking handle.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	A351-CF8M	1
2	END CONNECTION	A351-CF8M	1
3	BALL	A479-304/A351-CF8	1
4	BALL SEAT	P.T.F.E.	2
5	SCREW	STAINLESS STEEL	4-8
6	BODY SEAL	GRAPHOIL	1
7	BODY SEAL	P.T.F.E.	1
8	STEM	A479-304	1
9	SCREW	STAINLESS STEEL	1
10	NUT	STAINLESS STEEL	1
11	NUT	STAINLESS STEEL	1
12	SPRING WASHER	STAINLESS STEEL	2
13	BUSH	A479-316	2
14	STEM SEAL	GRAPHOIL	1
15	O-RING	FKM (VITON®)	1
16	STEM SEAL	P.T.F.E.	1
17	O-RING	FKM (VITON®)	1
18	THRUST WASHER	P.T.F.E.	1
19	HANDLE	STAINLESS STEEL	1

SIZE	D	Y	Z	H	I	L	P	R	A	C	E mm	ØN	B	ISO 5211	B1	Break Torque (in/Lbs)	Cv	Weight Lbs
1"	4.33	3.13	4xØ0.63	0.57	2.13	5.00	3.66	6.30	2.72	0.43	9	1.97-F05	0.28	-	-	177	74.63	8.38
1 1/2"	5.12	3.88	4xØ0.63	0.69	2.99	6.50	4.65	9.45	3.70	0.55	11	2.76-F07	0.33	1.97-F05	M6	354	201.32	15.43
2"	5.91	4.04	4xØ0.75	0.77	3.33	7.01	5.00	9.45	4.06	0.53	11	2.76-F07	0.33	1.97-F05	M6	443	348.60	21.16
3"	7.48	6.00	4xØ 0.75	0.94	3.66	7.99	6.38	12.60	5.41	0.69	14	4.02-F10	0.43	2.76-F07	M10	2213	1009.48	39.45
4"	9.06	7.50	8xØ0.75	0.94	3.92	9.02	6.97	14.96	6.04	0.75	17	4.02-F10	0.43	2.76-F07	M10	2478	1577.34	53.56

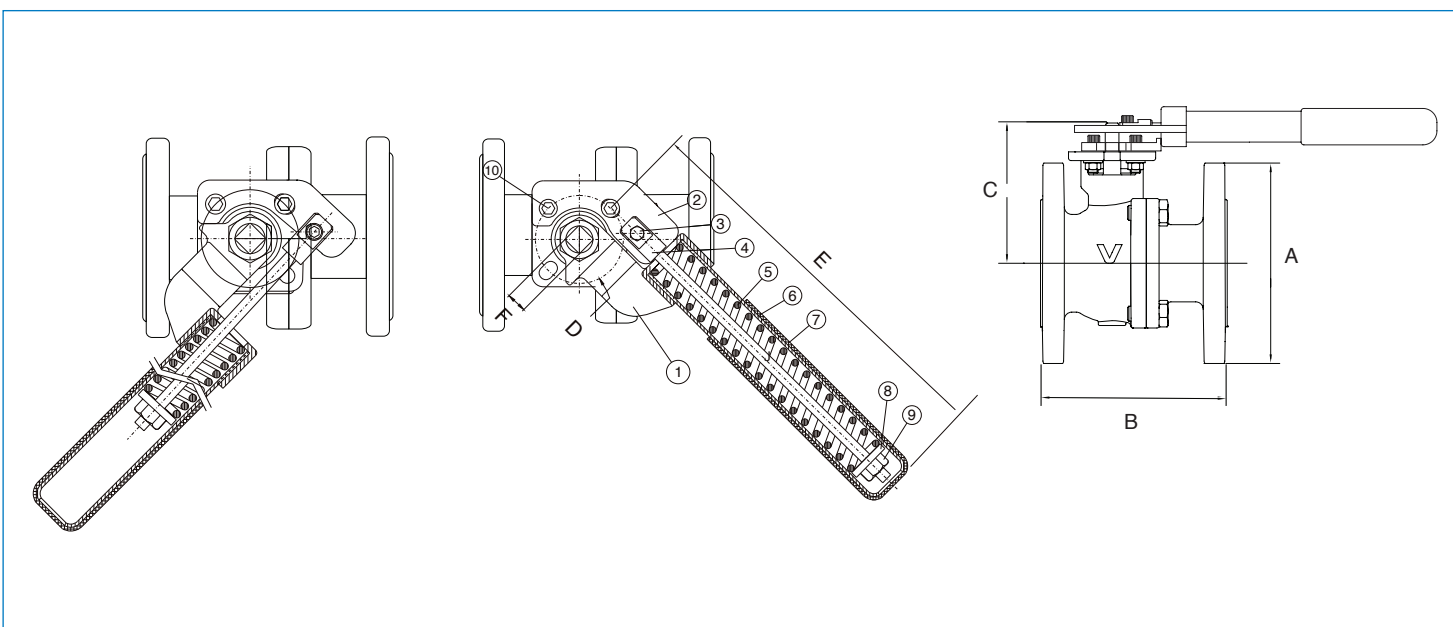


## SERIES 766000 SRL DEADMAN SPRING RETURN

Deadman spring lever, Split body style, ANSI 150 class flanged raised face stainless steel ball valve.

- Full Port Sizes 1" to 3".
- ISO 5211 mounting pad and stem.
- Blowout proof stem.
- Standard grounded ball & stem.
- Certified to API 607, 6th edition, and API 6FA.
- Designed to ANSI 16.5, 16.10, 16.34
- TUV T.A. luft approved.
- NACE MR 0175.

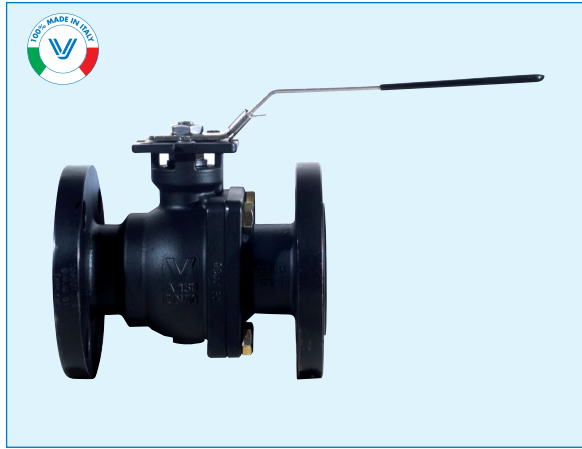
**NEW**



N POS	HANDLE COMPONENTS	MATERIAL
1	HANDLE HEAD	ASTM A351 - CF8M
2	ANCHOR	ASTM A351 - CF8M
3	ANCHOR SCREW	STAINLESS STEEL 316
4	SPRING ROD	STAINLESS STEEL 316
5	SPRING	STAINLESS STEEL 301
6	HANDLE EXTENSION	STAINLESS STEEL 304
7	SLEEVE	VINYL
8	WASHER	STAINLESS STEEL 304
9	HEX NUT	STAINLESS STEEL 304
10	SOCKET HEAD SCREW	STAINLESS STEEL 304

SIZE	A	B	C	D ISO 5211	E	F (mm)	HANDLE TORQUE (in-Lbs)
1"	4.33	5.00	2.72	F03	8.75	9	132
1 1/2"	5.12	6.50	3.70	F05	11.50	11	195
2"	5.91	7.01	4.06	F05	11.50	11	195
3"	7.48	7.99	5.41	F07	17.72	14	487

Valve materials and size: see Table page 82; Series 766000

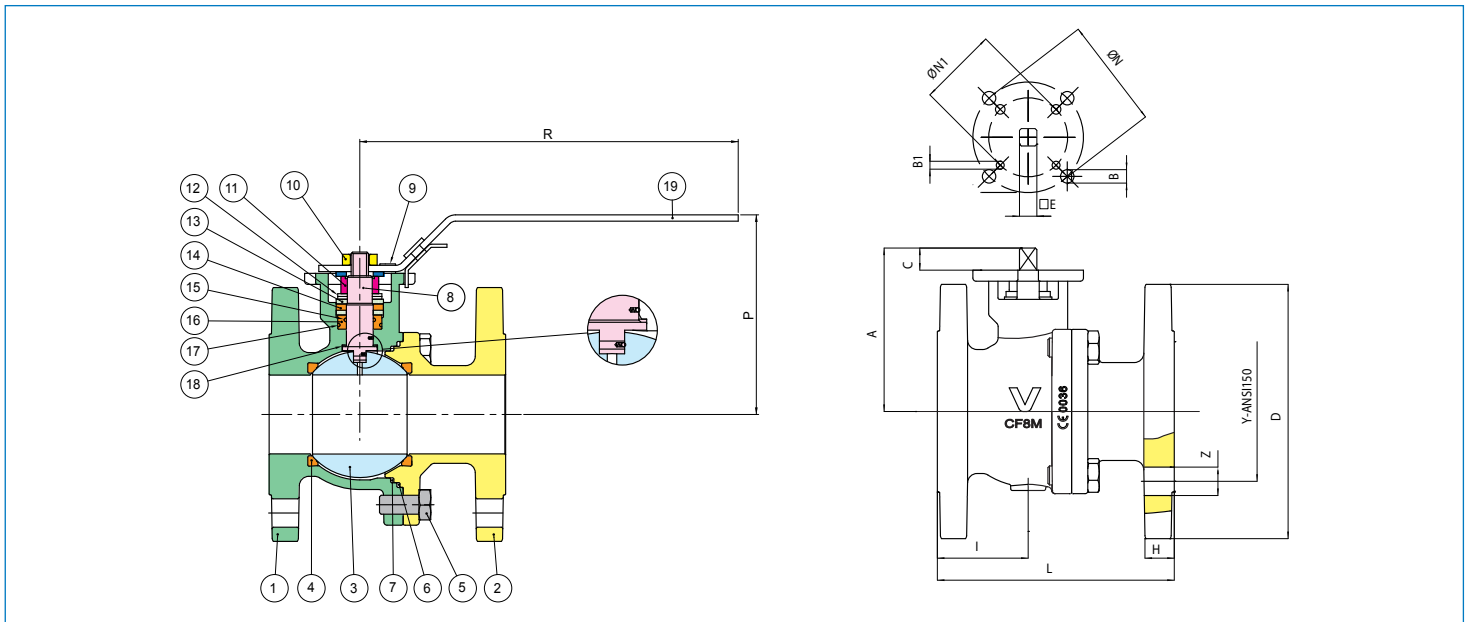


## SERIES 766001 CARBON STEEL - DIRECT MOUNT BALL VALVE

Carbon steel, ANSI class 150 flanged ball valve with locking handle.

- Direct mount ISO 5211/square stem
- Full port, sizes 1" to 3".
- Temperature range -4° F to 366° F.
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, and FKM Viton O-rings.
- Fire Safe certified to API 607 6th edition.
- 100% tested.
- ANSI B16.5, B16.10, B16.34 design.
- Antistatic Device.
- Standard locking handle.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 010.3



N	P	OS	PART NAME	MATERIAL	N	P	CS
1			BODY	A216-WCB	1		
2			END CONNECTION	A216-WCB	1		
3			BALL	A479-304 A351-CF8	1		
4			BALL SEAT	P.T.F.E.	2		
5			SCREW	CARBON STEEL	4-8		
6			BODY SEAL	GRAPHOIL	1		
7			BODY SEAL	P.T.F.E.	1		
8			STEM	A479-304	1		
9			SCREW	CARBON STEEL	1		
10			NUT	CARBON STEEL	1		
11			NUT	CARBON STEEL	1		
12			SPRING WASHER	CARBON STEEL	2		
13			BUSH	A479-316	2		
14			STEM SEAL	GRAPHOIL	1		
15			O-RING	FKM (VITON®)	1		
16			STEM SEAL	P.T.F.E.	1		
17			O-RING	FKM (VITON®)	1		
18			THRUST WASHER	P.T.F.E.	1		
19			HANDLE	STAINLESS STEEL	1		

SIZE	D	Y	Z	H	I	L	P	R	A	C	E mm	ØN	B	ISO 5211	B1	Break Torque (in/Lbs)	Cv	Weight Lbs
1"	4.33	3.13	4xØ0.63	0.57	2.13	5.00	3.66	6.30	2.72	0.43	9	1.97-F05	0.28	-	-	177	74.63	8.38
1 1/2"	5.12	3.88	4xØ0.63	0.69	2.99	6.50	4.65	9.45	3.70	0.55	11	2.76-F07	0.33	1.97-F05	M6	354	201.32	15.43
2"	5.91	4.04	4xØ0.75	0.77	3.33	7.01	5.00	9.45	4.06	0.53	11	2.76-F07	0.33	1.97-F05	M6	443	348.60	21.16
3"	7.48	6.00	4xØ 0.75	0.94	3.66	7.99	6.38	12.60	5.41	0.69	14	4.02-F10	0.43	2.76-F07	M10	2213	1009.48	39.45
4"	9.06	7.50	8xØ0.75	0.94	3.92	9.02	6.97	14.96	6.04	0.75	17	4.02-F10	0.43	2.76-F07	M10	2478	1577.34	53.56





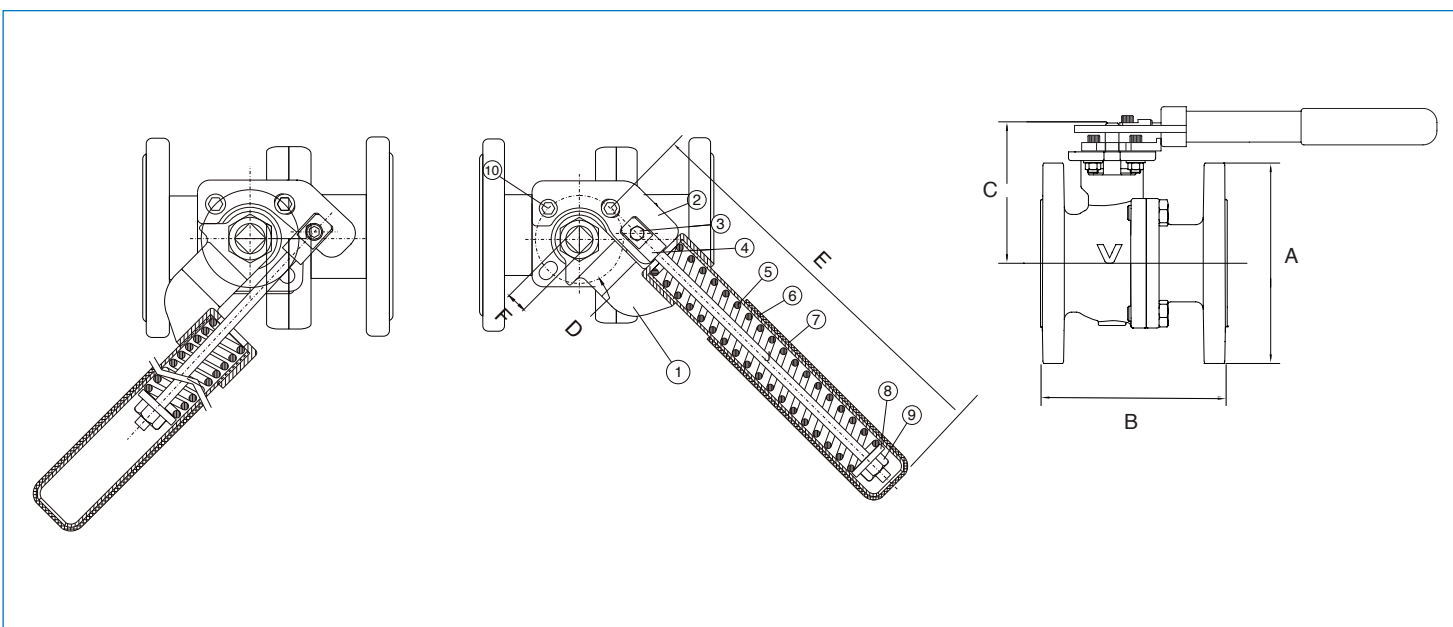
## SERIES 766001SRL DEADMAN SPRING RETURN

Carbon steel, ANSI class 150 flanged ball valve with locking handle.

- Direct mount ISO 5211/square stem
- Full port, sizes 1" to 3".
- Temperature range -4° F to 366° F.
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, and FKM Viton O-rings.
- Fire Safe certified to API 607 6th edition.
- 100% tested.
- ANSI B16.5, B16.10, B16.34 design.
- Antistatic Device.
- Standard locking handle.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 010.3

**NEW**



N POS	HANDLE COMPONENTS	MATERIAL
1	HANDLE HEAD	ASTM A351 - CF8M
2	ANCHOR	ASTM A351 - CF8M
3	ANCHOR SCREW	STAINLESS STEEL 316
4	SPRING ROD	STAINLESS STEEL 316
5	SPRING	STAINLESS STEEL 301
6	HANDLE EXTENSION	STAINLESS STEEL 304
7	SLEEVE	VINYL
8	WASHER	STAINLESS STEEL 304
9	HEX NUT	STAINLESS STEEL 304
10	SOCKET HEAD SCREW	STAINLESS STEEL 304

SIZE	A	B	C	D ISO 5211	E	F (mm)	HANDLE TORQUE (in-Lbs)
1"	4.33	5.00	2.72	F03	8.75	9	132
1 1/2"	5.12	6.50	3.70	F05	11.50	11	195
2"	5.91	7.01	4.06	F05	11.50	11	195
3"	7.48	7.99	5.41	F07	17.72	14	487

Valve materials and size: see Table page 84; Series 766001



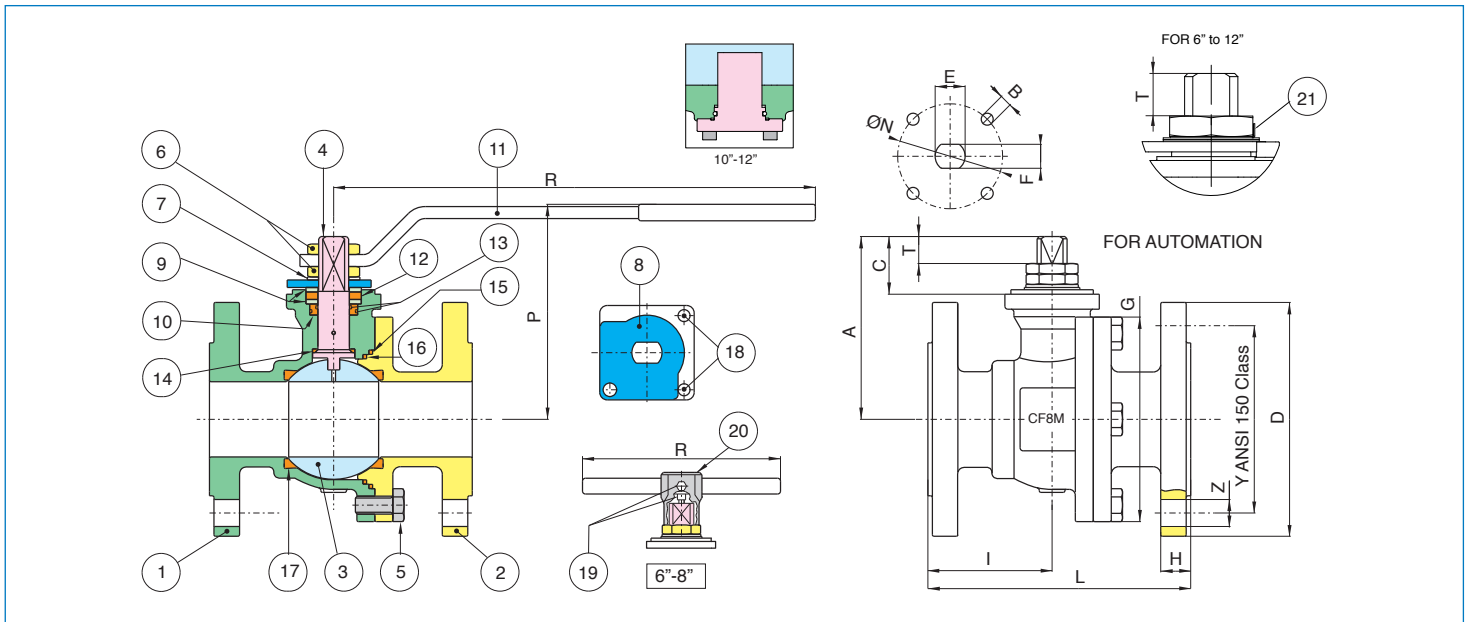
## SERIES 760005 STAINLESS STEEL BALL VALVE

Stainless steel, ANSI class 150 flanged ends ball valve.

- Full port, sizes 1/2" to 12" (10" and 12" TRUNNION).
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, packing and thrust washer.
- Standard grounded stem and ball.
- 100% tested.
- PED 97/23/CE.
- Locking handle plate.
- Temperature range -4° F to 366° F.
- ANSI B16.5, B16.10, B16.34 design.
- Fire Safe API 6FA-API 607 4th edition.
- Antistatic Device.
- ISO 5211 mounting pad and double "D" stem.

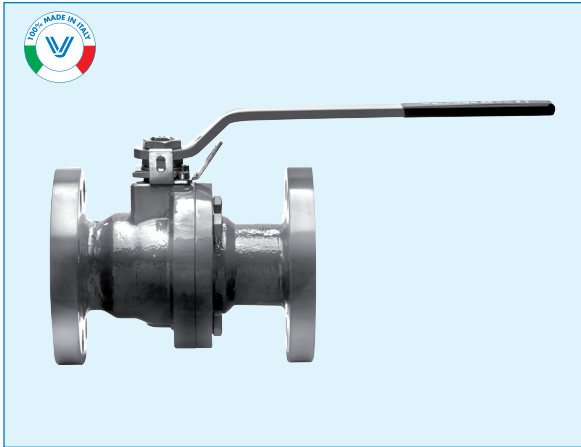
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

760021: STEAM SERVICE TRIM.



N POS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1	BODY	A351 CF8M	1	1/2"	3.54	2.38	4xØ0.63	0.45	1.83	4.25	2.80	3.46	5.16	2.05	0.75	0.31	M10	0.28	1.65-F04	M5	35	22.21	4.21
2	END CONNECTION	A351 CF8M	1	3/4"	3.94	2.76	4xØ0.63	0.51	2.09	4.61	2.89	3.66	5.16	2.20	0.75	0.31	M10	0.28	1.65-F04	M5	115	40.50	5.36
3	BALL	A479-316/A351-CF8M	1	1"	4.33	3.13	4xØ0.63	0.57	2.34	5.00	3.56	3.50	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	124	74.63	8.15
4	STEM	A479-316	1	1 1/2"	5.12	3.88	4xØ0.63	0.69	3.03	6.50	4.49	5.24	9.84	4.17	1.18	0.39	M16	0.39	1.97-F05	M6	195	201.32	15.65
5	SCREW	STAINLESS STEEL	4-8-12	2"	5.91	4.74	4xØ0.75	0.77	3.39	7.01	5.37	5.67	12.64	4.80	1.52	0.71	M20	0.55	2.76-F07	M8	292	348.60	23.80
6	NUT	STAINLESS STEEL	1-2	3"	7.48	6.00	4xØ0.75	0.94	3.13	7.99	7.03	6.81	15.00	5.94	1.69	0.71	M24	0.71	4.02-F10	M10	637	1009.48	47.61
7	SPRING WASHER	STAINLESS STEEL	2	4"	9.06	7.50	8xØ0.75	0.94	4.33	9.02	8.21	7.36	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	956	1577.34	67.00
8	TRAVEL STOP	STAINLESS STEEL	1	6"	11.02	9.51	8xØ0.87	1.00	7.13	15.51	12.24	12.01	27.56	9.65	2.68	1.61	M42	1.18	4.92-F12	M12	2903	4247.46	171.91
9	PACKING GLAND	STAINLESS STEEL	2	8"	13.58	11.75	8xØ0.87	1.14	8.35	17.99	15.83	13.70	27.56	11.34	2.68	1.61	M42	1.18	4.92-F12	M12	5824	7886.81	274.62
10	STEM SEAL	P.T.F.E.	1	10"*	15.94	14.25	12xØ1.02	1.27	11.88	20.98	19.69	-	-	13.90	3.19	1.85	M52	1.50	5.51-F14	M16	-	12924.50	429.78
11	HANDLE	STAINLESS STEEL	1	12"*	19.09	17.00	12xØ1.02	1.33	13.93	24.02	22.05	-	-	15.12	3.19	1.85	M52	1.50	5.51-F14	M16	-	19444.08	559.82
12	STEM SEAL	GRAPHOIL	1																				
13	O-RING	FKM (Viton®)	2																				
14	THRUST WASHER	P.T.F.E.	1																				
15	SEAL	GRAPHOIL	1																				
16	SEAL	P.T.F.E.	1																				
17	BALL SEATS	P.T.F.E.	2																				
18	SCREW	STAINLESS STEEL	2																				
19	SCREW	STAINLESS STEEL	2																				
20	BODY HANDLE	CAST IRON	1																				
21	UNSCREWING GROWER	A182-F316	1																				

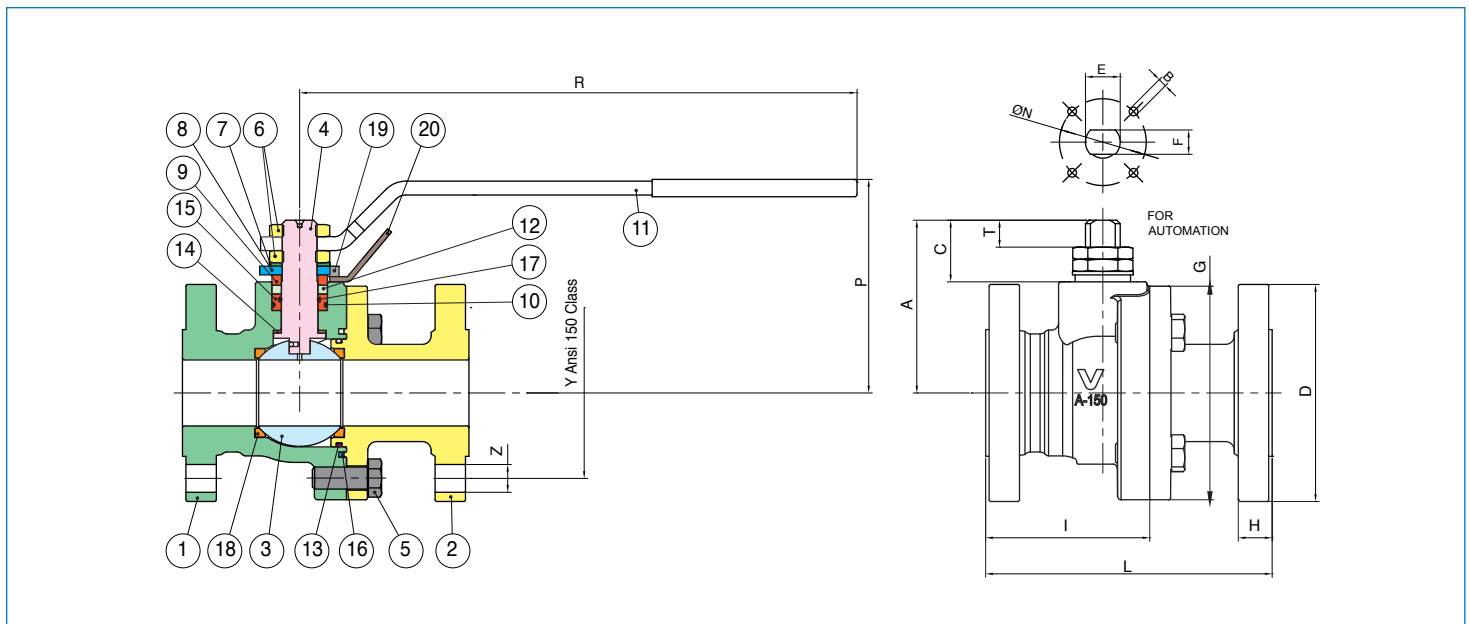
\* TRUNNION supplied without handle



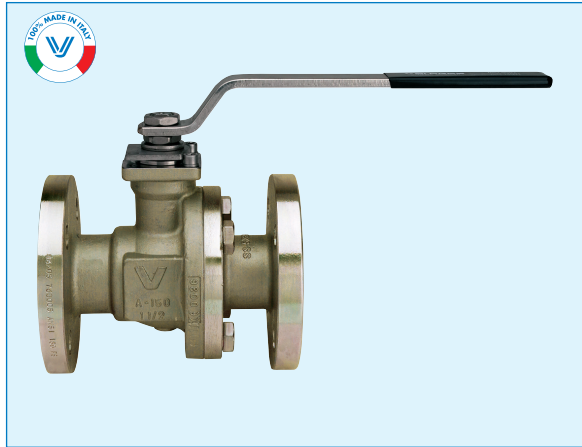
## SERIES 68J000 API 608 STAINLESS STEEL BALL VALVE

- Stainless steel, ANSI Class 150, flanged ball valve.
- API 608, ASME B16.34, ASME B16.10, ASME B16.5, ASME B1.1 design.
  - 100% tested according to API 598 standards.
  - R.T.F.E seats, packing and thrust washer.
  - Full port, sizes 1/2" - 6".
  - Blow out proof stem, locking handle.
  - Fire Safe design.
  - Antistatic Device.
  - ISO 5211 mounting pad with double "D" stem.
  - Locking device.
  - Temperature range: -4° F to 366° F.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Cv	Weight Lbs
1	BODY	A351-CF8M	1	1/2"	3.54	2.37	4xØ0.63	0.46	1.79	4.25	3.23	3.74	6.85	2.13	0.87	0.30	M12	0.31	1.65-F04	M5	22.33	5.29
2	END CONNECTION	A351-CF8M	1		3/4"	3.94	2.75	4xØ0.63	0.53	1.91	4.61	3.54	3.90	6.85	2.28	0.85	0.30	M12	0.31	1.65-F04	M5	40.70
3	BALL	A479-Tp316	1	1"		4.33	3.13	4xØ0.63	0.58	2.09	5.00	4.13	3.94	9.84	2.94	1.16	0.41	M16	0.39	1.97-F05	M6	75.00
4	STEM	A564 Tp630 H1150D (17-4-PH)	1		1 1/2"	4.92	3.87	4xØ0.63	0.71	3.72	6.50	4.84	4.84	12.64	3.94	1.40	0.61	M20	0.55	1.97-F05	M6	202.33
5	SCREW	A193 B8 Cl.2	4	2"		5.91	4.74	4xØ0.75	0.77	2.99	7.01	5.51	5.24	12.64	4.27	1.44	0.57	M20	0.55	1.97-F05	M6	350.35
6	NUT	STAINLESS STEEL	2		3"	7.48	6.00	4xØ0.75	0.96	3.23	7.99	7.40	6.57	15.00	5.89	1.87	0.87	M24	0.71	2.75-F07	M8	1014.53
7	SPRING WASHER	A182-F304	2	4"		9.06	7.50	8xØ0.75	0.96	3.54	9.02	9.25	7.32	15.00	6.57	1.77	0.81	M24	0.71	4.02-F10	M10	1585.23
8	90° STOP	AISI 316	1		6"	11.02	9.50	8xØ0.87	1.02	9.49	15.51	12.40	12.01	27.56	9.65	2.68	1.34	M42	1.18	4.92-F12	M12	4268.72
9	BUSH	A479-Tp316L	1																			
10	O-RING	FKM (VITON®)	1																			
11	HANDLE	AISI 316	1																			
12	STEM SEAL	GRAFITE	1																			
13	O-RING	FKM (VITON®)	1																			
14	THRUST WASHER	R.P.T.F.E.	1																			
15	O-RING BUSH	A479-Tp316L	1																			
16	BODY SEAT	GRAFITE	1																			
17	O-RING	FKM (VITON®)	2																			
18	BALL SEAT	R.P.T.F.E.	2																			
19	SCREW	A2-70	1																			
20	LOCKING DEVICE	AISI 316	1																			

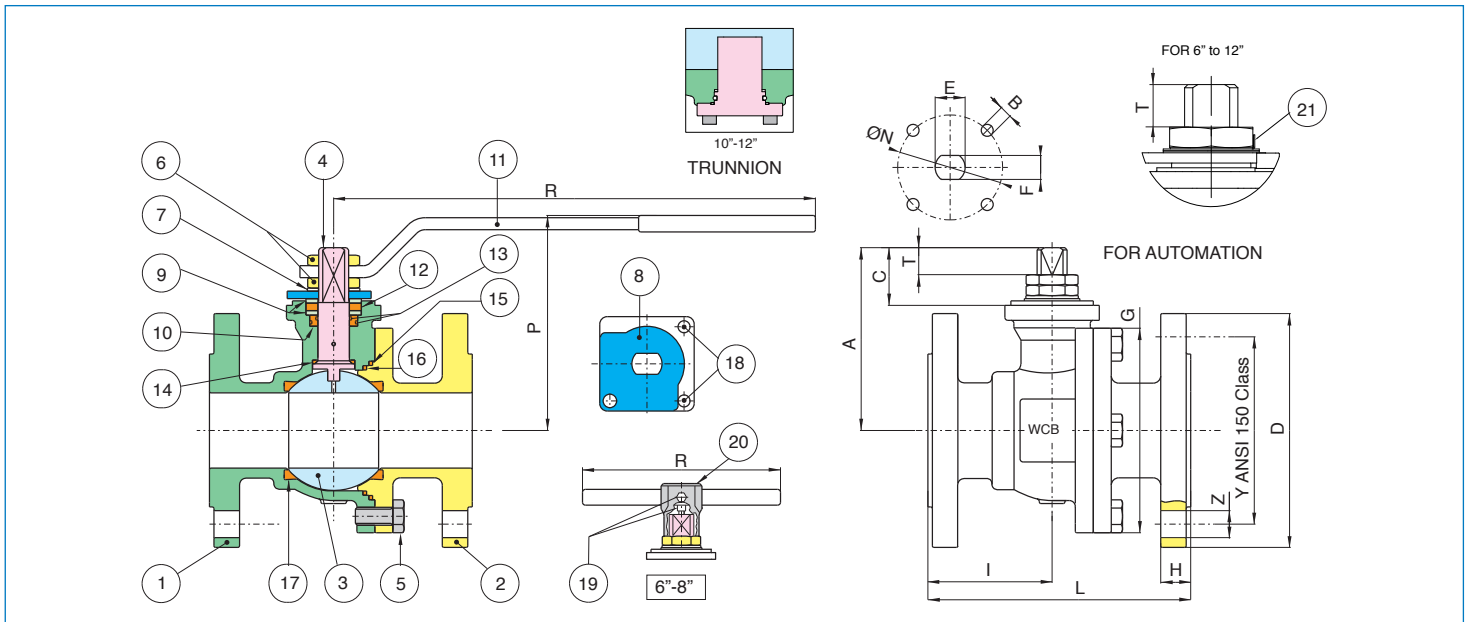


## SERIES 762000 CARBON STEEL BALL VALVE

- Carbon steel, ANSI CLASS 150 flanged ball valve.
- Full port, sizes 1/2" to 12" (10" and 12" TRUNNION).
- Blow out proof stem, adjustable stem packing.
- P.T.F.E. seats, packing and thrust washer.
- 100% tested.
- PED 97/23/CE.
- Locking handle plate.
- Temperature range -4° F to 366° F.
- ANSI B16.5, B16.10, B16.34 design.
- Fire Safe API 6FA-API 607 4th edition.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.

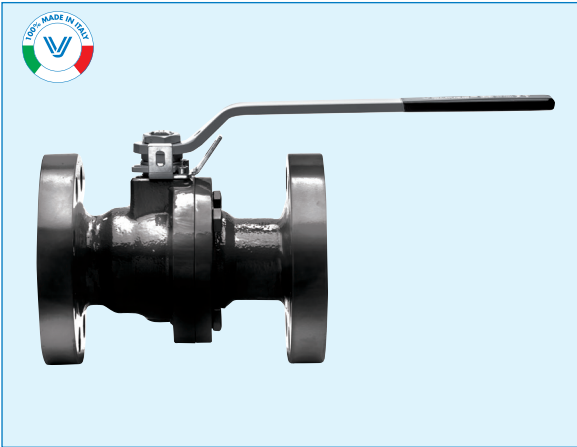
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

760137: STEAM SERVICE TRIM.



N POS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1	BODY	A216 WCB	1	1/2"	3.54	2.38	4xØ0.63	0.45	1.83	4.25	2.80	3.46	5.16	2.05	0.75	0.31	M10	0.28	1.65-F04	M5	35	22.21	4.21
2	END CONNECTION	A216 WCB	1	3/4"	3.94	2.76	4xØ0.63	0.51	2.09	4.61	2.89	3.66	5.16	2.20	0.75	0.31	M10	0.28	1.65-F04	M5	115	40.50	5.36
3	BALL	A479-304/A351 CF8	1	1"	4.33	3.13	4xØ0.63	0.57	2.34	5.00	3.56	3.50	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	124	74.63	8.15
4	STEM	A479-304	1	1 1/2"	5.12	3.88	4xØ0.63	0.69	3.03	6.50	4.49	5.24	9.84	4.17	1.18	0.39	M16	0.39	1.97-F05	M6	195	201.32	15.65
5	SCREW	STAINLESS STEEL	4-8-12	2"	5.91	4.74	4xØ0.75	0.77	3.39	7.01	5.37	5.67	12.64	4.80	1.52	0.71	M20	0.55	2.76-F07	M8	292	348.60	23.80
6	NUT	STAINLESS STEEL	1-2	3"	7.48	6.00	4xØ0.75	0.94	3.13	7.99	7.03	6.81	15.00	5.94	1.69	0.71	M24	0.71	4.02-F10	M10	637	1009.48	47.61
7	SPRING WASHER	STEEL	2	4"	9.06	7.50	8xØ0.75	0.94	4.33	9.02	8.21	7.36	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	956	1577.34	67.00
8	TRAVEL STOP	STEEL	1	6"	11.02	9.51	8xØ0.87	1.00	7.13	15.51	12.24	12.01	27.56	9.65	2.68	1.61	M42	1.18	4.92-F12	M12	2903	4247.46	171.91
9	PACKING GLAND	STEEL	2	8"	13.58	11.75	8xØ0.87	1.14	8.35	17.99	15.83	13.70	27.56	11.34	2.68	1.61	M42	1.18	4.92-F12	M12	5824	7886.81	274.62
10	STEM SEAL	P.T.F.E.	1	10"	15.94	14.25	12xØ1.02	1.27	11.88	20.98	19.69	-	-	13.90	3.19	1.85	M52	1.50	5.51-F14	M16	-	12924.50	429.78
11	HANDLE	STEEL	1	12"	19.09	17.00	12xØ1.02	1.33	13.93	24.02	22.05	-	-	15.12	3.19	1.85	M52	1.50	5.51-F14	M16	-	19444.08	559.82
12	STEM SEAL	GRAPHOIL	1																				
13	O-RING	FKM (Viton®)	2																				
14	THRUST WASHER	P.T.F.E.	1																				
15	SEAL	GRAPHOIL	1																				
16	SEAL	P.T.F.E.	1																				
17	BALL SEATS	P.T.F.E.	2																				
18	SCREW	STEEL	2																				
19	SCREW	STEEL	2																				
20	BODY HANDLE	CAST IRON	1																				
21	UNSCREWING GROWER	A182-F316	1																				

\* TRUNNION supplied without handle

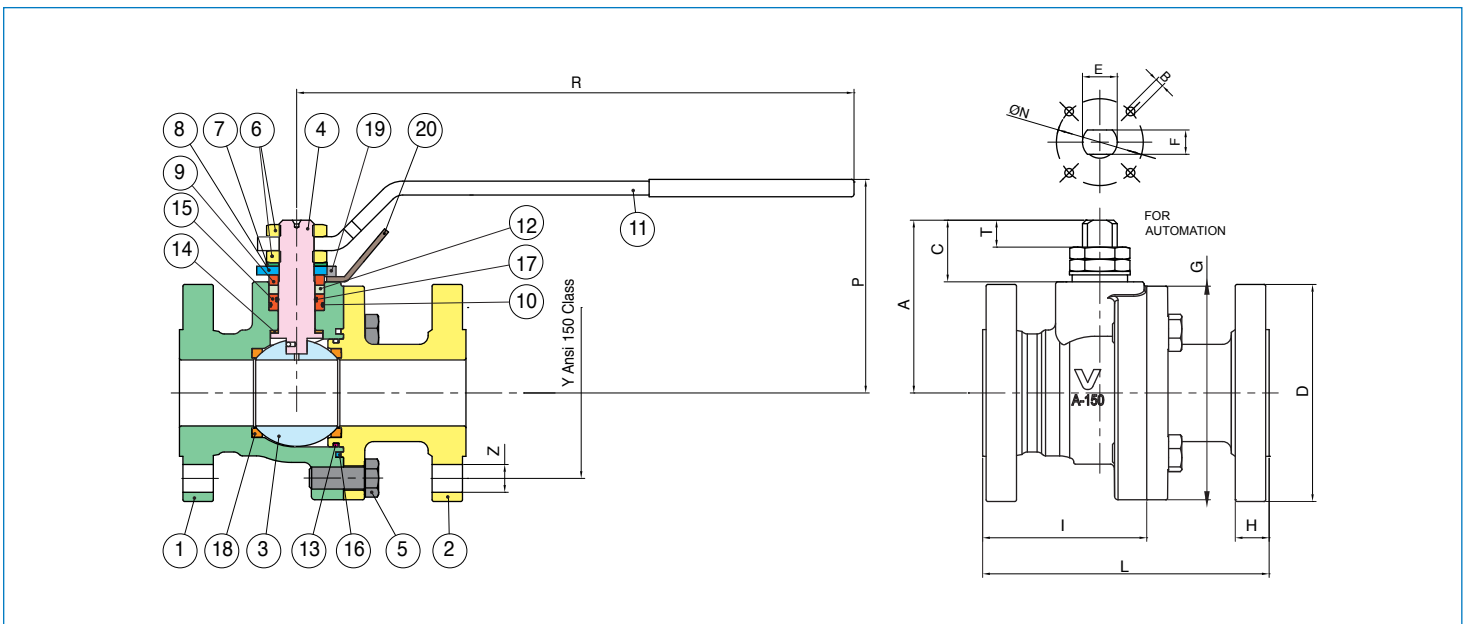


## SERIES 68F000 API 608 CARBON STEEL BALL VALVE

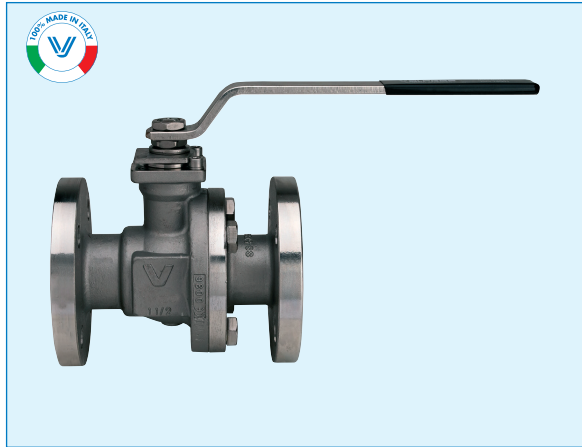
Carbon steel, ANSI Class 150, flanged ball valve.

- API 608, ASME B16.34, ASME B16.10, ASME B16.5, ASME B1.1 design.
- 100% tested according to API 598 standards.
- R.T.F.E seats, packing and thrust washer.
- Full port, sizes 1/2" - 6".
- Blow out proof stem, locking handle.
- Fire Safe design.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.
- Temperature range: -4° F to 366° F.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Cv	Weight Lbs
1	BODY	A352-LCB	1	1/2"	3.54	2.37	4xØ0.63	0.46	1.79	4.25	3.23	3.74	6.85	2.13	0.87	0.30	M12	0.31	1.65-F04	M5	22.33	5.29
2	END CONNECTION	A352-LCB	1		3/4"	3.94	2.75	4xØ0.63	0.53	1.91	4.61	3.54	3.90	6.85	2.28	0.85	0.30	M12	0.31	1.65-F04	M5	40.70
3	BALL	A479-Tp316	1	1"		4.33	3.13	4xØ0.63	0.58	2.09	5.00	4.13	3.94	9.84	2.94	1.16	0.41	M16	0.39	1.97-F05	M6	75.00
4	STEM	A564 Tp630 H1150D (17-4-PH)	1		1 1/2"	4.92	3.87	4xØ0.63	0.71	3.72	6.50	4.84	4.84	12.64	3.94	1.40	0.61	M20	0.55	1.97-F05	M6	202.33
5	SCREW	A320 L7	4	2"		5.91	4.74	4xØ0.75	0.77	2.99	7.01	5.51	5.24	12.64	4.27	1.44	0.57	M20	0.55	1.97-F05	M6	350.35
6	NUT	CARBON STEEL	2		3"	7.48	6.00	4xØ0.75	0.96	3.23	7.99	7.40	6.57	15.00	5.89	1.87	0.87	M24	0.71	2.75-F07	M8	1014.53
7	SPRING WASHER	CARBON STEEL	2	4"		9.06	7.50	8xØ0.75	0.96	3.54	9.02	9.25	7.32	15.00	6.57	1.77	0.81	M24	0.71	4.02-F10	M10	1585.23
8	90° STOP	AISI 316	1		6"	11.02	9.50	8xØ0.87	1.02	9.49	15.51	12.40	12.01	27.56	9.65	2.68	1.34	M42	1.18	4.92-F12	M12	4268.72
9	BUSH	A479-Tp316L	1																			
10	O-RING	FKM (VITON®)	1																			
11	HANDLE	CARBON STEEL	1																			
12	STEM SEAL	GRAFITE	1																			
13	O-RING	FKM (VITON®)	1																			
14	THRUST WASHER	R.P.T.F.E.	1																			
15	O-RING BUSH	A479-Tp316L	1																			
16	BODY SEAT	GRAFITE	1																			
17	O-RING	FKM (VITON®)	2																			
18	BALL SEAT	R.P.T.F.E.	2																			
19	SCREW	CARBON STEEL	1																			
20	LOCKING DEVICE	AISI 316	1																			

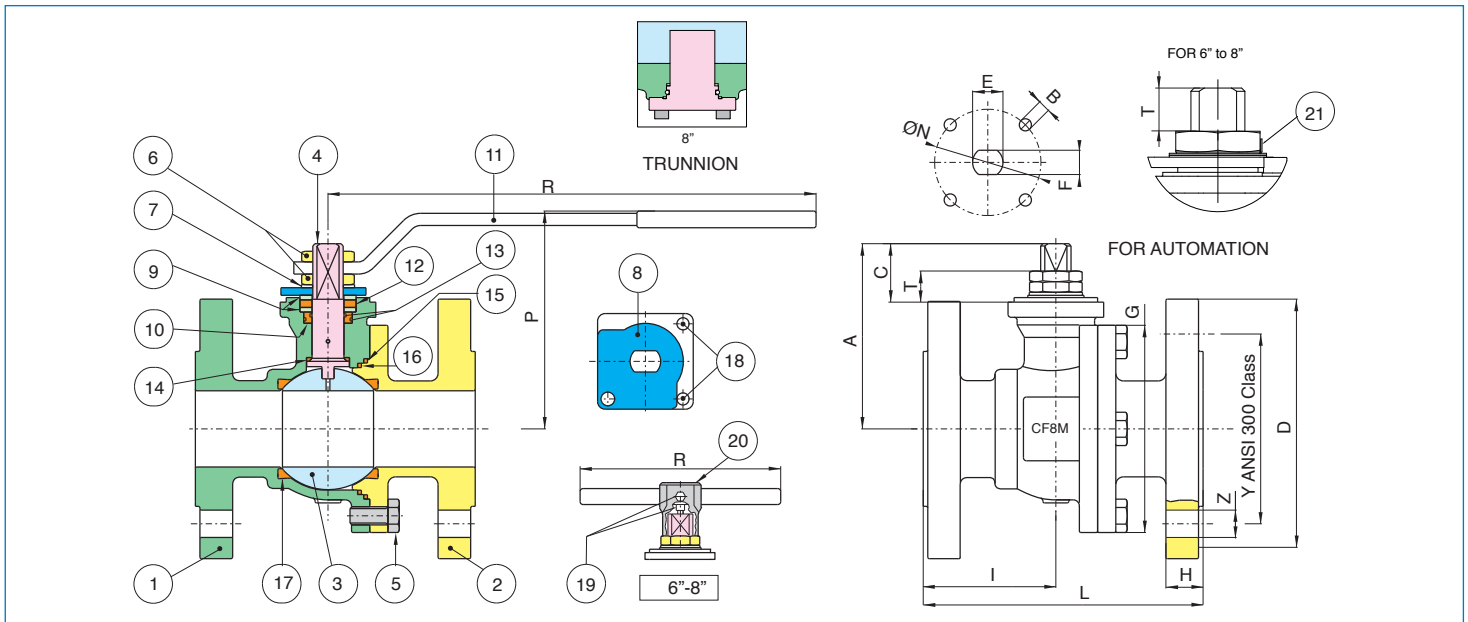


## SERIES 761030 STAINLESS STEEL BALL VALVE

- Stainless steel, ANSI class 300 flanged ball valve.
- Full port, sizes 1/2" to 8" (8" TRUNNION).
- Blow out proof stem, adjustable stem packing.
- R.T.F.E. seats, packing and thrust washer.
- 100% tested.
- PED 97/23/CE.
- Locking handle plate.
- Temperature range -4° F to 366° F.
- ANSI B16.5, B16.10, B16.34 design.
- Fire Safe API 6FA-API 607 4th edition.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

760195: STEAM SERVICE TRIM.

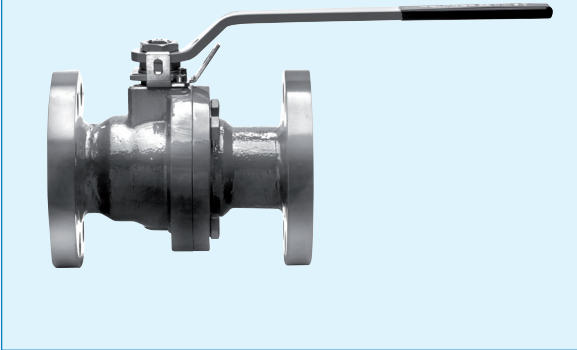


N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	1
3	BALL	A479-316/A351-CF8M	1
4	STEM	A479-316	1
5	SCREW	STAINLESS STEEL	4-8-12
6	NUT	STAINLESS STEEL	1-2
7	SPRING WASHER	STAINLESS STEEL	2
8	TRAVEL STOP	STAINLESS STEEL	1
9	PACKING GLAND	STAINLESS STEEL	2
10	STEM SEAL	P.T.F.E.	1
11	HANDLE	STAINLESS STEEL	1
12	STEM SEAL	GRAPHOIL	1
13	O-RING	VITON	2
14	THRUST WASHER	P.T.F.E.	1
15	SEAL	P.T.F.E.	1
16	SEAL	P.T.F.E.	1
17	BALL SEATS	R.P.T.F.E.	2
18	SCREW	STAINLESS STEEL	2
19	SCREW	STAINLESS STEEL	2
20	BODY HANDLE	CAST IRON	1
21	UNSCREWING GROWER	A182-F316	1

SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1/2"	3.74	2.62	4xØ0.63	0.57	2.42	5.51	3.35	3.46	5.16	2.05	0.75	0.31	M10	0.28	1.65-F04	M5	44	22.21	5.07
3/4"	4.53	3.25	4xØ0.75	0.63	2.40	5.98	3.07	3.66	5.16	2.20	0.75	0.31	M10	0.28	1.65-F04	M5	142	40.50	7.71
1"	4.92	3.50	4xØ0.79	0.69	2.78	6.50	3.78	4.29	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	150	74.63	11.46
1 1/2"	6.10	4.51	4xØ0.87	0.83	3.09	7.48	4.96	5.24	9.84	4.21	1.18	0.39	M16	0.39	1.97-F05	M6	240	201.32	22.04
2"	6.50	5.00	8xØ0.79	0.89	3.39	8.50	5.37	5.67	12.64	4.80	1.52	0.71	M20	0.55	2.76-F07	M8	345	348.60	26.45
3"	8.27	6.63	8xØ0.87	1.14	3.19	11.14	7.03	6.81	15.00	5.94	1.69	0.71	M24	0.71	4.02-F10	M10	770	1009.48	59.51
4"	10.04	7.87	8xØ0.87	1.26	3.48	12.01	8.62	7.36	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	1160	1577.34	90.36
6"	12.60	10.63	12xØ0.87	1.46	6.77	15.87	12.05	12.01	27.56	9.65	2.68	1.61	M42	1.18	4.92-F12	M12	1240	4247.46	204.97
8" *	15.00	12.99	12xØ1.02	1.63	9.88	19.76	16.14	13.70	27.56	11.34	2.70	1.61	M42	1.18	4.92-F12	M12	3505	7886.81	332.80

\* TRUNNION max Δp= 362 psi



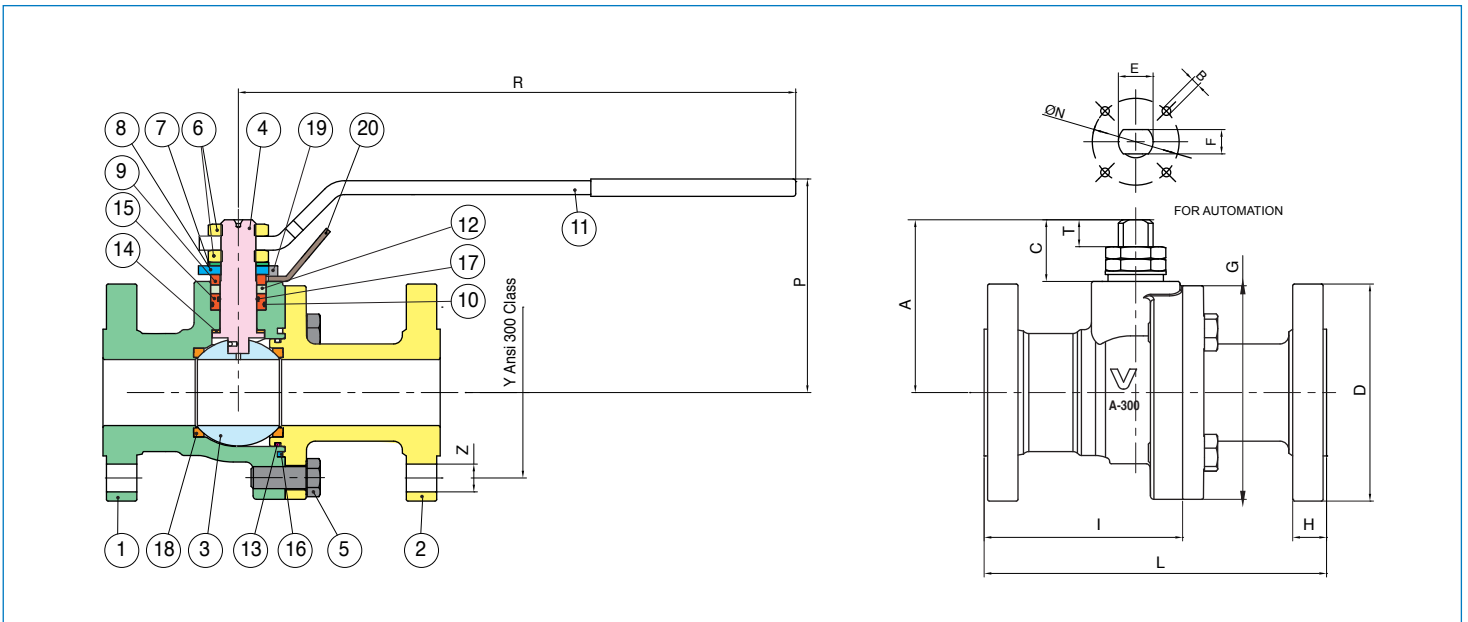


## SERIES 68J100 API 608 STAINLESS STEEL BALL VALVE

Stainless steel, ANSI Class 300, flanged ball valve.

- API 608, ASME B16.34, ASME B16.10, ASME B16.5, ASME B1.1 design.
- 100% tested according to API 598 standards.
- R.T.F.E seats, packing and thrust washer.
- Full port, sizes 1/2" - 6".
- Blow out proof stem, locking handle.
- Fire Safe design.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.
- Temperature range: -4° F to 366° F.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



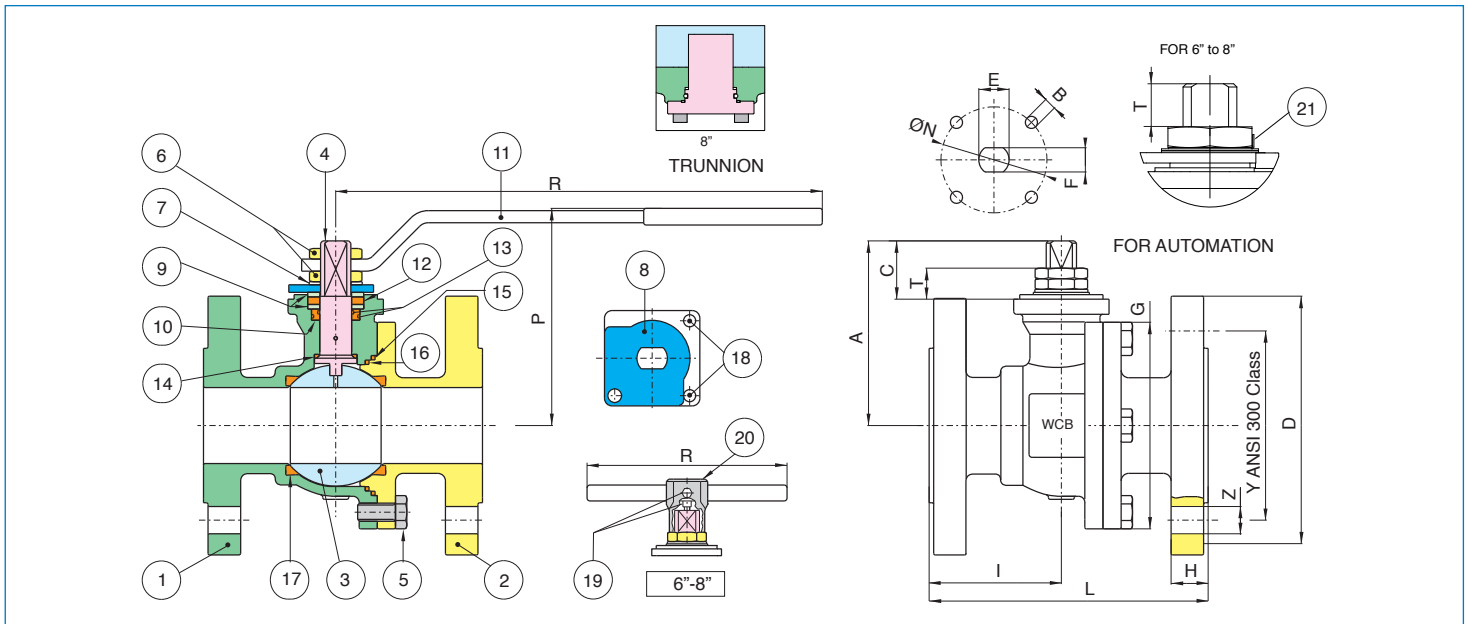
N PCS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Cv	Weight Lbs
1	BODY	A351-CF8M	1	1/2"	3.74	2.63	4xØ0.63	0.58	2.47	5.51	3.23	3.74	6.85	2.13	0.87	0.30	M12	0.31	1.65-F04	M5	22.33	6.83
2	END CONNECTION	A351-CF8M	1																			
3	BALL	A479-Tp316	1	3/4"	4.53	3.25	4xØ0.75	0.64	2.64	5.98	3.54	3.90	6.85	2.28	0.85	0.28	M12	0.31	1.65-F04	M5	40.70	9.92
4	STEM	A564 Tp630 H1150D (17-4-PH)	1																			
5	SCREW	A193 B8 Cl.2	4	1"	4.92	3.50	4xØ0.75	0.70	2.78	6.50	4.13	3.94	9.84	2.94	1.16	0.41	M16	0.39	1.97-F05	M6	75.00	14.11
6	NUT	STAINLESS STEEL	2																			
7	SPRING WASHER	A182-F304	2	1 1/2"	6.10	4.50	4xØ0.87	0.83	4.09	7.48	5.04	4.84	12.64	3.90	1.38	0.61	M20	0.55	1.97-F05	M6	202.33	25.57
8	90° STOP	AISI 316	1																			
9	BUSH	A479-Tp316L	1	2"	6.50	5.00	8xØ0.75	0.91	3.54	8.50	5.51	5.24	12.64	4.29	1.46	0.59	M20	0.55	1.97-F05	M6	350.35	31.74
10	O-RING	FKM (VITON®)	1																			
11	HANDLE	AISI 316	1	3"	8.27	6.63	8xØ0.87	1.14	4.80	11.10	7.40	6.57	15.00	5.91	1.85	0.85	M24	0.71	4.02-F10	M10	1014.53	70.53
12	STEM SEAL	GRAFITE	1																			
13	O-RING	FKM (VITON®)	1	4"	10.04	7.87	8xØ0.87	1.27	5.04	12.01	9.25	7.32	15.00	6.57	1.77	0.81	M24	0.71	4.02-F10	M10	1585.23	115.49
14	THRUST WASHER	R.P.T.F.E.	1																			
15	O-RING BUSH	A479-Tp316L	1	6"	12.60	10.63	12xØ0.87	1.46	7.89	15.87	12.68	12.17	27.56	9.65	2.52	1.18	M42	1.18	4.92-F12	M12	4268.72	240.24
16	BODY SEAT	GRAFITE	1																			
17	O-RING	FKM (VITON®)	2																			
18	BALL SEAT	R.P.T.F.E.	2																			
19	SCREW	A2-70	1																			
20	LOCKING DEVICE	AISI 316	1																			

## SERIES 761031 CARBON STEEL BALL VALVE

- Carbon steel, ANSI class 300 flanged ball valve.
- Full port, sizes 1/2" to 8" (8" TRUNNION).
- Blow out proof stem, adjustable stem packing.
- R.T.F.E. seats, packing and thrust washer.
- 100% tested.
- PED 97/23/CE.
- Locking handle plate.
- Temperature range -4° F to 366° F.
- ANSI B16.5 - B16.10 B16.34 design.
- Fire Safe API 6FA-API 607 4th edition.
- Antistatic device.
- ISO 5211 mounting pad with double "D" stem.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

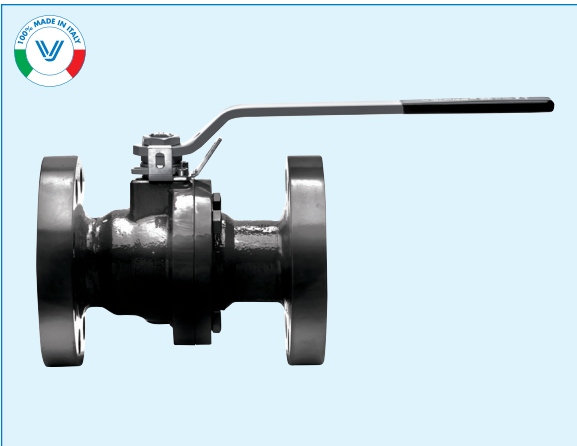
760266: STEAM SERVICE TRIM.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	A216 WCB	1
2	END CONNECTION	A216 WCB	1
3	BALL	A479-304/A351-CF8	1
4	STEM	A479-304	1
5	SCREW	STAINLESS SELL	4-8-12
6	NUT	CARBON STEEL 1/2"-1 1/2" 2"-8"	1-2
7	SPRING WASHER	STEEL	2
8	TRAVEL STOP	CARBON STEEL	1
9	PACKING GLAND	CARBON STEEL	2
10	STEM SEAL	P.T.F.E.	1
11	HANDLE	CARBON STEEL	1
12	STEM SEAL	GRAPHOIL	1
13	O-RING	VITON	2
14	THRUST WASHER	P.T.F.E.	1
15	SEAL	GRAPHOIL	1
16	SEAL	P.T.F.E.	1
17	BALL SEATS	R.P.T.F.E.	2
18	SCREW	CARBON STEEL	2
19	SCREW	CARBON STEEL	2
20	BODY HANDLE	CAST IRON	1
21	UNSCREWING GROWER	A182-F316	1

SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1/2"	3.74	2.62	4xØ0.63	0.57	2.42	5.51	3.35	3.46	5.16	2.05	0.75	0.31	M10	0.28	1.65-F04	M5	44	22.21	5.07
3/4"	4.53	3.25	4xØ0.75	0.63	2.40	5.98	3.07	3.66	5.16	2.20	0.75	0.31	M10	0.28	1.65-F04	M5	142	40.50	7.71
1"	4.92	3.50	4xØ0.79	0.69	2.78	6.50	3.78	4.29	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	150	74.63	11.46
1 1/2"	6.10	4.51	4xØ0.87	0.83	3.09	7.48	4.96	5.24	9.84	4.21	1.18	0.39	M16	0.39	1.97-F05	M6	240	201.32	22.04
2"	6.50	5.00	8xØ0.79	0.89	3.39	8.50	5.37	5.67	12.64	4.80	1.52	0.71	M20	0.55	2.76-F07	M8	345	348.60	26.45
3"	8.27	6.63	8xØ0.87	1.14	3.19	11.14	7.03	6.81	15.00	5.94	1.69	0.71	M24	0.71	4.02-F10	M10	770	1009.48	59.51
4"	10.04	7.87	8xØ0.87	1.26	3.48	12.01	8.62	7.36	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	1160	1577.34	90.36
6"	12.60	10.63	12xØ0.87	1.46	6.77	15.87	12.05	12.01	27.56	9.65	2.68	1.61	M42	1.61	4.92-F12	M12	1240	4247.46	204.97
8" *	15.00	12.99	12xØ1.02	1.63	9.88	19.76	16.14	13.70	27.56	11.34	2.70	1.61	M42	1.61	4.92-F12	M12	3505	7886.81	332.80

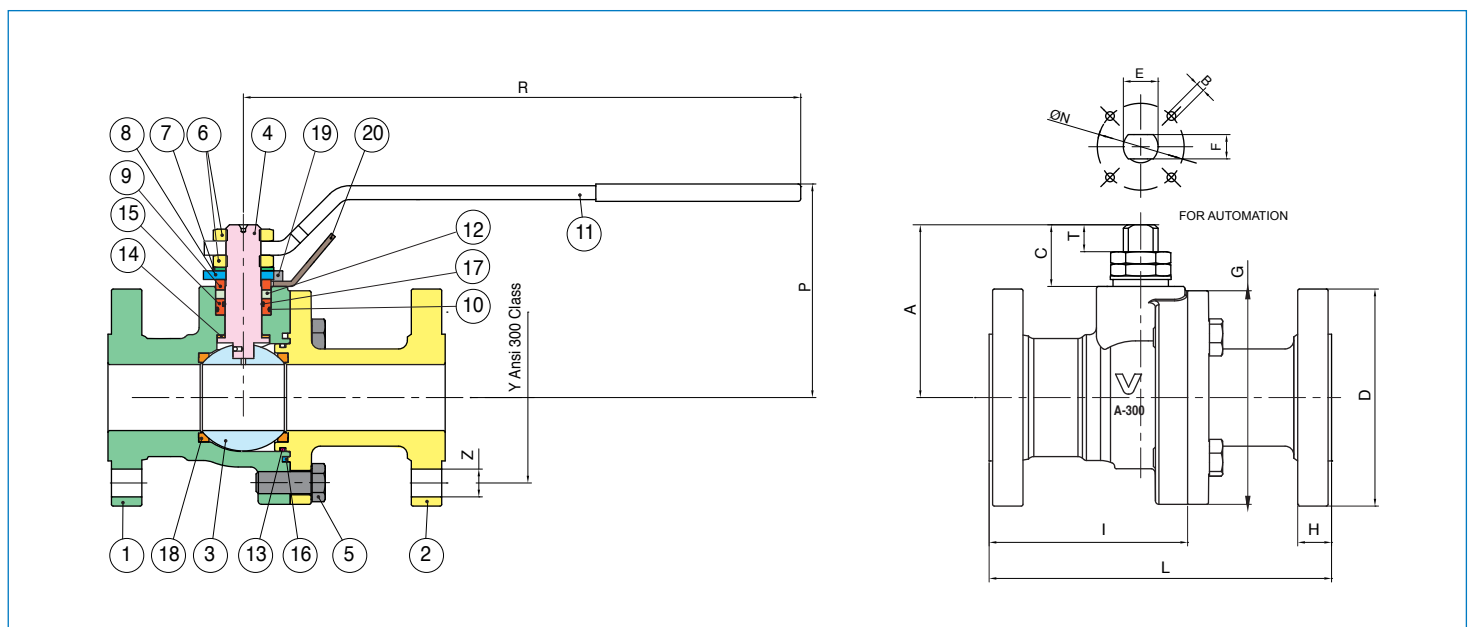
\* TRUNNION max Δp= 362 psi



## SERIES 68F100 API 608 CARBON STEEL BALL VALVE

- Carbon steel, ANSI Class 300, flanged ball valve.
- API 608, ASME B16.34, ASME B16.10, ASME B16.5, ASME B1.1 design.
- 100% tested according to API 598 standards.
- R.T.F.E seats, packing and thrust washer.
- Full port, sizes 1/2" - 6".
- Blow out proof stem, locking handle.
- Fire Safe design.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.
- Temperature range: -4° F to 366° F.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

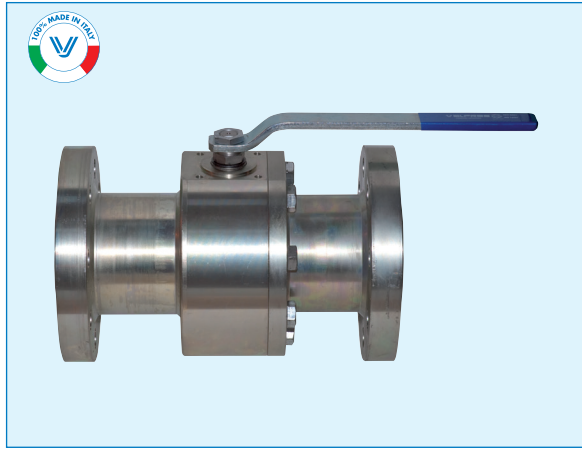


N PCS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Cv	Weight Lbs
1	BODY	A352-LCB	1	1/2"	3.74	2.63	4xØ0.63	0.58	2.47	5.51	3.23	3.74	6.85	2.13	0.87	0.30	M12	0.31	1.65-F04	M5	22.33	6.83
2	END CONNECTION	A352-LCB	1	3/4"	4.53	3.25	4xØ0.75	0.64	2.64	5.98	3.54	3.90	6.85	2.28	0.85	0.28	M12	0.31	1.65-F04	M5	40.70	9.92
3	BALL	A479-Tp316	1	1"	4.92	3.50	4xØ0.75	0.70	2.78	6.50	4.13	3.94	9.84	2.94	1.16	0.41	M16	0.39	1.97-F05	M6	75.00	14.11
4	STEM	A564 Tp30 H1150D (17-4-PH)	1	1 1/2"	6.10	4.50	4xØ0.87	0.83	4.09	7.48	5.04	4.84	12.64	3.90	1.38	0.61	M20	0.55	1.97-F05	M6	202.33	25.57
5	SCREW	A320 L7	4	2"	6.50	5.00	8xØ0.75	0.91	3.54	8.50	5.51	5.24	12.64	4.29	1.46	0.59	M20	0.55	1.97-F05	M6	350.35	31.74
6	NUT	CARBON STEEL	2	3"	8.27	6.63	8xØ0.87	1.14	4.80	11.10	7.40	6.57	15.00	5.91	1.85	0.85	M24	0.71	4.02-F10	M10	1014.53	70.53
7	SPRING WASHER	CARBON STEEL	2	4"	10.04	7.87	8xØ0.87	1.27	5.04	12.01	9.25	7.32	15.00	6.57	1.77	0.81	M24	0.71	4.02-F10	M10	1585.23	115.49
8	90° STOP	AISI 316	1	6"	12.60	10.63	12xØ0.87	1.46	7.89	15.87	12.68	12.17	27.56	9.65	2.52	1.18	M42	1.18	4.92-F12	M12	4268.72	240.24
9	BUSH	A479-Tp316L	1																			
10	O-RING	FKM (VITON®)	1																			
11	HANDLE	CARBON STEEL	1																			
12	STEM SEAL	GRAFITE	1																			
13	O-RING	FKM (VITON®)	1																			
14	THRUST WASHER	R.P.T.F.E.	1																			
15	O-RING BUSH	A479-Tp316L	1																			
16	BODY SEAT	GRAFITE	1																			
17	O-RING	FKM (VITON®)	2																			
18	BALL SEAT	R.P.T.F.E.	2																			
19	SCREW	CARBON STEEL	1																			
20	LOCKING DEVICE	AISI 316	1																			

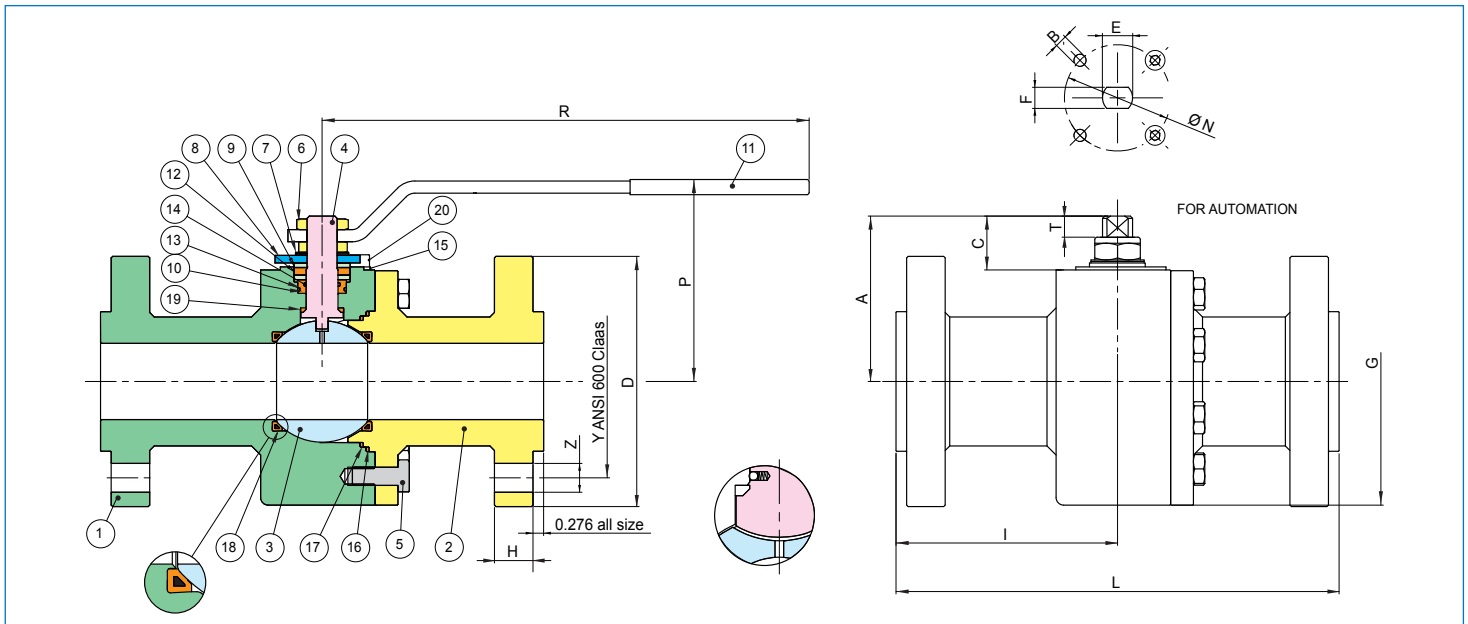
## SERIES 760200 STAINLESS STEEL BALL VALVE

Stainless steel, ANSI class 600 flanged ball valve.

- Full port sizes 1/2" to 4"
- Blow out proof stem.
- Metal filled P.T.F.E. ball seats.
- 100% tested.
- PED 97/23/CE.
- Temperature range -4° F to 366° F.
- ANSI B16.5, B16.10, B16.34 design.
- Fire Safe certified to API 607 6th edition.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.

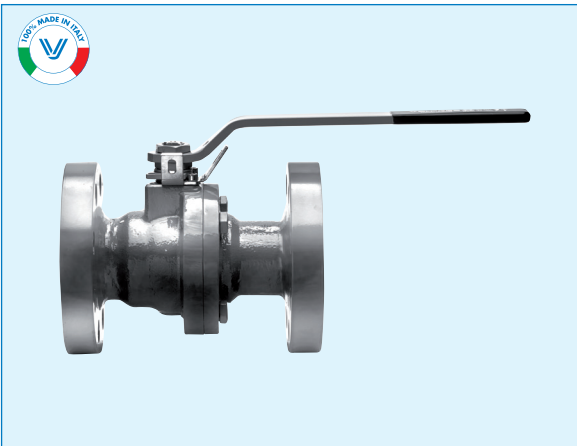


COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	A479-316	1
2	END CONNECTION	A479-316	1
3	BALL	A479-316/A351-CF8M	1
4	STEM	A479-316	1
5	SCREW	STAINLESS STEEL	4-8
6	NUT	STAINLESS STEEL	2
7	SPRING WASHER	STAINLESS STEEL	2
8	90° STOP	STAINLESS STEEL	1
9	PACKING GLAND	STAINLESS STEEL	2
10	STEM SEAL	P.T.F.E.	1
11	HANDLE	STAINLESS STEEL	1
12	STEM SEAL	GRAPHOIL	1
13	O-RING	FKM (VITON)	1
14	O-RING	FKM (VITON)	1
15	THRUST WASHER	STAINLESS STEEL	2
16	BODY SEAL	GRAPHOIL	1
17	SEAL	P.T.F.E.	1
18	BALL SEAT	R.P.T.F.E.	2
19	THRUST WASHER	P.T.F.E.	1
20	SCREW	STAINLESS STEEL	2

SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1/2"	3.74	2.63	4xØ0.63	0.57	3.25	6.50	3.35	3.46	5.16	2.07	0.77	0.31	M10	0.28	1.65-F04	M5	58	22.21	9.04
3/4"	4.53	3.25	4xØ0.75	0.63	3.76	7.52	3.74	3.62	5.16	2.20	0.77	0.33	M10	0.28	1.65-F04	M5	93	40.50	13.22
1"	4.92	3.50	4xØ0.75	0.69	4.25	8.50	4.25	4.33	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	177	74.63	19.62
1 1/2"	6.10	4.51	4xØ0.87	0.88	4.74	9.49	6.26	5.16	9.88	4.21	1.26	0.51	M16	0.39	1.97-F05	M6	354	201.32	44.08
2"	6.50	5.00	8xØ0.75	1.00	5.75	11.50	6.42	5.24	12.64	4.29	1.40	0.55	M20	0.55	2.76-F07	M8	443	348.60	56.20
3"	8.27	6.63	8xØ0.87	1.25	7.01	14.02	8.19	6.14	15.00	5.20	1.57	0.63	M24	0.71	4.02-F10	M10	2213	1009.48	114.61
4"	10.04	8.50	8xØ1.02	1.50	8.50	17.01	10.28	7.32	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	2478	1577.34	213.79

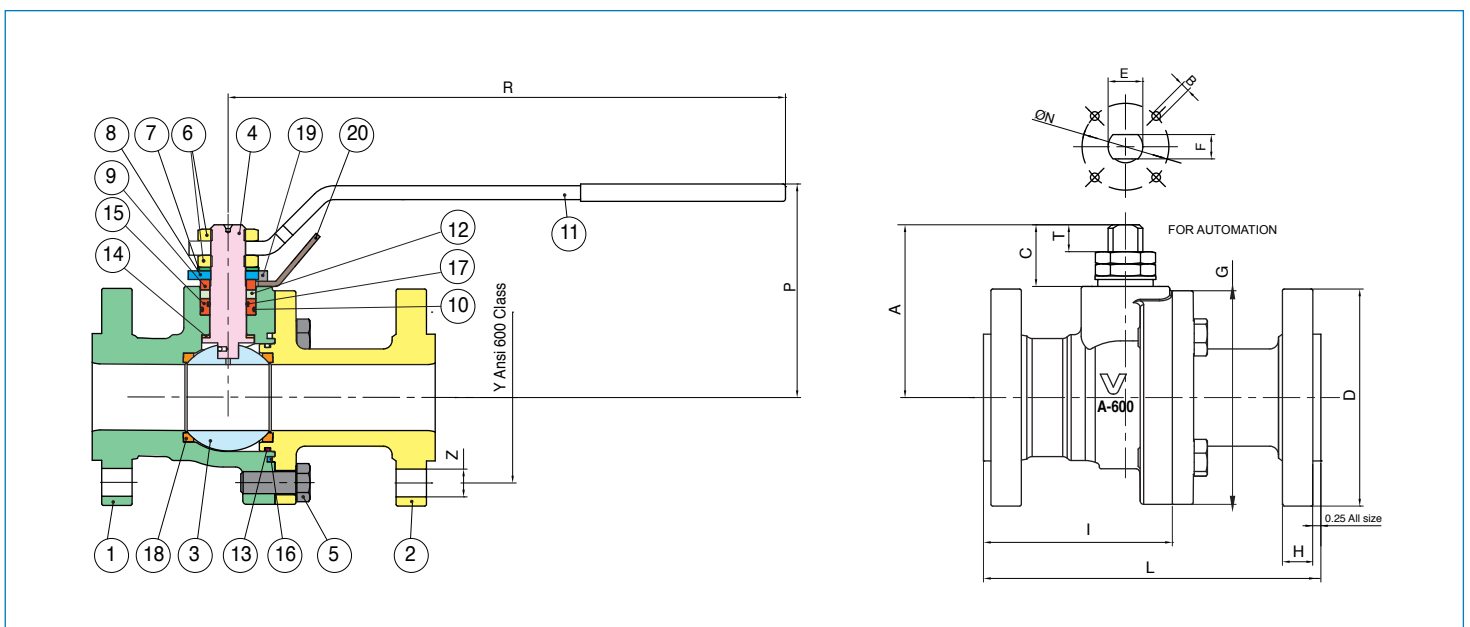


## SERIES 68J401 API 608 STAINLESS STEEL BALL VALVE

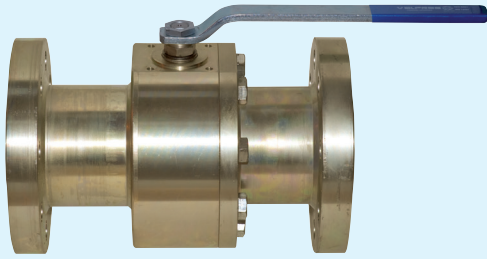
Stainless steel, ANSI class 600, flanged ball valve.

- API 608, ASME B16.34, ASME B16.10, ASME B16.5, ASME B1.1 design.
- 100% tested according to API 598 standards.
- R.T.F.E seats, packing and thrust washer.
- Full port, sizes 1/2" - 2".
- Blow out proof stem, locking handle.
- Fire Safe design.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.
- Temperature range: -4° F to 366° F.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



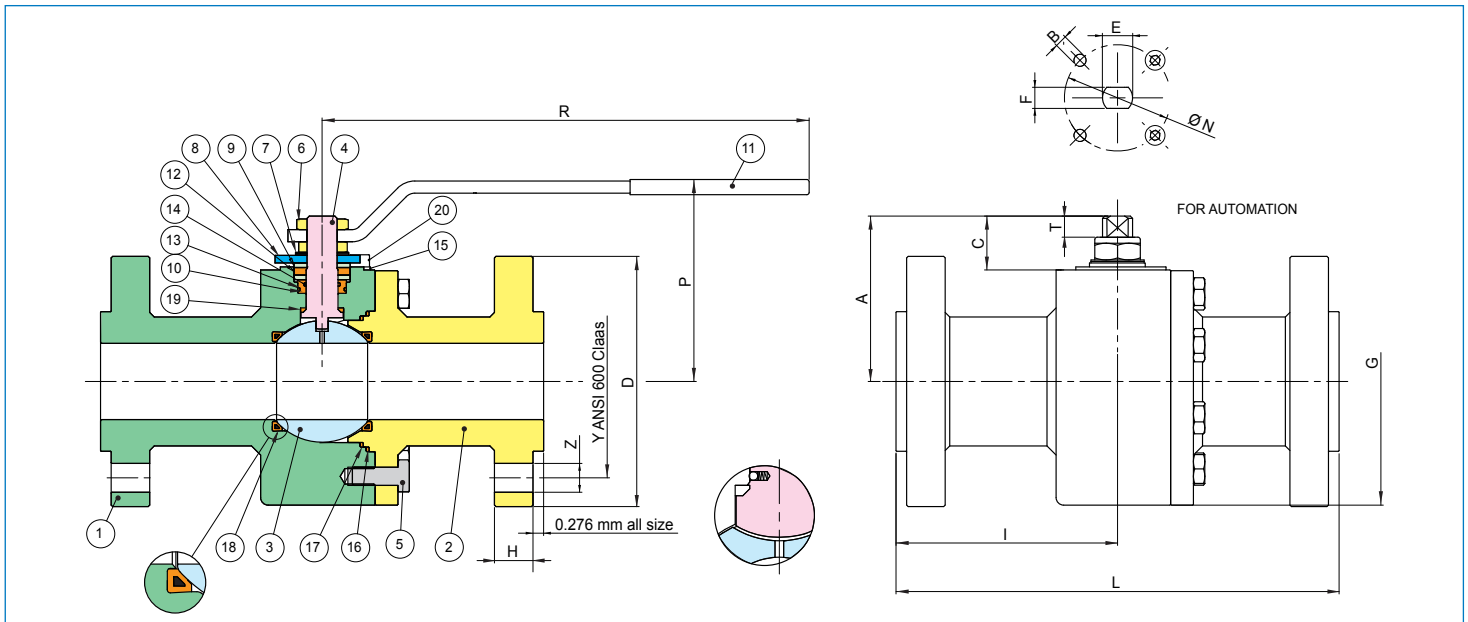
N PCS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Cv	Weight Lbs
1	BODY	A351-CF8M	1	1/2"	3.74	2.63	4xØ0.63	0.56	2.72	6.50	3.35	3.74	6.85	2.13	0.87	0.30	M12	0.31	1.65-F04	M5	22.33	7.93
2	END CONNECTION	A351-CF8M	1																			
3	BALL	A479-Tp316	1	3/4"	4.53	3.25	4xØ0.75	0.63	3.09	7.48	3.74	3.90	6.85	2.28	0.87	0.30	M12	0.31	1.65-F04	M5	40.70	11.24
4	STEM	A564 Tp630 H1150D (17-4-PH)	1																			
5	SCREW	A193 B8 Cl.2	4	1"	4.92	3.50	4xØ0.75	0.69	3.84	8.50	4.13	3.94	9.84	2.95	1.16	0.39	M16	0.39	1.97-F05	M6	75.00	15.87
6	NUT	STAINLESS STEEL	2																			
7	SPRING WASHER	A182-F304	2	1 1/2"	6.10	4.50	4xØ0.87	0.88	5.12	9.49	5.04	4.84	12.64	3.93	1.40	0.61	M20	0.55	1.97-F05	M6	120.70	29.09
8	90° STOP	AISI 316	1																			
9	BUSH	A479-Tp316L	1	2"	6.50	5.00	8xØ0.75	1.00	4.70	11.50	5.67	5.24	12.64	4.29	1.44	0.57	M20	0.55	1.97-F05	M6	350.35	38.35
10	O-RING	FKM (VITON®)	1																			
11	HANDLE	AISI 316	1																			
12	STEM SEAL	GRAFITE	1																			
13	O-RING	FKM (VITON®)	1																			
14	THRUST WASHER	R.P.T.F.E.	1																			
15	O-RING BUSH	A479-Tp316L	1																			
16	BODY SEAT	GRAFITE	1																			
17	O-RING	FKM (VITON®)	2																			
18	BALL SEAT	R.P.T.F.E.	2																			
19	SCREW	A2-70	1																			
20	LOCKING DEVICE	AISI 316	1																			



## SERIES 760150 LOW TEMPERATURE CARBON STEEL BALL VALVE

- Carbon steel, ANSI class 600 flanged ball valve.
- Full port sizes 1/2" to 4".
- Blow out proof stem.
- Metal filled P.T.F.E. ball seats.
- 100% tested.
- PED 97/23/CE.
- Temperature range -4° F to 366° F.
- ANSI B16.5, B16.10, B16.34 design.
- Fire Safe certified to API 607 6th edition.
- Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.

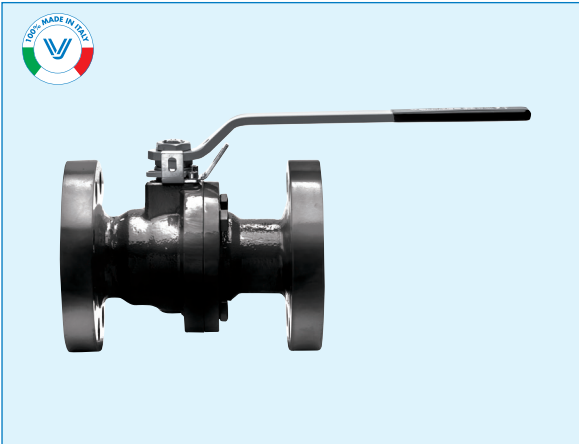
COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	A350-LF2	1
2	END CONNECTION	A350-LF2	1
3	BALL	A479-304/A351-CF8	1
4	STEM	A479-304	1
5	SCREW	CARBON STEEL	4-8
6	NUT	CARBON STEEL	2
7	SPRING WASHER	CARBON STEEL	2
8	90° STOP	CARBON STEEL	1
9	PACKING GLAND	STAINLESS STEEL	2
10	STEM SEAL	P.T.F.E.	1
11	HANDLE	CARBON STEEL	1
12	STEM SEAL	GRAPHOIL	1
13	O-RING	FKM (VITON)	1
14	O-RING	FKM (VITON)	1
15	THRUST WASHER	STAINLESS STEEL	2
16	BODY SEAL	GRAPHOIL	1
17	SEAL	P.T.F.E.	1
18	BALL SEAT	R.P.T.F.E.	2
19	THRUST WASHER	P.T.F.E.	1
20	SCREW	STAINLESS STEEL	2

SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Break Torque (in/Lbs)	Cv	Weight Lbs
1/2"	3.74	2.63	4xØ0.63	0.57	3.25	6.50	3.35	3.46	5.16	2.07	0.77	0.31	M10	0.28	1.65-F04	M5	58	22.21	9.04
3/4"	4.53	3.25	4xØ0.75	0.63	3.76	7.52	3.74	3.62	5.16	2.20	0.77	0.33	M10	0.28	1.65-F04	M5	93	40.50	13.22
1"	4.92	3.50	4xØ0.75	0.69	4.25	8.50	4.25	4.33	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	177	74.63	19.62
1 1/2"	6.10	4.51	4xØ0.87	0.88	4.74	9.49	6.26	5.16	9.88	4.21	1.26	0.51	M16	0.39	1.97-F05	M6	354	201.32	44.08
2"	6.50	5.00	8xØ0.75	1.00	5.75	11.50	6.42	5.24	12.64	4.29	1.40	0.55	M20	0.55	2.76-F07	M8	443	348.60	56.20
3"	8.27	6.63	8xØ0.87	1.25	7.01	14.02	8.19	6.14	15.00	5.20	1.57	0.63	M24	0.71	4.02-F10	M10	2213	1009.48	114.61
4"	10.04	8.50	8xØ1.02	1.50	8.50	17.01	10.28	7.32	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	2478	1577.34	213.79

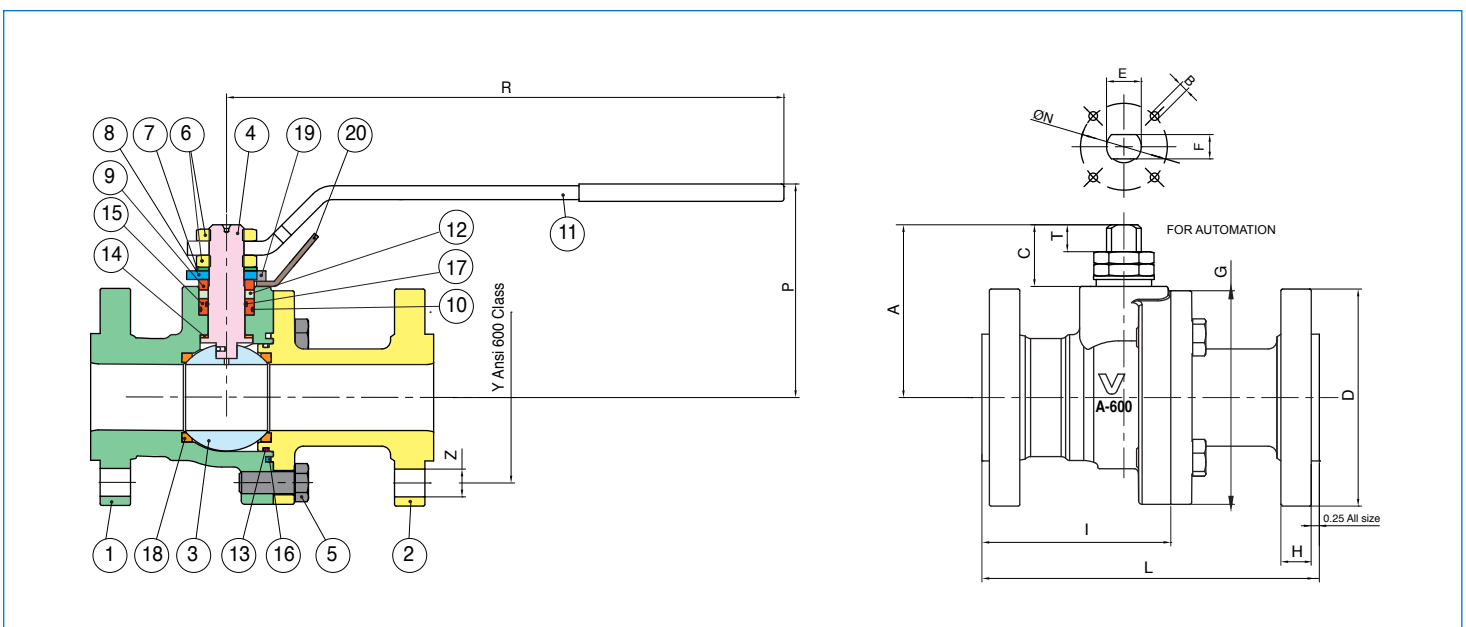




## SERIES 68F400 API 608 CARBON STEEL BALL VALVE

- Carbon steel, ANSI class 600, flanged ball valve.
- API 608, ASME B16.34, ASME B16.10, ASME B16.5, ASME B1.1 design.
  - 100% tested according to API 598 standards.
  - R.T.F.E seats, packing and thrust washer.
  - Full port, sizes 1/2" to 2".
  - Blow out proof stem, locking handle.
  - Fire Safe design.
  - Antistatic Device.
  - ISO 5211 mounting pad with double "D" stem.
  - Temperature range: -4° F to 366° F.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



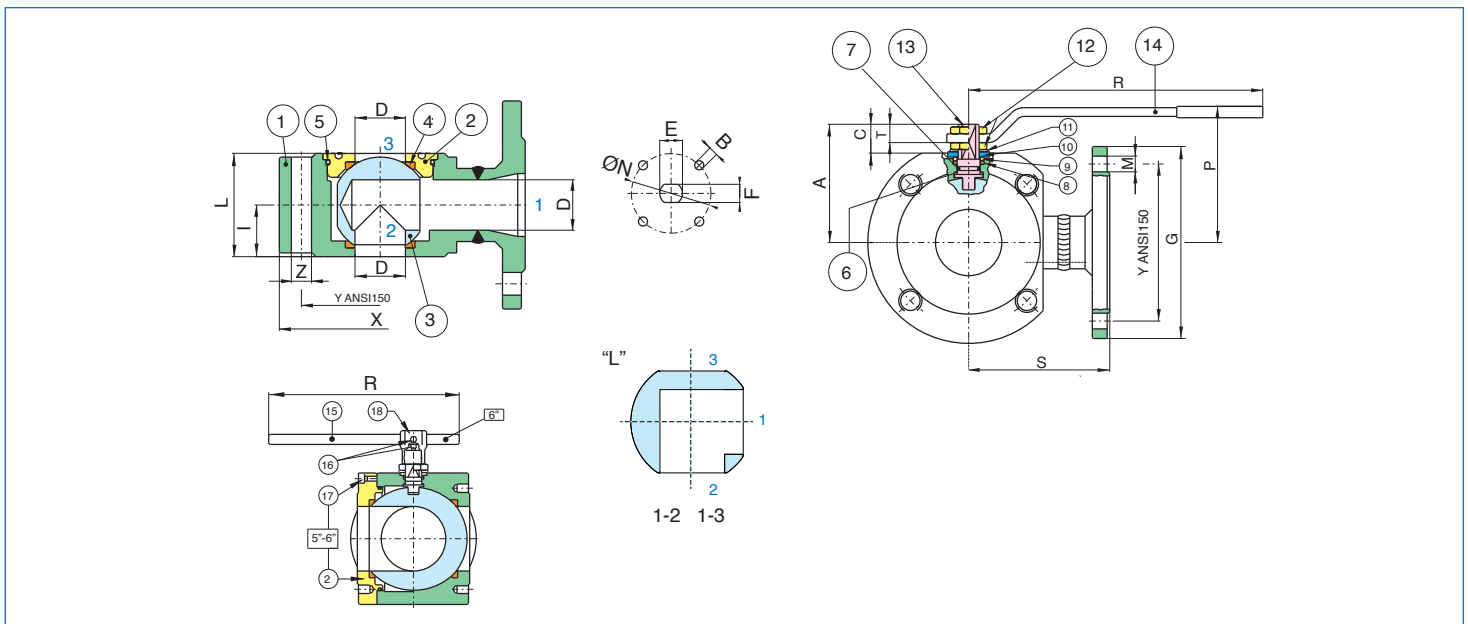
N POS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Cv	Weight Lbs
1	BODY	A352-LCB	1	1/2"	3.74	2.63	4xØ0.63	0.56	2.72	6.50	3.35	3.74	6.85	2.13	0.87	0.30	M12	0.31	1.65-F04	M5	22.33	7.93
2	END CONNECTION	A352-LCB	1																			
3	BALL	A479-Tp316	1	3/4"	4.53	3.25	4xØ0.75	0.63	3.09	7.48	3.74	3.90	6.85	2.28	0.87	0.30	M12	0.31	1.65-F04	M5	40.70	11.24
4	STEM	A564 Tp630 H1150D (17-4-PH)	1																			
5	SCREW	A320 L7	4	1"	4.92	3.50	4xØ0.75	0.69	3.84	8.50	4.13	3.94	9.84	2.95	1.16	0.39	M16	0.39	1.97-F05	M6	75.00	15.87
6	NUT	CARBON STEEL	2																			
7	SPRING WASHER	CARBON STEEL	2	1 1/2"	6.10	4.50	4xØ0.87	0.88	5.12	9.49	5.04	4.84	12.64	3.93	1.40	0.61	M20	0.55	1.97-F05	M6	120.70	29.09
8	90° STOP	AISI 316	1																			
9	BUSH	A479-Tp316L	1	2"	6.50	5.00	8xØ0.75	1.00	4.70	11.50	5.67	5.24	12.64	4.29	1.44	0.57	M20	0.55	1.97-F05	M6	350.35	38.35
10	O-RING	FKM (VITON®)	1																			
11	HANDLE	CARBON STEEL	1																			
12	STEM SEAL	GRAFITE	1																			
13	O-RING	FKM (VITON®)	1																			
14	THRUST WASHER	R.P.T.F.E.	1																			
15	O-RING BUSH	A479-Tp316L	1																			
16	BODY SEAT	GRAFITE	1																			
17	O-RING	FKM (VITON®)	2																			
18	BALL SEAT	R.P.T.F.E.	2																			
19	SCREW	CARBON STEEL	1																			
20	LOCKING DEVICE	AISI 316	1																			



## SERIES 776032 (L) CARBON STEEL 3 WAY BALL VALVE

Compact design, carbon steel, ANSI class 150 flanged 3 way ball valve. stainless steel ball and stem.

- 3 way, diverter, two seats, L reduced port, sizes 1/2" to 6".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- R.P.T.F.E. seats, packing and thrust washer.
- 100% tested.
- TUV T.A. Luft approved.
- ISO 5211 mounting pad with double "D" stem.



N POS	PART NAME	MATERIAL	N PCS	SIZE	X	Y	Z UNC	I	L	R	P	A	C	T	G	M	D	S	E	F	ISO 5211	B	Break Torque (in/Lbs)	CV	Weight Lbs
1	BODY	ASTM A105	1	1/2"	3.50	2.38	4X1/2"	0.78	1.57	5.17	2.54	1.85	0.61	0.35	3.50	4 X Ø 0.62	0.39	2.99	0.39	0.27	1.26	4XM5	35	3.2	4.91
2	END CONNECTION	ASTM A105	1	3/4"	3.88	2.75	4X1/2"	0.78	1.57	5.17	2.71	1.95	0.53	0.35	3.88	4 X Ø 0.62	0.59	3.23	0.39	0.27	1.26	4XM5	115	6	6.30
3	BALL	AISI 304	1	1"	4.25	3.12	4X1/2"	0.90	1.81	6.87	3.17	2.32	0.70	0.49	4.25	4 X Ø 0.62	0.78	3.38	0.47	0.31	1.65 (F04)	4XM5	124	10.6	8.57
4	BALL SEATS	R.P.T.F.E	2	1 1/4"	4.62	3.50	4X1/2"	1.14	2.28	6.87	3.33	2.52	0.61	0.45	4.62	4 X Ø 0.62	0.98	3.93	0.47	0.31	1.65 (F04)	4XM5	150	16.6	13.69
5	O-RING	FKM (Viton®)	1	1 1/2"	5.00	3.88	4X1/2"	1.39	2.79	9.86	4.03	3.07	0.96	0.51	5.00	4 X Ø 0.62	1.26	4.13	0.63	0.39	1.97 (F05)	4XM6	195	29.9	18.73
6	THRUST WASHER	P.T.F.E	1	2"	6.00	4.75	4X5/8"	1.61	3.22	9.86	4.29	3.35	0.98	0.53	6.00	4 X Ø 0.75	1.57	4.52	0.63	0.39	1.97 (F05)	4XM6	292	46.7	27.05
7	O-RING	FKM (Viton®)	1	2 1/2"	7.00	5.50	4X5/8"	2.08	4.17	12.65	4.29	4.11	1.10	0.71	7.00	4 X Ø 0.75	1.97	4.92	0.78	0.55	2.76 (F07)	4XM8	540	73.1	44.10
8	STEM SEAL	P.T.F.E	1	3"	7.50	6.00	4X5/8"	2.40	4.80	12.65	5.37	4.45	1.10	0.71	7.50	4 X Ø 0.75	2.52	5.90	0.78	0.55	2.76 (F07)	4XM8	637	133.9	53.66
9	PACKING GLAND	STEEL	1	4"	9.00	7.50	8X5/8"	2.99	5.98	15.01	6.12	5.35	1.36	0.86	9.00	8 X Ø 0.75	2.99	6.26	0.94	0.70	4.02 (F10)	4XM10	956	188.7	84.76
10	END STOP	STEEL (1/2" - 2") STEEL (2 1/2" - 6")	2	5"	9.84	8.50	8x3/4"	3.85	7.70	15.02	7.01	6.25	1.36	0.86	10.03	8 X Ø 0.86	3.93	7.48	0.94	0.72	4.92 (F12)	4xM10	1018	326.7	140.00
11	SPRING WASHER	STEEL	2	6**	11.08	9.50	8x3/4"	4.56	9.13	27.6	9.92	7.90	1.92	1.18	11.02	8 X Ø 0.86	4.90	8.26	1.65	1.18	4.92 (F12)	4xM12	2903	510.5	220.00

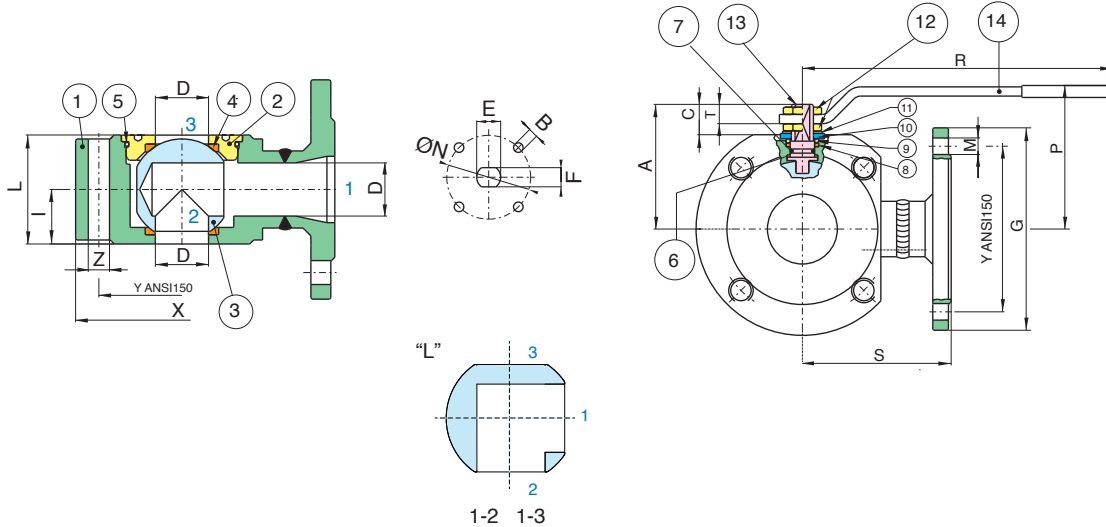
\* For automation please consult factory.



## SERIES 776018 (L) STAINLESS STEEL 3 WAY BALL VALVE

Compact design, stainless steel, ANSI class 150 flanged 3 way ball valve.




- 3 way, diverter, two seats, L reduced port, sizes 1/2" to 4".
- Temperature range -4° F to 366° F.
- Blow out proof stem.
- R.P.T.F.E. seats, packing and thrust washer.
- 100% tested.
- TUV T.A. Luft approved.
- ISO 5211 mounting pad with double "D" stem.



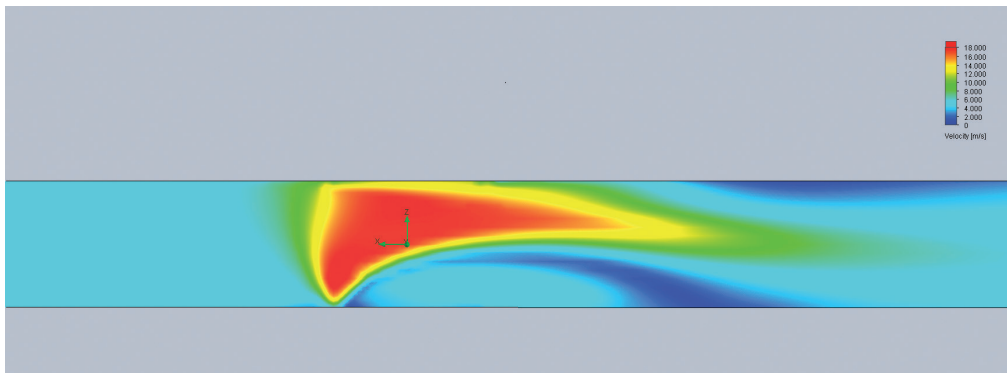
N POS	PART NAME	MATERIAL	N PCS	SIZE	X	Y	Z UNC	I	L	R	P	A	C	T	G	M	D	S	E	F	ISO 5211	B	Break Torque (in/Lbs)	CV	Weight Lbs
1	BODY	AISI 316	1	1/2"	3.50	2.38	4X1/2"	0.78	1.57	5.17	2.54	1.85	0.61	0.35	3.50	4 X Ø 0.62	0.39	2.99	0.39	0.27	1.26	4XM5	35	3.2	4.91
2	END CONNECTION	AISI 316	1	3/4"	3.88	2.75	4X1/2"	0.78	1.57	5.17	2.71	1.95	0.53	0.35	3.88	4 X Ø 0.62	0.59	3.23	0.39	0.27	1.26	4XM5	115	6	6.30
3	BALL	AISI 316	1	1"	4.25	3.12	4X1/2"	0.90	1.81	6.87	3.17	2.32	0.70	0.49	4.25	4 X Ø 0.62	0.78	3.38	0.47	0.31	1.65 (F04)	4XM5	124	10.6	8.57
4	BALL SEATS	R.P.T.F.E	2	1 1/4"	4.62	3.50	4X1/2"	1.14	2.28	6.87	3.33	2.52	0.61	0.45	4.62	4 X Ø 0.62	0.98	3.93	0.47	0.31	1.65 (F04)	4XM5	150	16.6	13.69
5	O-RING	FKM (Viton®)	1	1 1/2"	5.00	3.88	4X1/2"	1.39	2.79	9.86	4.03	3.07	0.96	0.51	5.00	4 X Ø 0.62	1.26	4.13	0.63	0.39	1.97 (F05)	4XM6	195	29.9	18.73
6	THRUST WASHER	P.T.F.E	1	2"	6.00	4.75	4X5/8"	1.61	3.22	9.86	4.29	3.35	0.98	0.53	6.00	4 X Ø 0.75	1.57	4.52	0.63	0.39	1.97 (F05)	4XM6	292	46.7	27.05
7	O-RING	FKM (Viton®)	1	2 1/2"	7.00	5.50	4X5/8"	2.08	4.17	12.65	4.29	4.11	1.10	0.71	7.00	4 X Ø 0.75	1.97	4.92	0.78	0.55	2.76 (F07)	4XM8	540	73.1	44.10
8	STEM SEAL	P.T.F.E	1	3"	7.50	6.00	4X5/8"	2.40	4.80	12.65	5.37	4.45	1.10	0.71	7.50	4 X Ø 0.75	2.52	5.90	0.78	0.55	2.76 (F07)	4XM8	637	133.9	53.66
9	PACKING GLAND	STEEL	1	4"	9.00	7.50	8X5/8"	2.99	5.98	15.01	6.12	5.35	1.36	0.86	9.00	8 X Ø 0.75	2.99	6.26	0.94	0.70	4.02 (F10)	4XM10	956	188.7	84.76
10	END STOP	STEEL (1/2" - 2") STEEL (2 1/2" - 4")	2																						
11	SPRING WASHER	STEEL	2																						
12	NUT	STEEL	2																						
13	STEM	AISI 316	1																						
14	HANDLE	STEEL	1																						

## Floating control valves

Valpres has expanded its own product range adding V-ball control ball valves. This type of ball can be mounted on the valve series INOX-VAL, RADIAMONT, WAFER, SPLIT-BODY, WAFER-SPLIT. V-ball control valves are available with the patterns V30-60, V60, V90.

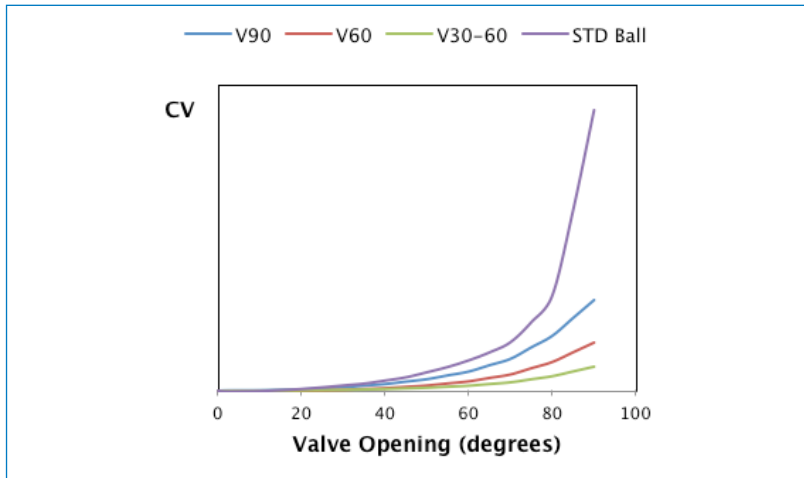
Valve type	Pressure Class Range	Openings ( Degrees)	10°	20°	30°	40°	50°	60°	70°	80°	90°
		SIZE [inch]	CV	CV	CV	CV	CV	CV	CV	CV	CV
 V 90	150-300 CLASS	1/2"	0	0.1	0.3	0.7	1.2	2.0	3.4	5.9	10
		3/4"	0	0.3	0.8	1.6	2.7	4.6	7.7	13.3	22
		1"	0	0.5	1.4	2.8	4.9	8.2	13.7	23.7	39
		1 1/4"	0	0.8	2.2	4.5	8.0	13.4	22.4	38.8	64
		1 1/2"	0	1.1	3.3	6.6	11.6	19.5	32.6	56.4	93
		2"	0	2.0	6.0	12.0	21.2	35.6	59.5	102.9	170
		3"	0	4.7	13.6	27.3	48.1	80.9	135.4	234.1	387
		4"	0	8.1	23.6	47.5	83.8	140.8	235.7	407.5	675
		6"	0	17.7	51.6	103.8	183.1	307.6	514.9	890.2	1473
F <sub>1</sub>	-	-	0.94	0.93	0.92	0.88	0.85	0.81	0.75	0.65	0.50
X <sub>1</sub>	-	-	0.84	0.86	0.84	0.82	0.82	0.82	0.79	0.62	0.24
 V 60	150-300 CLASS	1/2"	0	0.1	0.2	0.4	0.7	1.2	1.9	3.3	6
		3/4"	0	0.1	0.4	0.9	1.5	2.6	4.3	7.5	12
		1"	0	0.3	0.8	1.6	2.7	4.6	7.7	13.4	22
		1 1/4"	0	0.4	1.3	2.5	4.5	7.6	12.7	21.9	36
		1 1/2"	0	0.7	2.0	4.0	7.1	11.9	20.0	34.5	57
		2"	0	1.1	3.1	6.3	11.1	18.7	31.2	54.0	89
		3"	0	2.7	7.9	16.0	28.2	47.4	79.3	137.1	227
		4"	0	4.3	12.4	25.0	44.1	74.1	124.1	214.5	355
		6"	0	9.6	28.0	56.3	99.3	166.8	279.3	482.8	799
F <sub>1</sub>	-	-	0.94	0.93	0.92	0.88	0.85	0.81	0.75	0.65	0.50
X <sub>1</sub>	-	-	0.84	0.86	0.84	0.82	0.82	0.82	0.79	0.62	0.24
 V 30-60	150-300 CLASS	1/2"	0	0.0	0.1	0.2	0.4	0.6	1.0	1.7	3
		3/4"	0	0.1	0.2	0.5	0.8	1.3	2.2	3.9	6
		1"	0	0.1	0.4	0.8	1.4	2.4	4.0	6.9	11
		1 1/4"	0	0.2	0.7	1.3	2.3	3.9	6.5	11.3	18
		1 1/2"	0	0.3	1.0	2.0	3.5	5.9	9.8	17.0	28
		2"	0	0.5	1.5	3.1	5.5	9.2	15.4	26.7	44
		3"	0	1.3	3.9	7.8	13.8	23.2	38.9	67.2	111
		4"	0	2.1	6.1	12.3	21.6	36.3	60.8	105.2	174
		6"	0	4.7	13.7	27.6	48.7	81.9	137.0	236.9	392
F <sub>1</sub>	-	-	0.94	0.93	0.92	0.88	0.85	0.81	0.75	0.65	0.5
X <sub>1</sub>	-	-	0.84	0.86	0.84	0.82	0.82	0.82	0.79	0.62	0.24

Quotes valid for series: Inox-val, Radiamont, Wafer and Split Body for the relevant sizes and pressure classes.



Example velocity plot for V-ball 30-60

V-ball can be used on liquid, gas and steam service and grants an accurate and precise flow control with a rangeability up to 500:1. Valve design has been validated using finite element analysis software FEA, computational fluid dynamics software CFD and Flow Loop testing. CV and KV curves are available upon request.



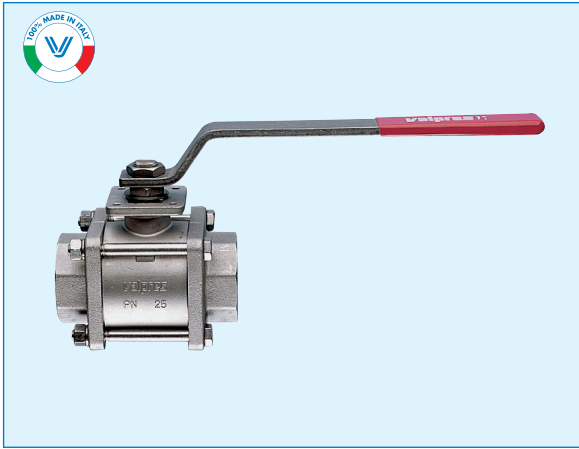
VALPSIZE software, available upon request, allows the user to size the valves properly (ISA 75.02, IEC 60534-2-1) to check fluid velocity, valve openings, noise and other critical issues. Valpres control valves are available with manual lever, Valbia electric or pneumatic actuators.

The screenshot shows the SEIPI VALPSIZE software interface. It includes sections for Fluid Type (Water), Pipeline (12.0 in inlet/outlet diameters), Flow Data (5 cases), Valve (VP1-L-TR008), and Results. The results table shows various parameters like Travel, Flow exit velocity, DP Terminal, Cv inherent, Cv installed, FI, and Noise for each case.

unit	case 1	case 2	case 3	case 4	case 5
Travel °	61.0	83.7	63.4	65.2	14.2
Travel %	67.8	93.0	70.4	72.4	15.8
Flow exit velocity m/s	4.07	11.32	4.07	FLASHING	0.06
DP Terminal bar	2.03	1.13	1.69	1.52	1.88
Cv inherent ---	605.55	2315.99	643.00	679.00	36.57
Cv installed ----	603.80	2221.71	640.91	676.54	36.57
FI ----	0.91	0.68	0.91	0.91	0.96
Noise dBA ----	76	85	76	FLASHING	23
Xi	0.776	0.776	0.994	1.117	0.050

The screenshot shows the VALPRES CONTROL VALVE CALCULATION SHEET. It includes project details (TAG TEST 01 LIQUID2), liquid properties (Water), pipeline data, flow data for 5 cases, valve specifications (VP1-L-TR008), and a detailed results table.

unit	case 1	case 2	case 3	case 4	case 5
travel °	61.0	83.7	63.4	65.2	14.2
travel %	67.8	93.0	70.4	72.4	15.8
flow velocity m/s	4.07	11.32	4.07	FLASHING	0.06
DP terminal bar	2.03	1.13	1.69	1.52	1.88
Cv inherent ---	605.55	2315.99	643.00	679.00	36.57
Cv installed ----	603.80	2221.71	640.91	676.54	36.57
FI ----	0.91	0.68	0.91	0.91	0.96
noise dBA ----	76	85	76	FLASHING	23
xi	0.776	0.776	0.994	1.117	0.050

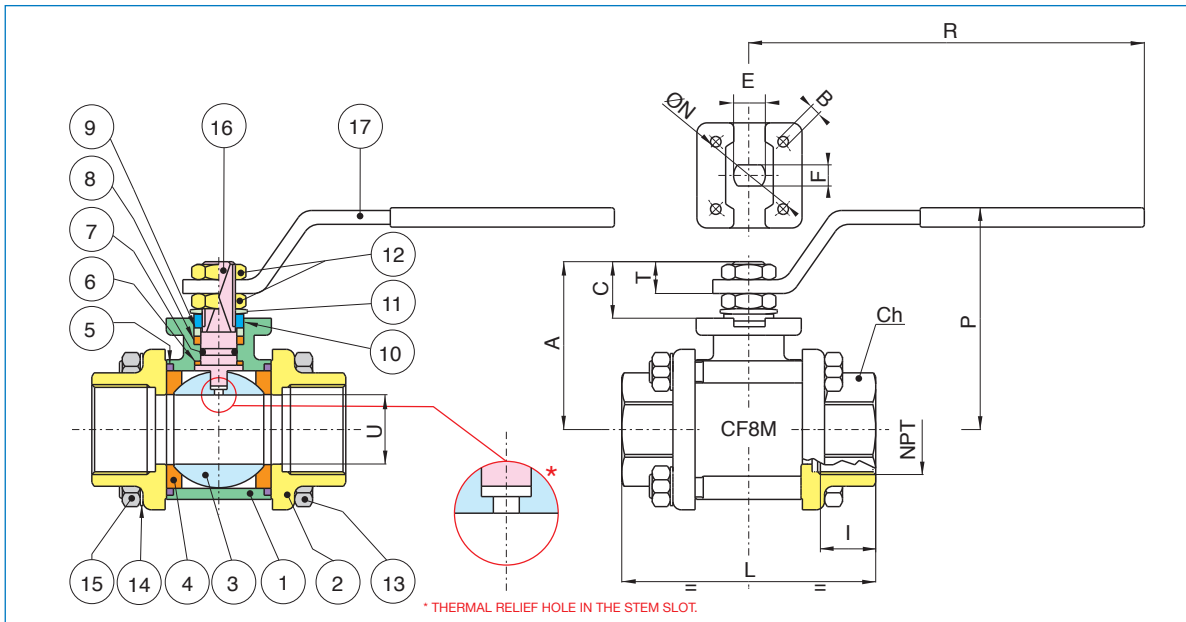


## SERIES 710190-V36 - 710190-V6 - 710190-V9 STAINLESS STEEL 3-PC V-BALL VALVE

3 piece stainless steel 1000 psi-250 psi stem, FNPT threaded V-ball valve, 30,60, 90 degrees V ports.

- Sizes 1/2" to 4"
- Temperature range: -4°F to 406° F.
- Blow out proof stem, Antistatic Device.
- ISO 5211 mounting pad with double "D" stem.
- 100% tested.
- TUV T.A. Luft approved.
- 25% carbon filled P.T.F.E. ball seats; thermal relief hole in the ball.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



### V-ball options



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	2
3	BALL	AISI316	1
4	BALL SEAT	R.P.T.F.E	2
5	O-RING	FKM (Viton®)	2
6	STEM SEAL	R.P.T.F.E	1
7	O-RING	FKM (Viton®)	1
8	STEM SEAL	R.P.T.F.E	1
9	PACKING GLAND	AISI 303 (1/4" - 2") STEEL (2 1/2" - 4")	1
10	END STOP	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	2
11	SPRING WASHER	STEEL (2 1/2" - 4")	2
12	NUT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	2
13	BOLT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
14	WASHER	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
15	NUT	AISI 304 (1/4" - 2") STEEL (2 1/2" - 4")	4
16	STEM	AISI 316	1
17	HANDLE	AISI 430 (1/4" - 2") STEEL (2 1/2" - 4")	1

SIZE	U	I	L	CH	R	P	A	C	T	E	F	ISO 5211	B	psi	Weight Lbs
1/2"	0.59	0.59	2.55	1.06	5.17	2.51	1.85	0.59	0.39	0.39	0.27	1.41 (F03)	0.23	250	0.88
3/4"	0.78	0.64	2.99	1.25	5.17	2.67	2.02	0.59	0.39	0.39	0.27	1.65 (F04)	0.21	250	1.32
1"	0.98	0.75	3.62	1.61	6.87	3.09	2.36	0.76	0.49	0.47	0.31	1.65 (F04)	0.23	250	2.42
1 1/4"	1.25	0.84	4.19	1.96	6.87	3.28	2.53	0.76	0.49	0.47	0.31	1.65 (F04)	0.21	250	3.36
1 1/2"	1.49	0.84	4.56	2.16	9.86	3.93	3.11	0.94	0.64	0.62	0.39	1.96 (F05)	0.25	250	4.61
2"	1.96	1.01	5.35	2.75	9.86	4.21	3.38	0.94	0.64	0.62	0.39	1.96 (F05)	0.25	250	7.03
3"	3.15	1.31	7.08	4.13	12.65	5.41	4.48	1.10	0.70	0.78	0.55	2.75 (F07)	M8	250	29.45
4"	3.93	1.54	8.54	5.11	15.01	6.16	5.39	1.35	0.86	0.94	0.70	4.01 (F10)	M10	250	46.79



## SERIES V300 - V600 - V900 STAINLESS STEEL V-BALL VALVE



Stainless steel, 1000 psi-250 psi stem, FNPT threaded, locking handle, V-ball valve 30, 60, 90 degrees V ports.

- Sizes 1/2" thru 4".
- 25% carbon filled P.T.F.E ball seats.
- Temperature Range -18°F to 428°F.
- Pressure rating: 1000 PSI (1/2" to 2"), 800 PSI (2-1/2" to 4").
- ISO 5211/DIN 3337 direct mounting.
- Blow-Out proof stem, Anti-Static design.
- Thermal relief hole in the ball.

### V-ball options



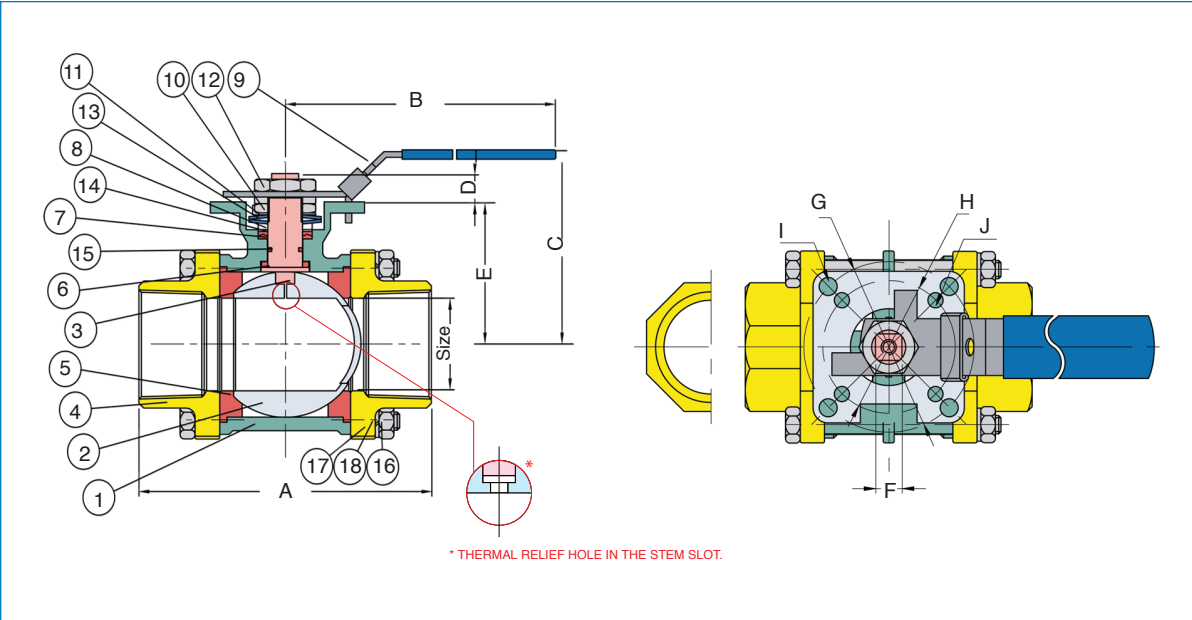
V30



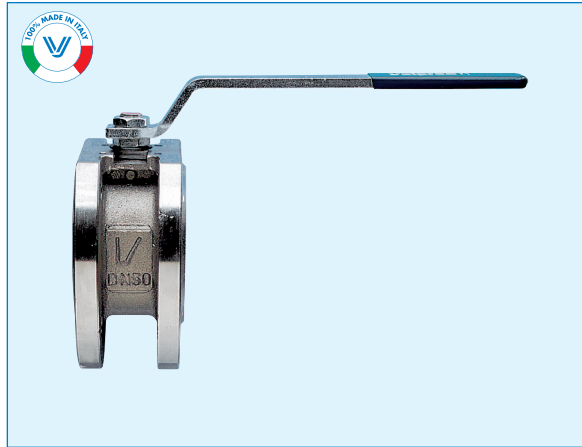
V60



V90



N POS	PART NAME	MATERIAL	N POS	SIZE	A	B	C	D	E	F	G	H	I	J	Weight Lbs	Torque in/Lbs	ISO 5211	Drive mm
1	BODY	ASTM A351 Gr. CF8M	1	1/2"	2.50	4.41	2.87	0.33	1.46	0.35	1.97	1.42	0.28	0.24	1.3	62.0	F03/F05	9
2	BALL	ASTM A351 Gr. CF8M	1	3/4"	2.85	4.41	3.18	0.33	1.77	0.35	1.97	1.42	0.28	0.24	1.6	70.8	F03/F05	9
3	STEM	S.S. 316	1	1"	3.19	5.35	3.56	0.45	2.11	0.35	1.97	1.65	0.28	0.24	2.3	123.9	F03/F05	9
4	END CAP	ASTM A351 Gr. CF8M	2	1 1/4"	3.72	7.28	3.89	0.45	2.32	0.35	1.97	1.65	0.28	0.24	3.4	194.7	F03/F05	9
5	SEAT	25% carbon filled P.T.F.E	2	1 1/2"	4.25	7.79	4.54	0.55	2.94	0.55	2.76	1.9	0.35	0.28	5.5	274.4	F05/F07	14
6	THRUST WASHER	15% GF P.T.F.E	1	2"	4.78	7.79	4.88	0.54	3.29	0.55	2.76	1.97	0.35	0.28	7.6	283.2	F05/F07	14
7	STEM PACKING	S.S. 304	1	2 1/2"	6.20	10.4	6.10	0.1	4.28	0.67	4.02	2.76	0.43	0.35	14.1	681.5	F07/F10	17
8	GLAND BUSHING	S.S. 304	1	3"	7.48	10.4	8.21	0.71	4.66	0.67	4.02	2.76	0.43	0.35	24.6	743.5	F07/F10	17
9	HANDLE	S.S. 304	1	4"	8.86	12.8	8.53	0.91	6.06	0.67	4.02	2.76	0.43	0.35	48.4	1354.2	F07/F10	17
10	STEM NUT	S.S. 304	1															
11	HANDLE WASHER	S.S. 304	1															
12	HANDLE NUT	S.S. 304	1															
13	BELLEVILLE WASHER	S.S. 304-CSP	2															
14	PACKING FOLLOWER	P.T.F.E +25% GF	1															
15	STEM O-RING	VITON	1															
16	BODY BOLT	S.S. 304	*															
17	BOLT WASHER	S.S. 304	*															
18	BOLT NUT	S.S. 304	*															



## SERIES 720370-V36 - 720370-V6 - 720370-V9 STAINLESS STEEL WAFER V-BALL VALVE

Stainless steel ANSI class 150 flanged V-ball valve 30-60, 60, 90 degrees V ports.

- Sizes 1/2" to 6".
- Temperature range -4° F to 406° F.
- Blow out proof stem, Antistatic Device.
- R.P.T.F.E. seats, packing and thrust washer.
- Thermal relief hole in the ball.
- Space saving design.
- 100% tested.
- TUV T.A. Luft approved.
- ANSI B16.34 design.
- ISO 5211 mounting pad and double "D" stem.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

### V-ball options



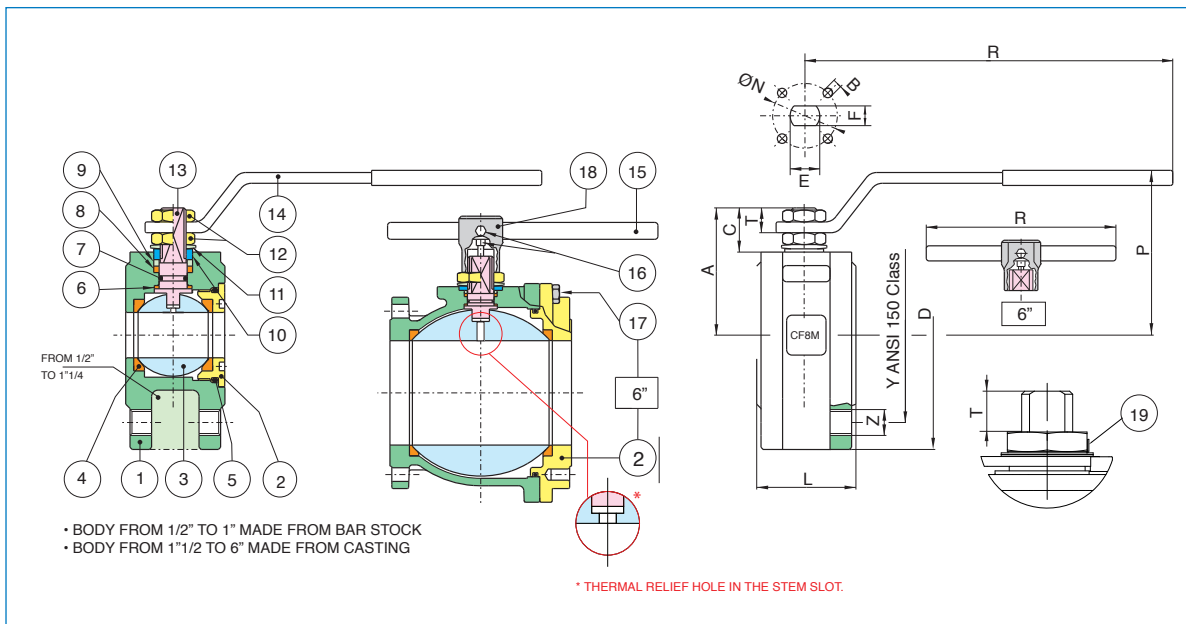
V30-60



V60



V90



N POS	PART NAME	MATERIAL	N POS	SIZE	D	Y	Z UNC	L	R	P	A	C	T	E	F	ISO 5211	B	Weight Lbs
1	BODY	A479-316 / A351 CF8M	1	1/2"	3.50	2.38	4x1/2"	1.37	5.17	2.53	1.85	0.61	0.35	M10	0.27	1.26 (F03)	4XM5	2.86
2	END CONNECTION	A479-316 / A351 CF8M	1															
3	BALL	A479-316 / A351 CF8M	1	3/4"	3.88	2.75	4x1/2"	1.57	5.17	2.71	2.02	0.61	0.35	M10	0.27	1.26 (F03)	4XM5	3.96
4	BALL SEATS	R.P.T.F.E	2															
5	RING	FKM (Viton®)	1	1"	4.25	3.12	4x1/2"	1.81	6.87	3.16	2.40	0.76	0.45	M12	0.31	1.65 (F04)	4XM5	5.95
6	THRUST WASHER	R.P.T.F.E	1															
7	RING	FKM (Viton®)	1	1 1/2"	5.00	3.88	4x1/2"	2.50	9.86	4.03	3.07	0.96	0.51	M16	0.39	1.97 (F05)	4XM6	7.27
8	STEM SEAL	R.P.T.F.E	1															
9	PACKING GLAND	STEEL	1	2"	6.00	4.75	4x5/8"	3.22	9.86	4.37	3.42	0.98	0.53	M16	0.39	1.97 (F05)	4XM6	12.12
10	END STOP	AISI 430 (1/2"-2") STEEL (2 1/2"-6")	2 1															
11	SPRING WASHER	STEEL	2	3"	7.50	6.00	4x5/8"	4.80	12.65	5.45	4.52	1.12	0.70	M20	0.55	2.76 (F07)	4XM8	28.21
12	NUT	STEEL	2															
13	STEM	A479-316 / A351 CF8M	1	4"	9.00	7.50	8x5/8"	5.98	15.01	6.16	5.39	1.35	0.86	M24	0.70	4.02 (F10)	4XM10	46.07
14	HANDLE	STEEL	1															
15	HANDLE DN 150-200	STEEL	1	6"	11.00	9.50	8x3/4"	9.13	27.55	9.33	7.93	2.02	1.18	M42	1.18	4.92 (F12)	4XM12	101.63
16	SCREW	STEEL	2															
17	SCREW	STEEL	8															
18	BODY HANDLE DN150-200	CAST IRON	1															
19	UNSCREWING GROWER	A182-F316	1															

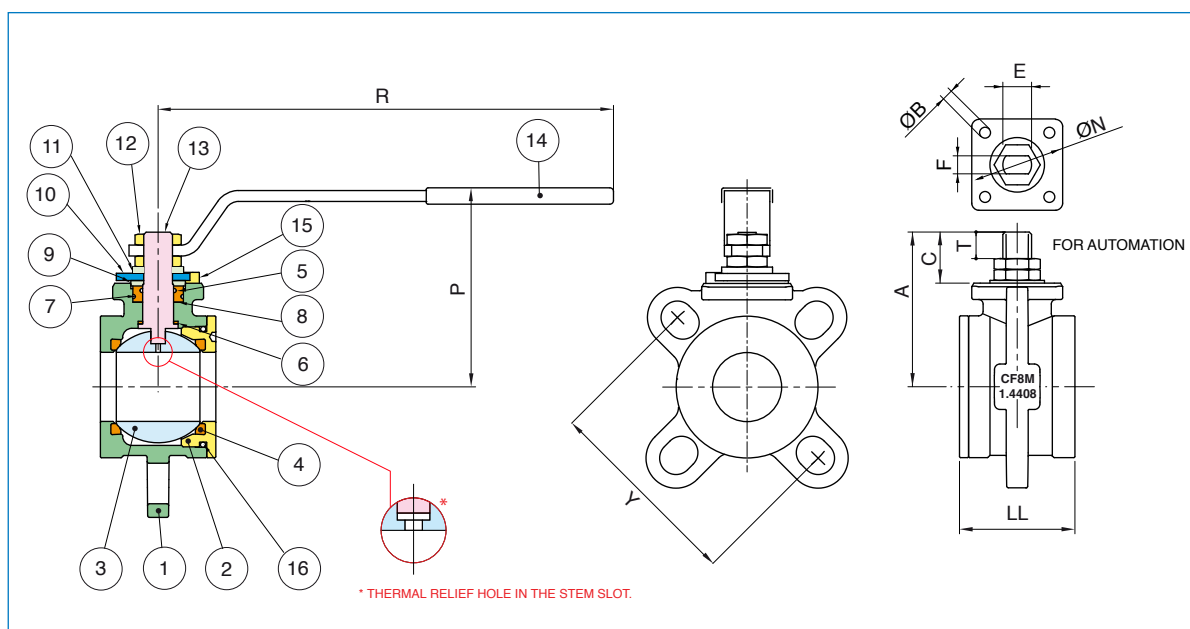


## SERIES 725002-V36 - 725002-V6 - 725002-V9 STAINLESS STEEL WAFER V-BALL VALVE

- Stainless steel, ANSI class 150 flanged ends V-ball valve 30-60, 60, 90 degrees V ports.
- Sizes 1" to 3"
  - Temperature range -4° F to 406° F.
  - Blow out proof stem.
  - R.P.T.F.E. seats, packing and thrust washer,
  - Thermal relief hole in the ball.
  - Space saving design.
  - 100% tested.
  - TUV T.A. Luft approved.
  - Antistatic stem device.
  - ISO 5211 mounting pad and double "D" stem.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

### V-ball options



V30-60



V60



V90

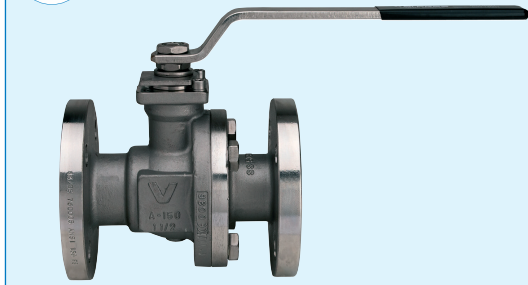
N POS	PART NAME	MATERIAL	N PCS	SIZE	Y	L	R	P	A	C	T	E	F	ØN	B	Weight Lbs
1	BODY	A351 - CF8M	1	1"	ANSI-150	1.81	6.85	3.58	2.81	0.90	0.41	M12	0.31	1.65	4XM5	2.86
2	END CONNECTION	A479-316	1													
3	BALL	A479-316/A351 CF8M	1	1 1/4"	ANSI-150	2.12	6.85	3.74	2.95	0.90	0.41	M12	0.31	1.65	4XM5	3.64
4	BALL SEAT	R.P.T.F.E	2													
5	O-RING	FKM (VITON®)	1	1 1/2"	ANSI-150	2.50	9.84	4.33	3.34	1.10	0.59	M16	0.39	1.96	4XM6	4.74
6	THRUST WASHER	P.T.F.E.	1													
7	RING	FKM (VITON®)	1	2"	ANSI-150	3.23	9.84	4.68	3.68	1.10	0.59	M16	0.39	1.96	4XM6	8.27
8	STEM SEAL	P.T.F.E.	1													
9	PACKING GLAND	A479-316	1	3"	ANSI-150	4.80	12.63	6.06	5.15	1.31	0.70	M20	0.55	2.76	4XM8	22.71
10	END STOP	CARBON STEEL	1													
11	SPRING WASHER	CARBON STEEL	2													
12	NUT	CARBON STEEL	2													
13	STEM	A479-316	1													
14	HANDLE	CARBON STEEL	1													
15	SCREW	CARBON STEEL	2													
16	O-RING	FKM (VITON®)	1													

# SPLIT-BODY V-BALL



## SERIES 760021V36 - 760021V6 - 760021V9 STAINLESS STEEL V-BALL VALVE

- Stainless steel, ANSI class 150 flanged ends V-ball valve 30-60, 60, 90 degrees V ports.
- Sizes 1/2" to 6".
  - Blow out proof stem, adjustable stem packing.
  - R.P.T.F.E. seats, packing and thrust washer.
  - Standard grounded stem and ball.
  - Thermal relief hole in the ball.
  - 100% tested.
  - PED 97/23/CE.
  - Locking handle plate.
  - Temperature range -4° F to 406° F.
  - ANSI B16.5, B16.10, B16.34 design.
  - Fire Safe API 6FA-API 607.
  - Antistatic Device.
  - ISO 5211 mounting pad and double "D" stem.



COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.

### V-ball options



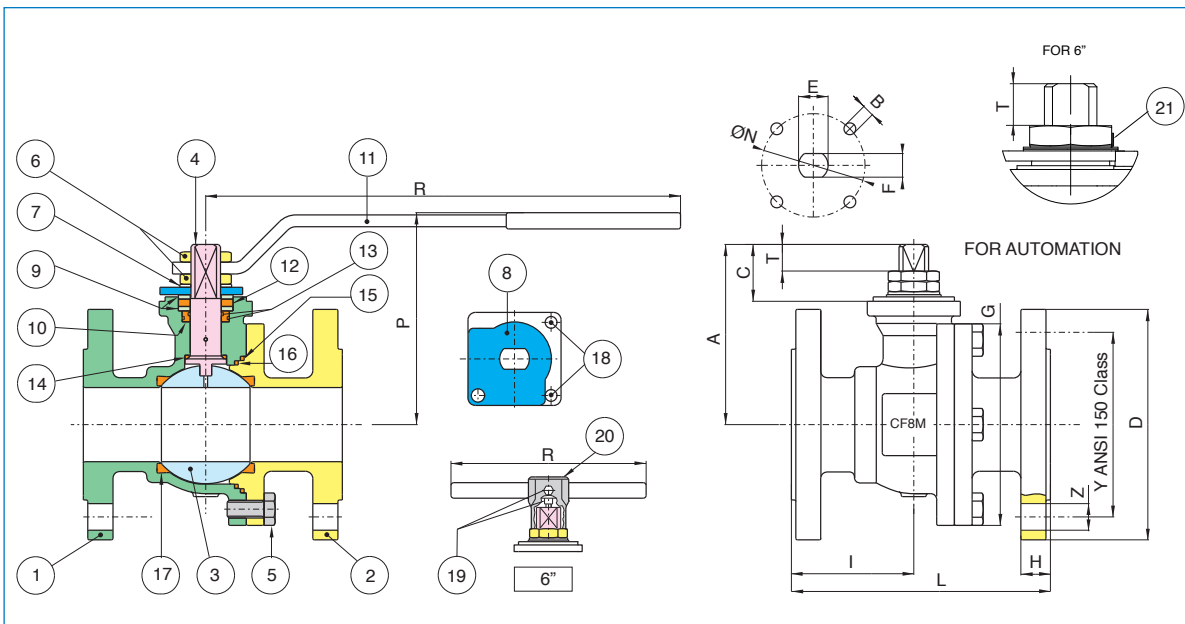
V30-60



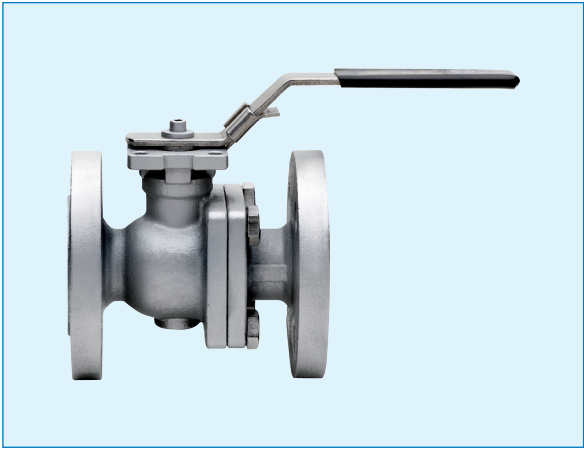
V60



V90

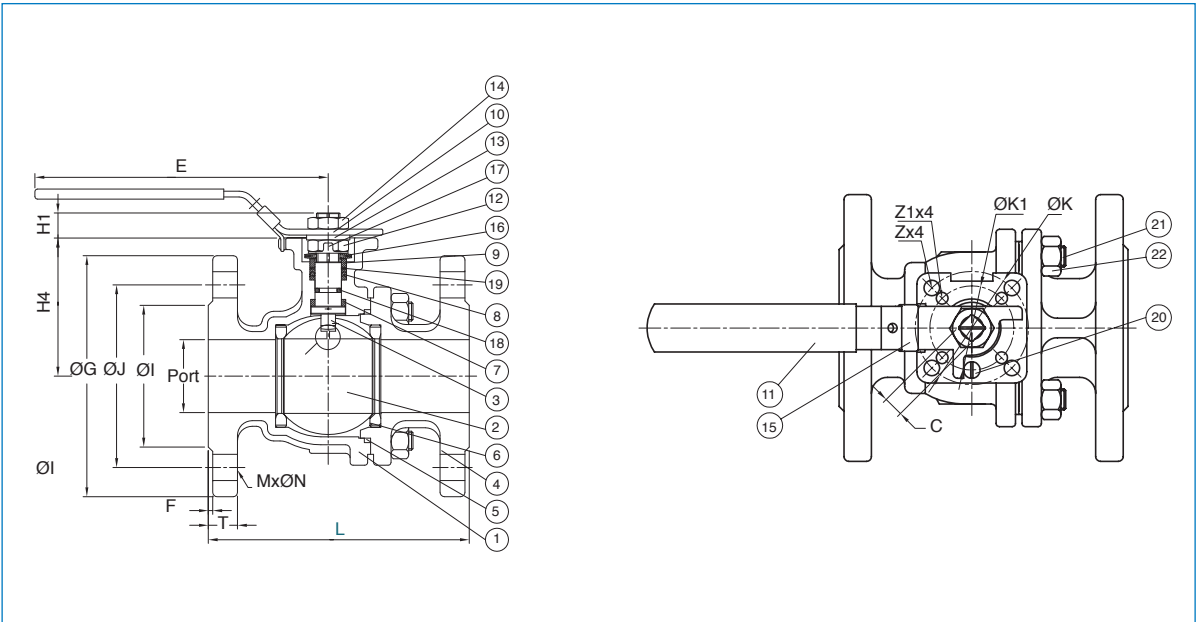


N POS	PART NAME	MATERIAL	N PCS	SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Weight Lbs
1	BODY	A351 CF8M	1	1/2"	3.54	2.38	4xØ0.63	0.45	1.83	4.25	2.80	3.46	5.16	2.05	0.75	0.31	M10	0.28	1.65-F04	M5	4.21
2	END CONNECTION	A351 CF8M	1																		
3	BALL	A479-316/A351-CF8M	1	3/4"	3.94	2.76	4xØ0.63	0.51	2.09	4.61	2.89	3.66	5.16	2.20	0.75	0.31	M10	0.28	1.65-F04	M5	5.36
4	STEM	A479-316	1																		
5	SCREW	STAINLESS STEEL 1/2"-4"	4	1"	4.33	3.13	4xØ0.63	0.57	2.34	5.00	3.56	3.50	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	8.15
6	NUT	STAINLESS STEEL 1/2"-4"	2																		
7	SPRING WASHER	STAINLESS STEEL	2	1 1/2"	5.12	3.88	4xØ0.63	0.69	3.03	6.50	4.49	5.24	9.84	4.17	1.18	0.39	M16	0.39	1.97-F05	M6	15.65
8	TRAVEL STOP	STAINLESS STEEL	1																		
9	PACKING GLAND	STAINLESS STEEL	2	2"	5.91	4.74	4xØ0.75	0.77	3.39	7.01	5.37	5.67	12.64	4.80	1.52	0.71	M20	0.55	2.76-F07	M8	23.80
10	STEM SEAL	P.T.F.E.	1																		
11	HANDLE	STAINLESS STEEL	1	3"	7.48	6.00	4xØ0.75	0.94	3.13	7.99	7.03	6.81	15.00	5.94	1.69	0.71	M24	0.71	4.02-F10	M10	47.61
12	STEM SEAL	GRAPHOIL	1																		
13	O-RING	FKM (Viton®)	2	4"	9.06	7.50	8xØ0.75	0.94	4.33	9.02	8.21	7.36	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	67.00
14	THRUST WASHER	R.P.T.F.E.	1																		
15	SEAL	GRAPHOIL	1	6"	11.02	9.51	8xØ0.87	1.00	7.13	15.51	12.24	12.01	27.56	9.65	2.68	1.61	M42	1.18	4.92-F12	M12	171.91
16	SEAL	P.T.F.E.	1																		
17	BALL SEATS	R.P.T.F.E.	2																		
18	SCREW	STAINLESS STEEL	2																		
19	SCREW	STAINLESS STEEL	2																		
20	BODY HANDLE	CAST IRON	1																		
21	UNSCREWING GROWER	A182-F316	1																		



## SERIES VF300 - VF600 - VF900 STAINLESS STEEL V-BALL VALVE

- Stainless steel, ANSI class 150 flanged V-ball valve, 30,60, 90 degrees V ports.
- Sizes 1/2" to 6".
  - ISO 5211 mounting pad.
  - Locking handle standard.
  - ANSI 16.5, 16.10, and 16.34.
  - Antistatic design.
  - Blowout proof stem and carbon filled P.T.F.E. ball seats.
  - Thermal relief hole in the ball.
  - Temperature Range -18°F to 392°F.
  - Direct mount ISO 5211.
  - Latch locking handle.

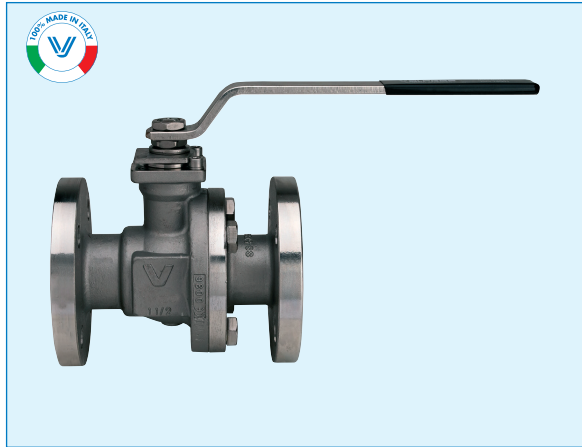


### V-ball options



N POS	PART NAME	MATERIAL	N POS	SIZE	Port	L	E	H1	H4	C mm	ØG	ØJ	ØI	T	F	M	ØN	ISO 5211	Z	Z1	Break Torque in-Lbs	Weight Lbs	
1	BODY	ASTM A351 Gr. CF8M	1	1/2"	0.59	4.25	4.41	0.33	1.89	9	3.50	2.38	1.38	0.44	0.06	4	0.63	F05	F03	7.0	6.0	62	3.9
2	BALL	ASTM A351 Gr. CF8M	1																				
3	STEM	S.S. 316	1																				
4	END CAP	ASTM A351 Gr. CF8M	2	3/4"	0.79	4.61	4.41	0.33	2.44	9	3.88	2.76	1.69	0.50	0.06	4	0.63	F05	F03	7.0	6.0	106	4.9
5	BODY SEAL	P.T.F.E	1																				
6	SEAT	Carbon graphite filled P.T.F.E	2	1"	0.98	5.00	5.35	0.37	2.52	9	4.25	3.12	2.01	0.56	0.06	4	0.63	F05	F03	7.0	6.0	177	6.8
7	THRUST WASHER	P.T.F.E	1																				
8	STEM PACKING	P.T.F.E	1	1 1/4"	1.26	5.51	7.28	0.37	2.80	9	4.63	3.50	2.50	0.63	0.06	4	0.63	F05	F03	7.0	6.0	224	9.2
9	GLAND	S.S. 304	1																				
10	HANDLE	S.S. 304	1	1 1/2"	1.50	6.50	7.80	0.55	2.99	14	5.00	3.88	2.88	0.69	0.06	4	0.63	F07	F05	9.0	7.0	371	13.3
11	HANDLE COVER	PLASTIC	1																				
12	STEM NUT	S.S. 304	1	2"	1.97	7.01	7.80	0.54	3.33	14	6.00	4.75	3.62	0.75	0.06	4	0.75	F07	F05	9.0	7.0	486	19.2
13	HANDLE WASHER	S.S. 304	1																				
14	HANDLE NUT	S.S. 304	1	2 1/2"	2.52	7.48	10.34	0.71	4.20	17	7.00	5.50	4.12	0.92	0.06	4	0.75	F10	F07	11.0	9.0	840	24.8
15	LOCKING PAD	S.S. 304	1																				
16	BELLEVILLE WASHER	S.S. 304	2	3"	2.99	7.99	10.34	0.71	4.57	17	7.50	6.00	5.00	0.94	0.06	4	0.75	F10	F07	11.0	9.0	1250	41
17	TAB WASHER	S.S. 304	1																				
18	O-RING	VITON	1	4"	3.94	9.02	12.80	0.71	6.08	17	9.00	7.50	6.19	0.94	0.06	4	0.75	F10	F07	11.0	9.0	1860	57
19	PACKING FOLLOWER	P.T.F.E +25% GF	1																				
20	STOP PIN	S.S. 304	1	6"	5.91	15.51	29.53	1.18	8.39	27	11.00	9.50	8.50	1.00	0.06	8	0.88	F12	n/a	0.55	n/a	2310	168
21	BODY STUD	ASTM A193 GR.B8	4-8																				
22	BOLT NUT	ASTM A194 GR.8	4-8																				



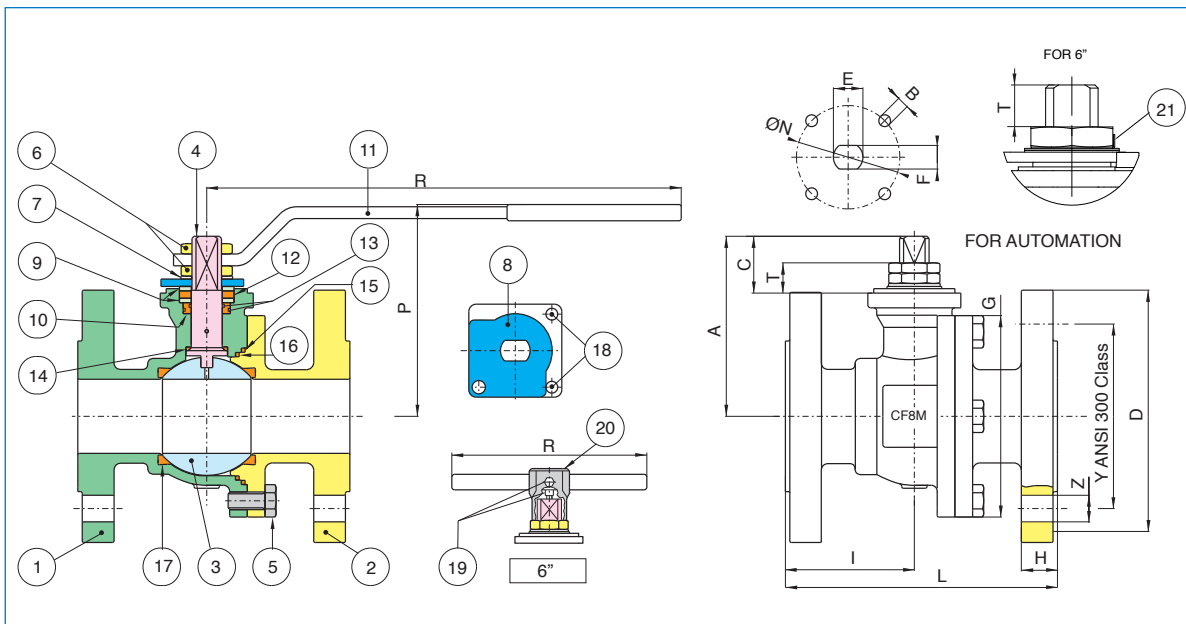


## SERIES 760195-V36 - 760195-V6 - 760195-V9 STAINLESS STEEL V-BALL VALVE

Stainless steel, ANSI class 300 flanged V-ball valve 30-60, 60, 90 degrees V ports.

- Sizes 1/2" to 6"
- Blow out proof stem, adjustable stem packing.
- R.P.T.F.E. seats, packing and thrust washer.
- 100% tested.
- PED 97/23/CE.
- Locking handle plate.
- Temperature range -4° F to 406° F.
- Thermal relief hole in the ball.
- ANSI B16.5, B16.10, B16.34 design.
- Fire Safe API 6FA-API 607.
- Antistatic Device.
- ISO 5211 mounting pad and double "D" stem.

COMPLIES WITH NACE MR 0175/ISO 15156 AND NACE MR 0103.



### V-ball options



V30-60



V60



V90

POS	PART NAME	MATERIAL	N PCS
1	BODY	CF8M	1
2	END CONNECTION	CF8M	1
3	BALL	A479-316/A351-CF8M	1
4	STEM	A479-316	1
5	SCREW	STAINLESS STEEL 1/2"-1 1/2" 2"-6"	4
6	NUT	STAINLESS STEEL 1/2"-1 1/2" 2"-6"	2
7	SPRING WASHER	STAINLESS STEEL	2
8	TRAVEL STOP	STAINLESS STEEL	1
9	PACKING GLAND	STAINLESS STEEL	2
10	STEM SEAL	P.T.F.E.	1
11	HANDLE	STAINLESS STEEL	1
12	STEM SEAL	GRAPHOIL	1
13	O-RING	VITON	2
14	THRUST WASHER	R.P.T.F.E.	1
15	SEAL	GRAPHOIL	1
16	SEAL	P.T.F.E.	1
17	BALL SEATS	R.P.T.F.E.	2
18	SCREW	STAINLESS STEEL	2
19	SCREW	STAINLESS STEEL	2
20	BODY HANDLE	CAST IRON	1
21	UNSCREWING GROWER	A182-F316	1

SIZE	D	Y	Z	H	I	L	G	P	R	A	C	T	E	F	ISO 5211	B	Weight Lbs
1/2"	3.74	2.62	4xØ0.63	0.57	2.42	5.51	3.35	3.46	5.16	2.05	0.75	0.31	M10	0.28	1.65-F04	M5	5.07
3/4"	4.53	3.25	4xØ0.75	0.63	2.40	5.98	3.07	3.66	5.16	2.20	0.75	0.31	M10	0.28	1.65-F04	M5	7.71
1"	4.92	3.50	4xØ0.79	0.69	2.78	6.50	3.78	4.29	6.85	2.85	1.08	0.51	M12	0.31	1.97-F05	M6	11.46
1 1/2"	6.10	4.51	4xØ0.87	0.83	3.09	7.48	4.96	5.24	9.84	4.21	1.18	0.39	M16	0.39	1.97-F05	M6	22.04
2"	6.50	5.00	8xØ0.79	0.89	3.39	8.50	5.37	5.67	12.64	4.80	1.52	0.71	M20	0.55	2.76-F07	M8	26.45
3"	8.27	6.63	8xØ0.87	1.14	3.19	11.14	7.03	6.81	15.00	5.94	1.69	0.71	M24	0.71	4.02-F10	M10	59.51
4"	10.04	7.87	8xØ0.87	1.26	3.48	12.01	8.62	7.36	15.00	6.50	1.69	0.71	M24	0.71	4.02-F10	M10	90.36
6"	12.60	10.63	12xØ0.87	1.46	6.77	15.87	12.05	12.01	27.56	9.65	2.68	1.08	M42	1.18	4.92-F12	M12	204.97





## SERIES N500N - N500S

**NYLON 11 COATED DISC    CF8M SS DISC**



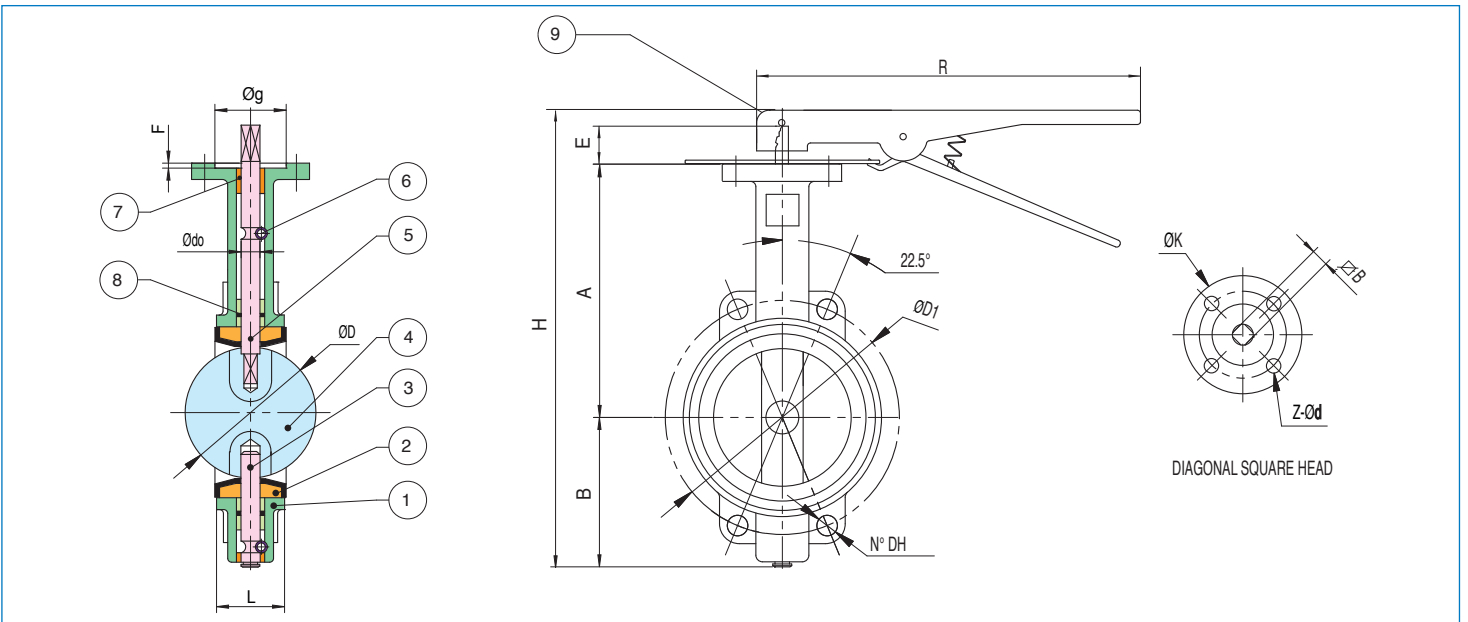
NSF/ANSI  
61, 372

Manually operated Wafer butterfly valves.

- Epoxy coated cast iron wafer body.
- Sizes 1 1/2" to 12".
- ISO 5211 direct mounting pad/square stem.
- Food grade EPDM resilient seat -30°F to 250°F.
- API609 face to face flange.
- Floating dual shaft disc design.
- Pressure rating: 250 psi water (40°F to 80° F).
- MSS SP 67 compliant.
- No pins in disc prevent potential leak points.
- NSF certified for drinking water service (EPDM seats only).

530S: VITON SEATS.

540N-540S: BUNA-N SEATS.



N POS	PART NAME	MATERIAL	N POS
1	BODY	CAST IRON	1
2	SEAT	EPDM (30F to 250F)	1
3	LOWER SHAFT	SS 416	1
4	DISC 500N	IRON NYLON 11	1
	DISC 500S	STAINLESS STEEL	
5	UPPER SHAFT	SS 416	1
6	LOCATING PIN	CARBON STEEL	1
7	BUSHING	P.T.F.E.	1
8	O-RING	EPDM	1
9	LEVER	EPOXY-COATED CARBON STEEL	1

SIZE	ISO 5211	Z/B	A	B	L	ØD	E	H	R	Ødo	UPPER FLANGE				DISC ØD1	WAFER N°-DH	Weight Lbs	SEAT TORQUE				Cv (GPM@ 1psi)
											ØK	Z-d	Øg	F				100 psi	200 psi	50% OP	100% OP	
1 1/2"	F05	9 mm	5.71	2.97	1.61	1.67	0.47	12.95	10.63	0.50	3.03	4-0.28	1.38	0.12	4.74	4-0.75	5.0	111	133	35	108	
2"	F05	9 mm	6.34	3.15	1.65	2.07	0.47	13.94	10.63	0.50	3.03	4-0.28	1.38	0.12	4.74	4-0.75	5.5	126	146	49	146	
2 1/2"	F05	9 mm	6.89	3.50	1.76	2.54	0.47	15.04	10.63	0.50	3.03	4-0.28	1.38	0.12	5.49	4-0.75	7.1	134	167	84	284	
3"	F05	9 mm	7.13	3.74	1.78	3.10	0.47	15.51	10.63	0.50	3.03	4-0.28	1.38	0.12	6.00	4-0.75	8.4	205	223	128	547	
4"	F07	11 mm	7.87	4.49	2.05	4.09	0.63	17	10.63	0.62	3.54	4-0.35	2.17	0.12	7.50	4-0.75	10.8	339	386	195	844	
5"	F07	14 mm	8.34	5.00	2.14	4.85	0.75	17.94	10.63	0.75	3.54	4-0.35	2.17	0.12	8.50	4-0.87	15.4	523	602	320	1375	
6"	F07	14 mm	8.90	5.47	2.20	6.13	0.75	19.06	10.63	0.75	3.54	4-0.35	2.17	0.12	9.50	4-0.87	17.2	677	996	418	1882	
8"	F10	17 mm	10.24	6.89	2.34	7.97	0.75	22.25	14.17	0.87	4.92	4-0.47	2.76	0.14	11.75	4-0.87	29.1	1205	1864	745	3340	
10**	F10	22 mm	11.50	7.99	2.58	9.86	0.94	24.77	19.68	1.12	4.92	4-0.47	2.76	1.40	14.25	4-1.00	42.2	1890	3140	1264	5475	
12**	F10	22 mm	13.27	9.53	3.03	11.87	0.94	28.31	19.68	1.24	5.51	4-0.47	2.76	1.40	17.00	4-1.00	71.5	2808	4767	1905	8270	

\* 10" and 12" available in bare stem version only.

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# BUTTERFLY VALVE

## SERIES N501N - N501S



NSF/ANSI  
61, 372

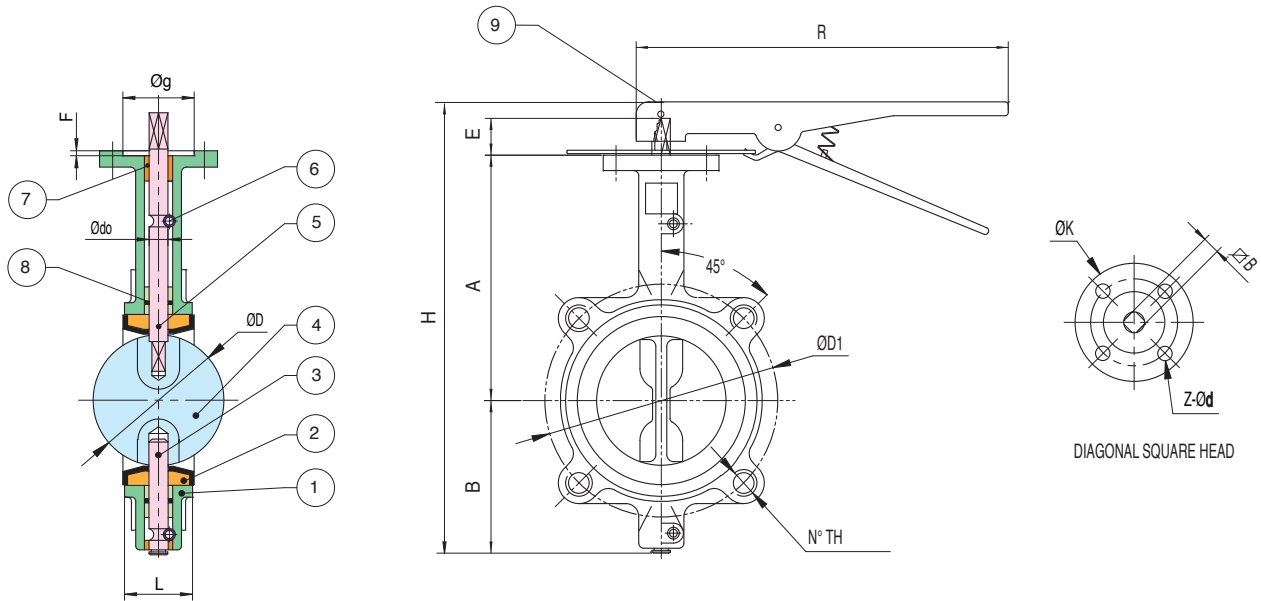
**NYLON 11 COATED DISC    CF8M SS DISC**

Manually operated Lug butterfly valves.

- Epoxy coated ductile iron lug body.
- Sizes 1 1/2" to 12".
- ISO 5211 direct mounting pad/square stem.
- Food grade EPDM resilient seat -30°F to 250°F.
- API609 face to face flange.
- Floating dual shaft disc design.
- Pressure rating: 250 psi water (40°F to 80°F).
- MSS SP 67 compliant.
- No pins in disc prevent potential leak points.
- NSF certified for drinking water service (EPDM seats only).
- Dead end service to 100 psi.

531S: VITON SEATS.

541N-541S: BUNA-N SEATS.



PART NAME	MATERIAL	N PCS	SIZE	ISO 5211	∇B	A	B	L	ØD	E	H	R	Ødo	UPPER FLANGE				DISC	LUG	Weight Lbs	SEAT TORQUE		Cv (GPM@ 1psi)	
														ØK	Z-d	Øg	F				ØD1	N°-TH	100 psi	200 psi
1 BODY	DUCTILE IRON	1	1 1/2"	F05	9 mm	5.71	2.97	1.61	1.67	0.47	12.95	10.63	0.50	3.03	4-0.28	1.38	0.12	4.74	4-5/8"-11	7.9	111	133	35	108
2 SEAT	EPDM (30F to 250F)	1	2"	F05	9 mm	6.34	3.15	1.65	2.07	0.47	13.94	10.63	0.50	3.03	4-0.28	1.38	0.12	4.74	4-5/8"-11	8.4	126	146	49	146
3 LOWER SHAFT	SS 416	1	2 1/2"	F05	9 mm	6.89	3.50	1.76	2.54	0.47	15.04	10.63	0.50	3.03	4-0.28	1.38	0.12	5.49	4-5/8"-11	9.3	134	167	84	284
4 DISC 500N	IRON NYLON 11	1	3"	F05	9 mm	7.13	3.74	1.78	3.10	0.47	15.51	10.63	0.50	3.03	4-0.28	1.38	0.12	6.00	4-5/8"-11	10.4	205	223	128	547
4 DISC 500S	STAINLESS STEEL		4"	F07	11 mm	7.87	4.49	2.05	4.09	0.63	17	10.63	0.62	3.54	4-0.35	2.17	0.12	7.50	8-5/8"-11	19.8	339	386	195	844
5 UPPER SHAFT	SS 416	1	5"	F07	14 mm	8.34	5.00	2.14	4.85	0.75	17.94	10.63	0.75	3.54	4-0.35	2.17	0.12	8.50	8-3/4"-10	24	523	602	320	1375
6 LOCATING PIN	CARBON STEEL	1	6"	F07	14 mm	8.90	5.47	2.20	6.13	0.75	19.06	10.63	0.75	3.54	4-0.35	2.17	0.12	9.50	8-3/4"-10	31.3	677	996	418	1882
7 BUSHING	P.T.F.E.	1	8"	F10	17 mm	10.24	6.89	2.34	7.97	0.75	22.25	14.17	0.87	4.92	4-0.47	2.76	0.14	11.75	8-3/4"-10	40.1	1205	1864	745	3340
8 O-RING	EPDM	1	10"	F10	22 mm	11.50	7.99	2.58	9.86	0.94	24.77	19.68	1.12	4.92	4-0.47	2.76	1.40	14.25	12-7/8"-9	59.1	1890	3140	1264	5475
9 LEVER	EPOXY-COATED CARBON STEEL	1	12"	F10	22 mm	13.27	9.53	3.03	11.87	0.94	28.31	19.68	1.24	5.51	4-0.47	2.76	1.40	17.00	12-7/8"-9	88.2	2808	4767	1905	8270

\* 10" and 12" available in bare stem version only.

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



## SERIES GN500N - GN500S

**NYLON 11 COATED DISC    CF8M SS DISC**



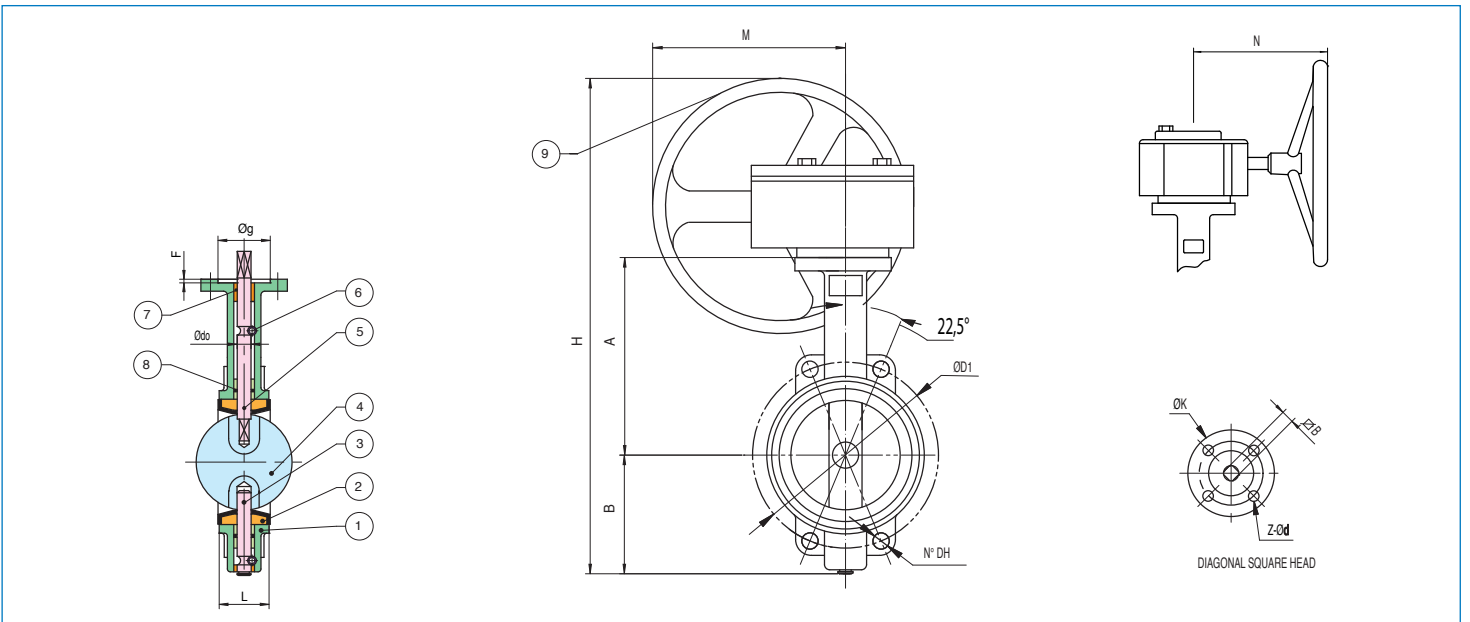
NSF/ANSI  
61, 372

Gear operated Wafer butterfly valves.

- Epoxy coated cast iron wafer body.
- Sizes 1 1/2" to 12".
- Pressure rating: 250psi water (40°F to 80°F).
- Food grade EPDM resilient seat -30°F to 250° F.
- Low turn ratio.
- API609 face to face flange.
- Floating dual shaft disc design.
- IP54 enclosure.
- MSS SP 67 compliant.
- No pins in disc prevent potential leak points.
- NSF certified for drinking water service (EPDM seats only).
- Dead end service to 100 psi.

G530S: VITON SEATS.

G540N-G540S: BUNA-N SEATS.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	CAST IRON	1
2	SEAT	EPDM (30F to 250F)	1
3	LOWER SHAFT	SS 416	1
4	DISC G500N	IRON NYLON 11	1
	DISC G500S	STAINLESS STEEL	
5	UPPER SHAFT	SS 416	1
6	LOCATING PIN	CARBON STEEL	1
7	BUSHING	P.T.F.E.	1
8	O-RING	EPDM	1
9	GEAR	CAST IRON	1

SIZE	ISO 5211	B	A	B	L	H	M	N	Ødo	UPPER FLANGE				DISC ØD1	WAFER N°-DH	Weight Lbs	SEAT TORQUE			Cv (GPM@ 1psi)	
										ØK	Z-Ød	Øg	F				100 psi	200 psi	50% OP	100% OP	
1 1/2"	F05	9 mm	7.24	2.97	1.61	13.12	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	4.74	4-0.75	16.3	111	133	35	108	
2"	F05	9 mm	7.60	3.15	1.65	13.93	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	4.74	4-0.75	17	126	146	49	146	
2 1/2"	F05	9 mm	8.15	3.50	1.76	14.83	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	5.49	4-0.75	18.6	134	167	84	284	
3"	F05	9 mm	8.38	3.74	1.78	15.31	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	6.00	4-0.75	19.9	205	223	128	547	
4"	F07	11 mm	9.13	4.49	2.05	16.8	4.75	6.00	0.62	3.54	4-0.35	2.17	0.12	7.50	4-0.75	22.3	339	386	195	844	
5"	F07	14 mm	9.60	5.00	2.14	17.78	4.75	6.00	0.75	3.54	4-0.35	2.17	0.12	8.50	4-0.87	26.9	523	602	320	1375	
6"	F07	14 mm	10.16	5.47	2.20	18.81	4.75	6.00	0.75	3.54	4-0.35	2.17	0.12	9.50	4-0.87	28.7	677	996	418	1882	
8"	F10	17 mm	12.01	6.89	2.34	24.73	8.35	9.84	0.87	4.92	4-0.47	2.76	0.14	11.75	4-0.87	57.8	1205	1864	745	3340	
10"	F10	22 mm	13.27	7.99	2.58	27.03	8.35	9.84	1.12	4.92	4-0.47	2.76	1.40	14.25	4-1.00	70.9	1890	3140	1264	5475	
12"	F10	22 mm	15.04	9.53	3.03	30.34	9.06	8.94	1.24	5.51	4-0.47	2.76	1.40	17.00	4-1.00	104.6	2808	4767	1905	8270	

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



**BODONI**  
NORTH AMERICA

## SERIES GN501N - GN501S



NSF/ANSI  
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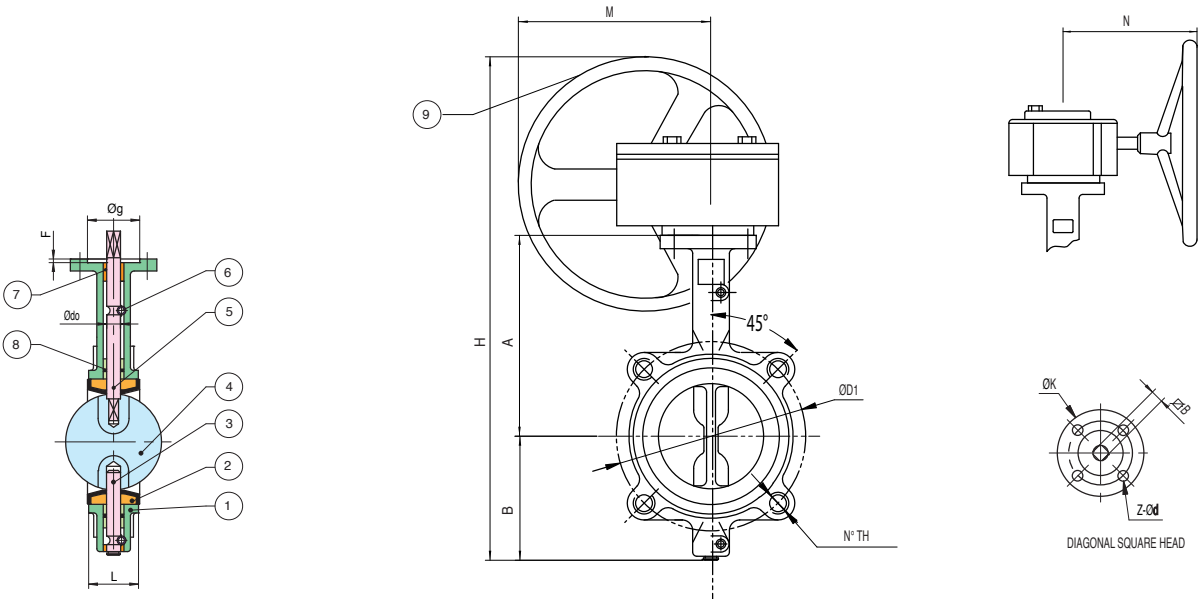
### NYLON 11 COATED DISC      CF8M SS DISC

Gear operated Lug butterfly valves.

- Epoxy coated ductile iron lug body.
- Full port sizes 1 1/2" to 12".
- Pressure rating: 250 psi water (40°F to 80°F).
- Food grade EPDM resilient seat -30°F to 250°F.
- Low turn ratio.
- API609 face to face flange.
- Floating dual shaft disc design.
- IP54 enclosure.
- MSS SP 67 compliant.
- No pins in disc prevent potential leak points.
- NSF certified for drinking water service (EPDM seats only).
- Dead end service to 100 psi.

G531S: VITON SEATS.

G541N-G541S: BUNA-N SEATS.



N POS	PART NAME	MATERIAL	N PCS	SIZE	ISO 5211	B	A	B	L	H	M	N	Ødo	UPPER FLANGE			DISC ØD1	LUG N°-TH	Weight Lbs	SEAT TORQUE		Cv (GPM@ 1psi)		
														ØK	Z-Ød	Øg				F	100 psi	200 psi	50% OP	100% OP
1	BODY	DUCTILE IRON	1	1 1/2"	F05	9 mm	7.24	2.97	1.61	13.12	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	4.74	4-5/8"-11	19.1	111	133	35	108
2	SEAT	EPDM (30F to 250F)	1	2"	F05	9 mm	7.60	3.15	1.65	13.93	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	4.74	4-5/8"-11	19.9	126	146	49	146
3	LOWER SHAFT	SS 416	1	2 1/2"	F05	9 mm	8.15	3.50	1.76	14.83	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	5.49	4-5/8"-11	20.8	134	167	84	284
4	DISC G501N DISC G501S	IRON NYLON 11 STAINLESS STEEL	1	3"	F05	9 mm	8.38	3.74	1.78	15.31	4.75	6.00	0.50	3.03	4-0.28	1.38	0.12	6.00	4-5/8"-11	21.9	205	223	128	547
5	UPPER SHAFT	SS 416	1	4"	F07	11 mm	9.13	4.49	2.05	16.8	4.75	6.00	0.62	3.54	4-0.35	2.17	0.12	7.50	8-5/8"-11	31.3	339	386	195	844
6	LOCATING PIN	CARBON STEEL	1	5"	F07	14 mm	9.60	5.00	2.14	17.78	4.75	6.00	0.75	3.54	4-0.35	2.17	0.12	8.50	8-3/4"-10	35.5	523	602	320	1375
7	BUSHING	P.T.F.E.	1	6"	F07	14 mm	10.16	5.47	2.20	18.81	4.75	6.00	0.75	3.54	4-0.35	2.17	0.12	9.50	8-3/4"-10	42.8	677	996	418	1882
8	O-RING	EPDM	1	8"	F10	17 mm	12.01	6.89	2.34	24.73	8.35	9.84	0.87	4.92	4-0.47	2.76	0.14	11.75	8-3/4"-10	68.6	1205	1864	745	3340
8	O-RING	EPDM	1	10"	F10	22 mm	13.27	7.99	2.58	27.03	8.35	9.84	1.12	4.92	4-0.47	2.76	1.40	14.25	12-7/8"-9	87.3	1890	3140	1264	5475
9	GEAR	CAST IRON	1	12"	F10	22 mm	15.04	9.53	3.03	30.34	9.06	8.94	1.24	5.51	4-0.47	2.76	1.40	17.00	12-7/8"-9	121.3	2808	4767	1905	8270

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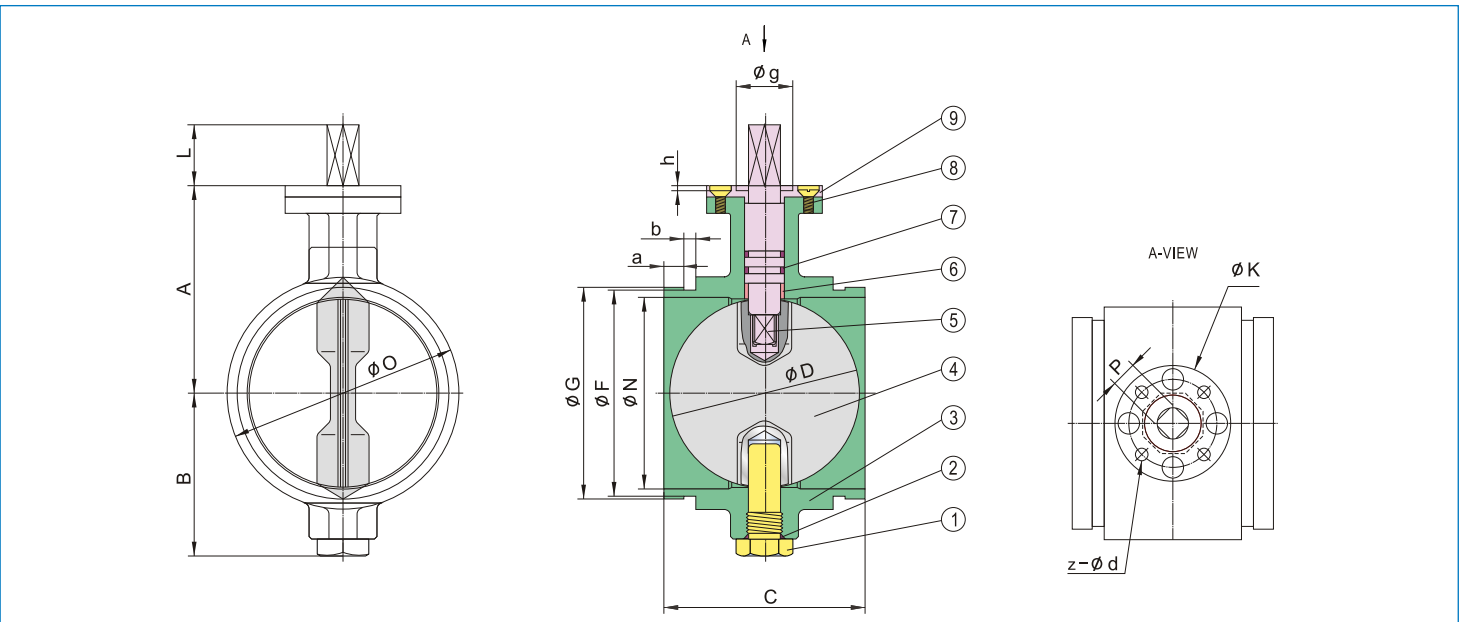


## SERIES L700

### GROOVED END

Direct mount grooved end butterfly valve.

- Working pressure 200 psi.
- EPDM coated disc, NBR coated available.
- Face to face MSS-SP-67.
- Ends meet ANSI AWWA C606.
- Epoxy coated ductile iron body.
- ISO 5211 direct mounting pad/square stem.
- Temperature range: -4°F to 212°F.
- Sizes 2" to 12".



N POS	PART NAME	MATERIAL	N PCS
1	LOWER SHATF	410 STAINLESS STEEL	1
2	O-RING	NBR, EPDM	1
3	BODY	CAST IRON DUCTILE IRON	1
4	DISC	DUCTILE IRON + NBR/EPDM	1
5	UPPER SHAFT	410 STAINLESS STEEL	1
6	BUSHING	P.T.F.E.	1
7	O-RING	NBR, EPDM	1
8	SCREW	CARBON STEEL ZINC PLATED	1
9	COVER	CARBON STEEL NICKEL PLATED	1

SIZE	ØA	B	C	D	L	P mm	K	ISO 5211	z-d	g	h	O	G	F	N	Cv	Break torque In-Lbs	Weight Lbs
2"	4.68	2.48	3.18	2.01	1.25	9	3.54	F05	4 x 9	2.16	0.12	2.79	2.37	2.25	1.96	135	124	3.90
2 1/2"	4.94	2.69	3.81	2.48	1.25	9	3.54	F05	4 x 9	2.16	0.12	3.03	2.87	2.72	2.40	220	204	4.80
3"	5.17	3.15	3.81	2.99	1.25	9	3.54	F05	4 x 9	2.16	0.12	3.97	3.50	3.34	3.14	302	425	5.90
4"	5.94	3.70	4.55	3.91	1.25	11	3.54	F07	4 x 9	2.16	0.12	4.96	4.50	4.33	3.97	600	496	9.90
5"	6.75	4.25	5.81	4.96	1.25	14	3.54	F07	4 x 9	2.16	0.12	5.74	4.50	5.39	5.00	1022	775	16.70
6"	7.20	4.84	5.81	5.91	1.61	14	3.54	F07	4 x 9	2.16	0.12	7.08	6.62	6.45	5.90	1579	1213	21.10
8"	8.08	5.88	5.25	7.89	1.25	17	4.92	F10	4 x 12	2.75	0.14	9.37	8.62	8.44	7.95	3136	2434	32.40
10"	9.84	7.32	6.25	9.87	1.61	22	4.92	F10	4 x 12	2.75	0.14	11.4	10.07	10.05	9.96	5340	4205	54.40
12"	10.8	8.38	6.50	11.8	1.61	22	4.92	F10	4 x 12	2.75	0.14	13.4	12.07	12.05	11.9	8250	5532	76.00

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# HIGH PERFORMANCE BUTTERFLY VALVE

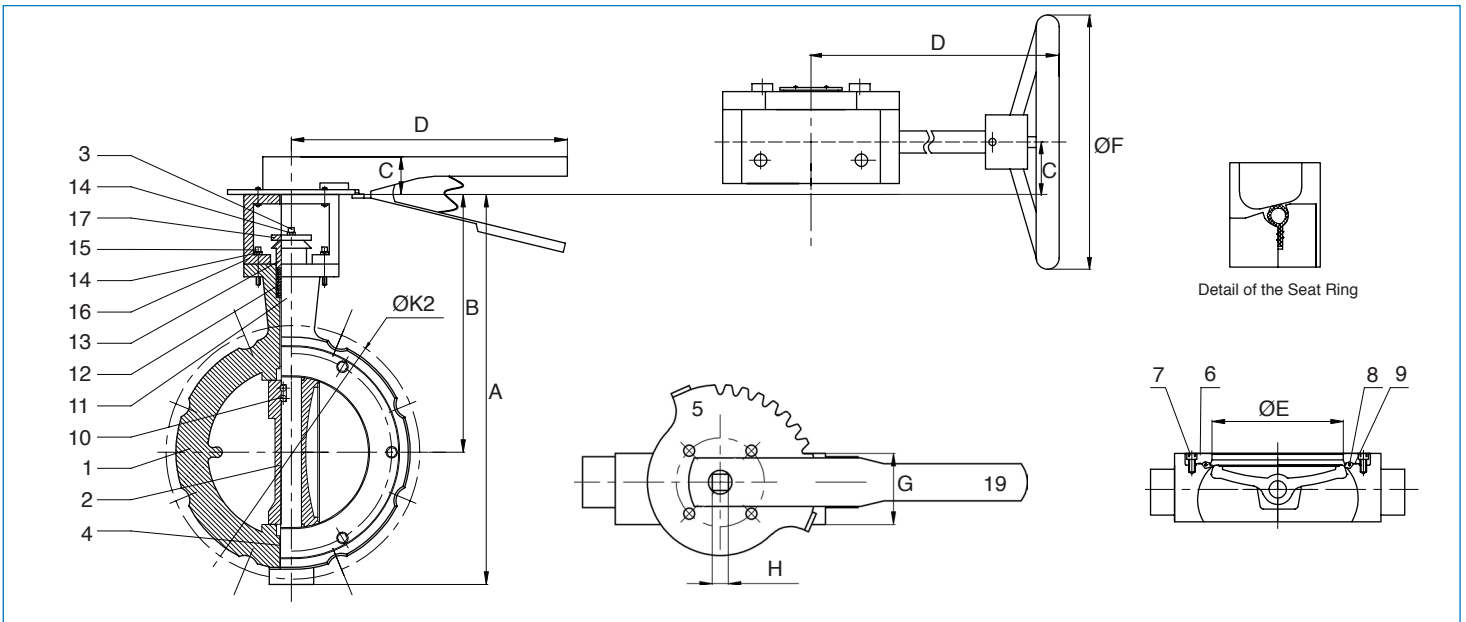
## SERIES 8100 - 9100

**CARBON STEEL    STAINLESS STEEL**

Manually operated ANSI 150 class, high performance Wafer style butterfly valves.

- ISO 5211 direct mounting pad/square stem.
- Compact design, easy access to packing.
- Replaceable seat design.
- Multiple V-ring stem packing.
- Reliable and consistent torques.
- R.P.T.F.E seats, metal seats upon request.
- 14" to 24" sizes available upon request.
- 150 WSP.
- Temperature range: -20° F to 475° F.
- Sizes 2" to 12".

G8100-G9100: Gear operated version.



N	POS	PART NAME	MATERIAL	N	PCS
1		BODY	WCB/CF8M	1	
2		DISC	CF8M	1	
3		STEM BOLT	SS 304	2	
4		STEM BUSHING	SS 316 + PTFE	3	
5		PLATE	SS 304	1	
6		SEAT RETAINER	WCB/CF8M	1	
7		RETAINER SCEW	SS 304	6-8	
8		O-RING	VITON®	1	
9		SEAT	CARBON FILLED P.T.F.E	1	
10		PIN	SS 316	2	
11		STEM	AISI 17-4PH	1	
12		V-RING	PTFE	6-9	
13		GLAND BUSHING	SS 316	1	
14		SPRING WASHER	SS 304	4	
15		HEX BOLT	SS 304	4	
16		MOUNTING FLANGE	WCB/CF8M	1	
17		GLAND	CF8M	1	
18		NUT	SS 304	2	
19		HANDLE	MALLEABLE IRON	1	

SIZE	A	B	C	D	ØE	ØF	G	H	ISO 5211	ØK2	Break torque	psi carbon-stainless	Cv	Weight Lbs
2"	9.42	6.42	1.26	10.5	2.45	C/F	1.75	11	F07	4.75 x 4	201	285/275	102	10.14
2-1/2"	9.13	6.42	1.26	10.5	2.91	C/F	1.88	11	F07	5.5 x 4	233	285/275	146	11.24
3"	10.43	7.4	1.26	10.5	3.37	C/F	1.92	11	F07	6 x 4	254	285/275	228	13.45
4"	11.73	8.23	1.26	10.5	4.25	C/F	2.13	14	F07	7.5 x 8	305	285/275	451	17.86
5"	13.95	9.07	1.26	10.5	5.3	C/F	2.25	17	F07	8.5 x 8	576	285/275	714	21.38
6"	14.5	9.6	1.26	10.5	6.4	C/F	2.31	17	F07	9.5 x 8	848	285/275	1103	28.66
8"	16.76	10.75	1.26	13.9	8.35	C/F	2.5	17	F10	11.75 x 8	1505	285/275	2064	46.08
10"	19.26	11.6	1.54	8.9	10.16	11.8	2.81	22	F10	14.25 x 12	2744	285/275	3517	71.65
12"	23.91	14.37	1.54	8.9	11.93	11.8	3.23	27	F14	17 x 12	4602	285/275	4837	121.69



# HIGH PERFORMANCE BUTTERFLY VALVE



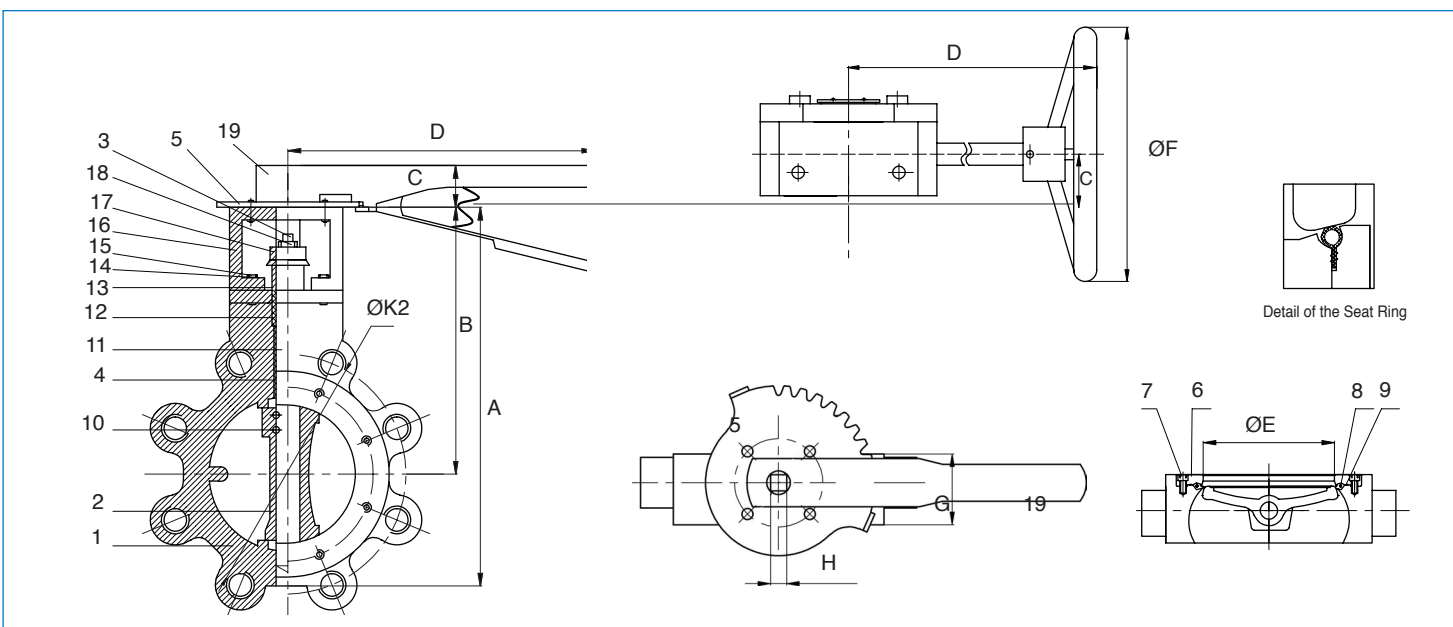
## SERIES 8101 - 9101

**CARBON STEEL    STAINLESS STEEL**

Manually operated ANSI 150 class, high performance Lug style butterfly valves.

- ISO 5211 direct mounting pad/square stem.
- Compact design, easy access to packing.
- Replaceable seat design.
- Multiple V-ring stem packing.
- Reliable and consistent torques.
- R.P.T.F.E seats, metal seats upon request.
- 14" to 24" sizes available upon request.
- 150 WSP.
- Temperature range: -20° F to 475° F.
- Sizes 2" to 12".

G8101-G9101: Gear operated version.



N POS	PART NAME	MATERIAL	N POS
1	BODY	WCB/CF8M	1
2	DISC	CF8M	1
3	STEM BOLT	SS 304	2
4	STEM BUSHING	SS 316 + PTFE	3
5	PLATE	SS 304	1
6	SEAT RETAINER	WCB/CF8M	1
7	RETAINER SCEW	SS 304	6-8
8	O-RING	VITON®	1
9	SEAT	CARBON FILLED PTFE	1
10	PIN	SS 316	2
11	STEM	AISI 17-4PH	1
12	V-RING	PTFE	6-9
13	GLAND BUSHING	SS 316	1
14	SPRING WASHER	SS 304	4
15	HEX BOLT	SS 304	4
16	MOUNTING FLANGE	WCB/CF8M	1
17	GLAND	CF8M	1
18	NUT	SS 304	2
19	HANDLE	MALLEABLE IRON	1

SIZE	A	B	C	D	ØE	ØF	G	H	ISO 5211	ØK2	Break torque	psi carbon-stainless	Cv	Weight Lbs
2"	9.42	6.42	1.26	10.5	2.45	C/F	1.75	11	F07	4.75 x 4 x 5/8"	201	285/275	102	11.24
2-1/2"	9.13	6.42	1.26	10.5	2.91	C/F	1.88	11	F07	5.5 x 4 x 5/8"	233	285/275	146	12.57
3"	10.43	7.4	1.26	10.5	3.37	C/F	1.92	11	F07	6 x 4 x 5/8"	254	285/275	228	14.55
4"	11.73	8.23	1.26	10.5	4.25	C/F	2.13	14	F07	7.5 x 8 x 5/8"	305	285/275	451	23.37
5"	13.95	9.07	1.26	10.5	5.3	C/F	2.25	17	F07	8.5 x 8 x 3/4"	576	285/275	714	28.88
6"	14.5	9.6	1.26	10.5	6.4	C/F	2.31	17	F07	9.5 x 8 x 3/4"	848	285/275	1103	35.27
8"	16.76	10.75	1.26	13.9	8.35	C/F	2.5	17	F10	11.75 x 8 x 3/4"	1505	285/275	2064	66.14
10"	19.26	11.36	1.54	8.9	10.16	11.8	2.81	22	F10	14.25 x 12 x 7/8"	2744	285/275	3517	84.88
12"	23.91	14.37	1.54	8.9	11.93	11.8	3.23	27	F14	17 x 12 x 7/8"	4602	285/275	4837	142.2



# HIGH PERFORMANCE BUTTERFLY VALVE



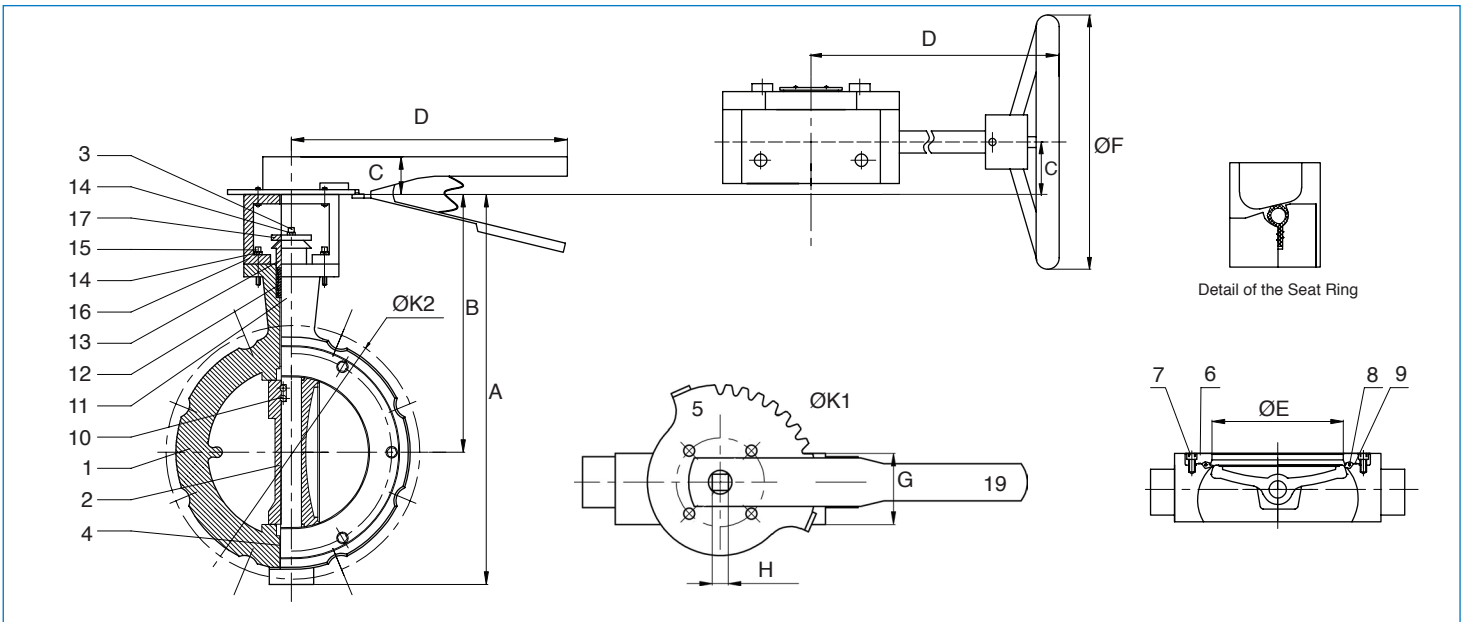
## SERIES 8300 - 9300

**CARBON STEEL    STAINLESS STEEL**

Manually operated ANSI 300 class, high performance Wafer style butterfly valves.

- ISO 5211 direct mounting pad/square stem.
- Compact design, easy access to packing.
- Replaceable seat design.
- Multiple V-ring stem packing.
- Reliable and consistent torques.
- R.P.T.F.E seats, metal seats upon request.
- 14" to 24" sizes available upon request.
- 150 WSP.
- Temperature range: -20° F to 475° F.
- Sizes 2" to 12".

G8300-G9300: Gear operated version.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	WCB/CF8M	1
2	DISC	CF8M	1
3	STEM BOLT	SS 304	2
4	STEM BUSHING	SS 316 + PTFE	3
5	PLATE	SS 304	1
6	SEAT RETAINER	WCB/CF8M	1
7	RETAINER SCEW	SS 304	6-8
8	O-RING	VITON®	1
9	SEAT	CARBON FILLED P.T.F.E	1
10	PIN	SS 316	2
11	STEM	AISI 17-4PH	1
12	V-RING	PTFE	6-9
13	GLAND BUSHING	SS 316	1
14	SPRING WASHER	SS 304	4
15	HEX BOLT	SS 304	4
16	MOUNTING FLANGE	WCB/CF8M	1
17	GLAND	CF8M	1
18	NUT	SS 304	2
19	HANDLE	MALLEABLE IRON	1

SIZE	A	B	C	D	ØE	ØF	G	H	ISO 5211	ØK2	Break torque	psi carbon-stainless	Cv	Weight Lbs
2"	9.41	6.42	1.26	10.5	2.45	C/F	1.75	11	F07	5 x 8	253	740/720	102	11.24
2-1/2"	9.13	6.42	1.26	10.5	2.91	C/F	1.88	11	F07	5.88 x 8	277	740/720	146	13.01
3"	10.39	7.4	1.26	10.5	3.37	C/F	1.92	11	F07	6.625 x 8	295	740/720	228	14.77
4"	11.73	8.23	1.26	10.5	4.25	C/F	2.13	14	F07	7.875 x 8	428	740/720	451	20.94
5"	13.32	9.07	1.26	10.5	5.3	C/F	2.25	17	F07	9.25 x 8	723	740/720	714	28.5
6"	14.53	9.61	1.26	10.5	6.4	C/F	2.31	17	F07	10.625 x 12	1125	740/720	1103	35.71
8"	17.92	10.76	1.26	13.9	8.35	C/F	2.88	17	F10	13 x 12	1903	740/720	2064	56.22
10"	19.74	11.88	1.54	8.9	10.16	11.8	3.25	22	F10	15.25 x 16	3496	740/720	3517	77.16
12"	24.55	14.74	1.54	8.9	11.93	11.8	3.62	27	F14	17.75 x 16	5176	740/720	4837	123.46

# HIGH PERFORMANCE BUTTERFLY VALVE



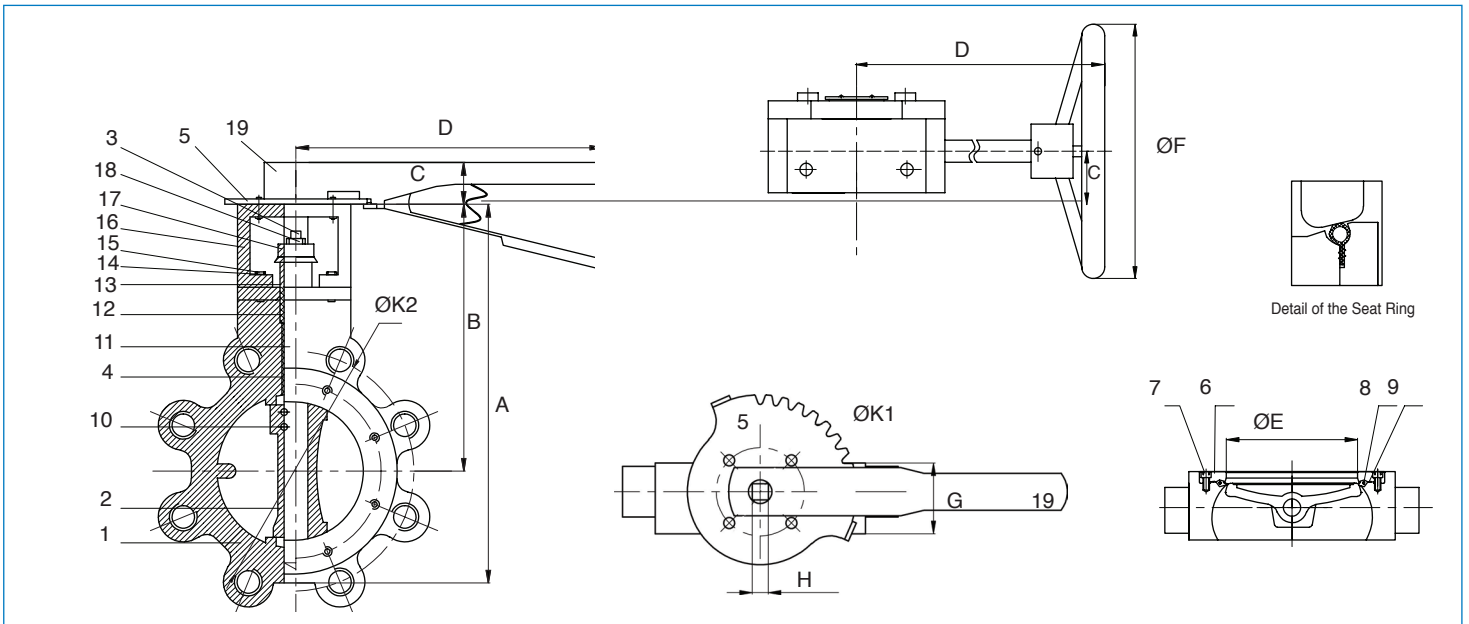
## SERIES 8301 - 9301

**CARBON STEEL    STAINLESS STEEL**

Manually operated ANSI 300 class, high performance Lug style butterfly valves.

- ISO 5211 direct mounting pad/square stem.
- Compact design, easy access to packing.
- Replaceable seat design.
- Multiple V-ring stem packing.
- Reliable and consistent torques.
- R.P.T.F.E seats, metal seats upon request.
- 14" to 24" sizes available upon request.
- 150 WSP.
- Temperature range: -20° F to 475° F.
- Sizes 2" to 12".

G8301-G9301: Gear operated version.



N POS	PART NAME	MATERIAL	N PCS
1	BODY	WCB/CF8M	1
2	DISC	CF8M	1
3	STEM BOLT	SS 304	2
4	STEM BUSHING	SS 316 + PTFE	3
5	PLATE	SS 304	1
6	SEAT RETAINER	WCB/CF8M	1
7	RETAINER SCEW	SS 304	6-8
8	O-RING	VITON®	1
9	SEAT	CARBON FILLED PTFE	1
10	PIN	SS 316	2
11	STEM	AISI 17-4PH	1
12	V-RING	PTFE	6-9
13	GLAND BUSHING	SS 316	1
14	SPRINGER WASHER	SS 304	4
15	HEX BOLT	SS 304	4
16	MOUNTING FLANGE	WCB/CF8M	1
17	GLAND	CF8M	1
18	NUT	SS 304	2
19	HANDLE	MALLEABLE IRON	1

SIZE	A	B	C	D	ØE	ØF	G	H	ØK1	ØK2	Break torque	psi carbon-stainless	Cv	Weight Lbs
2"	9.42	6.42	1.26	10.5	2.45	C/F	1.75	11	F07	5 x 8 x 5/8"	253	740/720	102	14.33
2-1/2"	9.13	6.42	1.26	10.5	2.91	C/F	1.88	11	F07	5.88 x 8 x 3/4"	277	740/720	146	17.2
3"	10.47	7.4	1.26	10.5	3.37	C/F	1.92	11	F07	6.625 x 8 x 3/4"	295	740/720	228	19.62
4"	11.93	8.23	1.26	10.5	4.25	C/F	2.13	14	F07	7.875 x 8 x 3/4"	428	740/720	451	27.12
5"	13.95	9.07	1.26	10.5	5.3	C/F	2.25	17	F07	9.25 x 8 x 3/4"	723	740/720	714	33.29
6"	14.53	9.61	1.26	10.5	6.4	C/F	2.31	17	F07	10.625 x 12 x 3/4"	1125	740/720	1103	50.04
8"	17.92	10.76	1.26	13.9	8.35	C/F	2.88	17	F10	13 x 12 x 7/8"	1903	740/720	2064	78.92
10"	19.74	11.88	1.54	8.9	10.16	11.8	3.25	22	F10	15.25 x 16 x 1"	3496	740/720	3517	116.84
12"	24.55	14.74	1.54	8.9	11.93	11.8	3.62	27	F14	17.75 x 16 x 1-1/8"	5176	740/720	4837	165.35



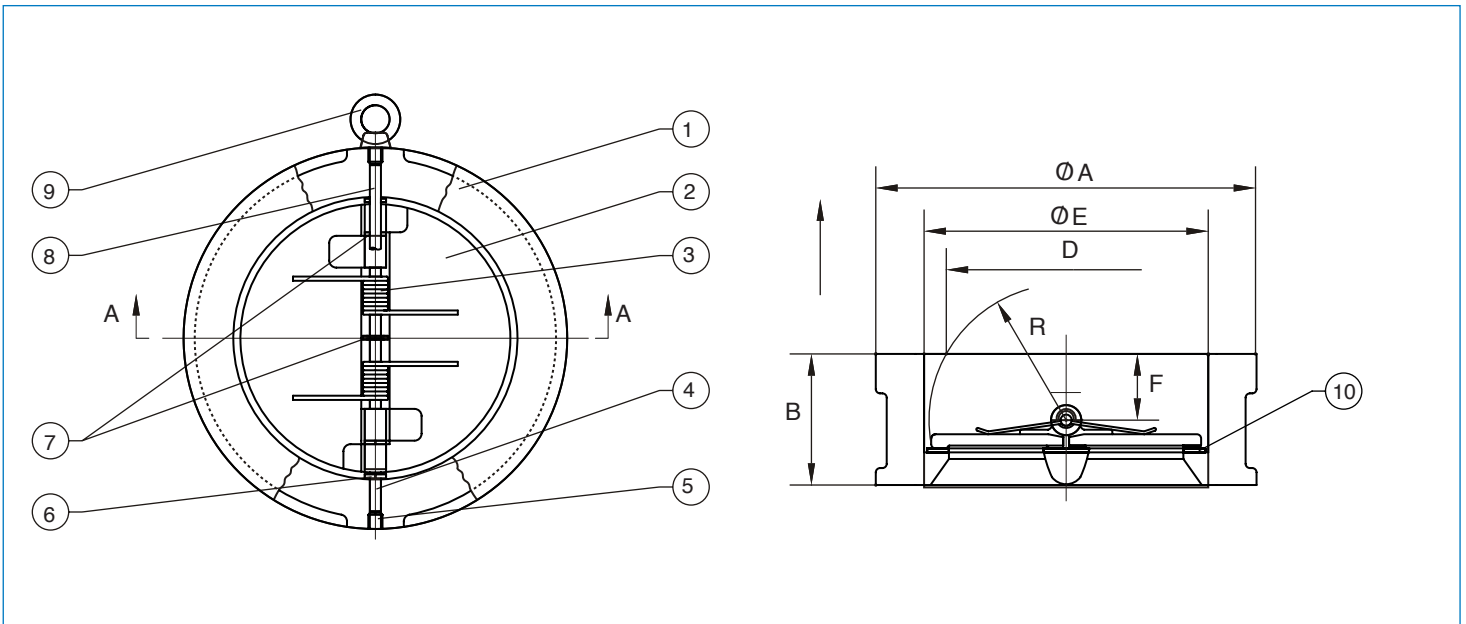
## SERIES C1150E - C1150V CHECK VALVE



NSF/ANSI  
61, 372

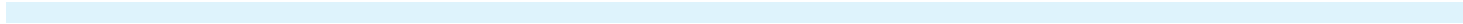
Double door wafer style check valve.

- Ductile iron body
- Stainless steel dual disc.
- Stainless steel spring loaded.
- Pressure rating 200 psi.
- Epoxy coated body.
- Food grade EPDM or Viton® seat options.
- Can be used with ANSI 125 or 150 flanges.
- Light weight and compact.
- NSF certified for drinking water service (EPDM seats only).
- Temperature range: -30° F to 250° F (EPDM seats).
- Sizes 2" to 12".



N POS	PART NAME	MATERIAL	N PCS
1	BODY	A536 GR 65-45-12 DUCTILE IRON	1
2	DISC	CF8M STAINLESS STEEL	1
3	STEM BOLT	STAINLESS STEEL	1
4	STEM BUSHING	STAINLESS STEEL	1
5	PLATE	CARBON STEEL	1
6	SEAT RETAINER	P.T.F.E	1
7	RETAINER SCEW	P.T.F.E	1
8	O-RING	STAINLESS STEEL	1
9	SEAT	CARBON STEEL	1
10	HANDLE	EPDM, VITON®	1

SIZE	OA	B	D	OE	F	R	Cv	psi	Weight Lbs
2"	4.01	1.69	1.70	2.55	0.74	1.13	70	200	3.30
2 1/2"	4.76	1.81	2.37	3.14	0.78	1.42	120	200	5.30
3"	5.23	2.51	2.61	3.70	1.10	1.70	190	200	7.90
4"	6.73	2.75	3.57	4.60	1.06	2.07	340	200	12.60
5"	7.59	2.99	4.60	5.70	1.18	2.58	590	200	16.10
6"	8.62	3.50	5.69	6.69	1.22	3.09	870	200	19.80
8"	10.8	4.48	7.80	8.81	1.29	4.11	1650	200	37.50
10"	13.2	4.48	9.20	10.4	1.96	4.99	2700	200	57.30
12"	15.9	5.00	11.2	12.2	1.69	5.83	4300	200	92.60





## 1. Presentation

Valpres has expanded the range of available products. The Oil&Gas team, with a very high seniority in the industry, has developed a range of valves to meet end users and EPC contractors requirements in the **Oil&Gas** sector as well as in industrial sectors with severe applications.

For this reason it has acquired, in addition to the existing quality, environment and safety system certifications, the **API 6A** and **API 6D** certifications for ball valves.

With this objective, Valpres has developed the new product line that includes:

- Floating and trunnion mounted forged ball valves;
- Double block and bleed (twin ball) valves;
- Control ball valve for incompressible and compressible fluids.

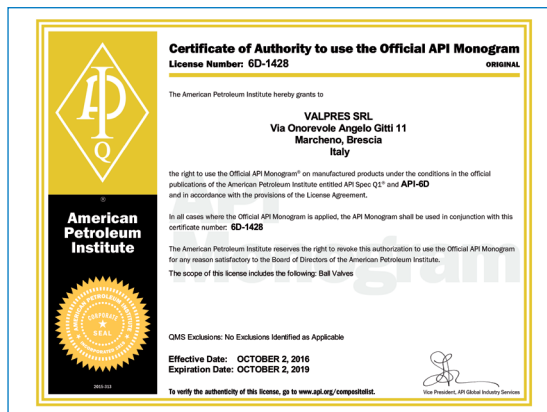
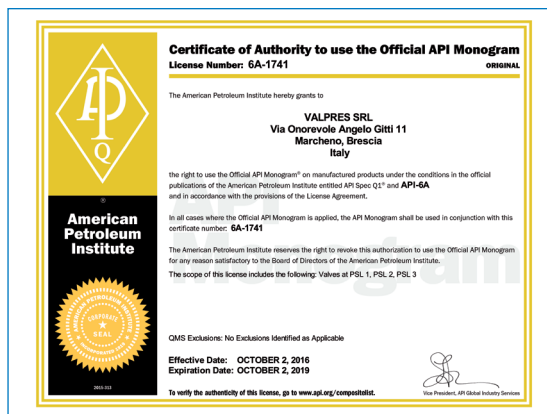
All the above are also available for cryogenic and corrosive services.

The new products are developed through accurate and formal verification and validation processes with calculations, finite element analysis (FEA) and computational fluid dynamics analysis (CFD), in order to ensure the performance of the valves in the conditions requested by the customer.



For more severe applications, field validations are also provided as well as tests at certified laboratories or universities.

The integrated management of the entire production cycle, from contract review to the product and documentation final acceptance, ensures full traceability and guarantees the necessary quality standards.





## 2. Product range

Available sizes and pressure classes are listed in the tables below.

The materials used for construction are in accordance to the customer specifications (carbon steels, austenitic, duplex, nickel alloys) and non-metallic materials (thermoplastics and elastomers) are carefully chosen to ensure the best performances.

### Available trunnion mounted ball valves range

Size/ Rating	150	300	600	900	1500	2500
1 1/2"	•	•	•	•	•	•
2"	•	•	•	•	•	•
3"	•	•	•	•	•	•
4"	•	•	•	•	•	•
6"	•	•	•	•	•	•
8"	•	•	•	•	•	•
10"	•	•	•	•	•	•
12"	•	•	•	•	•	•
14"	•	•	•	•	•	•
16"	•	•	•	•	•	•
18"	•	•	•	•	•	•
20"	•	•	•	•	•	•
24"	•	•	•	•	•	•
30"	•	•	•	•	•	•
36"	•	•	•	•	•	•
42"	•	•	•	•	•	•
48"	•	•	•	•	•	•

### Available floating ball valves range

Size/ Rating	150	300	600	900	1500	2500
1/2"	•	•	•	•	•	•
3/4"	•	•	•	•	•	•
1"	•	•	•	•	•	•
1 1/2"	•	•	•	•	•	•
2"	•	•	•	•	•	•
3"	•	•	•	•	•	•
4"	•	•	•	•	•	•
6"	•	•	•	•	•	•



## 3. Technical data

The below technical data illustrate the standard range.

Customized features are available according to individual customer specifications:

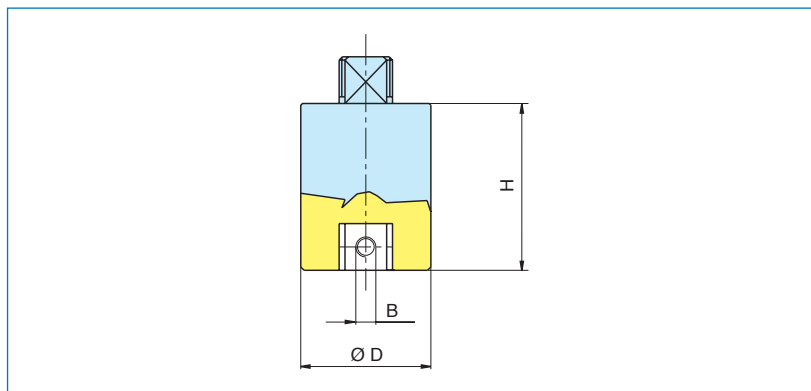
- Construction/design: API 6D-API 6A-ASME B16.34-API-608.
- Manual or actuated operation devices.
- Minimum thickness according to ASME VIII-ASME B16.34.
- Firesafe: ISO 10497, API 6FA, API 607.
- Face to face according to ANSI B16.10, API 6D and API 6A.
- Flanged ends, welded ends, threaded or according to customer request.
- Full or reduced bore (reduced bore starting from 2").
- Anti-blowout stem and antistatic device.
- Self-relieving seats (piston effect seats are also available for the trunnion valves).
- Double Block and Bleed feature on trunnion valves.
- Standard drain on all trunnion valves and vent fitting from 6" - and above.
- Drain ports according to specifications, bleed fittings, welded, flanged valves, etc.
- Support feet and lifting lugs for standard valves over 250 Kg.
- Locking devices.

All Valpres valves are 100% tested in accordance to API 6D/BS12266 or API 6A, as well as to the applicable project or client specifications.

Non-destructive tests are always carried out according to quality control plans issued for order.

All certification and documentation is issued in accordance to the standards and specifications prescribed by Valpres' customers.

## EXTENSION STEM



ART.	SIZE	H	ØD	B	FOR USE WITH SERIES	NOT VALID FOR	MATERIALS
890021	1/8"	2.17	0.90	M5	70	Series 700076 (all sizes) Series 700023 (all sizes) Series 766 (all sizes)	PLATED CARBON STEEL
	1/4"	2.17	0.90	M5	70 - 71		
	3/8"	2.17	0.90	M5	70 - 71		
	1/2"	2.17	0.90	M5	70		
890022	1/2"	2.17	0.90	M6	71 - 72 - 76 - 776		
	3/4"	2.17	0.90	M6	70 - 71 - 72 - 76 - 776		
890023	1"	2.17	0.90	M6	70 - 71 - 72 - 73 - 76 - 776		
	1 1/4"	2.17	0.90	M6	70 - 71 - 72 - 73 - 76 - 776		
890024	1 1/2"	1.97	1.10	M6	70 - 71 - 72 - 73 - 76 - 776		
	2"	1.97	1.10	M6	70 - 71 - 72 - 73 - 75 - 776		
	2 1/2"	1.97	1.10	M6	75		
890025	2"	1.85	1.33	M8	76		
	2 1/2"	1.85	1.33	M8	70 - 71 - 72 - 73 - 76 - 776		
	3"	1.85	1.33	M8	70 - 71 - 72 - 73 - 776 - 75		
	4"	1.85	1.33	M8	75		
890026	3"	1.57	1.46	M8	76		
	4"	1.57	1.46	M8	70 - 71 - 72 - 73 - 76 - 776		
	5"	1.57	1.46	M8	72 - 73 - 75 - 76 - 776		



### GENERAL SPECIFICATIONS

Valbia manufactures rack and pinion pneumatic actuators, available in spring return or double acting version, with 0°-90° standard rotation or 0°-180°, and are standardly furnished with VITON seals. Valbia offers a product with a unique patented design, which is able to guarantee high quality standard, performance and reliability.

Valbia actuators are versatile and suitable to different applications and operating conditions.

Bonomi North America also provides a wide range of accessories such as solenoid valves, limit switches, positioners, and manual overrides.

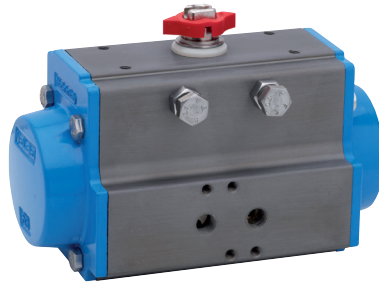
Valbia pneumatic actuators are available in three versions:

- the 82 series aluminum with 0°-90° rotation;
- the 83 series , aluminum with 0°-180° rotation;
- the 84 series , stainless steel with 0°-90° rotation.

In addition, Valbia offers a wide range of special versions designed to provide specific solutions for severe applications.

#### 82 SERIES PNEUMATIC ACTUATORS

The 82 series, with an extruded and hard anodized aluminum body, is manufactured in 15 models to guarantee a wide range of choice according to the requested torque; it allows a 0°-90° rotation and is available in the spring return (SR) or double acting (DA) versions.



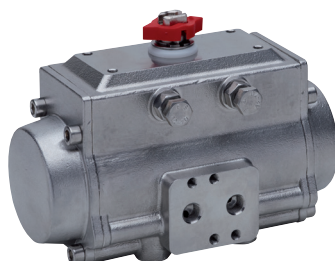
#### 83 SERIES PNEUMATIC ACTUATORS

Available only in the double acting version, the 83 series is manufactured in 9 models according to the different torque output required. These actuators can provide a 0°-180° rotation with the possibility to adjust the run of the pistons by using the cam adjustment and the bolts mounted on the end caps.



## 84 SERIES PNEUMATIC ACTUATORS

The 84 series presents the same compact design and the same technical features of the 82 series, but it has stainless steel body, caps and pinion, and is available in 5 models.



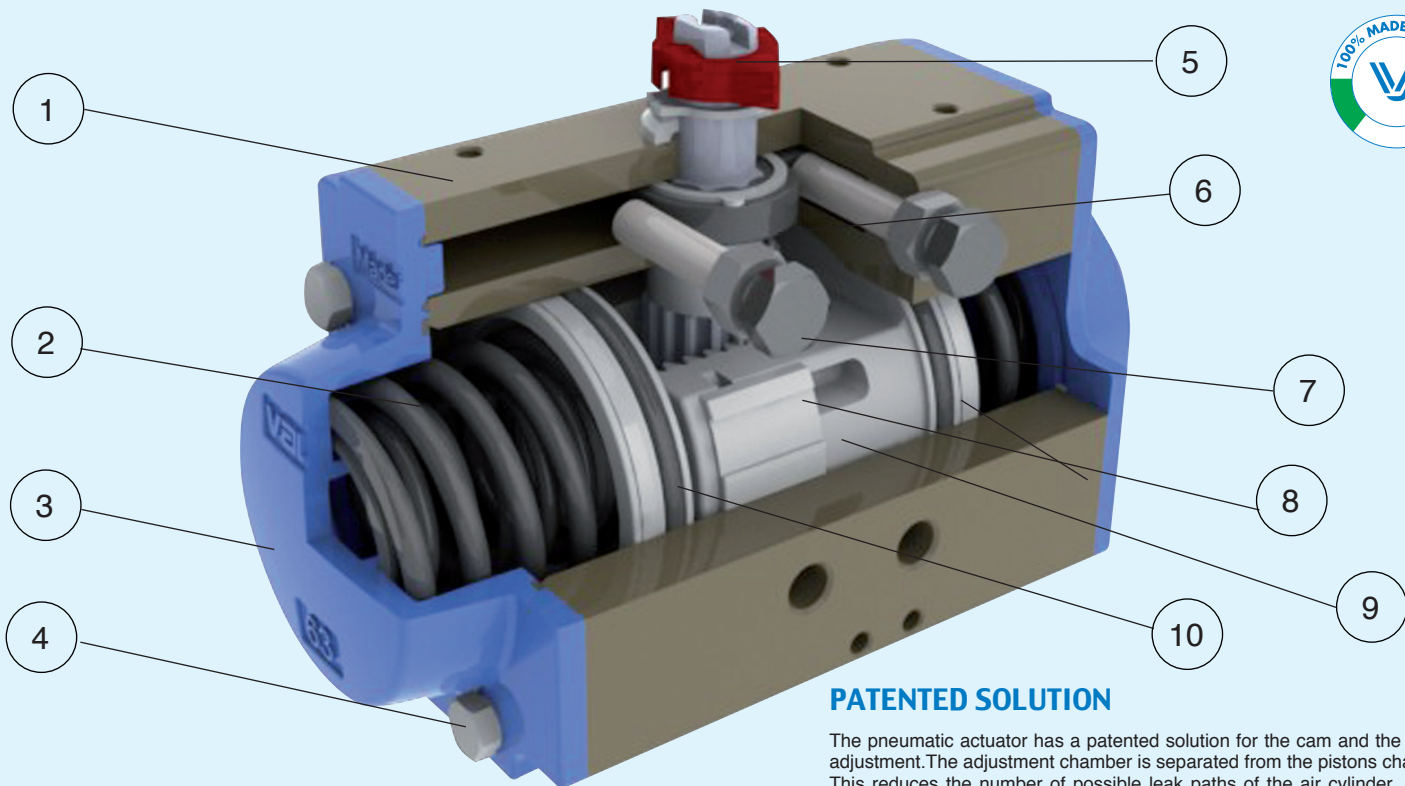
High temperature as standard: to withstand temperatures up to 302°F.

Low temperature option: for applications that require the use down to -40°F.

With 303 stainless steel pinion.

P.T.F.E coating: coating applied over the entire actuator surface and cured in the oven.  
It provides excellent corrosion protection in a wide range of applications, involving chemical wash-downs.





### PATENTED SOLUTION

The pneumatic actuator has a patented solution for the cam and the double adjustment. The adjustment chamber is separated from the pistons chamber. This reduces the number of possible leak paths of the air cylinder, and allowing performances and longer term reliability of the actuator.

### STANDARD VITON SEALS

- 1 HARD ANODIZED EXTRUDED ALUMINIUM BODY:**
  - Hard anodized SURFACE finish (45-50 micron).
  - Excellent wear resistance.
  - High corrosion resistance.
  - Special surface finishing or coating for corrosive environments upon request.
  - High quality bore lapping to ensure low friction and long life.
- 2 CONCENTRIC SPRING SETS**
  - Paint coating.
  - High resistance and reliability.
  - Spring sets to suit different air pressure/torque requirements.
  - Long end cap screws to allow safe dismantling for maintenance.
  - Same body dimensions for DA/SR versions.
- 3 DIE CAST ALUMINUM END CAPS:**
  - Polyester powder coated
  - Special coating for corrosive environments upon request.
- 4 ASSEMBLING SCREW:**
  - Stainless steel.

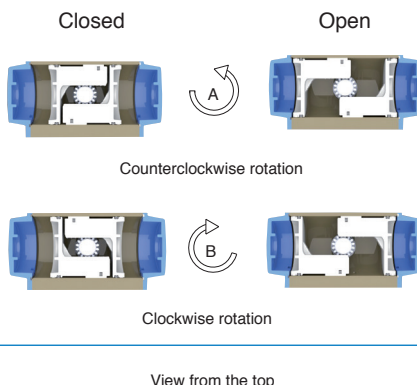
#### STANDARDS CONNECTION:

- Top of pinion according to Namur standards.
- Solenoid valve connection according to Namur standards.
- Bottom according to ISO 5211-DIN 3337 patterns.

#### NOMINAL VALUES:

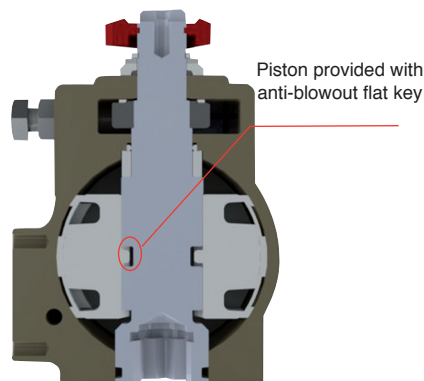
- Max. air pressure rating: 120 psi.
- Working temperature: standard (-4°F;+302°F), low (-40°F;+185°F).
- No lubrication maintenance required for the entire actuator lifetime.
- 100% factory tested.

### ROTATION OPTION



- 5 SOLID STEEL BARSTOCK PINION (NOT CASTING):**
  - Nickel-plating to prevent internal and external corrosion for standard version.
  - Stainless steel for corrosive environments upon request.
  - Anti-blowout design.
- 6 0°-90° ROTATION ADJUSTMENT CAM:**
  - Stainless steel.
  - ± 5° Adjustment for open and close position.
- 7 0-90° ADJUSTMENT BOLTS:**
  - Stainless steel.
- 8 POM PISTON GUIDES:**
  - Large contact area.
  - Low friction thanks to lubricating material.
  - Long life.
- 9 DIE CAST ALUMINUM PISTONS:**
  - Chemical nickel plating upon request.
- 10 SEALS:**
  - Standard VITON.
  - Silicone low temperature version.

### ANTI-BLOWOUT SYSTEM

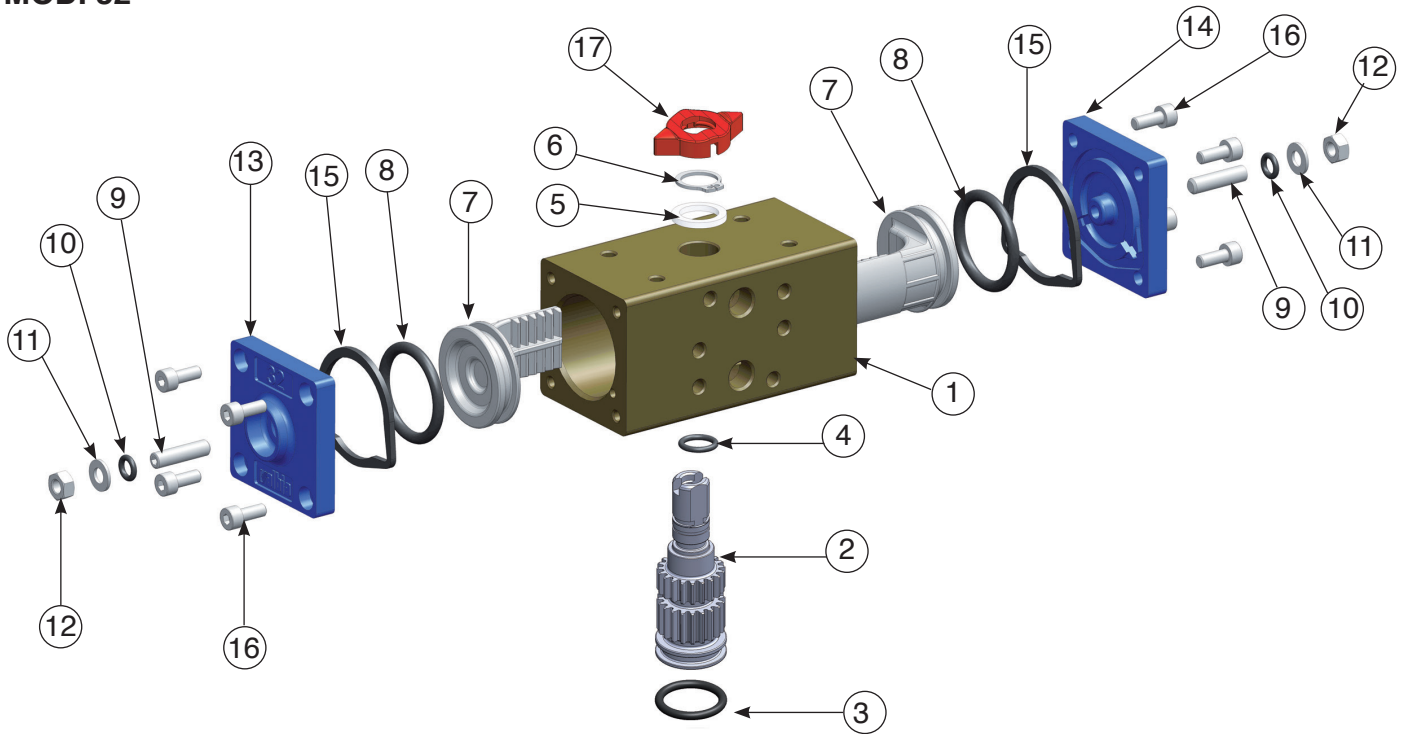


#### TWIN RACK AND PINION DESIGN:

- Consistent torque output.
- Compact design.
- Balanced internal forces.
- Robust design to ensure long life.



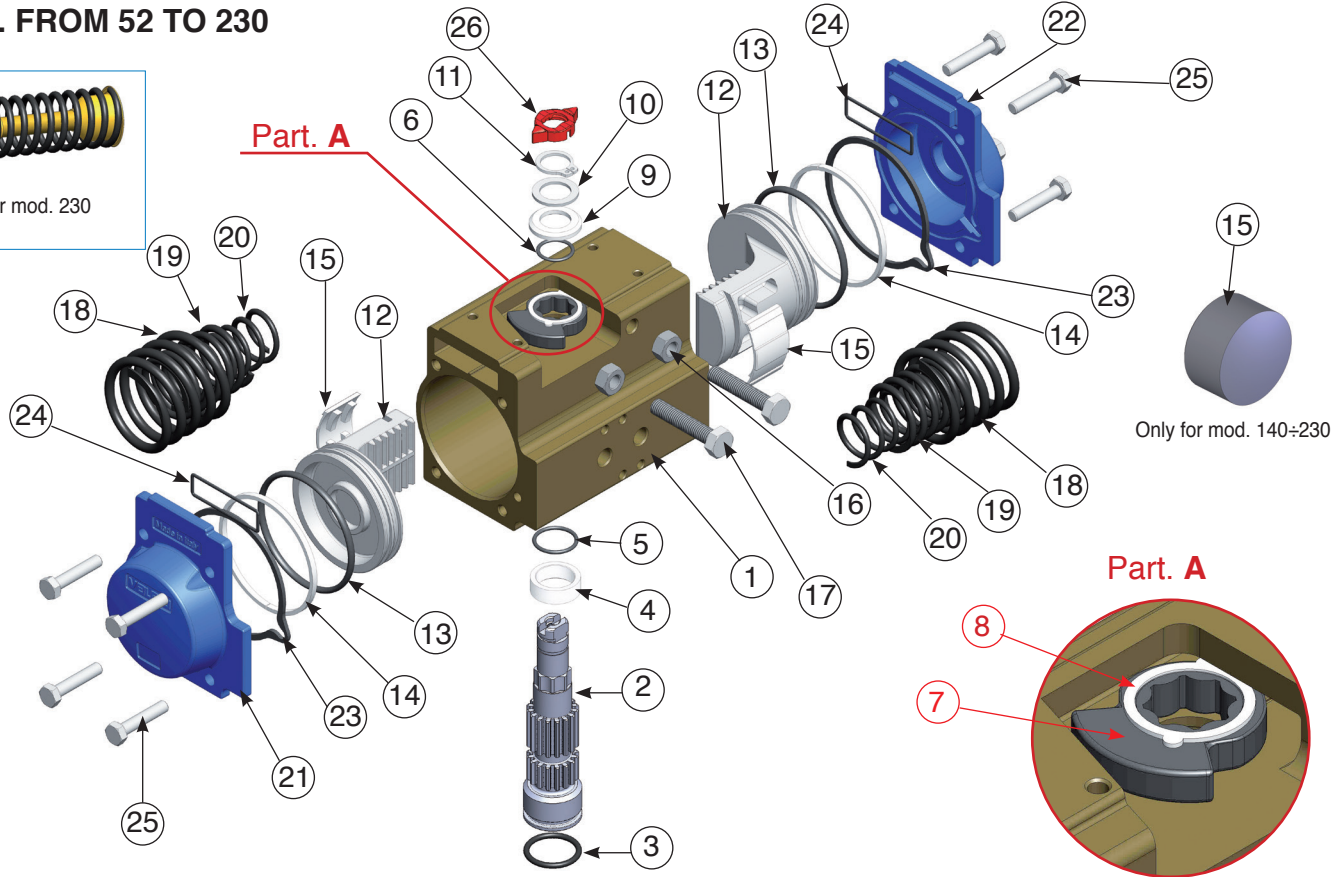
MOD. 32



ITEM	DESCRIPTION	MATERIAL	TREATMENT	Q.TY
1	Body	Extruded aluminum	Hard anodized	1
2	Anti-blowout pinion	Steel	Nickel plated	1
• 3	O-ring	FKM (Viton)		1
• 4	O-ring	FKM (Viton)		1
• 5	Spacer ring	POM		1
6	Snap ring	Steel	Nickel plated	1
7	Piston	Die cast aluminum		2
• 8	O-ring	FKM (Viton)		2
9	Adjustment bolt	Stainless steel		2
• 10	O-ring	FKM (Viton)		2
11	Washer	Stainless steel		2
12	Adjustment bolt retaining nut	Stainless steel		2
13	Left end cap	Die cast aluminum	Powder-coated	1
14	Right end cap	Die cast aluminum	Powder-coated	1
15	End cap seats	FKM (Viton)		2
16	End cap fixing screw	Stainless steel		8
17	Position indicator	Thermoplastic rubber TPE		1

• Parts subject to wear

MOD. FROM 52 TO 230

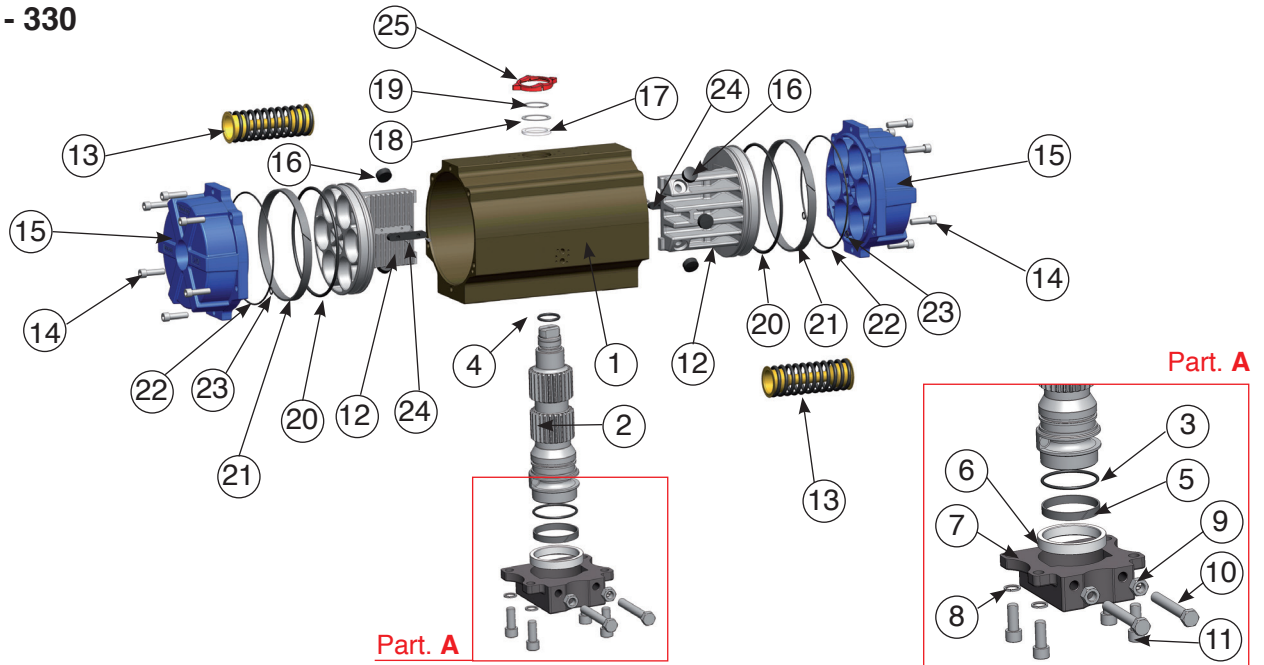


ITEM	DESCRIPTION	MATERIAL	TREATMENT	Q.TY DA	Q.TY SR
1	Body	Extruded aluminum	Hard anodized	1	1
2	Anti-blowout pinion	Steel	Nickel plated	1	1
• 3	O-ring	FKM (Viton)		1	1
• 4	Spacer ring	POM		1	1
• 5	O-ring	FKM (Viton)		1	1
• 6	O-ring	FKM (Viton)		1	1
7	Cam	Stainless steel		1	1
8	Spacer	POM		1	1
• 9	Spacer	POM		1	1
10	Washer	Stainless steel		1	1
** 11	Snap ring	Steel	Nickel plated	1	1
12	Piston	Die cast aluminum		2	2
• 13	O-ring	FKM (Viton)		2	2
• 14	Anti-friction ring	POM		2	2
• 15	Thrust block	POM		2 [4]	2 [4]
16	Adjustment bolt retaining nut	Stainless steel		2	2
17	Adjustment bolt	Stainless steel		2	2
18	External spring	Steel	Painted	0	See spring settings at page 135
*** 19	Central spring	Steel	Painted	0	
20	Internal spring	Steel	Painted	0	
21	Left end cap	Die cast aluminum	Powder-coated	1	1
22	Right end cap	Die cast aluminum	Powder-coated	1	1
23	End cap seats	FKM (Viton)		2	2
24	O-ring	FKM (Viton)		2	2
25	End cap screw	Stainless steel		8	8
26	Position indicator	Thermoplastic rubber TPE		1	1

• Parts subject to wear.  
 (4) Valid for mod. 140-160-180-200-230 only.

\*\* Reinforced series DIN 471 - UNI 7436.  
 \*\*\* Only for mod. 160-180-200.

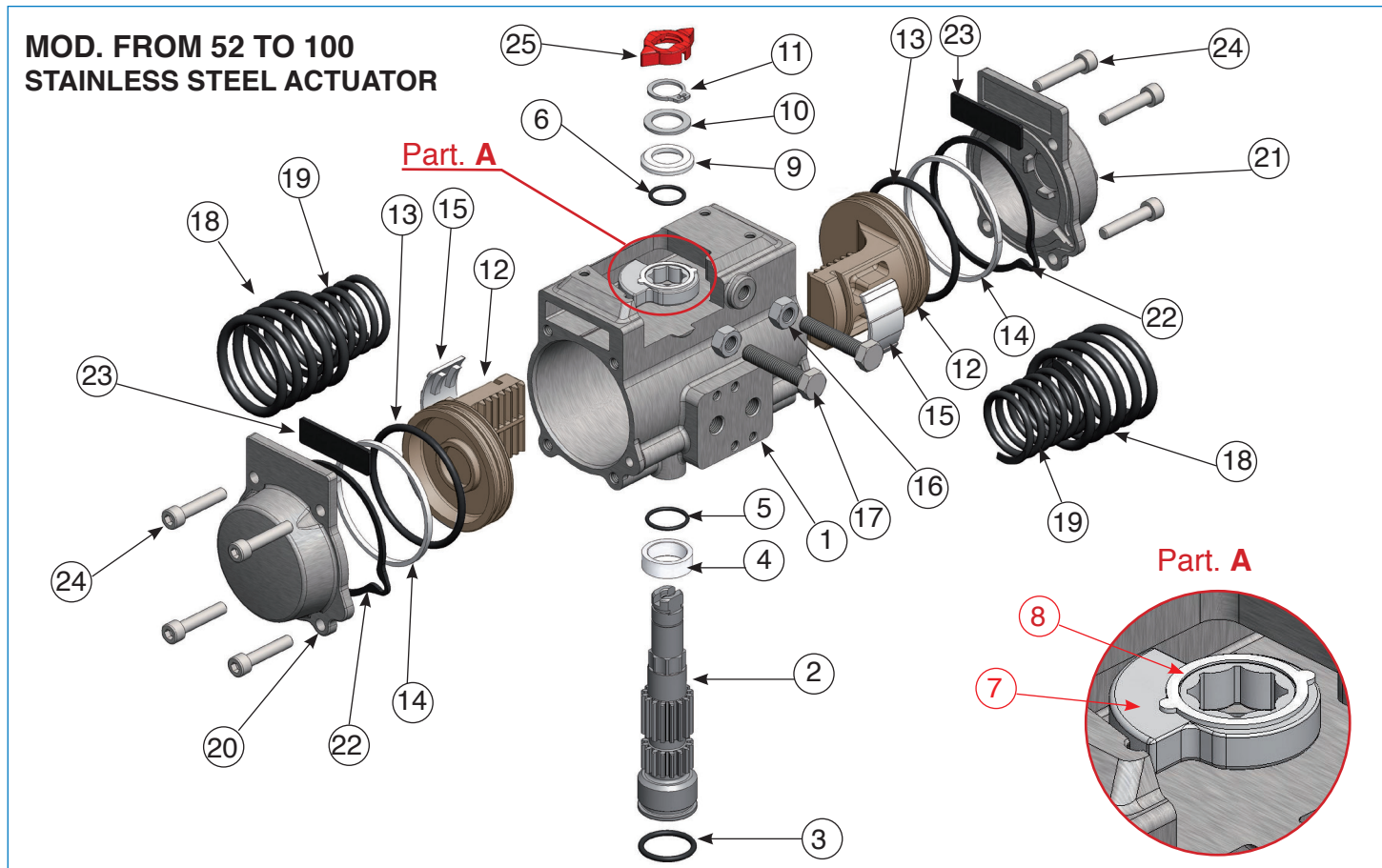
MOD. 270 - 330



ITEM	DESCRIPTION	MATERIAL	TREATMENT	Q.TY DA	Q.TY SR
1	Body	Extruded aluminum	Hard anodized	1	1
2	Anti-blowout pinion	Steel	Nickel plated	1	1
• 3	O-ring	FKM (Viton)		1	1
• 4	O-ring	FKM (Viton)		1	1
• 5	Anti-friction ring	P.T.F.E 15% graphite		1	1
• 6	Anti-friction ring	P.T.F.E		1	1
7	Plate	mod.270 GGG40 - mod.330 C45	Painted	1	1
8	Washer	Stainless steel		4	8
9	Adjustment bolt retaining nut	Stainless steel		2	2
10	Adjustment bolt	Steel	Zinc plated	2	2
11	Screws	Stainless steel		4	4
12	Piston	Die cast aluminum		2	2
13	Precompressed spring	Steel	Painted	0	See spring settings at page 135
14	End cap screw	Stainless steel		mod.270 12 mod.330 16	mod.270 12 mod.330 16
15	End cap	Die cast aluminum	Powder-coated	2	2
• 16	Thrust block	POM		mod.270 6 mod.330 8	mod.270 6 mod.330 8
• 17	Spacer ring	POM		1	1
18	Pinion washer	Stainless steel		1	1
19	Snap ring	Steel	Nickel plated	1	1
• 20	O-ring	FKM (Viton)		2	2
• 21	Anti-friction ring	P.T.F.E 15% graphite		2	2
22	O-ring	FKM (Viton)		2	2
23	O-ring	FKM (Viton)		mod.270 4 mod.330 2	mod.270 4 mod.330 2
24	Anti-blowout key	POM		2	2
25	Position indicator	Thermoplastic rubber TPE		1	1

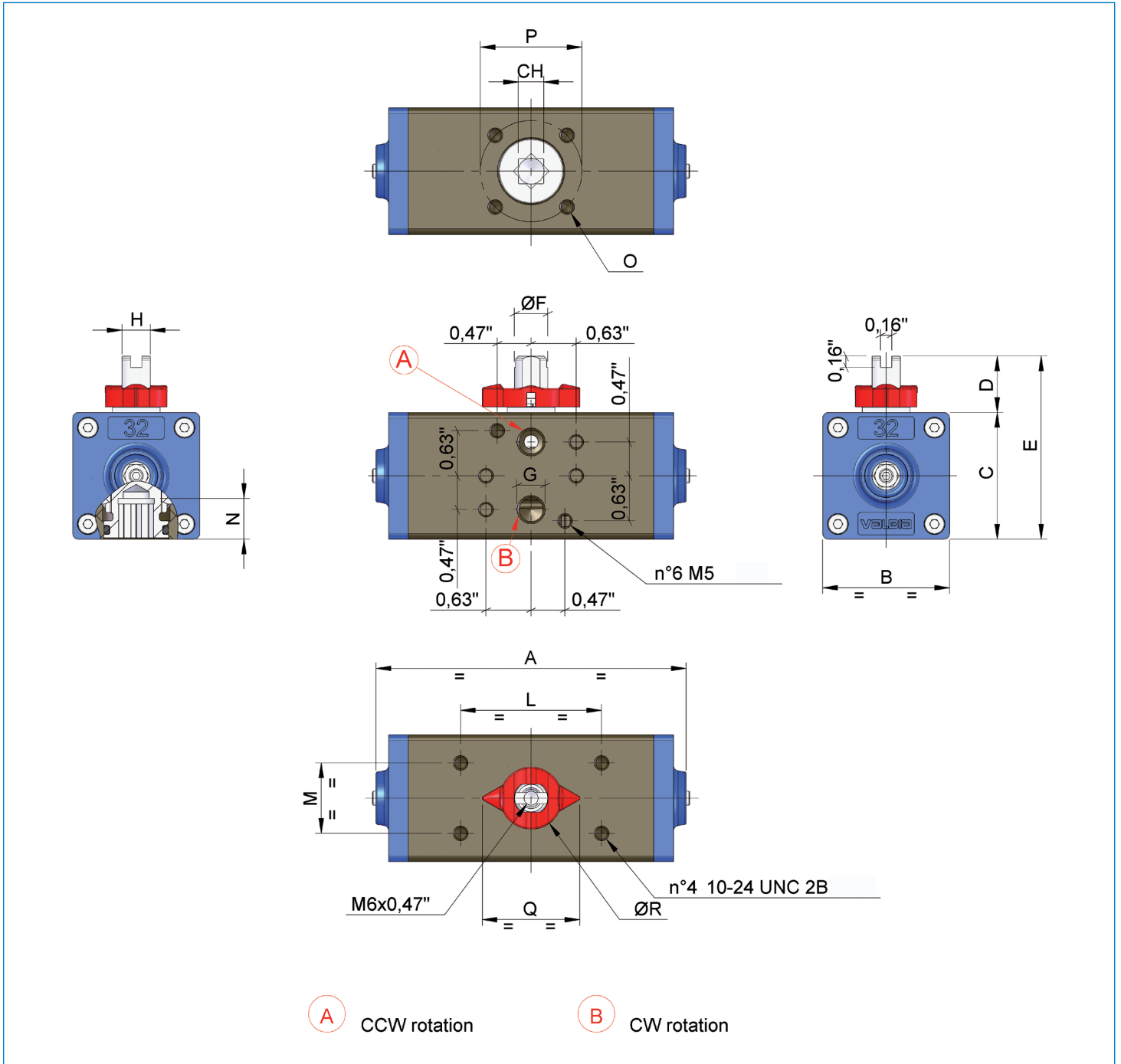
• Parts subject to wear.

MOD. FROM 52 TO 100  
STAINLESS STEEL ACTUATOR



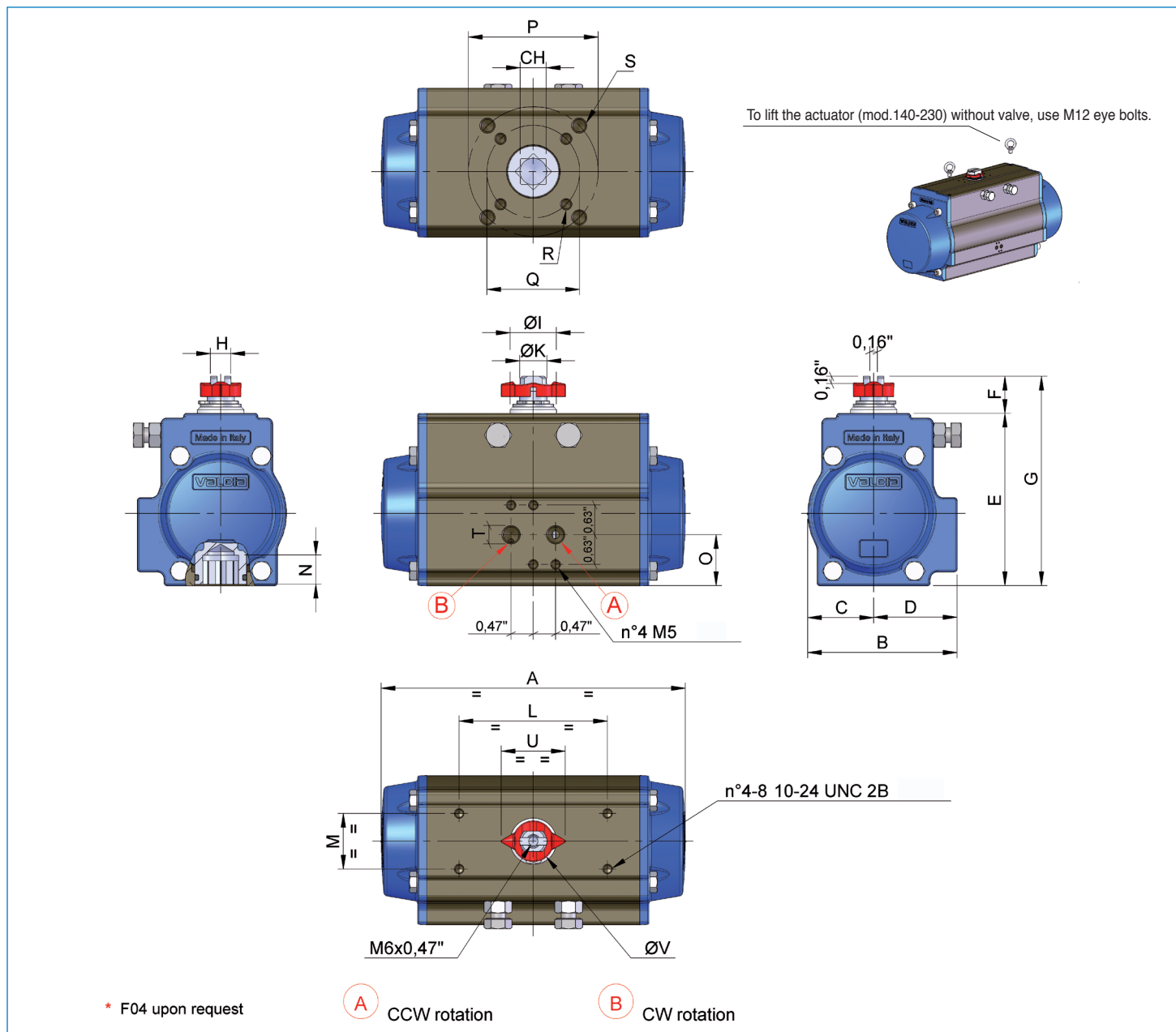
ITEM	DESCRIPTION	MATERIAL	TREATMENT	Q.TY DA	Q.TY SR
1	Body	Stainless steel		1	1
2	Anti-blowout pinion	Stainless steel		1	1
• 3	O-ring	FKM (Viton)		1	1
• 4	Spacer ring	POM		1	1
• 5	O-ring	FKM (Viton)		1	1
• 6	O-ring	FKM (Viton)		1	1
7	Cam	Stainless steel		1	1
8	Spacer	POM		1	1
• 9	Spacer	POM		1	1
10	Washer	Stainless steel		1	1
11	Snap ring	Stainless steel		1	1
12	Piston	Die cast aluminum	Hard anodized	2	2
• 13	O-ring	FKM (Viton)		2	2
• 14	Anti-friction ring	POM		2	2
• 15	Thrust block	POM		2	2
16	Adjustment bolt retaining nut	Stainless steel		2	2
17	Adjustment bolt	Stainless steel		2	2
18	External spring	Steel	Powder coating	0	See spring settings at page 135
19	Internal spring	Steel	Powder coating	0	
20	Left end cap	Stainless steel		1	1
21	Right end cap	Stainless steel		1	1
22	End cap seats	FKM (Viton)		2	2
23	End cap seats	FKM (Viton)		2	2
24	End cap screw	Stainless steel		8	8
25	Position indicator	Thermoplastic rubber TPE		1	1

• Parts subject to wear.



MOD.	PATTERN ISO 5211	CH mm	A	B	C	D	E	$\varnothing F$	G NPT	H	L	M	N	O	P	Q	$\varnothing R$
32	F03	9	4.33	1.77	1.77	0.79	2.56	0.46	1/8"	0.39	1.97	0.98	0.47	10-24 UNC 2Bx0.30	1.42	1.36	0.87

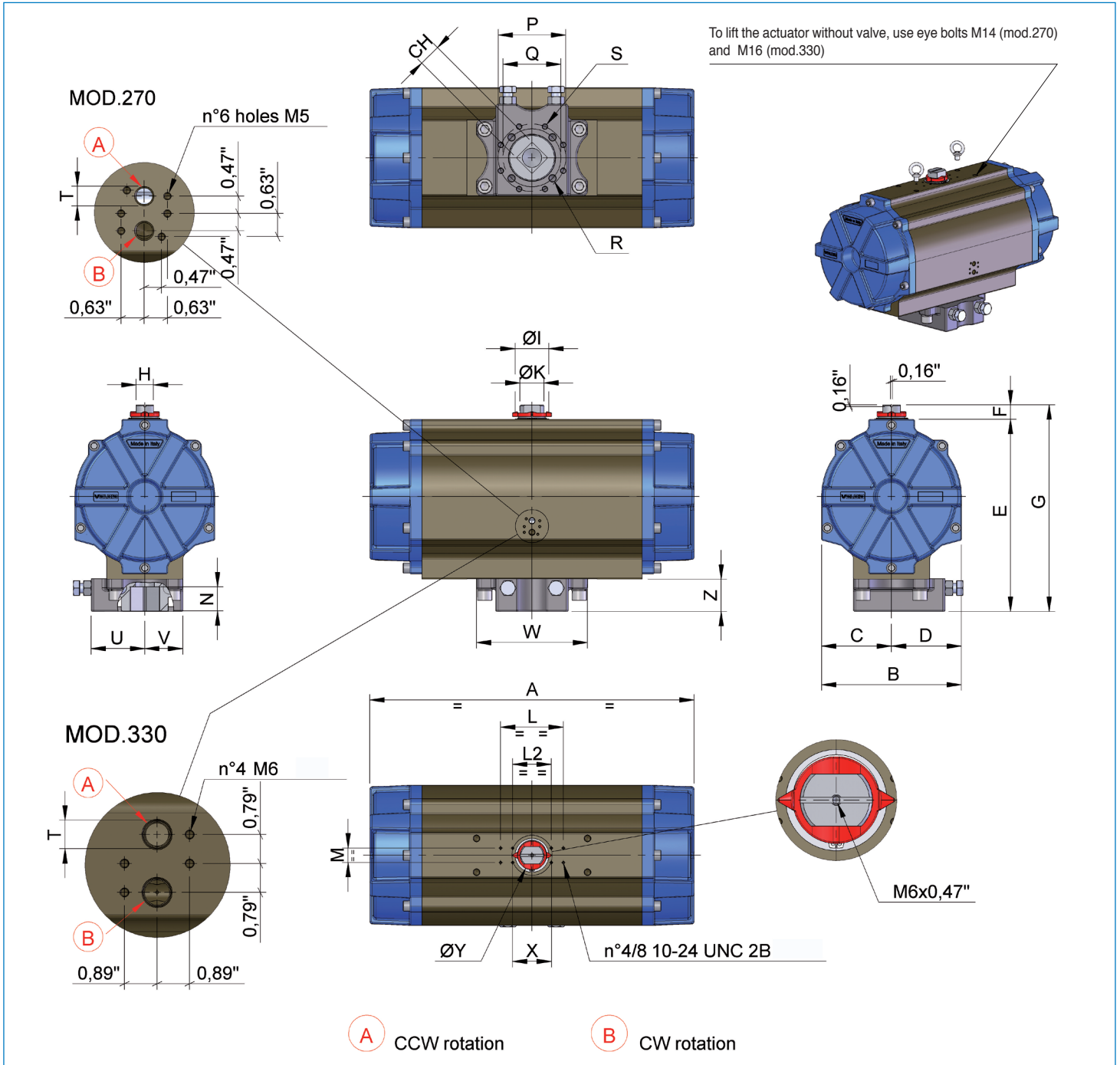




MOD.	PATTERN ISO 5211	CH mm	A	B	C	D	E	F	G	H	ØI	ØK	L	M	N	O	P	Q	R	S	T NPT	U	øV
52	F03-F05 *	11	5.55	2.80	1.18	1.61	3.21	0.79	4.00	0.39	0.83	0.47	3.15	1.18	0.47	1.04	1.97	1.42	10-24 UNC 2Bx0.29"	1/4-20 UNC 2Bx0.35"	1/8"	1.36	0.87
63	F05 - F07 *	14	6.46	3.17	1.40	1.77	3.66	0.79	4.45	0.43	0.98	0.59	3.15	1.18	0.63	1.08	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	1.36	0.87
75	F05 - F07	17	8.27	3.72	1.65	2.07	4.37	0.79	5.16	0.51	1.14	0.75	3.15	1.18	0.75	1.38	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	1.65	1.14
85	F05 - F07	17	9.47	4.17	1.87	2.30	4.92	0.79	5.71	0.59	1.38	0.86	3.15	1.18	0.75	1.65	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	1.65	1.14
100	F07 - F10	17	10.83	4.84	2.17	2.68	5.43	0.79	6.21	0.59	1.38	0.86	3.15	1.18	0.81	1.97	4.02	2.76	5/16-18 UNC 2Bx0.31"	3/8-16 UNC 2Bx0.55"	1/4"	1.65	1.14
115	F07 - F10	22	13.11	5.39	2.52	2.87	6.39	1.18	7.57	0.87	1.93	1.26	3.15/5.12	1.18	0.94	1.97	4.02	2.76	5/16-18 UNC 2Bx0.47"	3/8-16 UNC 2Bx0.59"	1/4"	2.52	1.73
125	F07 - F10	22	14.65	5.83	2.68	3.15	6.87	1.18	8.05	0.87	1.93	1.26	3.15/5.12	1.18	0.94	2.40	4.02	2.76	5/16-18 UNC 2Bx0.47"	3/8-16 UNC 2Bx0.59"	1/4"	2.52	1.73
140	F10 - F12	27	17.13	6.46	3.01	3.44	7.76	1.18	8.94	0.94	1.93	1.38	3.15/5.12	1.18	1.14	2.80	4.92	4.02	3/8-16 UNC 2Bx0.59"	1/2-13 UNC 2Bx0.71"	1/4"	2.52	1.73
160	F10 - F12	27	19.69	7.32	3.43	3.90	8.70	1.18	9.88	1.18	2.24	1.57	3.15/5.12	1.18	1.26	3.15	4.92	4.02	3/8-16 UNC 2Bx0.55"	1/2-13 UNC 2Bx0.67"	1/4"	3.17	2.36
180	F10 - F14	36	19.41	8.38	3.86	4.53	9.96	1.18	11.14	1.42	2.44	1.77	3.15/5.12	1.18	1.69	3.90	5.51	4.02	3/8-16 UNC 2Bx0.59"	5/8-11 UNC 2Bx0.98"	1/4"	3.17	2.36
200	F14	36	22.76	8.54	4.25	4.29	10.94	1.18	12.13	1.42	2.64	1.97	3.15/5.12	1.18	1.46	3.07	5.51	-	3/8-16 UNC 2Bx0.59"	5/8-11 UNC 2Bx0.94"	1/4"	3.17	2.36
230	F16	** 46	27.17	9.78	4.88	4.90	12.80	1.18	13.98	1.42	2.64	1.97	3.15/5.12	1.18	1.97	3.62	6.50	-	-	3/4-10 UNC 2Bx1.14"	1/4"	3.17	2.36

\*\* 45° square drive only.

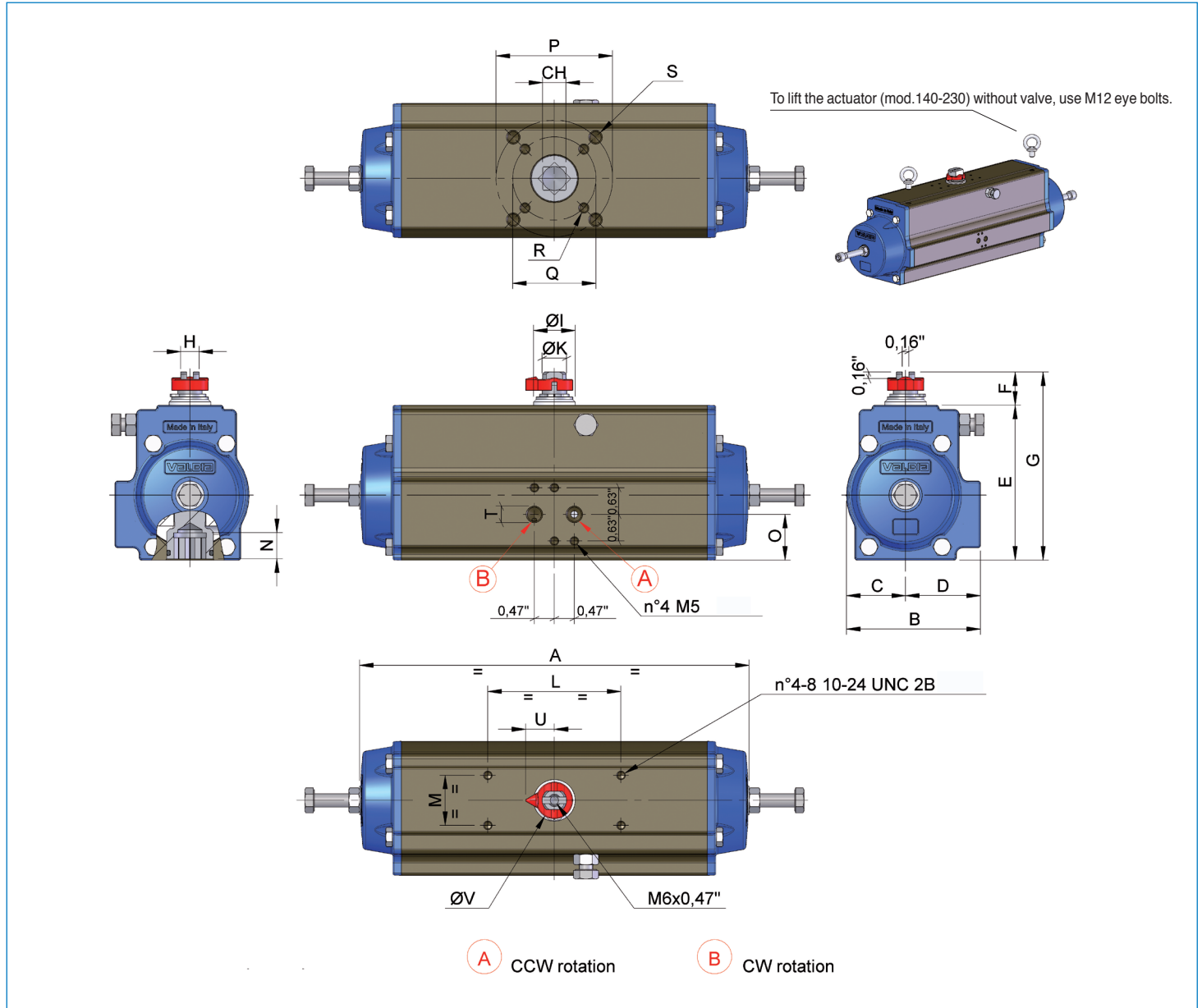




MOD.	PATTERN ISO 5211	CH mm	A	B	C	D	E	F	G	H	ØI	ØK	L	L2	M	N	P	Q	R	S	T NPT	U	V	W	Z	X	ØY
270	F16	** 46	26.46	11.42	5.71	5.71	15.71	1.18	16.89	1.42	2.76	1.97	5.12	3.15	1.18	1.97	-	6.50	3/4-10 UNC 2Bx1.18"	-	1/4"	4.37	3.11	9.06	2.68	3.17	2.36
330	F16-F25	** 55	34.69	15.83	7.91	7.91	19.88	1.97	21.85	1.42	4.29	1.97	5.12	-	1.18	2.44	10	6.50	3/4-10 UNC 2Bx1.18"	5/8-11 UNC 2Bx1.02"	1/2"	5.08	5.32	11.69	3.74	3.17	2.36

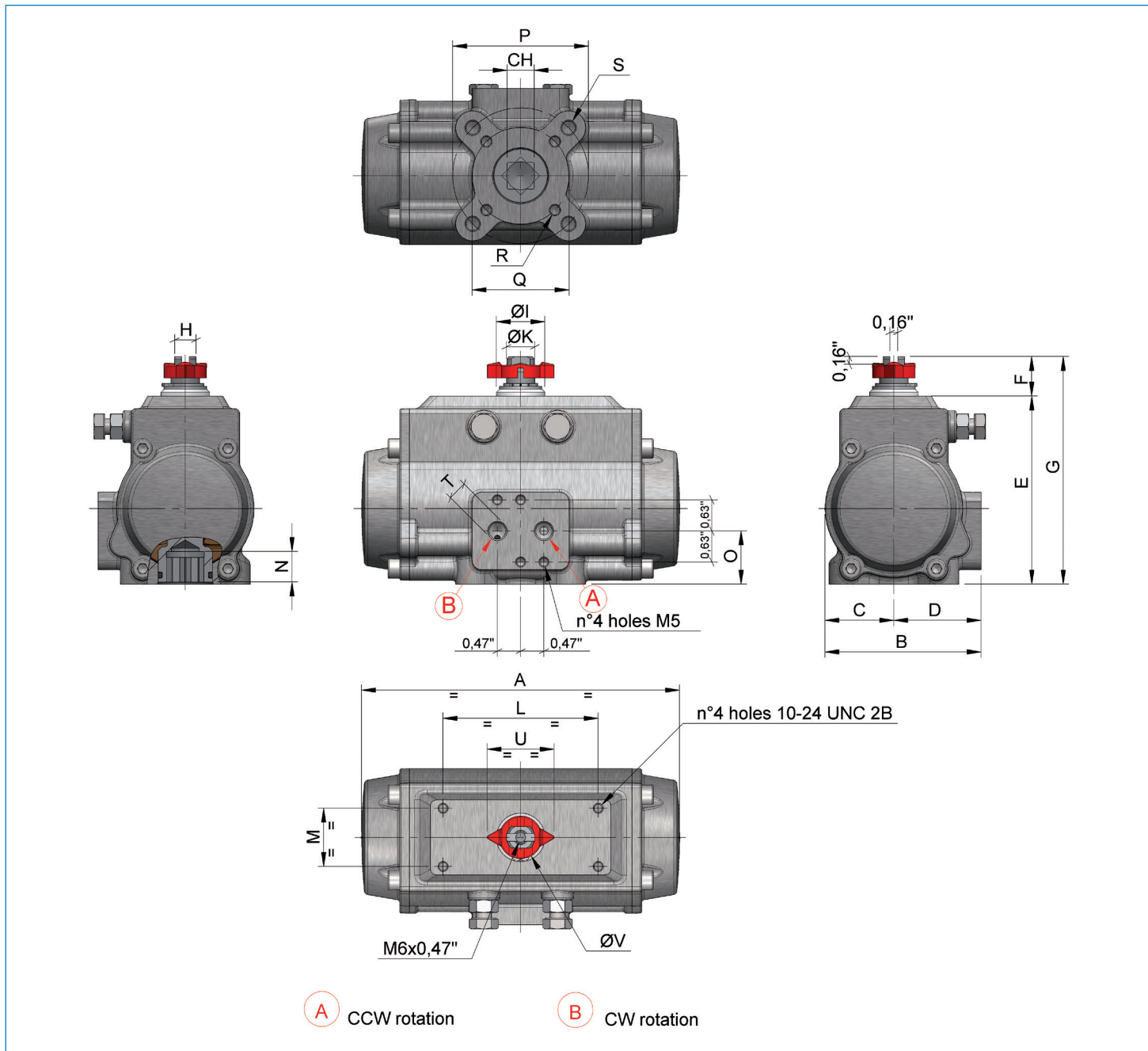
\*\* 45° square drive only.

# SERIES 83 DIMENSIONS 180° DOUBLE ACTING ACTUATORS



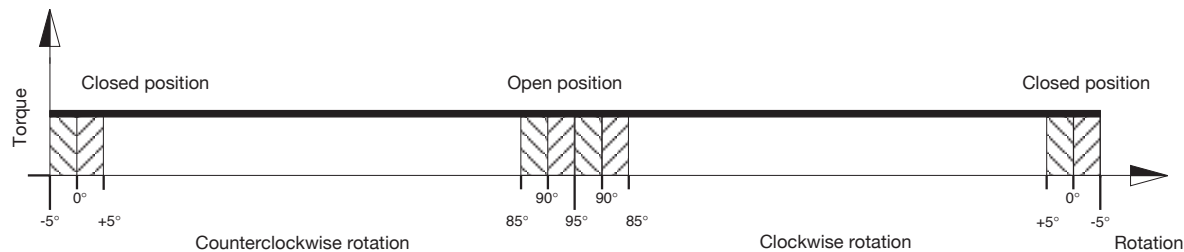
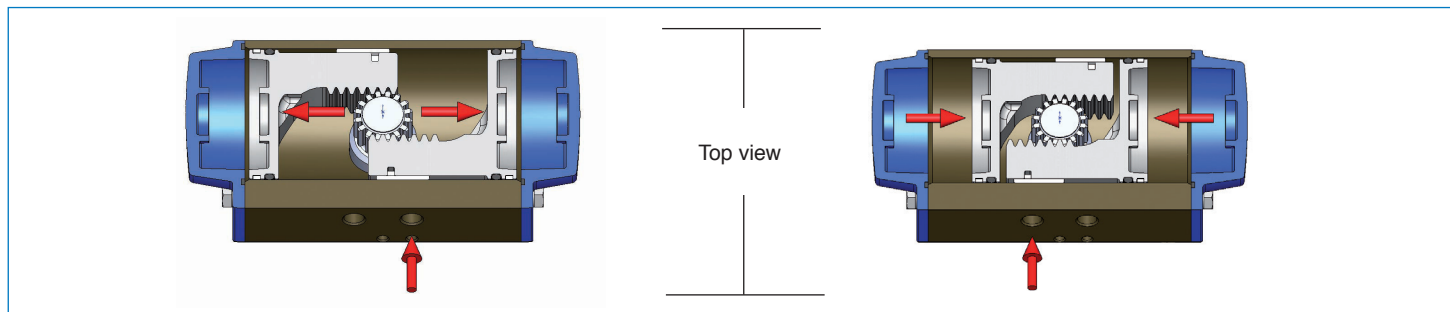
MOD.	PATTERN ISO 5211	CH mm	A	B	C	D	E	F	G	H	ØI	ØK	L	M	N	O	P	Q	R	S	T NPT	U	øV
52	F03-F05	11	7.76	2.80	1.18	1.61	3.21	0.79	4.0	0.39	0.83	0.47	3.15	1.18	0.47	1.04	1.97	1.42	10-24 UNC 2Bx0.29"	1/4-20 UNC 2Bx0.35"	1/8"	0.67	0.87
63	F05 - F07	14	9.17	3.17	1.40	1.77	3.66	0.79	4.45	0.43	0.98	0.59	3.15	1.18	0.63	1.08	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	0.67	0.87
75	F05 - F07	17	11.73	3.72	1.65	2.07	4.37	0.79	5.16	0.51	1.14	0.75	3.15	1.18	0.75	1.38	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	0.83	1.14
85	F05 - F07	17	13.43	4.17	1.87	2.30	4.92	0.79	5.71	0.59	1.38	0.87	3.15	1.18	0.75	1.65	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	0.83	1.14
100	F07 - F10	17	15.28	4.84	2.17	2.68	5.43	0.79	6.21	0.59	1.38	0.87	3.15	1.18	0.81	1.97	4.02	2.76	5/16-18 UNC 2Bx0.31"	3/8-16 UNC 2Bx0.55"	1/4"	0.83	1.14
115	F07 - F10	22	18.78	5.39	2.52	2.87	6.39	1.18	7.57	0.87	1.93	1.26	3.15/5.12	1.18	0.94	1.97	4.02	2.76	5/16-18 UNC 2Bx0.47"	3/8-16 UNC 2Bx0.59"	1/4"	1.26	1.73
125	F07 - F10	22	21.14	5.83	2.68	3.15	6.87	1.18	8.05	0.87	1.93	1.26	3.15/5.12	1.18	0.94	2.40	4.02	2.76	5/16-18 UNC 2Bx0.47"	3/8-16 UNC 2Bx0.59"	1/4"	1.26	1.73
140	F10 - F12	27	24.02	6.46	3.01	3.44	7.76	1.18	8.94	0.94	1.93	1.38	3.15/5.12	1.18	1.14	2.80	4.92	4.02	3/8-16 UNC 2Bx0.59"	1/2-13 UNC 2Bx0.71"	1/4"	1.26	1.73
160	F10 - F12	27	25.35	7.32	3.43	3.90	8.70	1.18	9.88	1.18	2.24	1.57	3.15/5.12	1.18	1.26	3.15	4.92	4.02	3/8-16 UNC 2Bx0.55"	1/2-13 UNC 2Bx0.67"	1/4"	1.57	2.36

The length of the adjustment bolts changes according to the angle of rotation needed.



MOD.	PATTERN ISO 5211	CH mm	A	B	C	D	E	F	G	H	ØI	ØK	L	M	N	O	P	Q	R	S	T NPT	U	ØV
52	F03-F05	11	5.55	2.80	1.18	1.61	3.37	0.79	4.15	0.39	0.83	0.47	3.15	1.18	0.47	1.04	1.97	1.42	10-24 UNC 2Bx0.29"	1/4-20 UNC 2Bx0.35"	1/8"	1.36	0.87
63	F05-F07	14	6.46	3.17	1.40	1.77	3.82	0.79	4.61	0.43	0.98	0.59	3.15	1.18	0.63	1.08	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	1.36	0.87
75	F05-F07	17	8.27	3.72	1.65	2.07	4.53	0.79	5.32	0.51	1.14	0.75	3.15	1.18	0.75	1.38	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	1.65	1.14
85	F05-F07	17	9.47	4.17	1.87	2.30	5.08	0.79	5.87	0.59	1.38	0.86	3.15	1.18	0.75	1.65	2.76	1.97	1/4-20 UNC 2Bx0.31"	5/16-18 UNC 2Bx0.47"	1/8"	1.65	1.14
100	F07-F10	17	10.83	4.84	2.17	2.68	5.66	0.79	6.45	0.59	1.38	0.86	3.15	1.18	0.81	2.07	4.02	2.76	5/16-18 UNC 2Bx0.35"	3/8-16 UNC 2Bx0.55"	1/8"	1.65	1.14

## DOUBLE ACTING ACTUATOR



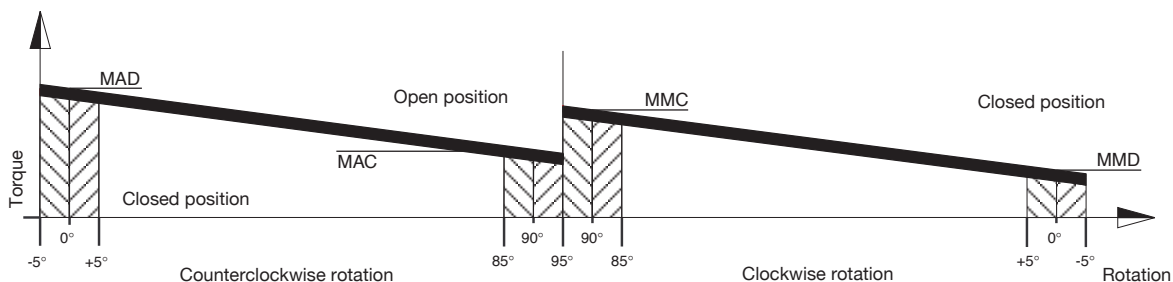
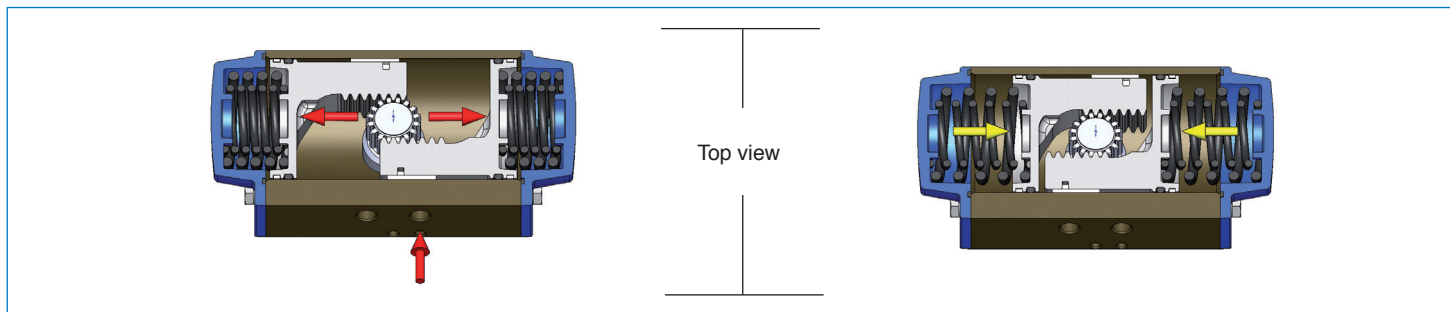
The torque of a double acting actuator remains consistent throughout the complete action.

The actuator can be sized using the following guidelines:

1. Define the maximum torque of the valve.
2. Increase the torque value by 25% - 50% to add a safety factory (subject to the type of valve and working conditions).
3. Use the torque chart considering the available air pressure find a torque value exact to or exceeding the one obtained.
4. Move horizontally in the chart to find sufficient actuator output torque.

TYPE	AIR SUPPLY PRESSURE (psi)							
	40	50	60	70	80	90	100	115
	DOUBLE ACTING ACTUATORS TORQUE OUTPUT (in-Lbs)							
DA 32	34	43	55	64	71	82	87	101
DA 52 *	88	112	133	158	178	201	227	263
DA 63 *	152	193	238	282	320	361	405	469
DA 75 *	283	356	435	513	586	659	736	851
DA 85 *	406	514	628	744	853	960	1072	1237
DA 100 *	645	814	989	1163	1333	1505	1681	1939
DA 115	1065	1344	1640	1932	2212	2488	2779	3211
DA 125	1402	1771	2153	2539	2905	3274	3650	4220
DA 140	2003	2504	3005	3506	4006	4509	5009	5764
DA 160	2804	3501	4196	4899	5596	6292	6987	8045
DA 180	3860	4825	5790	6746	7711	8661	9627	11081
DA 200	5198	6494	7796	9089	10393	11670	12972	14924
DA 230	8589	10738	12880	15031	17180	19289	21440	24671
DA 270	12625	15777	18935	22093	25246	28361	31511	36269
DA 330	22464	28083	33702	39321	44939	50476	56086	64555

\* Valid also for stainless steel actuator.



The output torque of a spring return actuator is not consistent but decreasing. This is due to the action of the springs. When compressed by the air pushing out the pistons, they accumulate energy which will be available in a decreasing way during the clockwise rotation inversion.

The output torque given by the actuator is defined by four values.

Opening rotation

MAD = Actuator torque with unfolded springs

MAC = Actuator torque with compressed springs.

Closing rotation

MMC = Torque with compressed springs.

MMD = Torque with unfolded springs

The SR actuator can be sized using the following guidelines:

1. Define the maximum torque of the valve.
2. Increase the torque value by 25% - 50% to add a safety factor (subject to the type of valve and working conditions).
3. Use torque chart considering the available air pressure to find a sufficient actuator output torque by looking at the lower between the MMD and MAC values.
4. Move horizontally in the chart to find the actuator model required.

VALID FROM MOD. 52 TO MOD. 140 \*

SPRING SETTING

SET STANDARD 05

SET	EXTERNAL SPRING	INTERNAL SPRING
01	1	1
02	2	-
03	1	2
04	2	1
05	2	2

VALID FROM MOD. 160 TO MOD. 200

SPRING SETTING

SET STANDARD 06

SET	EXTERNAL SPRING	CENTRAL SPRING	INTERNAL SPRING
01	-	2	-
02	2	-	-
03	1	2	-
04	2	-	2
05	2	2	-
06	2	2	2

VALID FROM MOD. 230 TO MOD. 330

SPRING SETTING

PRE-TENSIONED SPRING

SET	N° OF SPRINGS FOR EACH SIDE	
01	2/3	MOD.230 MOD.270 e 330
02	3/3	
03	3/4	
04	4/4	
05	4/5	
06	5/5	
07	5/6	
08	6/6	

\* Valid also for stainless steel actuator from mod. 52 to mod. 100.

# SR ACTUATORS TORQUE OUTPUT

MOD.	SET	SPRING TORQUE (in-Lbs)		AIR SUPPLY PRESSURE (psi)																
				40		50		60		70		80		90		100		115		
				SPRING RETURN ACTUATORS TORQUE OUTPUT (in-Lbs)																
0° MMD	90° MMC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	
SR52	1	32	44	48	23	72	47	95	70	108	77									
	2	42	59			61	31	84	54	108	77									
	3	46	66					80	47	104	70	127	94	150	117					
	4	57	82					70	31	93	55	116	78	140	101	163	125			
	5	72	105							78	32	101	55	125	78	148	102	183	137	
SR63	1	44	85	92	38	134	80	176	122											
	2	58	109			120	56	162	98	204	140									
	3	71	128					149	79	191	121	233	162	275	204					
	4	85	152					136	54	177	96	219	138	261	180	303	222			
	5	111	196							151	53	193	95	235	136	276	178	339	241	
SR75	1	89	172	168	63	244	138	319	214											
	2	118	226			215	85	291	160	366	235									
	3	133	249					275	137	351	212	426	288	502	363					
	4	162	303					247	83	322	158	398	234	473	309	549	385			
	5	205	380							279	81	354	157	430	232	505	308	618	421	
SR85	1	143	242	238	109	349	219	460	330											
	2	176	298			316	163	427	274	537	384									
	3	215	361					387	211	498	322	609	432	720	543					
	4	248	417					354	155	465	265	576	376	687	487	797	633			
	5	321	536							392	146	503	257	614	368	725	478	891	645	
SR100	1	218	395	384	154	556	326	728	499											
	2	288	521			485	199	658	372	830	544									
	3	318	564					628	329	801	502	973	674	1146	847					
	4	389	691					558	203	730	375	903	548	1075	720	1248	893			
	5	489	860							630	206	802	378	975	551	1147	723	1406	982	
SR115	1	363	658	650	270	935	555	1220	840											
	2	449	835			848	378	1133	663	1419	949									
	3	538	957					1044	541	1329	827	1615	1112	1900	1397					
	4	625	1133					958	365	1243	650	1528	935	1813	1220	2098	1505			
	5	800	1432							1067	352	1352	637	1638	922	1923	1207	2350	1635	
SR125	1	470	877	850	328	1224	703	1599	1077											
	2	560	1040			1135	400	1400	840	2000	1883									
	3	718	1313					1351	640	1725	1015	2099	1389	2474	1763					
	4	808	1477					1261	477	1636	851	2010	1226	2384	1600	2758	1974			
	5	1055	1913							1388	415	1762	789	2136	1164	2511	1538	3072	2099	
SR140	1	726	1346	1240	508	1742	1010	2244	1512											
	2	815	1523			1642	821	2144	1323	2646	1825									
	3	1036	1958					1910	856	2412	1358	2914	1861	3408	2355					
	4	1134	2126					1810	668	2312	1170	2814	1672	3308	2166	3810	2668			
	5	1453	2728							1979	515	2481	1017	2975	1511	3477	2013	4233	2769	
SR160	1	735	1159	2036	1585	2741	2290													
	2	1053	1664			2405	1532	3085	2438											
	3	1266	1991			2184	1405	2863	2084	3552	2773									
	4	1637	2584					2465	1456	3153	2463	3859	2850							
	5	1788	2823							2985	1896	3691	2603	4405	3317					
	6	2372	3744									3080	1620	3795	2335	4474	3014	5528	4069	
SR180	1	903	1487	2540	1921	3239	2620													
	2	1416	2230			2691	1823	4089	3222											
	3	1611	2602			2487	1434	3885	2832	5275	4222									
	4	2319	3664					3133	1735	4523	3124	5222	3824							
	5	2319	3717							4523	3036	5222	3735	5921	4434					
	6	3222	5151									4266	2248	4965	2947	6364	4346	7762	5744	
SR200	1	1496	2222	3638	2895	4954	4211													
	2	2098	3124			4264	3211	5531	4477											
	3	2549	3788			3812	2556	5080	3823	6338	5081									
	4	2992	4620					4549	2885	5807	4144	7132	5468							
	5	3593	5346							5196	3418	6521	4742	7837	6058					
	6	4487	6842									5539	3150	6854	4465	8122	5732	10066	7677	
SR230	1	3443	5895	4124	1522	5682	3080	8789	6187											
	2	4124	7072			4956	1823	8063	4930											
	3	4815	8258					7328	3682	10444	6797									
	4	5505	9435					6603	2425	9718	5541	11276	7098							
	5	6196	10612					5868	1177	8984	4293	10541	5850	12090	7399					
	6	6877	11789							8258	3036	9815	4594	11364	6142	14480	9258	17586	12364	
SR270	1	4478	7001	8096	5530	11308	8742	14548	11982											
	2	5372	8399	7141	4061	10353	7273	13627	10513											
	3	6266	9798	5229	2592	9397	5804	12637	9044	15877	12284									
	4	7169	11196			8450	4344	11690	7583	14930	10823	18141	14036							
	5	8063	12595					10734	6114	13974	9354	17185	12566	20397	18478					
	6	8957	13993					9778	4645	13018	7885	16230	11097	19441	14308					
	7	9851	15400					8823	3216	12062	6416	15275	9628	18486	12839	21717	16071			
	8	10745	16799					7867	1707	11107	4947	14319	8159	17530	11370	20762	14602	25593	19434	
SR330	1	7824	12143	12046	7452	16117	11524	24260	19666											
	2	9382	14577	10382	4868	14453	8939	22596	17082											
	3	10948	17002	8718	2292	12789	6364	20932	14506	29075	22649									
	4	12515	19436			11134	3779	19277	11922	27420	20065	31491	24136							
	5	14082	21861					17613	9346	25756	17489	29827	21560	33898	25632					
	6	15639	24295					15949	6762	24092	14905	28163	18976	32234	23047					
	7	17206	26720					14294	4186	22437	12329	26508	16400	30579	20472	38713	28606			
	8	18772	29154							20773	9745	24844	13816	28915	17887	37049	26021	45192	34164	



		CYCLE TIME (SEC)															
	MODEL	TYPE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
			0°-90° ROT.	COUNTERCLOCKWISE ROTATION (DA)	CCW	0.03	0.07	0.11	0.18	0.36	0.38	0.60	0.80	1.13	1.43	1.99	3.08
CLOCKWISE ROTATION (DA)	CW	0.03		0.05	0.10	0.15	0.25	0.34	0.54	0.70	0.94	1.25	1.80	2.41	3.80	5.47	5.50
COUNTERCLOCKWISE ROTATION (SR)	CCW	-		0.07	0.13	0.32	0.32	0.54	0.92	1.20	1.64	2.27	3.08	3.58	6.20	8.97	6.40
CLOCKWISE ROTATION (SR)	CW	-		0.07	0.13	0.22	0.30	0.48	0.75	0.94	1.25	1.60	2.38	2.80	5.40	6.62	7.40
0°-180° ROT.	COUNTERCLOCKWISE ROTATION (DA)	CCW	-	0.08	0.14	0.34	0.42	0.64	1.11	1.87	2.95	3.03	-	-	-	-	-
	CLOCKWISE ROTATION (DA)	CW	-	0.06	0.12	0.25	0.39	0.62	1.08	1.13	2.03	2.29	-	-	-	-	-

SERIES 82-83 WEIGHT CHART (Lbs)																
TYPE	MODEL	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
		90° DA		1.08	2.47	3.66	6.13	8.60	12.13	19.51	23.81	35.94	47.96	63.95	81.59	128.99
90° SR		-	2.87	4.34	7.47	10.58	15.44	25.25	31.05	48.07	65.05	87.98	121.28	156.56	221.10	460.85
180° DA		-	3.75	5.51	9.26	13.19	18.81	30.10	38.26	55.11	68.78	-	-	-	-	-

SERIES 84 STAINLESS STEEL ACTUATOR WEIGHT CHART (Lbs)						
TYPE	MODEL	52	63	75	85	100
		90° DA		4.98	6.90	10.94
90° SR		5.38	7.59	12.28	18.41	25.86

ACTUATOR AIR CONSUMPTION CHART																	(in <sup>3</sup> ) CUBIC INCHES
	MODEL	TYPE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
			0°-90° ROT.	COUNTERCLOCKWISE ROTATION (DA/SR)	CCW	2.44	6.1	11.6	21.96	31.12	48.2	78.72	99.47	137.91	220.3	282.54	347.83
CLOCKWISE ROTATION (DA)	CW	1.83		7.93	14.04	26.85	39.06	61.02	104.35	134.86	192.83	306.33	402.75	643.8	918.4	1086.22	2697.25
0°-180° ROT.	COUNTERCLOCKWISE ROTATION (DA)	CCW	-	10.37	20.13	36.61	54.92	83.6	130	176.96	299	329.52	-	-	-	-	-
	CLOCKWISE ROTATION (DA)	CW	-	9.76	17.7	34.17	50.65	80.55	137.3	183	238	385.67	-	-	-	-	-

To obtain the air consumption in NI/min, multiply the value in the chart for the correct parameters. That is to say for the supplied absolute pressure and the number of strokes in a minute.

## GENERAL SPECIFICATIONS

Valbia provides a wide range of quarter-turn single-phase electric actuators, available with different voltages of power supply (12V/24V/100-240V) and frequency (50/60 Hz), with CE and UL certifications and different levels of protection enclosure (IP-UL Type).

Valbia electric actuators are suitable for the automation of a great variety of ball and butterfly valves, with torque values from 90 to 3100 lbs-In.

Valbia selects, manufactures and uses high quality components to assure high performances:

- the electronic circuit boards are assembled in Italy using state of the art components. The motor adjusts its speed at the load variations in order to consistently maintain the specified cycle time.
- the torque limiter and the heaters are both included in the standard version and are always automatically operating when the actuator is powered, to ensure a continuous protection against condensation and over-torque;
- the gear train is made of two steel and techno-polymer gear wheels, inserted in a strong die-cast aluminum structure and sustained by hardened steel pinions mounted on self-lubricating bushes, to provide a strong mechanical construction;
- The Valbia electric actuators are all designed with an ISO 5211 standard bottom connection pattern, in order to allow the direct mount of all ISO 5211 designed valve.

Valbia manufactures two series of electric actuators:

- the 85 series, with a technopolymer enclosure;
- the 86 series, with a powder, coated aluminum enclosure.

In addition, Valbia offers a wide range of special versions designed to provide effective solutions for special applications.

VERSION	VOLTAGE	VB010	VB015		VB030		VB060		VB110		VB190		VB270		VB350	
		858	85	86	85	86	85	86	85	86	85	86	85	86	85	86
ON/OFF	100-240V	• **	•		•	•	•	•	•	•	•	•	•	•	•	•
	24V	• **	•		•	•	•	•	•	•	•	•	•	•	•	•
	12V		•		•	•	•	•	•	•	•	•	•	•	•	•
BATTERY BACKUP	100-240V				•	•	•	•	•	•	•	•	•	•	•	•
	24V				•	•	•	•	•	•	•	•	•	•	•	•
	12V															
POSITIONER	100-240V				•	•	•	•	•	•	•	•	•	•	•	•
	24V				•	•	•	•	•	•	•	•	•	•	•	•
	12V				•	•	•	•	•	•	•	•	•	•	•	•
BATTERY BACKUP+ POSITIONER	100-240V				•	•	•	•	•	•	•	•	•	•	•	•
	24V				•	•	•	•	•	•	•	•	•	•	•	•
	12V															
MIDDLE POSITION	100-240V				•	•	•	•	•	•	•	•	•	•	•	•
	24V				•	•	•	•	•	•	•	•	•	•	•	•
	12V				•	•	•	•	•	•	•	•	•	•	•	•

\*\* 110V only

**ELECTRIC ACTUATOR VERSIONS**

**Standard 0°-90° rotation**

Also available with adjustable rotation up to 270° upon request (85 series).

**Special version with std (4-20mA or 0-10 V) or reverse (20-4mA or 10-0V) positioner**

The modulating version can be controlled by a current (4-20 mA) or voltage (0-10V) command. The proportional control allows a resolution command of 1.3°, with a positioning tolerance of less than 3% of the potentiometer full scale.

**Special version with battery backup for fail-safe operation**

This special version is available for the ON/OFF standard version and for the positioner version. Battery operation is immediately activated. As soon as the power supply is interrupted, the battery will operate the actuator in one of the following modes:

- for the ON/OFF standard version: fail close, fail open, or complete the interrupted cycle;
- for the version with positioner: fail open or fail close.

**Special version with middle position**

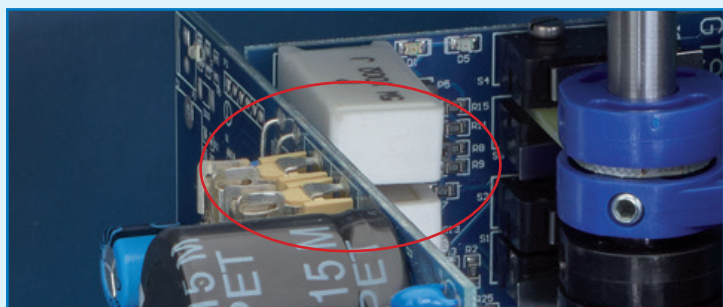
This version is designed for special applications: it allows to set up 3 different limit switch positions: open, middle and closed.

## 85 SERIES ELECTRIC ACTUATOR

MANUAL OVERRIDE

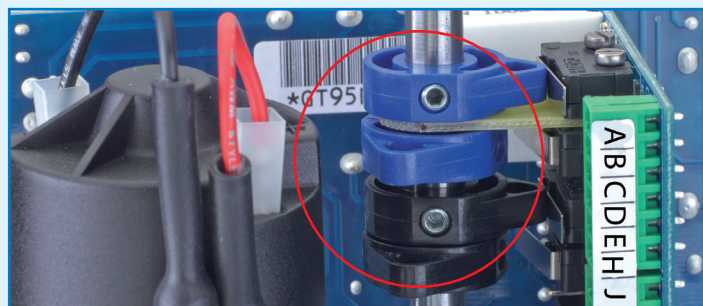
CONTROL BOARD

POWER SUPPLY BOARD



### HEATERS:

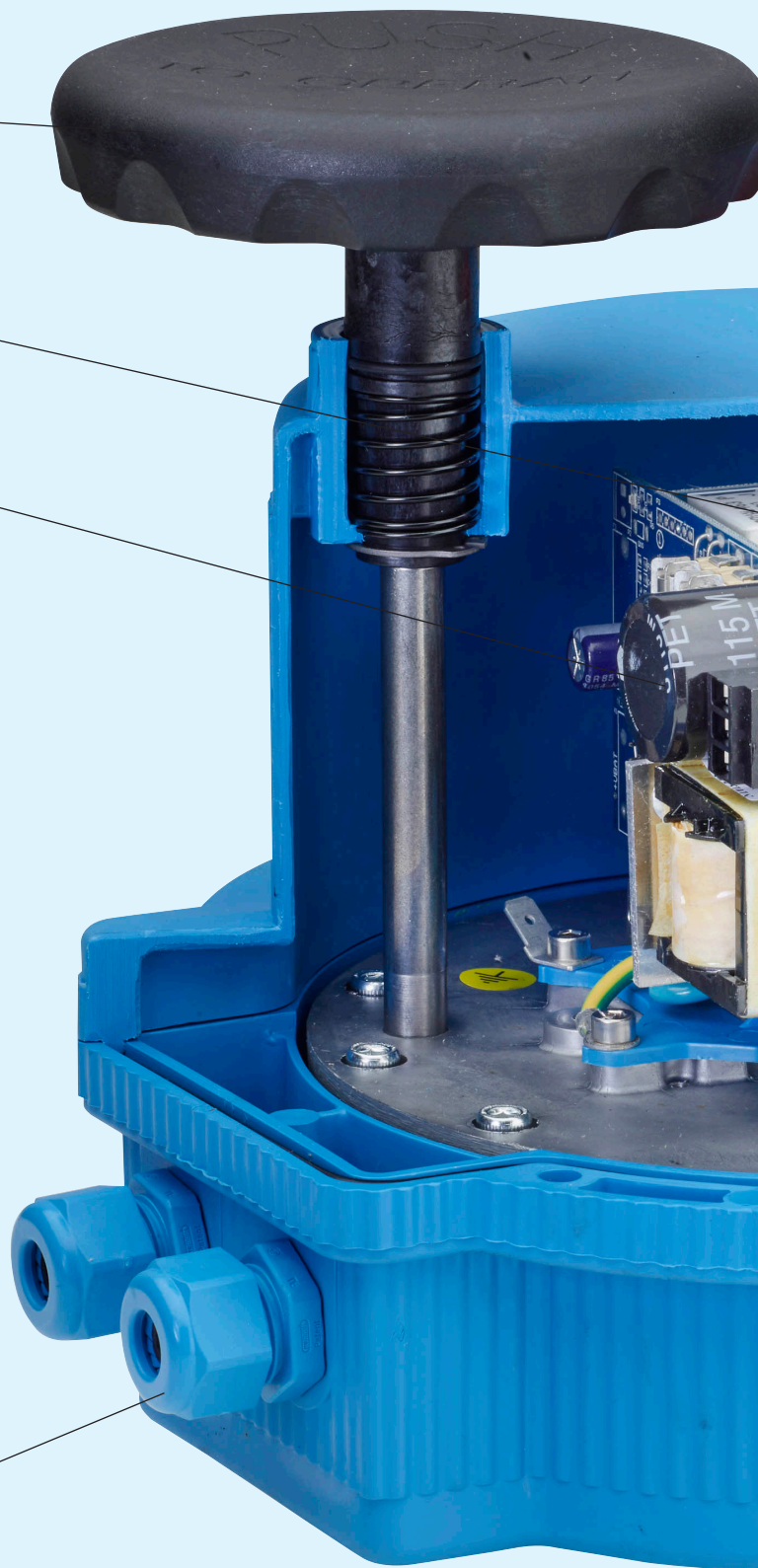
- Managed by the control board to guarantee the optimal internal temperature and avoid condensation.



### POSITION CAMS:

- Black cams: limit switches open and close adjustment.
- Blue cams: additional limit switches open and close adjustment.

PG 11 ELECTRIC CONNECTIONS

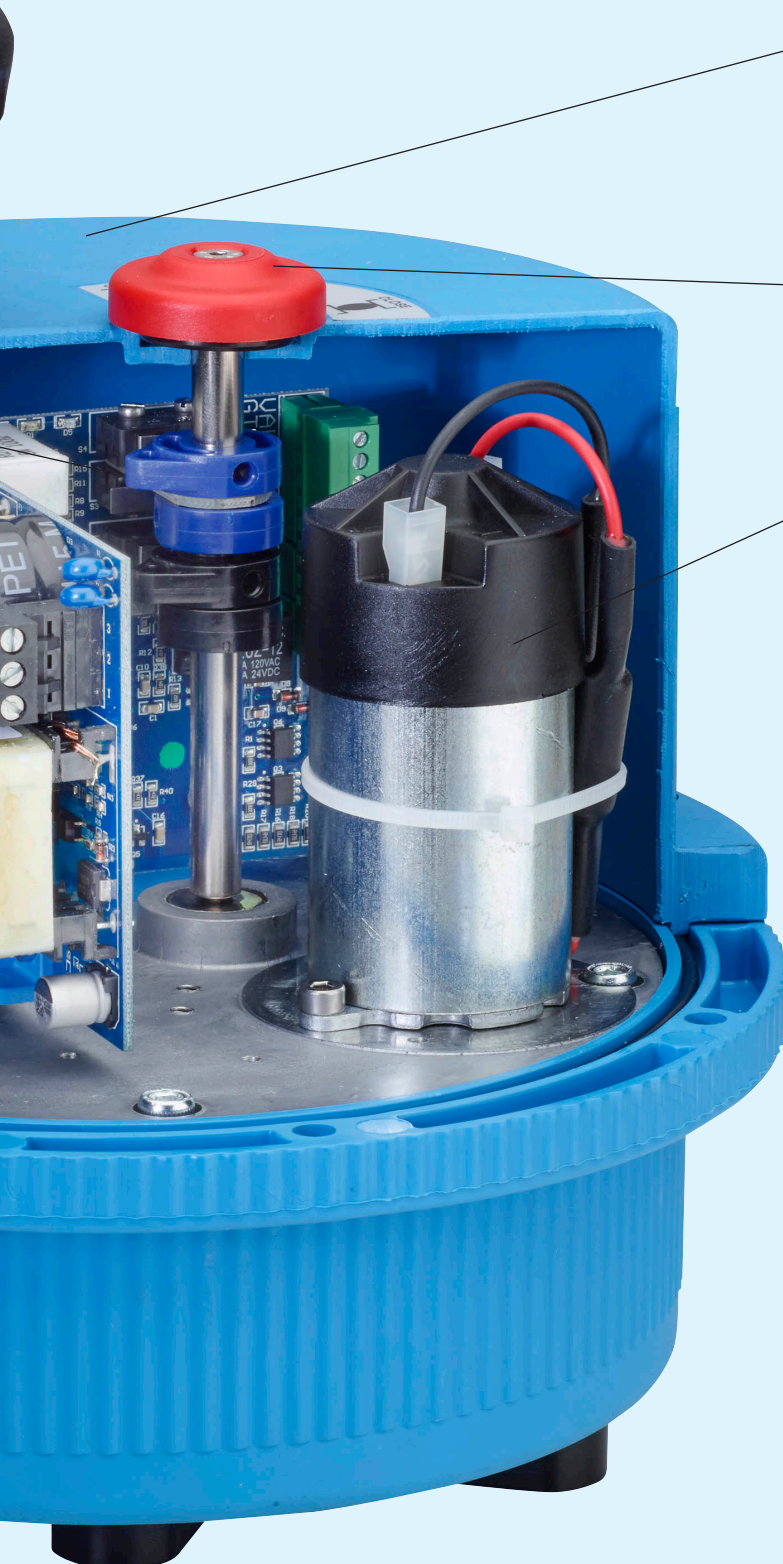




TECHNOPOLYMER ENCLOSURE

POSITION INDICATOR

DC MOTOR



LED lights to indicate: power supply ON (green), actuator working conditions (yellow) and fault (red).

## TECHNICAL DATA SERIES 85

MODEL	VB010	VB015	VB030	VB060	VB110	VB190	VB270	VB350
MAX WORKING TORQUE (IN-LBS)	89	133	266	530	975	1680	2390	3100
NOMINAL TENSION (V)	LOW VOLTAGE	NOT AVAILABLE	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC
	HIGH VOLTAGE	110V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC
WORKING TIME (sec)	8 (sec. dc) 6.5 sec (ac)	10	8	9	27	27	50	50
TORQUE LIMITER	STD	STD	STD	STD	STD	STD	STD	STD
DUTY RATING	75%	12V AC/24V AC 50% 12V DC/24V DC 75%	12V AC/DC 50% 24V AC/DC 75%	12V AC/DC 50% 24V AC/DC 75%	12V AC/DC 50% 24V AC/DC 75%	12V AC/DC 50% 24V AC/DC 75%	12V AC/DC 50% 24V AC/DC 75%	12V AC/DC 50% 24V AC/DC 75%
PROTECTION	IP65/Type4	IP65/Type4	IP67/Type4x	IP67/Type4x	IP67/Type4x	IP67/Type4x	IP67/Type4x	IP67/Type4x
ENCLOSURE	TECHNOPOLYMER	TECHNOPOLYMER	TECHNOPOLYMER	TECHNOPOLYMER	TECHNOPOLYMER	TECHNOPOLYMER	TECHNOPOLYMER	TECHNOPOLYMER
ROTATION	90°	90°	90°	90°	90°	90°	90°	90°
SPECIAL ROTATION	NOT AVAILABLE	180°	180° or 270°	180° or 270°	180° or 270°	180° or 270°	180° or 270°	180° or 270°
MANUAL OVERRIDE	STD	STD	STD	STD	STD	STD	STD	STD
POSITION INDICATOR	STD	STD	STD	STD	STD	STD	STD	STD
WORKING TEMPERATURE	+23°F + 131°F	-4°F - 131°F	-4°F - 131°F	-4°F - 131°F	-4°F - 131°F	-4°F - 131°F	-4°F - 131°F	-4°F - 131°F
HEATER	STD WIRED	STD	STD	STD	STD	STD	STD	STD
AUXILLARY LIMIT SWITCHES	n°1 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)
PATTERN ISO 5211	F03-F5	* F03 - F05	* F03 - F05	F05 - F07	F07 - F10	F07 - F10	F07 - F10	F07 - F10
SQUARE DRIVE (mm)	11	11	11	14	17	17	22	22
SPECIAL SQUARE DRIVE UPON REQUEST (mm)	9	9	9-14	11-17	14-22	14-22	17	17
FAIL-SAFE OPERATION (BATTERY BACKUP)	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
STD (4~20mA or 0~10 VDC) REVERSE (20~4mA or 10~0 VDC) MODE POSITIONER	NOT AVAILABLE	NOT AVAILABLE	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
MIDDLE POSITION	NOT AVAILABLE	NOT AVAILABLE	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
ROTARY POTENTIOMETER (5K Ω 1W)	NOT AVAILABLE	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
ELECTRICAL CONNECTIONS - STANDARD**	PIG TAIL WIRE	PG11	PG11	PG11	PG11	PG11	PG11	PG11
WEIGHT (Lbs)	1.65	3.09	5.05	7.28	10.80	10.80	13.23	13.23

\* F04 or F07 upon request

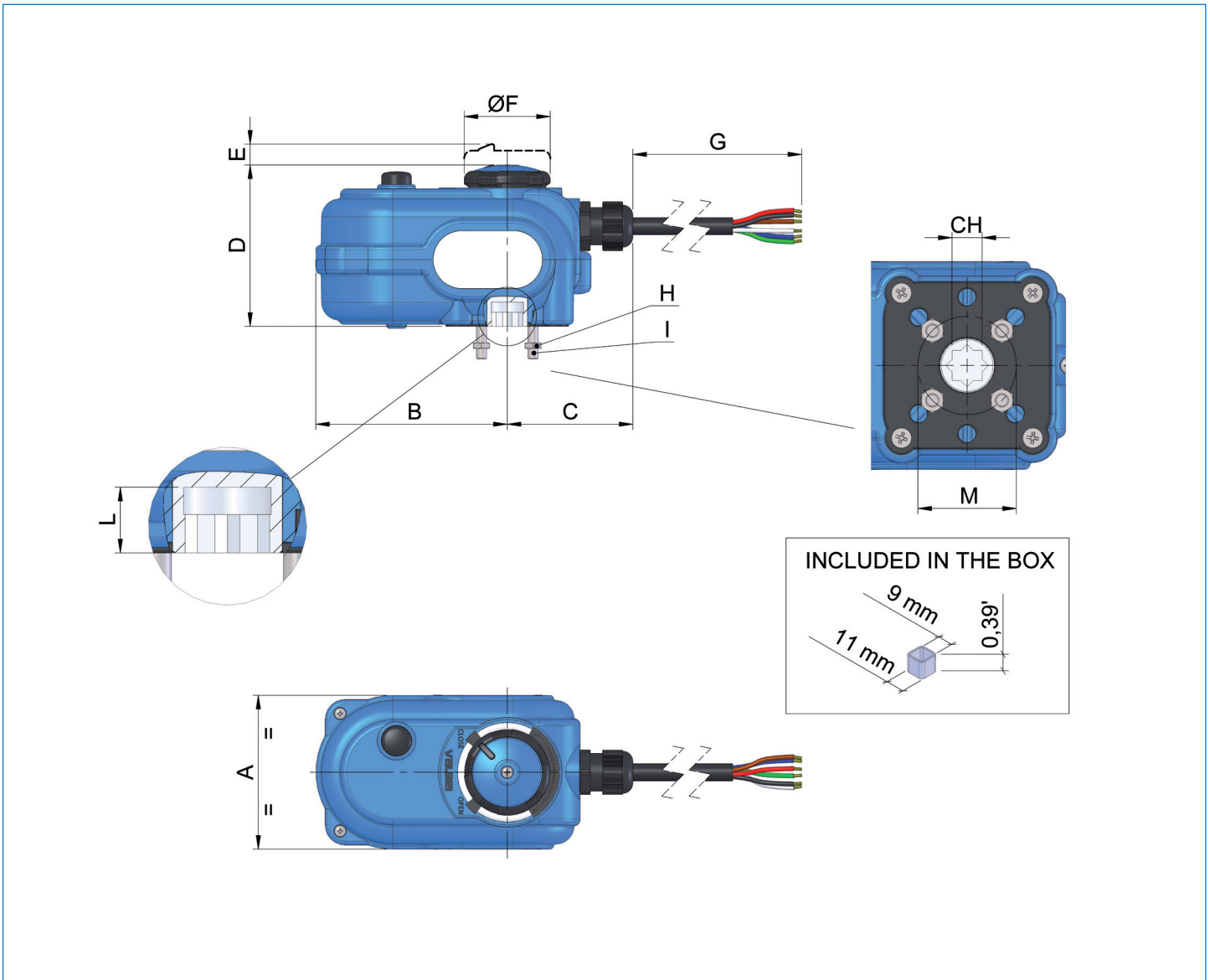
\*\* 1/2" Conduit - Optional

### POWER CONSUMPTION

MODEL	VB010	VB015	VB030	VB060	VB110	VB190	VB270	VB350						
VERSION H	NOMINAL VOLTAGE	110V AC - 60Hz	100-240V AC											
	ABSORBED CURRENT	0.41 A	0.3-0.19 A	0.4-0.2 A	0.6-0.3 A	0.4-0.2 A	0.6-0.3 A	0.75-0.4 A						
	ABSORBED POWER	45 VA	30-46 VA	40-48 VA	60-72 VA	40-48 VA	60-72 VA	75-96 VA						
VERSION L	NOMINAL VOLTAGE	24V AC/DC	12V AC/DC	24V AC/DC	12V AC/DC	24V AC/DC	12V AC/DC	24V AC/DC						
	ABSORBED CURRENT	0.6 A	1.2 A	0.6 A	2.2-1.8 A	1-0.7 A	3.8-2.85 A	1.8-1.2 A	2.2-1.8 A	1-0.7 A	3.8-2.85 A	1.8-1.2 A	4.75-3.65 A	1.95-1.65 A
	ABSORBED POWER	8.5-5 VA	15 VA	26.5-22 VA	24-17 VA	46-34 VA	43-29 VA	26.5-22 VA	24-17 VA	46-34 VA	43-29 VA	46-34 VA	43-29 VA	57-44 VA
FREQUENCY	50/60 HZ													



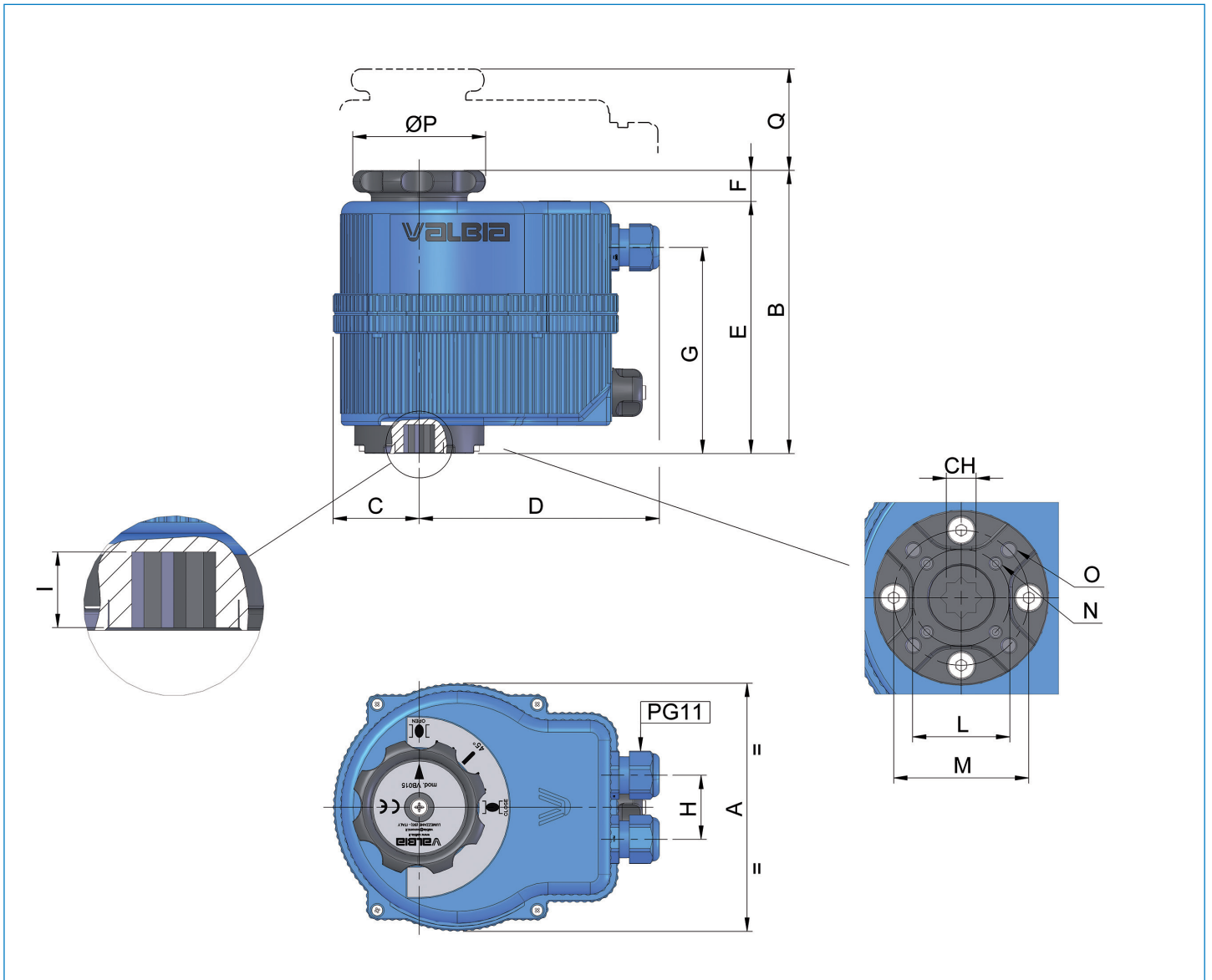
MOD. VB010



MOD.	ISO 5211 PATTERN	CH mm	A	B	C	D	E	F	G	H	I	L	M
VB010	F03	9 or 11	2.99	3.72	2.44	3.15	0.28	1.69	31.5	M5	M5x0.63*	0.47	1.42

\* Pre-mounted screw.

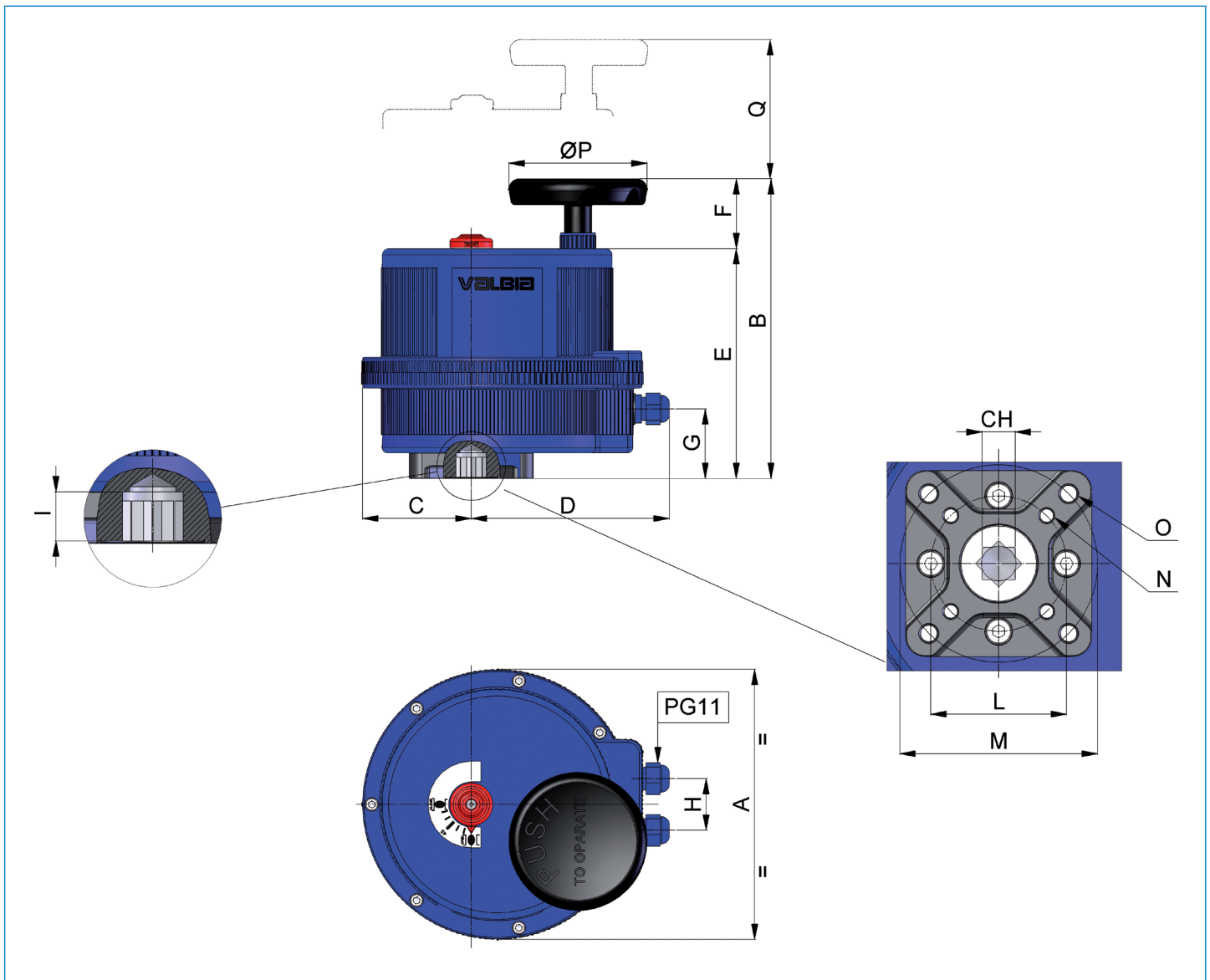
MOD. VB015



MOD.	ISO 5211 PATTERN	CH mm	A	B	C	D	E	F	G	H	I	L	M	N	O	ØP	Q
VB015	F03 - F05 *	11	4.84	5.57	1.67	4.74	4.96	0.61	4.06	1.26	0.55	1.42	1.97	10-24 UNC 2BX0.47	1/4-20 UNC 2BX0.51	2.68	2.56

\* Upon request F04 or F07.

MOD. VB030 – VB350

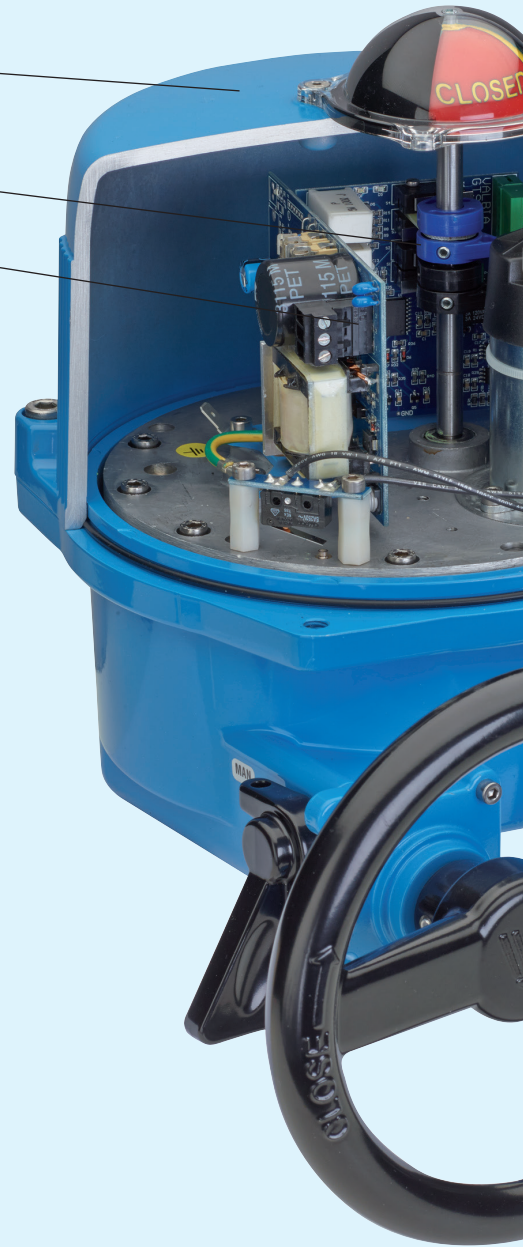


MOD.	ISO 5211 PATTERN	CH mm	A	B	C	D	E	F	G	H	I	L	M	N	O	ØP	Q
VB030	F03 - F05	11	6.18	7.40	2.38	5.10	5.75	1.65	1.30	1.42	0.47	1.42	1.97	10-24 UNC 2BX0.47	1/4-20 UNC 2BX0.51	2.56	3.94
VB060	F05 - F07	14	7.28	8.46	2.66	5.77	6.81	1.65	2.01	1.42	0.63	1.97	2.76	1/4-20 UNC 2BX0.59	5/16-18 UNC 2BX0.63	2.56	4.33
VB110	F07 - F10	17	8.31	9.14	3.31	6.02	7.01	2.13	2.13	1.58	0.75	2.76	4.02	5/16-18 UNC 2BX0.75	3/8-16 UNC 2BX0.75	4.33	4.53
VB190	F07 - F10	17	8.31	9.14	3.31	6.02	7.01	2.13	2.13	1.58	0.75	2.76	4.02	5/16-18 UNC 2BX0.75	3/8-16 UNC 2BX0.75	4.33	4.53
VB270	F07 - F10	22	8.74	9.19	3.03	6.69	7.17	2.03	2.13	1.58	0.95	2.76	4.02	5/16-18 UNC 2BX0.75	3/8-16 UNC 2BX0.75	4.33	4.53
VB350	F07 - F10	22	8.74	9.19	3.03	6.69	7.17	2.03	2.13	1.58	0.95	2.76	4.02	5/16-18 UNC 2BX0.79	3/8-16 UNC 2BX0.75	4.33	4.53

\* Upon request F04 or F07.

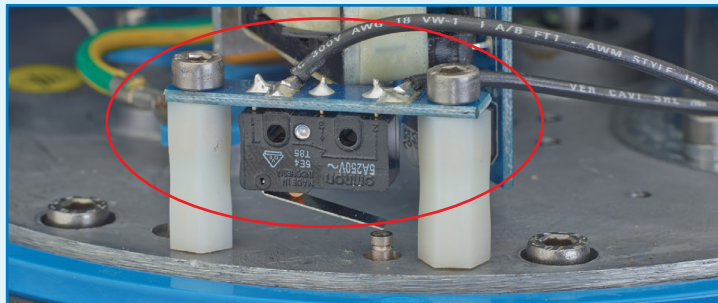
# 86 SERIES ELECTRIC ACTUATOR

- ALUMINUM ALLOY ENCLOSURE WITH POLYESTER POWDER COATING
- CONTROL BOARD
- POWER SUPPLY BOARD



**POSITION CAMS:**

- Black cams: limit switches open and close adjustment.
- Blue cams: additional limit switches open and close adjustment.



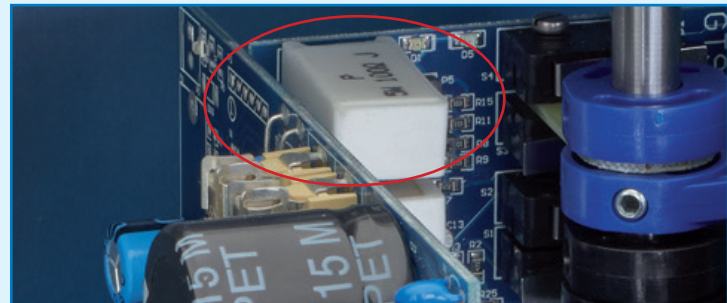
**SNAP SWITCH** (only for mod. VB110M - VB350M):

- To avoid the motor automatic rotation when the actuator is in manual mode.



**MANUAL OVERRIDE SWITCH** (only for mod. VB110M - VB350M):

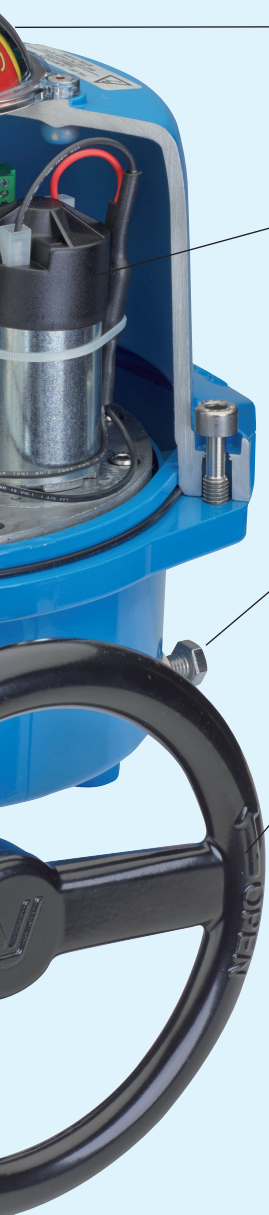
- Engages and disengages the manual override.



**HEATER:**

- Managed by the control board to guarantee the optimal internal temperature and avoid condensation.





- DOME POSITION INDICATOR
- DC MOTOR
- OPEN/CLOSED POSITION ADJUSTMENT BOLTS
- MANUAL OVERRIDE

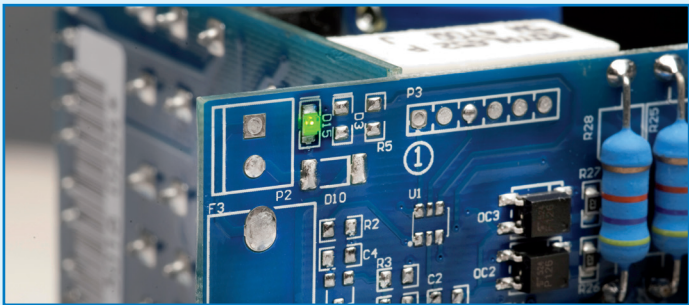


**CAPTIVE COVER BOLT:**

- Cover bolts are specially designed to prevent losing them during maintenance or installation.
- All external bolts are stainless steel.



**EASY COVER OPENING**



**LED lights to indicate:** power supply ON (green), actuator working conditions (yellow) and fault (red).

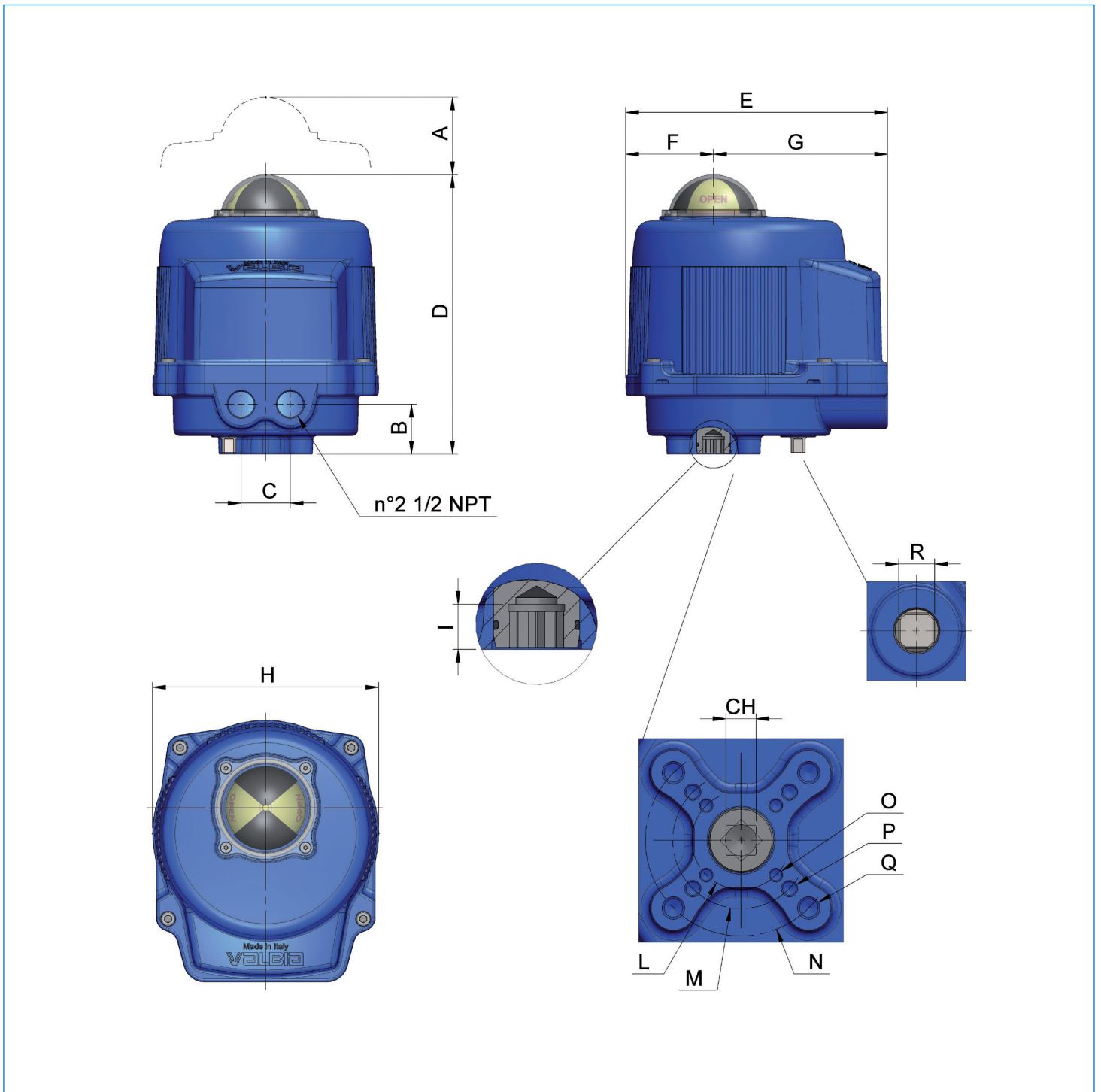
MODEL		VB030M	VB060M	VB110M	VB190M	VB270M	VB350M
MAX WORKING TORQUE (in-Lbs)		266	530	975	1680	2390	3100
NOMINAL VOLTAGE (V)	LOW VOLTAGE	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC
		24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC
	MULTIVOLTAGE	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC
WORKING TIME (sec)		8	9	27	27	50	50
TORQUE LIMITER		STD	STD	STD	STD	STD	STD
DUTY RATING		<small>12V AC/DC</small>	50%	50%	50%	50%	50%
		<small>24V AC/DC</small>	75%	75%	75%	75%	75%
		<small>100-240V AC</small>					
PROTECTION (IP rating/UL)		IP68/Type4	IP68/Type4	IP68/Type4	IP68/Type4	IP68/Type4	IP68/Type4
ENCLOSURE		Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
ROTATION		90°	90°	90°	90°	90°	90°
MECHANICAL STOPS (only reg.0-90°)		NO	NO	STD	STD	STD	STD
MANUAL OVERRIDE		STD Ø 0.39 in	STD Ø 0.39 in	STD with hand wheel and power switch	STD with hand wheel and power switch	STD with hand wheel and power switch	STD with hand wheel and power switch
DOME POSITION INDICATOR		STD	STD	STD	STD	STD	STD
WORKING TEMPERATURE		-4°F + 131°F	-4°F + 131°F	-4°F + 131°F	-4°F + 131°F	-4°F + 131°F	-4°F + 131°F
HEATER		STD	STD	STD	STD	STD	STD
ADDITIONAL LIMIT SWITCHES		n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)
ISO 5211 PATTERNS		F03-F05-F07	F05 - F07	F07 - F10	F07 - F10	F07 - F10	F07 - F10
SQUARE DRIVE (mm)		11	14	17	17	22	22
SPECIAL SQUARE DRIVE (mm) UPON REQUEST		9-14	11-17	14-22	14-22	17	17
FAIL-SAFE OPERATION (BATTERY BACKUP)		UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
		NOT AVAILABLE FOR 12V MOD					
STD (4~20mA or 0~10 VDC) REVERSE (20~4mA or 10~0 VDC) MODE POSITIONER		UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
ROTARY POTENTIOMETER (5K Ω 1W)		UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
MIDDLE POSITION		UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST	UPON REQUEST
ELECTRIC CONDUITS		N°2 1/2" NPT	N°2 1/2" NPT	N°2 1/2" NPT	N°2 1/2" NPT	N°2 1/2" NPT	N°2 1/2" NPT
WEIGHT (Lbs)		7.3	9.9	18.7	18.7	20.9	20.9

## POWER CONSUMPTION

MODEL		VB030M	VB060M	VB110M	VB190M	VB270M	VB350M
VERSION H	NOMINAL VOLTAGE	100-240V AC					
	ABSORBED CURRENT	0.4-0.2 A	0.6-0.3 A	0.4-0.2 A	0.6-0.3 A	0.6-0.3 A	0.75-0.4 A
	ABSORBED POWER	40-48 VA	60-72 VA	40-48 VA	60-72 VA	60-72 VA	75-96 VA
VERSION L	NOMINAL VOLTAGE	12V AC/DC 24V AC/DC	12V AC/DC 24V AC/DC	12V AC/DC 24V AC/DC	12V AC/DC 24V AC/DC	12V AC/DC 24V AC/DC	12V AC/DC 24V AC/DC
	ABSORBED CURRENT	2.2-1.8 A 1-0.7 A	3.8-2.85 A 1.8-1.2 A	2.2-1.8 A 1-0.7 A	3.8-2.85 A 1.8-1.2 A	3.8-2.85 A 1.8-1.2 A	4.75-3.65 A 1.95-1.65 A
	ABSORBED POWER	26.5-22 VA 24-17 VA	46-34 VA 43-29 VA	26.5-22 VA 24-17 VA	46-34 VA 43-29 VA	46-34 VA 43-29 VA	57-44 VA 47-40 VA
FREQUENCY		50/60 HZ					

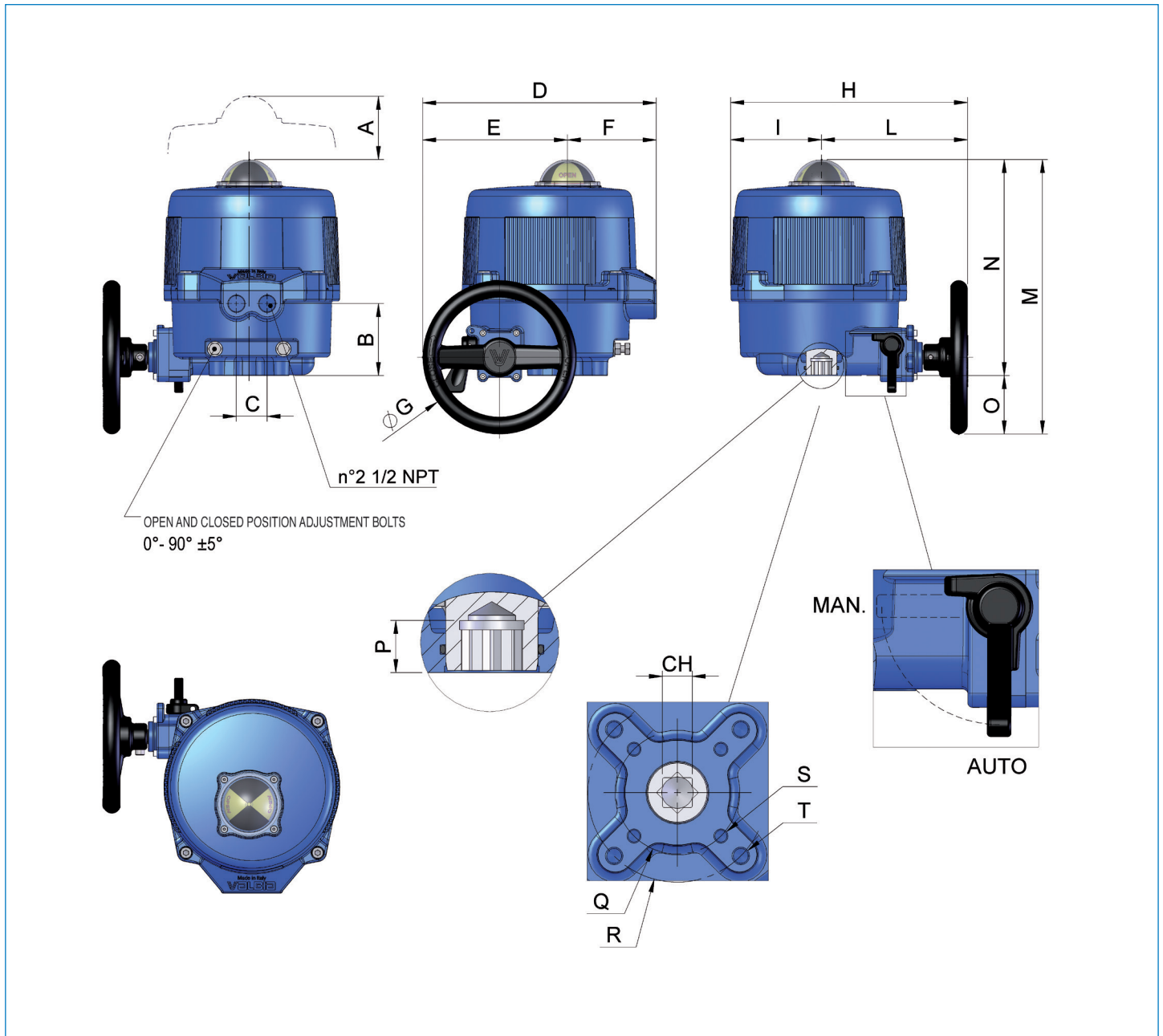


VB030M – VB060M MOD.



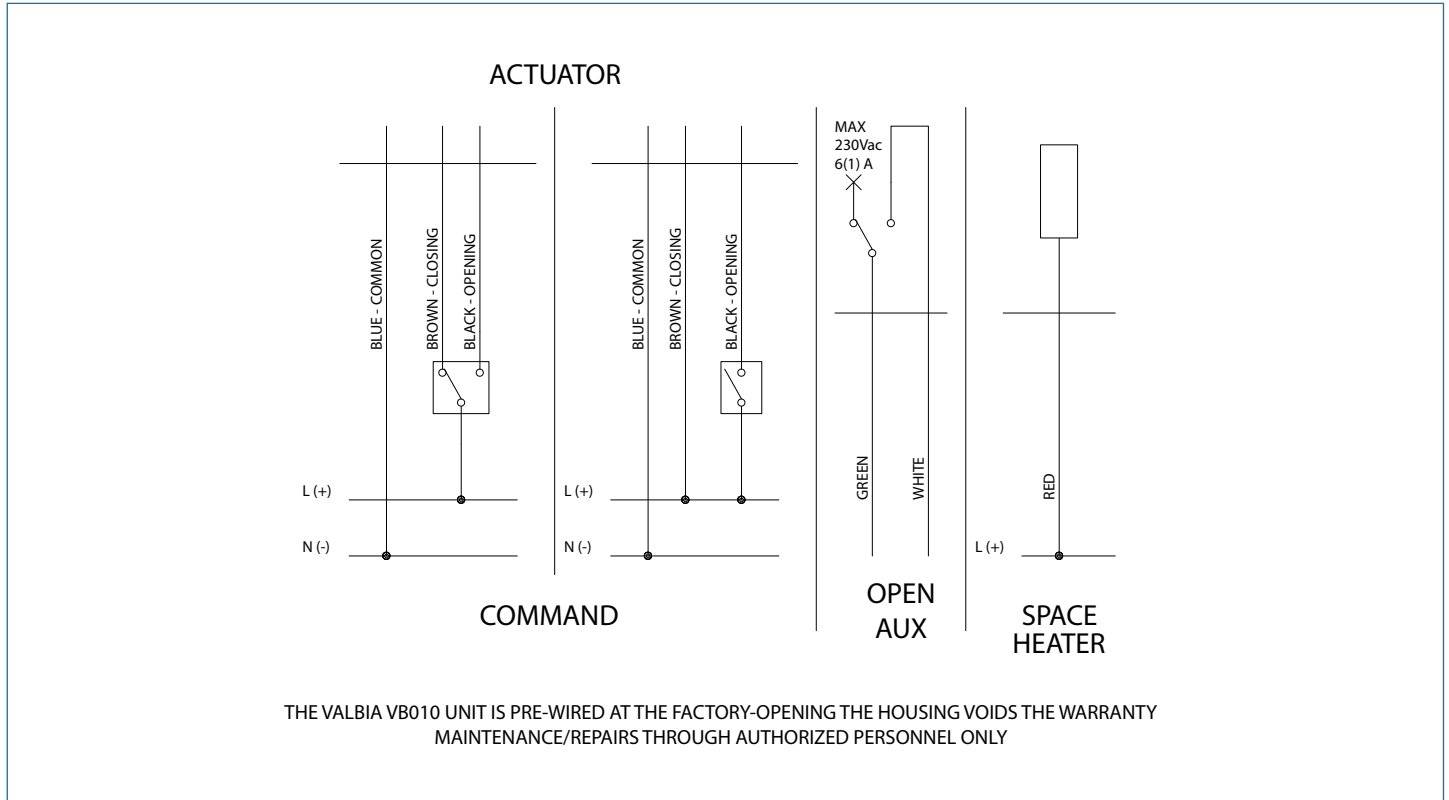
MOD.	ISO 5211 PATTERN	CH mm	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
VB030M	F03-F05-F07	11	5.47	1.42	1.38	7.83	7.36	2.48	4.88	6.34	0.47	1.42	1.97	2.76	10-24 UNC 2B x 0.31"	1/4-20 UNC 2B x 0.39"	5/16-18 UNC 2B x 0.43"	0.39
VB060M	F05-F07	14	5.47	2.20	1.38	8.66	7.76	2.48	5.28	6.93	0.63	-	1.97	2.76	-	1/4-20 UNC 2B x 0.55"	5/16-18 UNC 2B x 0.59"	0.39

VB110M ÷ VB350M MOD.

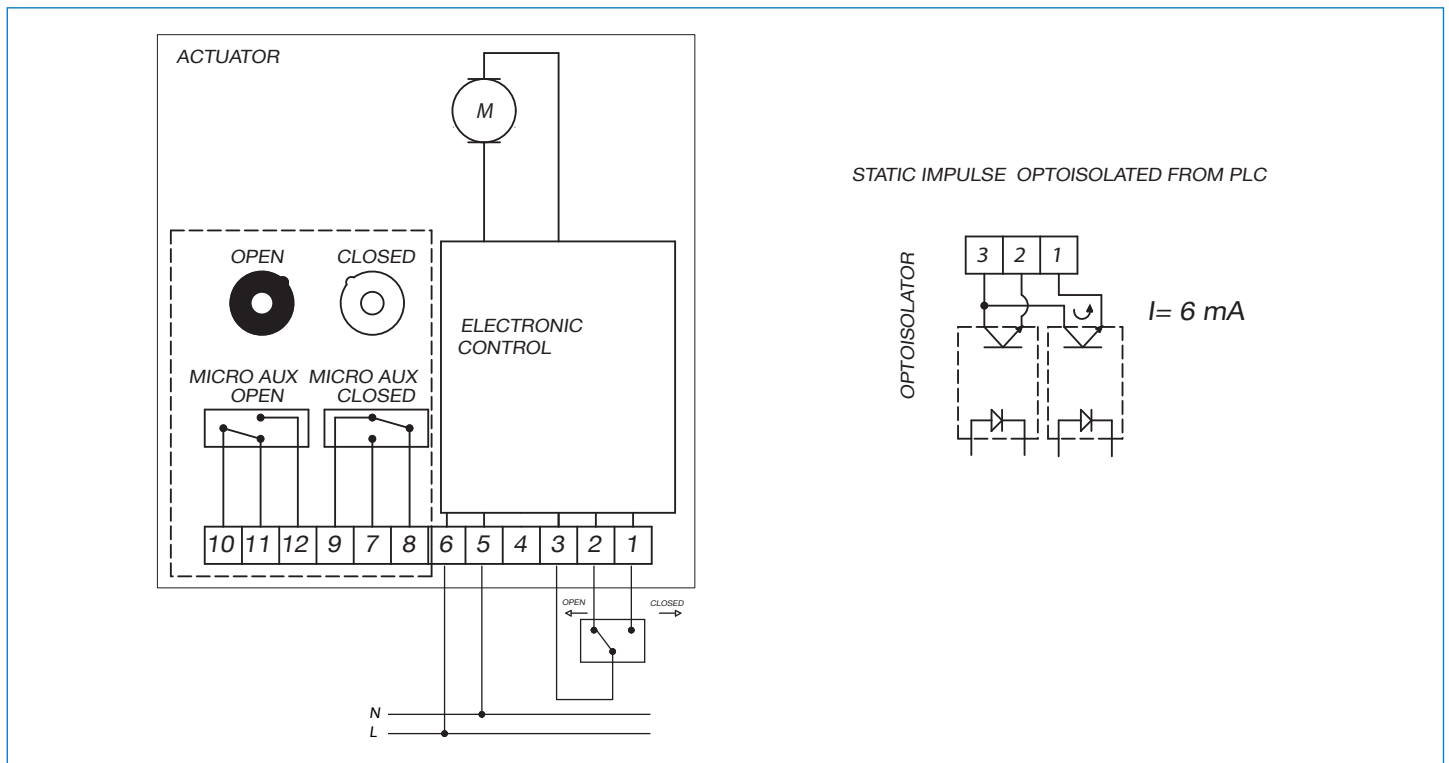


MOD.	ISO 5211 PATTERN	CH mm	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T
VB110M	F07-F10	17	5.47	3.23	1.38	10.47	6.50	3.98	6.89	10.63	4.05	6.57	12.32	9.68	2.64	0.75	2.76	4.02	5/16-18 UNC 2B x 0.39"	3/8-16 UNC 2B x 0.39"
VB190M	F07-F10	17	5.47	3.23	1.38	10.47	6.50	3.98	6.89	10.63	4.05	6.57	12.32	9.68	2.64	0.75	2.76	4.02	5/16-18 UNC 2B x 0.38"	3/8-16 UNC 2B x 0.38"
VB270M	F07-F10	22	5.47	3.27	1.38	10.98	7.24	3.74	6.89	10.83	4.29	6.53	12.36	9.72	2.64	0.94	2.76	4.02	5/16-18 UNC 2B x 0.59"	3/8-16 UNC 2B x 0.59"
VB350M	F07-F10	22	5.47	3.27	1.38	10.98	7.24	3.74	6.89	10.83	4.29	6.53	12.36	9.72	2.64	0.94	2.76	4.02	5/16-18 UNC 2B x 0.59"	3/8-16 UNC 2B x 0.59"

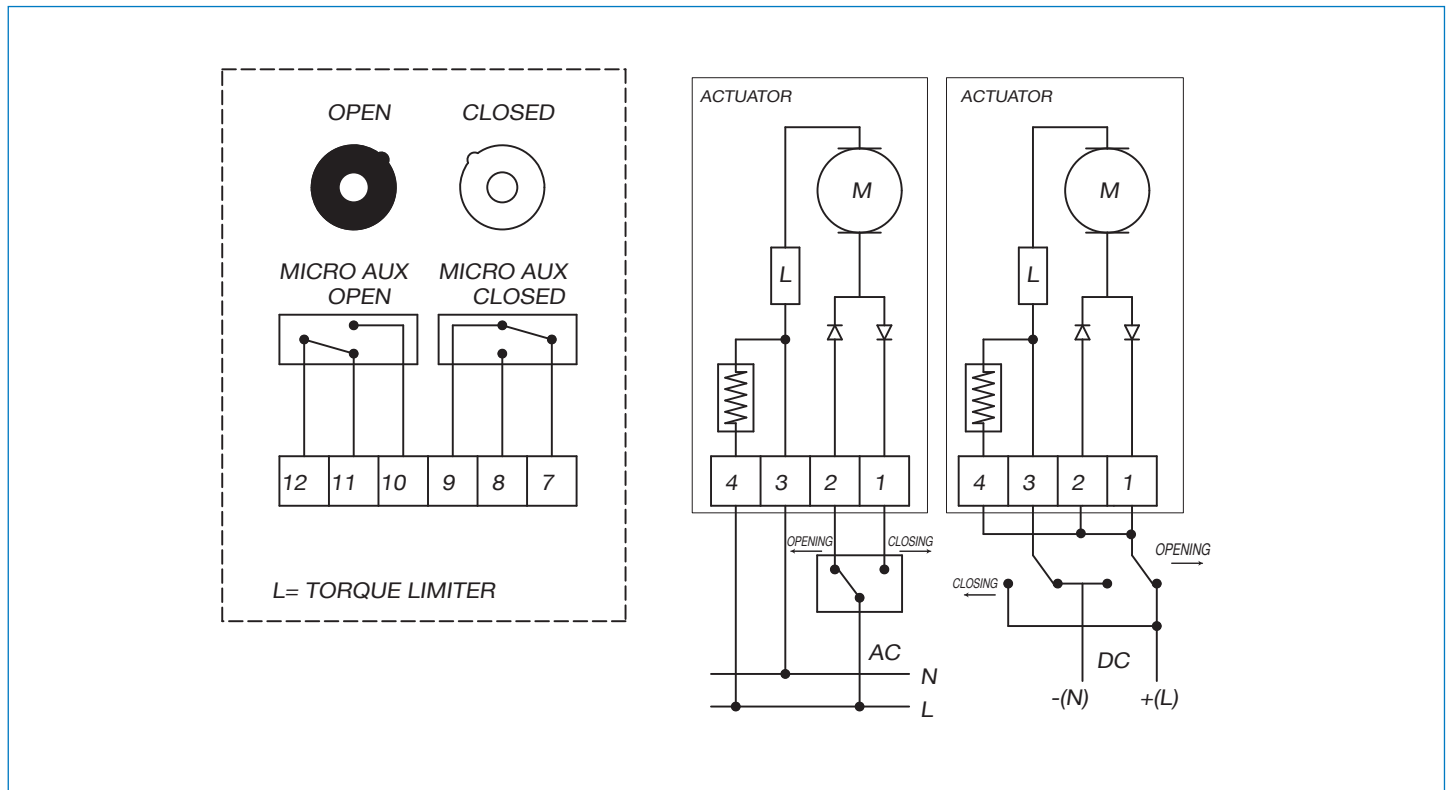
**ELECTRIC WIRING VB010 24V AC/DC 50/60 HZ, 110V AC 60HZ**



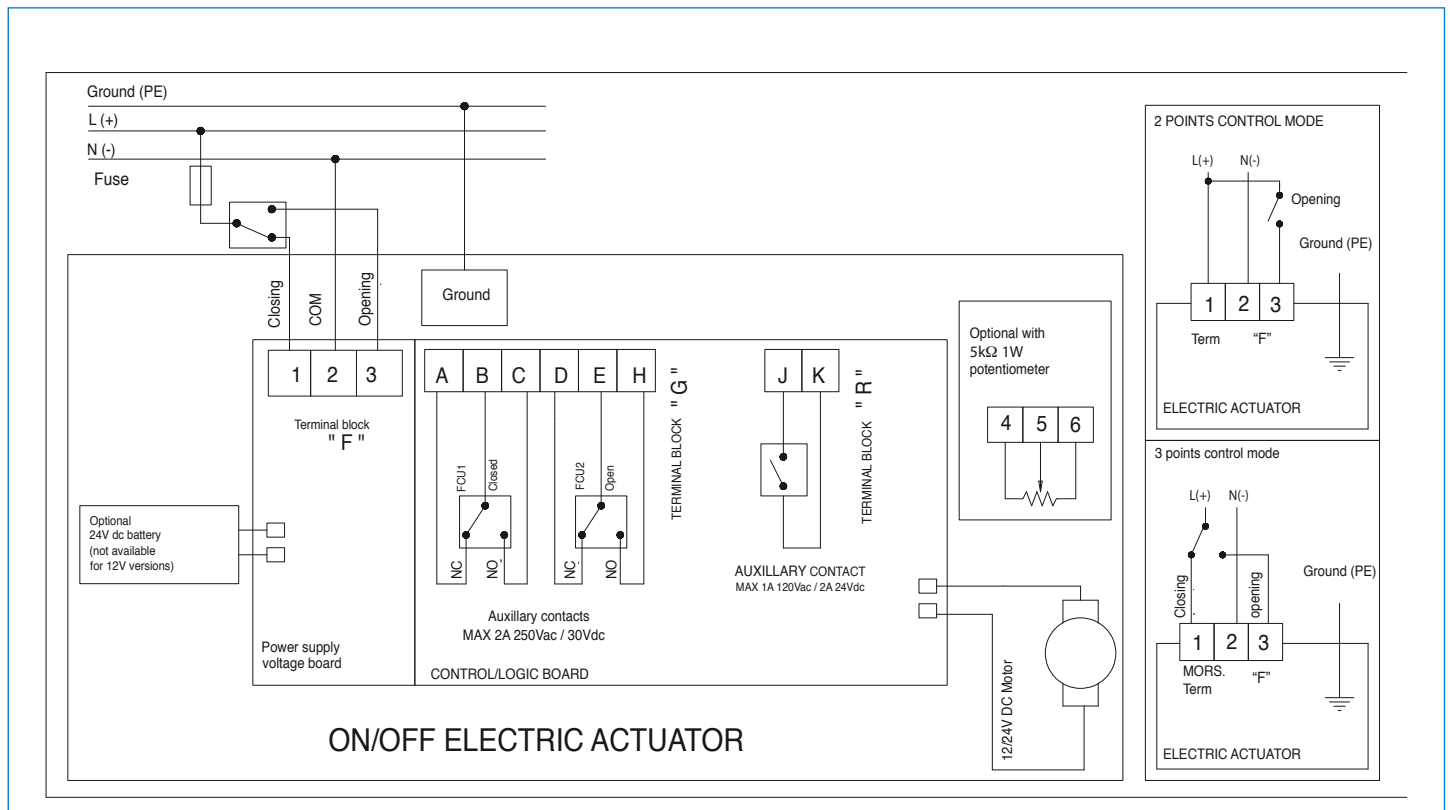
**ELECTRIC WIRING VB015 100-240V 50/60Hz**



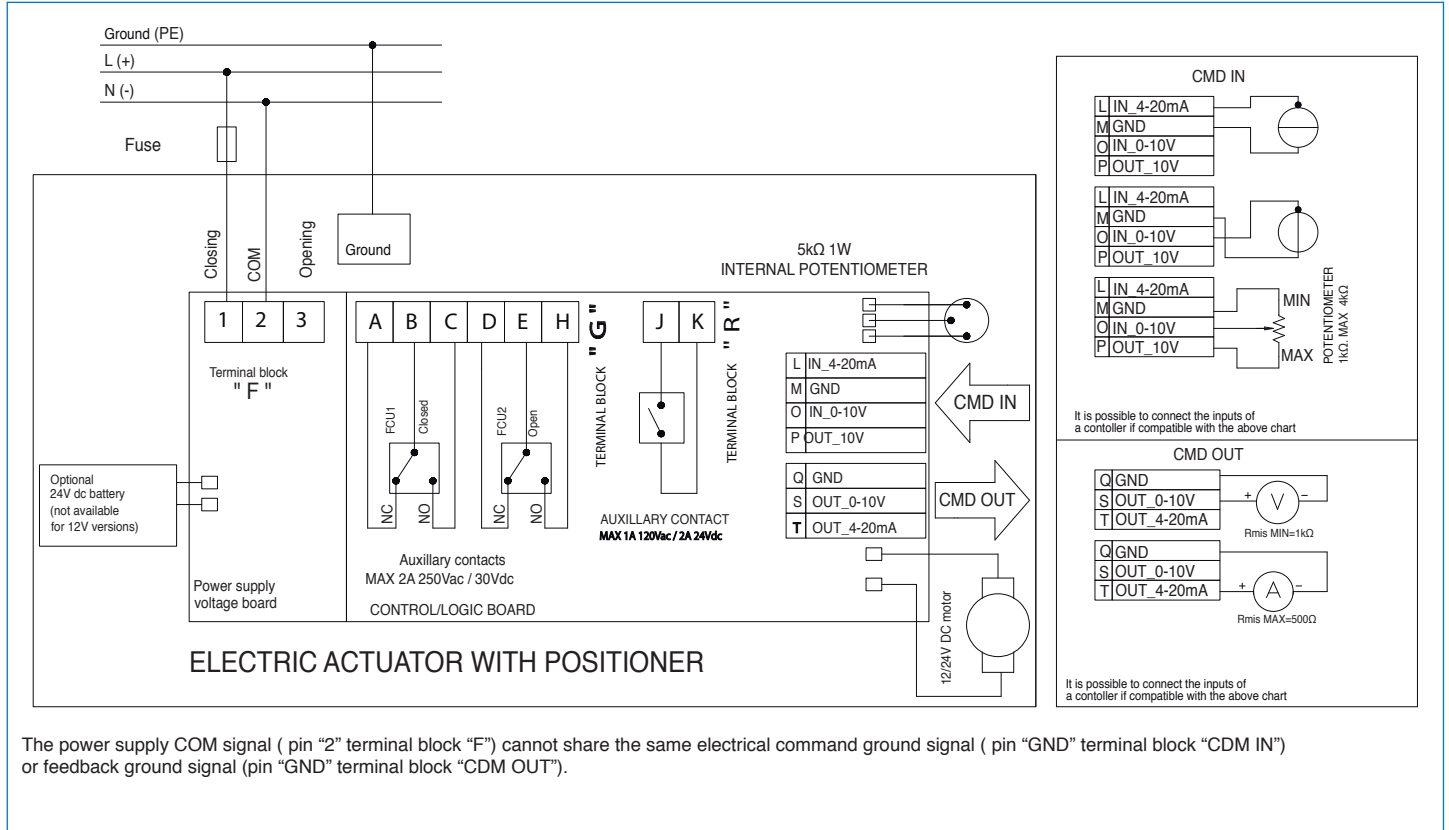
## ELECTRIC WIRING VB015 12V-24V AC/DC 50/60 HZ



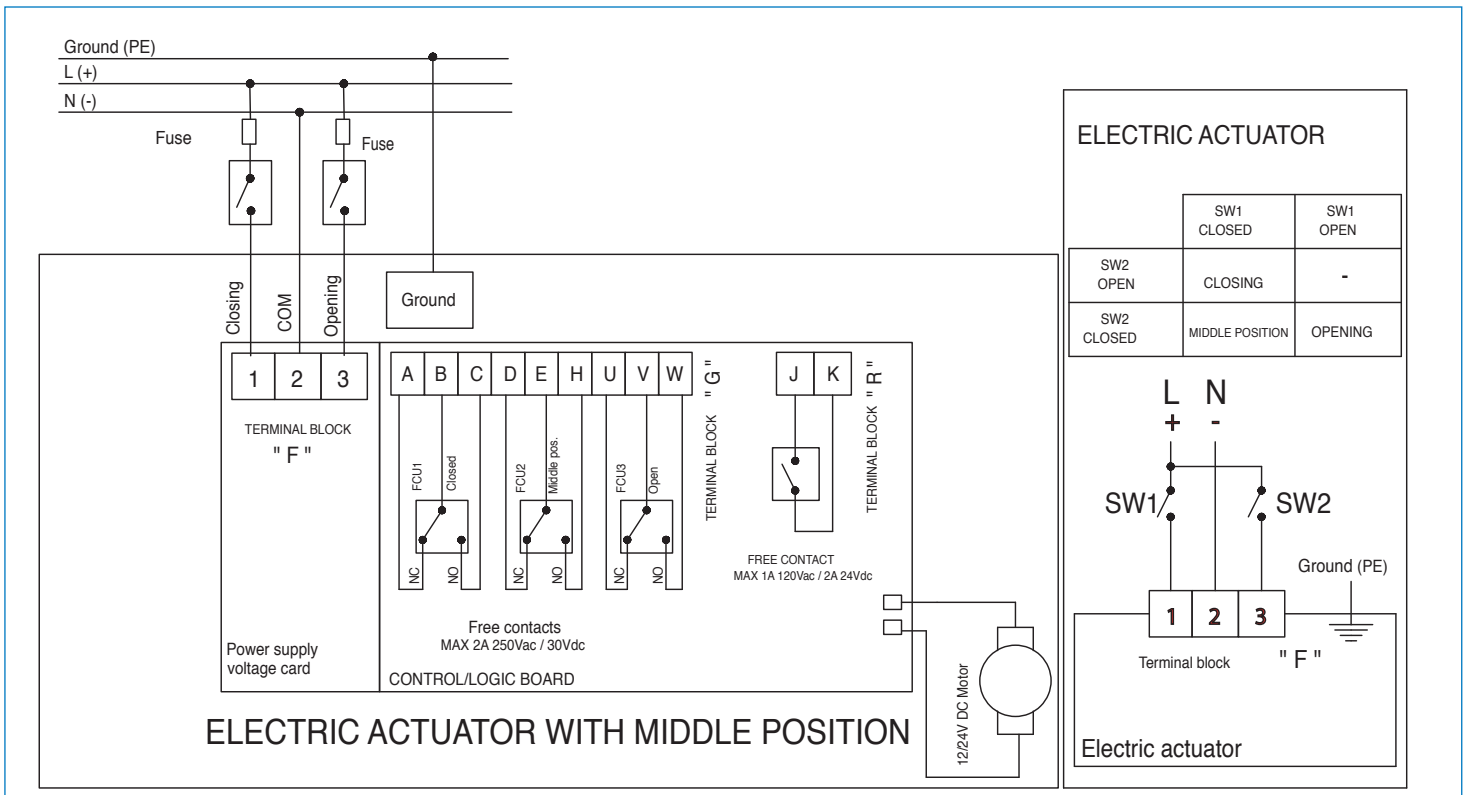
## ELECTRIC WIRING FROM VB030 TO VB350 AND FROM VB030M TO VB350M 12V AC/DC 50/60 Hz, 24V AC/DC 50/60 Hz, 100-240V AC 50/60 Hz

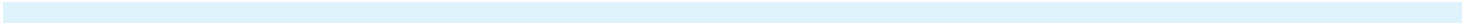


**ELECTRIC WIRING WITH POSITIONER FROM VB030 TO VB350 AND FROM VB030M TO VB350M 12V AC/DC 50/60 Hz, 24V AC/DC 50/60 Hz, 100-240V AC 50/60 Hz**



**ELECTRIC WIRING WITH MIDDLE POSITION FROM VB030 TO VB350 AND FROM VB030M TO VB350M 12V AC/DC 50/60Hz, 24V AC/DC 50/60Hz, 100-240V AC 50/60Hz**









**BONOMI**  
NORTH AMERICA

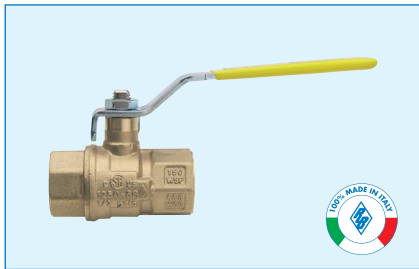


**PRICE LIST**  
**EFFECTIVE SEPTEMBER 1<sup>st</sup> 2018**



**VALPRES**

**VALBIA**



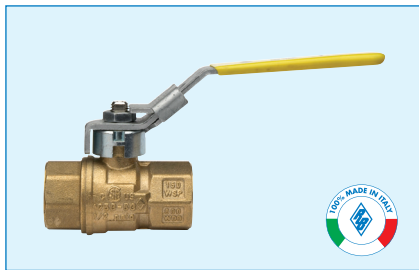
### TYPE 161N – 162N (T-HANDLE)

Full port brass ball valve FNPT threaded with lever handle.



Size	*1/4"	*3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	8.10	8.10	8.50	12.30	17.10	29.30	40.20	64.30	144.90	203.30	303.10
Package	70	70	50	25	20	10	6	4	2	4	2
Master Box	140	1470	100	50	40	20	12	8	4	4	2
Master Box weight	49.64	44.67	42.12	36.60	41.50	34.84	28.42	30.58	35.20	52.88	54.68

\*TYPE 171N

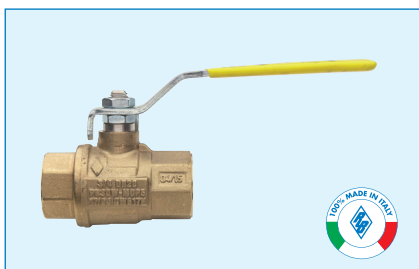


### TYPE 161L

Full port brass ball valve FNPT threaded with latch lock handle.



Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	13.50	17.80	23.10	36.60	48.10	73.10	225.30	314.10	453.30
Package	50	25	20	10	6	4	2	4	2
Master Box	100	50	40	20	12	8	4	4	2
Master Box weight	48.73	42.12	46.52	36.82	30.74	32.12	34.93	52.96	55.35

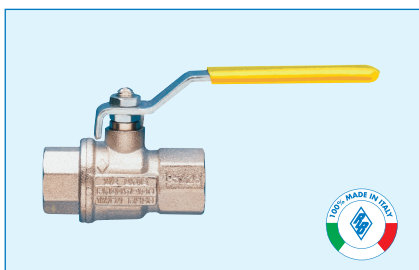


### TYPE 171N – 172N (T-HANDLE)

Full port brass ball valve FNPT threaded with lever handle.



Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	8.10	8.10	10.10	14.50	21.40	36.70	53.40	79.40	176.20	248.00	431.10
Package	70	70	50	25	20	10	6	4	2	4	2
Master Box	140	140	100	50	40	20	12	8	4	4	2
Master Box weight	49.64	44.67	50.93	42.12	51.11	42.20	40.12	35.17	36.43	54.49	45.12

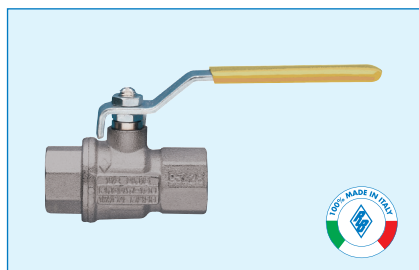


### TYPE 171C

Full port nickel plated brass ball valve FNPT threaded with lever handle.



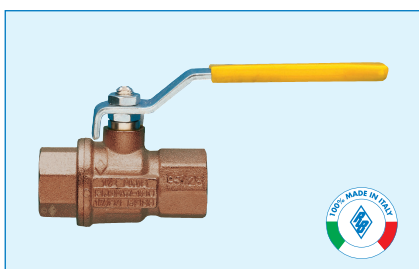
Size	1/4"	3/4"	1 1/4"	1 1/2"	2"
US\$	7.90	14.00	36.00	53.00	79.00
Package	70	25	10	6	4
Master Box	140	50	20	12	8
Master Box weight	49.64	42.12	45.20	40.12	35.17



### TYPE 171NCR

Full port chrome plated brass ball valve FNPT threaded, with lever handle.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	8.30	8.30	10.70	15.30	22.10	39.70	57.90	85.50	189.70	267.10	443.70
Package	70	70	50	25	20	10	6	4	2	4	2
Master Box	140	140	100	50	40	20	12	8	4	4	2
Master Box weight	49.64	44.67	50.93	42.12	51.11	45.20	40.12	35.17	35.36	54.49	45.12



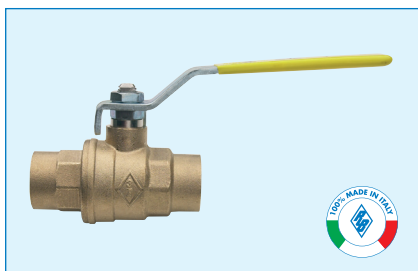
### TYPE 171S

Full port brass ball valve FNPT threaded with lever handle, with stainless steel ball and stem.



Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	16.60	16.60	17.70	25.80	35.00	54.00	76.50	117.30	219.80	366.00	586.80
Package	70	70	50	25	20	10	6	4	2	-	-
Master Box	140	140	100	50	40	20	12	8	4	-	-
Master Box weight	49.64	44.67	50.93	42.12	51.11	45.20	40.12	35.17	41.09	-	-

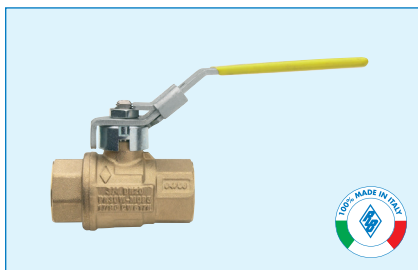




## TYPE 1715 – 1725 (T-HANDLE)

Full port brass ball valve solder ends with lever handle.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>10.10</b>	<b>14.50</b>	<b>21.40</b>	<b>36.70</b>	<b>53.40</b>	<b>79.40</b>	<b>183.10</b>	<b>265.10</b>	<b>469.20</b>
Package	40	25	20	10	6	4	2	4	2
Master Box	80	50	40	20	12	8	4	4	2
Master Box weight	41.76	40.79	50.67	45.91	41.34	36.17	40.18	60.46	52.04

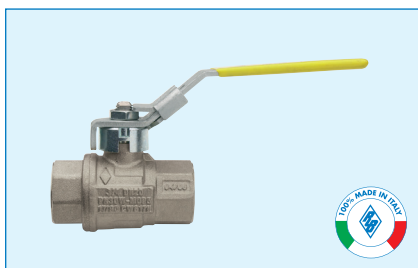


## TYPE 171L

Full port brass ball valve FNPT threaded with latch lock handle.



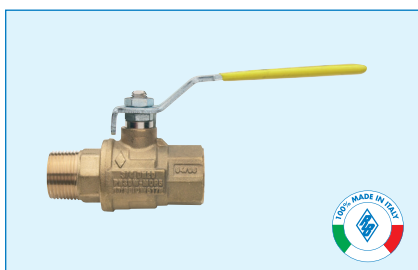
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>16.10</b>	<b>16.10</b>	<b>18.60</b>	<b>24.60</b>	<b>33.20</b>	<b>55.30</b>	<b>78.20</b>	<b>111.70</b>	<b>246.90</b>	<b>339.60</b>	<b>562.10</b>
Package	70	70	50	25	20	10	6	4	2	-	-
Master Box	140	140	100	50	40	20	12	8	4	4	2
Master Box weight	48.73	44.72	50.49	42.01	51.29	45.25	40.85	35.08	38.48	55.26	45.70



## TYPE 171LCR

Full port chrome plated brass ball valve FNPT threaded, with latch lock handle.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>16.30</b>	<b>16.30</b>	<b>19.10</b>	<b>25.18</b>	<b>33.70</b>	<b>57.40</b>	<b>81.60</b>	<b>116.90</b>	<b>256.40</b>	<b>356.90</b>	<b>565.20</b>
Package	70	70	50	25	20	10	6	4	2	-	-
Master Box	140	140	100	50	40	20	12	8	4	4	2
Master Box weight	48.73	44.72	50.49	42.01	51.29	45.25	40.85	35.08	38.48	55.26	45.70

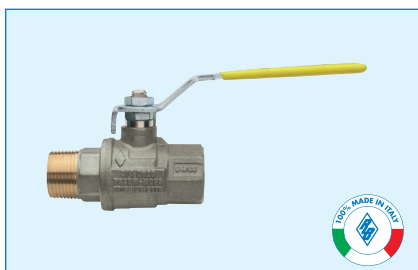


## TYPE 171M – 172M (T-HANDLE)

Full port brass ball valve MNPT x FNPT threaded with lever handle.



Size	1/4"	3/8"	1/2"	3/4"	1"
<b>US\$</b>	<b>9.40</b>	<b>9.50</b>	<b>12.10</b>	<b>17.20</b>	<b>25.10</b>
Package	70	70	50	25	20
Master Box	140	140	100	50	40
Master Box Weight	49.03	46.87	54.03	44.76	41.99



## TYPE 171MCR

Full port chrome plated brass ball valve, MNPT x FNPT, with lever handle.

Size	1/4"	3/8"	1/2"	3/4"	1"
<b>US\$</b>	<b>9.60</b>	<b>9.60</b>	<b>12.80</b>	<b>17.90</b>	<b>25.70</b>
Package	70	70	50	25	20
Master Box	140	140	100	50	40
Master Box Weight	49.03	46.87	54.03	44.76	41.99

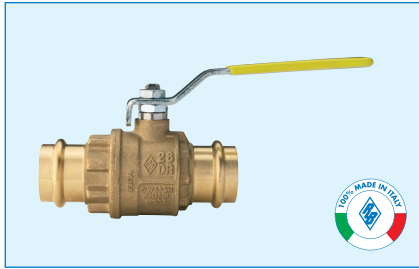


## TYPE 171MCRL

Full port chrome plated brass ball valve, MNPT x FNPT, with locking lever handle.

**NEW**

Size	1/4"	3/8"	1/2"	3/4"	1"
<b>US\$</b>	<b>17.60</b>	<b>17.60</b>	<b>21.20</b>	<b>27.80</b>	<b>37.30</b>
Package	70	70	50	25	20
Master Box	140	140	100	50	40
Master Box Weight	49.47	47.31	54.47	45.20	42.43

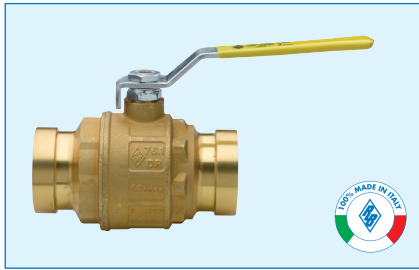


## TYPE 1970

Full port ball valve with euro-press connections, lever handle.



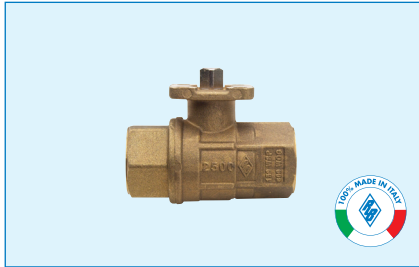
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
<b>US\$</b>	<b>19.60</b>	<b>27.20</b>	<b>39.90</b>	<b>57.00</b>	<b>95.30</b>	<b>142.70</b>
Package	40	25	20	10	6	4
Master Box	80	50	40	20	12	8
Master Box weight	41.59	43.22	51.11	42.11	43.17	38.41



## TYPE 1970 XLC

Full port ball valve with XLC press connections, lever handle.

Size	2 1/2"	3"	4"
<b>US\$</b>	<b>378.50</b>	<b>485.30</b>	<b>711.70</b>
Package	1	-	-
Master Box	2	2	2
Master Box weight	22.33	32.76	49.76



## TYPE 250N

Full port brass ball valve FNPT threaded with ISO 5211 pad for actuators.

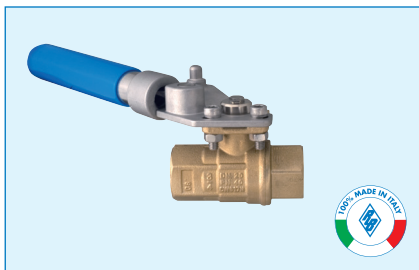
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>37.00</b>	<b>37.00</b>	<b>37.00</b>	<b>42.00</b>	<b>63.00</b>	<b>96.00</b>	<b>136.00</b>	<b>210.00</b>	<b>359.00</b>	<b>509.00</b>	<b>855.00</b>
Package	10	10	40	30	15	10	6	4	2	4	2
Master Box	60	60	80	60	30	20	12	8	4	4	2
Master Box weight	51.23	49.37	55.00	56.89	48.81	47.10	47.06	46.52	37.62	55.52	45.48



## TYPE 253N

Full port brass ball valve FNPT threaded with stainless steel stem & ball and ISO 5211 pad for actuators.

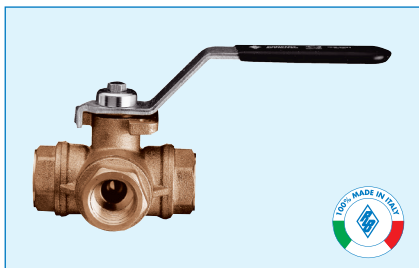
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
<b>US\$</b>	<b>62.00</b>	<b>62.00</b>	<b>62.00</b>	<b>70.00</b>	<b>92.00</b>	<b>128.00</b>	<b>182.00</b>	<b>285.00</b>
Package	10	10	40	30	15	10	6	4
Master Box	60	60	80	60	30	20	12	8
Master Box weight	51.30	51.30	56.05	55.83	47.98	46.39	45.57	52.24



## TYPE 250N SRL – 250NLF SRL

Deadman spring return lever, full port brass ball valve, FNPT threaded.

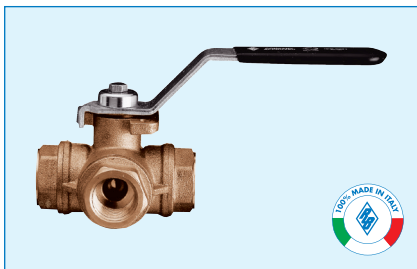
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
<b>250N SRL</b>	<b>127.00</b>	<b>127.00</b>	<b>127.00</b>	<b>133.00</b>	<b>154.00</b>	<b>186.00</b>	<b>243.00</b>	<b>316.00</b>	<b>499.00</b>	<b>650.00</b>
<b>250NLF SRL</b>	-	-	<b>131.00</b>	<b>143.00</b>	<b>164.00</b>	<b>213.00</b>	<b>285.00</b>	<b>386.00</b>	-	-
Package	1	1	1	1	1	1	1	1	1	1
Master Box	-	-	-	-	-	-	-	-	-	-
Master Box weight	1.80	1.80	1.70	1.90	2.60	3.20	4.80	7.00	10.08	15.03



## TYPE 355N (T)

3-way reduced port brass ball valve FNPT threaded with lever handle and ISO 5211 pad for actuators.

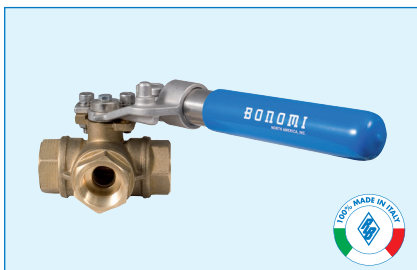
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
<b>US\$</b>	<b>54.20</b>	<b>54.20</b>	<b>54.20</b>	<b>63.50</b>	<b>92.40</b>	<b>144.70</b>	<b>226.60</b>	<b>344.80</b>	<b>640.10</b>	<b>635.90</b>
Package	5	5	10	6	6	4	2	1	1	1
Master Box	30	30	20	12	12	8	4	2	2	2
Master Box weight	39.24	37.10	26.59	19.74	34.14	35.63	27.56	23.86	42.00	43.91



### TYPE 365N (L)

3-way reduced port brass ball valve FNPT threaded with lever handle and ISO 5211 pad for actuators.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
US\$	54.20	54.20	54.20	63.50	92.40	144.70	226.60	344.80	640.10	635.90
Package	5	5	10	6	6	4	2	1	1	1
Master Box	30	30	20	12	12	8	4	2	2	2
Master Box weight	39.78	37.90	26.77	20.06	34.72	36.74	28.00	24.23	43.29	45.20

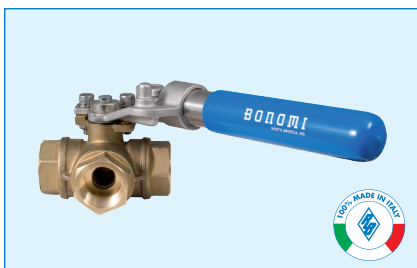


### TYPE 355NSRL(T)

Deadman spring return lever, 3-way reduced port brass ball valve, FNPT threaded.

**NEW**

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	144.00	144.00	144.00	154.00	182.00	235.00	331.00	449.00
Package	1	1	1	1	1	1	1	1
Master Box	-	-	-	-	-	-	-	-
Weight	0.40	0.40	0.40	0.90	1.30	2.50	3.40	6.00



### TYPE 365NSRL(L)

Deadman spring return lever, 3-way reduced port brass ball valve, FNPT threaded.

**NEW**

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	144.00	144.00	144.00	154.00	182.00	235.00	331.00	449.00
Package	1	1	1	1	1	1	1	1
Master Box	-	-	-	-	-	-	-	-
Weight	0.40	0.40	0.40	0.90	1.30	2.50	3.40	6.00

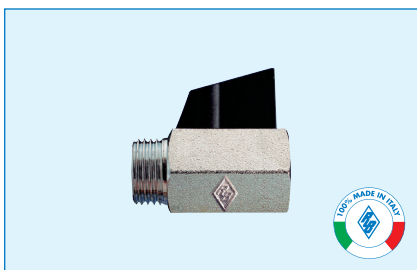


### TYPE 383N

Mini brass ball valve reduced port, FNPT threaded.



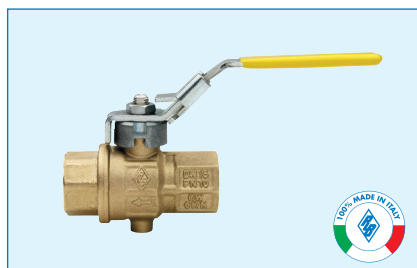
Size	1/8"	1/4"	3/8"	1/2"	3/4"
US\$	8.80	8.80	7.20	10.40	15.60
Package	50	50	50	25	25
Master Box	300	300	300	150	210
Master Box weight	72.20	64.89	58.21	44.52	27.01



### TYPE 383M

Mini brass ball valve reduced port, MNPT x FNPT threaded.

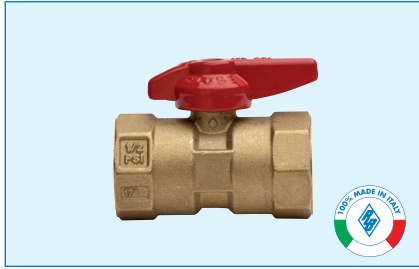
Size	1/8"	1/4"	3/8"	1/2"	3/4"
US\$	8.80	8.80	7.20	10.40	15.60
Package	50	50	50	35	25
Master Box	300	300	300	210	50
Master Box weight	72.20	59.55	54.87	67.77	25.69



### TYPE 511L

Safety exhaust full port brass ball valve 200 psi, FNPT threaded with latch lock handle.

Size	1/4"	3/8"	1/2"	3/4"	1"
US\$	20.40	20.40	21.50	28.40	35.30
Package	70	70	50	25	25
Master Box	140	140	100	50	40
Master Box weight	71.88	69.72	56.67	46.86	54.73



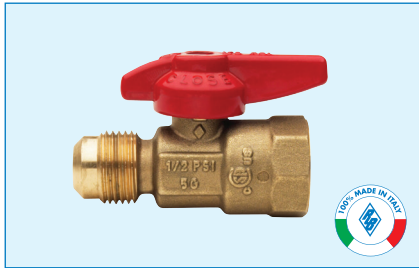
### TYPE 9280

### ONE PIECE BODY

FIPxFIP gas ball valve.



Size	3/8" FIP X 3/8" FIP	1/2" FIP X 1/2" FIP	3/4" FIP X 3/4" FIP
US\$	8.30	9.90	13.10
Package	100	100	60
Master Box	200	200	120
Master Box weight	42.56	64.60	61.93



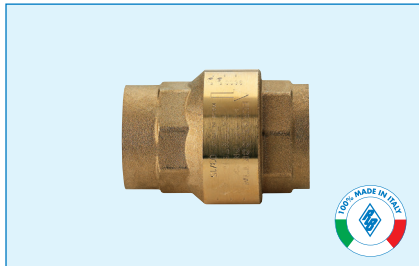
### TYPE 9281

### ONE PIECE BODY

FIPxFLARE gas ball valve.



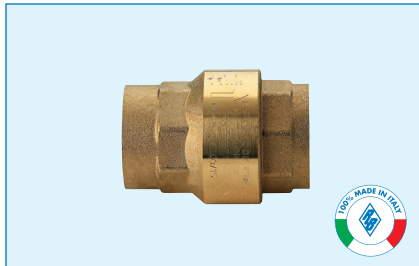
Size	3/8" FIP X 3/8" FLARE	1/2" FIP X 3/8" FLARE	1/2" FIP X 1/2" FLARE
US\$	8.00	9.90	9.80
Package	100	100	100
Master Box	200	200	200
Master Box weight	41.67	56.23	59.75



### TYPE 100002

High flow rate spring loaded brass check valve FNPT threaded, with NBR seat.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	8.70	8.70	10.10	13.40	17.80	27.70	39.80	55.60	126.60	177.40	291.40
Package	1	1	1	1	1	1	1	1	2	2	2
Master Box	144	144	144	90	90	30	30	12	4	4	2
Master Box weight	35.46	58.00	49.75	47.20	64.88	36.94	51.11	29.57	21.73	29.21	27.28



### TYPE 100003

High flow rate spring loaded brass check valve FNPT threaded, with FKM Viton® seat.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	9.00	10.40	14.60	18.80	29.60	43.70	59.60	132.20	184.80	303.60
Package	1	1	1	1	1	1	1	2	2	2
Master Box	144	144	90	90	24	24	6	4	4	2
Master Box weight	58.00	49.75	47.20	64.88	28.80	41.53	15.89	21.73	29.21	27.28



### TYPE 100102

High flow rate spring loaded brass foot valve FNPT threaded, with NBR seat.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	10.80	13.10	20.60	26.20	37.40	56.60	76.20	171.70	232.00	389.60
Package	20	20	10	6	4	4	2	2	1	2
Master Box	120	120	60	36	24	8	4	4	2	2
Master Box weight	47.77	41.77	32.51	29.07	32.25	16.55	13.01	18.48	14.73	24.13



### TYPE S250

High capacity spring loaded stainless steel check valve 250 WOG, FNPT threaded with FKM seat.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	41.00	65.00	75.00	147.00	188.25	243.00
Package	1	1	1	1	1	1
Master Box	-	-	-	-	-	-
Weight	0.21	0.28	0.42	0.62	0.86	1.55





## TYPE S800

High capacity spring loaded stainless steel check valve 800 WOG, FNPT threaded with P.T.F.E seat.

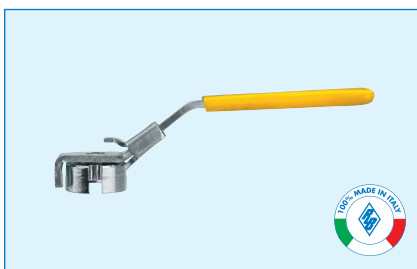
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	58.00	58.00	63.00	87.00	100.00	199.00	276.00	405.00
Package	1	1	1	1	1	1	1	1
Master Box	-	-	-	-	-	-	-	-
Weight	0.42	0.42	0.40	0.85	1.30	2.50	3.40	6.00



## TYPE 110102

Stainless steel strainer (1000 micron) for spring loaded check valves.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	5.50	5.60	5.70	5.80	6.40	7.50	7.60	18.10	24.90	30.40
Package	1	1	1	1	1	1	1	1	1	1
Master Box	20	20	10	8	4	4	4	2	1	1
Master Box weight	32.14	28.01	26.34	18.05	25.33	17.97	16.07	17.61	16.51	10.84



## TYPE 6100

Locking device for brass ball valves.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	6.50	6.50	6.50	6.80	6.80	8.60	8.60	10.20	28.60	28.60	39.70
Package	10	10	10	10	10	10	10	5	5	5	5
Master Box	60	60	62	60	60	20	20	10	10	10	10
Master Box weight	10.06	10.06	10.06	18.03	18.03	7.28	7.28	7.28	9.90	9.90	14.00



## TYPE 6120

Oval handle for brass ball valves.

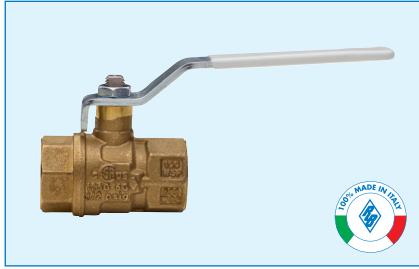
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	20.60	20.60	20.60	20.90	20.90	27.50	27.50	27.80
Package	20	20	20	20	20	15	15	15
Master Box	40	40	40	40	40	30	30	30
Master Box weight	19.54	19.54	19.54	19.89	19.89	17.88	17.888	17.94



## TYPE 5808

Stem extension for brass ball valves.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	7.20	7.20	7.20	9.90	9.90	11.70	11.70	16.30	12.40	12.40	15.00
Package	1	1	1	1	1	1	1	1	1	1	1
Master Box	100	100	100	115	115	80	80	80	40	40	30
Master Box weight	15.87	15.87	15.87	25.66	25.66	24.25	24.25	43.65	25.13	25.13	29.00



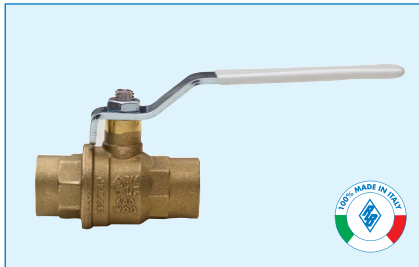
### TYPE 161N LF - 162N LF (T-HANDLE)

Full port lead free brass ball valve FNPT threaded with lever handle.



HEALTH EFFECTS  
US-CA NSF 372  
NSF 61

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	13.60	18.90	26.70	46.20	62.20	110.50	203.50	292.40	643.50
Package	50	25	20	10	6	4	2	-	-
Master Box	100	50	40	20	12	8	4	4	2
Master Box weight	42.12	36.60	41.50	34.84	28.42	30.58	35.20	52.88	54.68



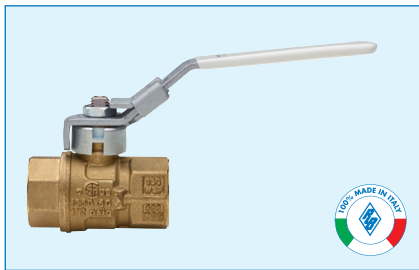
### TYPE 1615 LF - 1625 LF (T-HANDLE)

Full port lead free brass ball valve, solder ends with lever handle.



HEALTH EFFECTS  
US-CA NSF 372  
NSF 61

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	13.60	18.90	26.70	46.20	62.20	110.50	233.80	312.00	662.20
Package	45	30	20	10	6	5	2	-	-
Master Box	90	60	40	20	12	10	4	4	2
Master Box weight	38.38	40.55	40.53	35.24	30.41	39.93	35.20	51.48	61.10



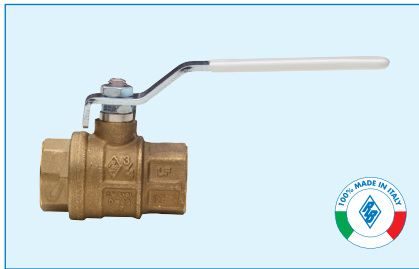
### TYPE 161L LF

Full port lead free brass ball valve FNPT threaded, with latch lock handle.



HEALTH EFFECTS  
US-CA NSF 372  
NSF 61

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	18.00	23.70	31.00	50.30	66.10	113.10	329.80	368.90	749.20
Package	50	25	20	10	6	4	2	-	-
Master Box	100	50	40	20	12	8	4	4	2
Master Box weight	48.73	42.12	46.52	36.82	30.74	32.12	34.93	52.96	55.35



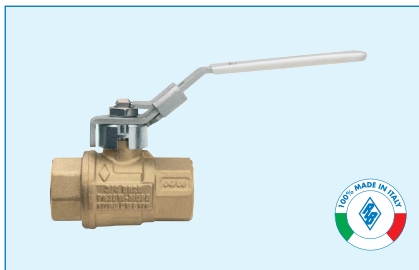
### TYPE 171N LF - 172N LF (T-HANDLE)

Full port lead free brass ball valve FNPT threaded with lever handle.



HEALTH EFFECTS  
US-CA NSF 372  
NSF 61

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	12.50	12.50	15.10	21.70	32.70	59.50	87.00	134.60
Package	70	70	50	25	20	10	6	4
Master Box	140	140	100	50	40	20	12	8
Master Box weight	49.64	44.67	50.93	42.12	51.11	42.20	40.12	35.17



### TYPE 171L LF

Full port lead free brass ball valve FNPT threaded with latch lock handle.



HEALTH EFFECTS  
US-CA NSF 372  
NSF 61

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	20.60	20.60	23.60	31.70	44.60	78.30	111.20	167.30
Package	70	70	50	25	20	10	6	4
Master Box	140	140	100	50	40	20	12	8
Master Box weight	48.73	44.72	50.49	42.01	51.29	42.25	40.85	35.08



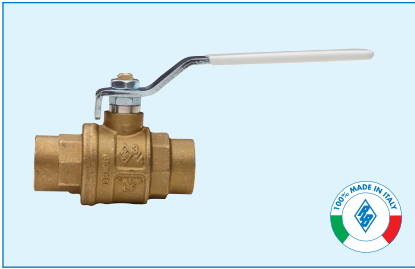
### TYPE 171S LF

Full port lead free brass ball valve FNPT threaded with lever handle with stainless steel ball and stem.



HEALTH EFFECTS  
US-CA NSF 372  
NSF 61

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	26.00	38.50	52.40	79.50	109.30	163.10
Package	50	25	20	10	6	4
Master Box	100	50	40	20	12	8
Master Box weight	50.93	42.12	51.11	42.50	40.12	35.17

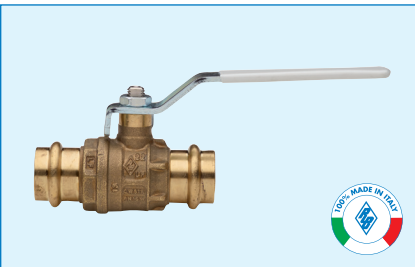


## TYPE 1715 LF – 1725 LF (T-HANDLE)

Full port lead free brass ball valve solder ends with lever handle.



Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	15.10	21.70	32.70	59.50	87.00	134.60
Package	40	25	20	10	6	4
Master Box	80	50	40	20	12	8
Master Box weight	41.76	40.79	50.67	45.91	41.34	36.17

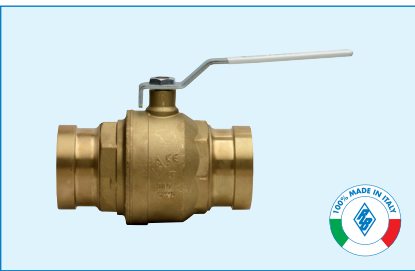


## TYPE 1670 LF

Full port lead free ball valve with EURO-PRESS connections, lever handle.



Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	20.10	28.00	38.50	58.30	74.50	143.30
Package	40	25	20	10	6	4
Master Box	80	50	40	20	12	8
Master Box weight	41.59	43.22	51.11	42.11	43.17	38.41

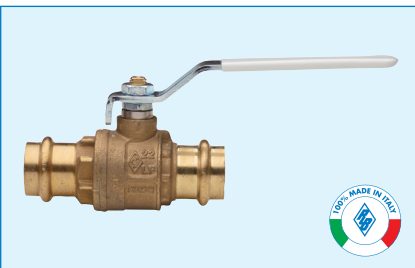


## TYPE 1670XLC LF

Full port lead free ball valve with XLC press connections, lever handle.



Size	2 1/2"	3"	4"
US\$	392.40	573.30	790.80
Package	1	-	-
Master Box	2	2	2
Master Box weight	22.33	32.76	49.76

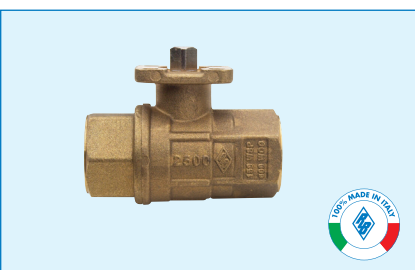


## TYPE 1970 LF

Full port lead free ball valve with EURO-PRESS connections, lever handle.



Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	24.90	33.70	49.70	74.70	101.40	152.90
Package	40	25	20	10	6	4
Master Box	80	50	40	20	12	8
Master Box weight	41.59	43.22	51.11	42.11	43.17	38.41

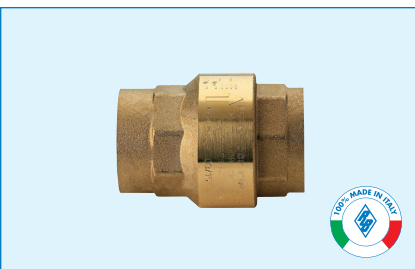


## TYPE 250N LF

Full port lead free brass ball valve FNPT threaded, with ISO 5211 pad for actuators.



Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	41.00	52.00	74.00	121.00	178.00	276.00
Package	40	30	15	10	6	4
Master Box	80	60	30	20	12	8
Master Box weight	55.00	56.89	48.81	47.10	47.06	46.52



## TYPE 100012 LF

High flow rate spring loaded lead free brass check valve FNPT threaded, with NBR seat.



Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	13.40	13.40	13.40	17.90	24.50	37.10	66.30	76.90	168.60	232.10	383.70
Package	1	1	1	1	1	1	1	1	2	2	2
Master Box	144	144	144	90	90	30	30	12	4	4	2
Master Box weight	35.46	58.00	49.75	47.20	64.88	36.94	51.11	29.57	21.73	29.21	27.28

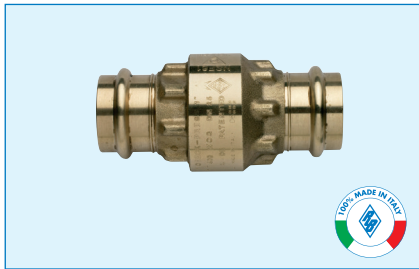


## TYPE 100112 LF

High flow rate spring loaded lead free foot valve FNPT threaded, with NBR seat.



Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>15.51</b>	<b>22.63</b>	<b>31.48</b>	<b>37.84</b>	<b>56.17</b>	<b>86.42</b>	<b>110.00</b>	<b>186.72</b>	<b>254.30</b>	<b>414.00</b>
Package	20	20	10	6	4	4	2	1	1	1
Master Box	20	120	60	36	24	8	4	2	1	1
Master Box weight	32.14	41.77	32.51	29.07	32.25	16.55	13.01	17.61	16.51	10.84

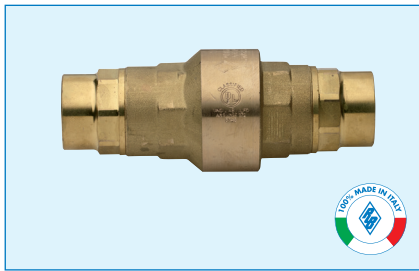


## TYPE 100612 LF

High flow rate spring loaded lead free brass check valve, with EURO-PRESS connections.



Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
<b>US\$</b>	<b>35.50</b>	<b>45.30</b>	<b>60.20</b>	<b>85.90</b>	<b>137.20</b>	<b>182.80</b>
Package	10	8	6	4	4	4
Master Box	60	48	36	24	16	8
Master Box weight	20.74	27.54	29.60	30.66	31.16	25.75

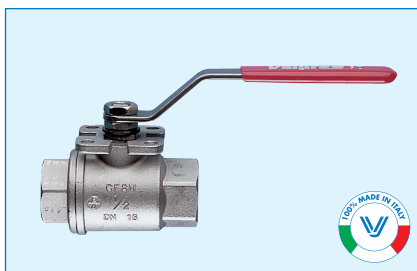


## TYPE 100712 LF

High flow rate spring loaded lead free brass check valve, with solder ends.



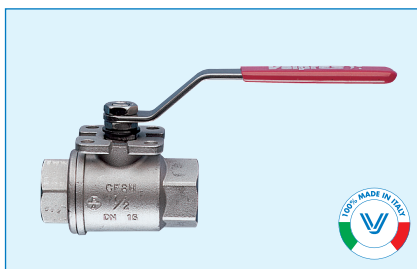
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
<b>US\$</b>	<b>27.30</b>	<b>35.00</b>	<b>44.10</b>	<b>73.80</b>	<b>95.30</b>	<b>125.00</b>
Package	1	1	1	1	1	1
Master Box	60	48	36	24	16	8
Master Box weight	26.45	36.80	41.27	43.32	40.47	27.99



### TYPE 700001

Full port stainless steel ball valve 350-2000 psi FNPT threaded, with ISO 5211 pad and double "D" stem.

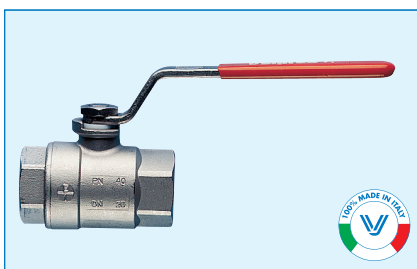
Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	64.00	64.00	64.00	70.00	91.00	127.00	160.00	214.00	304.00	652.00	833.00	1,337.00
Package	10	10	10	10	5	6	2	2	2	1	1	1
Master Box weight	7.15	6.06	5.24	7.49	6.86	13.83	5.44	9.97	15.41	15.31	22.94	40.52



### TYPE 700071

Full port stainless steel ball valve 350-2000 psi FNPT threaded, with ISO 5211 pad and double "D" stem, NPT B.1.20.1 fire safe.

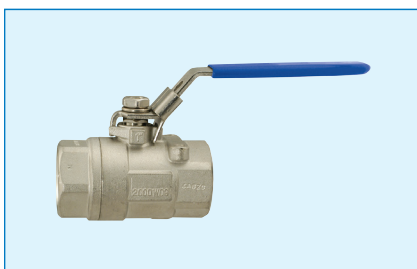
Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	70.00	70.00	70.00	77.00	100.00	140.00	176.00	236.00	335.00	717.00	916.00	1,471.00
Package	10	10	10	10	5	6	2	2	2	1	1	1
Master Box weight	7.15	6.06	5.24	7.49	6.86	13.83	5.44	9.97	15.41	15.31	22.94	40.52



### TYPE 700023

Full port stainless steel ball valve 1000 psi, FNPT threaded.

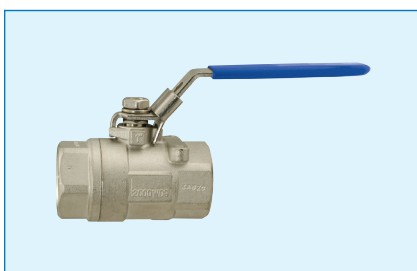
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	54.00	54.00	54.00	63.00	80.00	115.00	137.00	200.00
Package	15	15	10	15	5	2	2	2
Master Box weight	7.10	6.58	5.60	13.91	7.25	5.16	7.44	13.54



### TYPE 700LL

Full port stainless steel ball valve, FNPT threaded, with locking device 2000 psi (1/4"-1") 1500 psi (1 1/4"-2").

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
700LL US\$	26.00	26.00	31.00	39.00	55.00	72.00	104.00	148.00
Package	50	50	80	60	30	25	15	10
Master Box weight	25.00	25.00	66.40	68.40	60.60	67.50	62.70	68.60



### TYPE 7700LL

Full port stainless steel ball valve, FNPT threaded, with locking device 2000 psi.

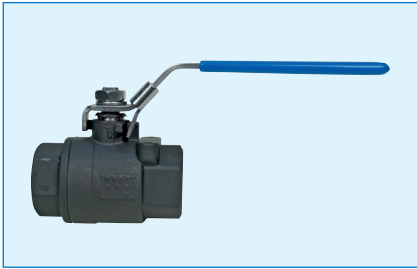
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
7700LL US\$	46.00	46.00	46.00	61.00	84.00	109.00	159.00	224.00
7700OHL US\$	66.00	66.00	66.00	81.00	105.00	130.00	188.00	253.00
Package	50	50	80	60	30	25	15	10
Master Box weight	25.00	25.00	66.40	68.40	60.60	67.50	62.70	68.60



### TYPE 600LL

Full port carbon steel ball valve, FNPT threaded, with locking device 2000 psi (1/4"-1") 1500 psi (1 1/4"-2").

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
600LL US\$	24.00	24.00	29.00	36.00	51.00	67.00	93.00	131.00
Package	50	50	80	60	30	25	15	10
Master Box weight	25.00	25.00	66.40	68.40	60.60	67.50	62.70	68.60



## TYPE 6600LL

Full port carbon steel ball valve, FNPT threaded, with locking device 2000 psi.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
6600LL US\$	41.00	41.00	41.00	55.00	76.00	99.00	136.00	191.00
6600OHL US\$	61.00	61.00	61.00	75.00	97.00	120.00	165.00	220.00
Package	50	50	80	60	30	25	15	10
Master Box weight	25.00	25.00	66.40	68.40	60.60	67.50	62.70	68.60



## TYPE 3000

Carbon steel FNPT threaded ball valve 3000 psi - full port (1/4"-1 1/2") and standard port (2").

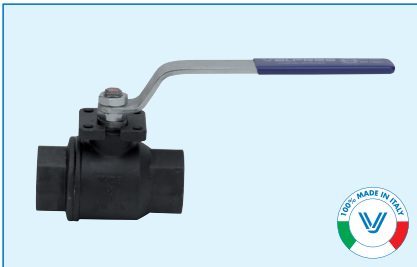
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	92.00	92.00	92.00	105.00	144.00	205.00	311.00	363.00
Package	1	1	1	1	1	1	1	1
Master Box weight	1.4	1.4	1.5	2.0	3.1	4.8	8.1	10.5



## TYPE 3100

Stainless steel FNPT threaded ball valve 3000 psi - full port (1/4"-1 1/2") and standard port (2") ISO 5211 direct mounting pad.

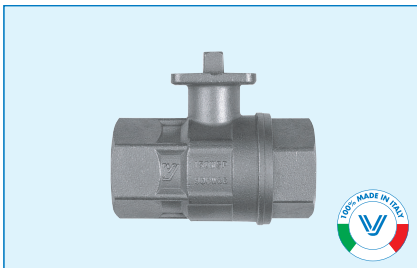
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	111.00	111.00	111.00	131.00	173.00	257.00	374.00	457.00
Package	1	1	1	1	1	1	1	1
Master Box weight	1.4	1.4	1.5	2.0	3.1	4.8	8.1	10.5



## TYPE 700056

Full port carbon steel ball valve 1000 psi FNPT threaded, ISO 5211 pad and double "D" stem.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	56.00	56.00	58.00	72.00	88.00	119.00	146.00	202.00
Package	10	10	10	5	6	2	2	2
Master Box weight	8.59	8.22	7.38	6.37	13.38	6.36	10.35	17.31



## TYPE 700076

Full port stainless steel ball valve 1000 psi, FNPT threaded, with ISO 5211 direct mounting pad.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
US\$	90.00	90.00	94.00	102.00	129.00	181.00	224.00	319.00	429.00	582.00
Package	10	10	10	6	5	2	2	2	1	1
Master Box weight	12.00	12.00	13.73	5.67	8.02	4.82	7.51	13.40	15.30	21.30



## TYPE 2200 SR

Deadman spring return lever full port stainless steel ball valve, FNPT threaded.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	157.00	157.00	157.00	164.00	195.00	218.00	368.00	423.00
Package	1	1	1	1	1	1	1	1
Master Box weight	1.80	1.80	1.70	2.00	2.80	3.80	6.60	8.80





## TYPE 380S

Mini stainless steel reduced port, FNPT threaded ball valve.

Size	1/4"	3/8"	1/2"
<b>US\$</b>	<b>37.00</b>	<b>37.00</b>	<b>37.00</b>
Package	1	1	1
Master Box weight	0.42	0.37	0.37



## TYPE 380SM

Mini stainless steel reduced port, FNPT x MNPT threaded ball valve.

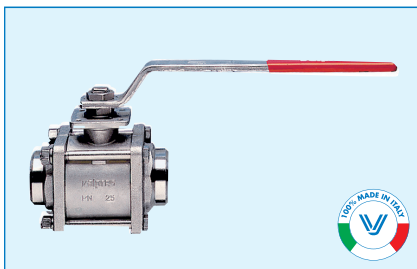
Size	1/4"	3/8"	1/2"
<b>US\$</b>	<b>37,00</b>	<b>37,00</b>	<b>37,00</b>
Package	1	1	1
Master Box weight	0.36	0.35	0.35



## TYPE 710001

Full port 3-piece stainless steel ball valve 1000 psi, FNPT threaded, with ISO 5211 pad and double "D" stem.

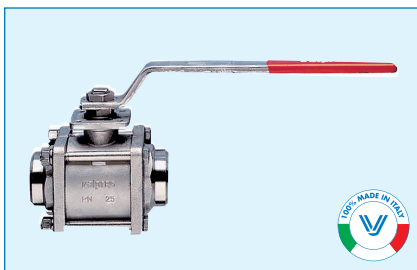
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>79.00</b>	<b>79.00</b>	<b>95.00</b>	<b>113.00</b>	<b>156.00</b>	<b>205.00</b>	<b>255.00</b>	<b>341.00</b>	<b>681.00</b>	<b>888.00</b>	<b>1,557.00</b>
Package	10	10	6	5	2	4	2	2	1	1	1
Master Box weight	6.50	6.12	6.30	7.89	5.76	15.61	11.47	17.31	18.26	28.19	48.13



## TYPE 711000

Full port 3-piece stainless steel ball valve 1000 psi socket weld with ISO 5211 pad and double "D" stem.

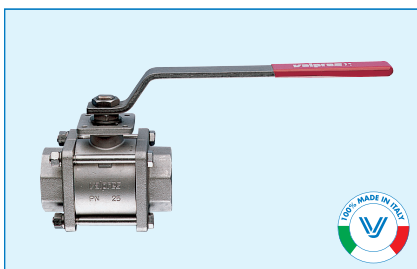
Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>79.00</b>	<b>95.00</b>	<b>113.00</b>	<b>156.00</b>	<b>205.00</b>	<b>255.00</b>	<b>341.00</b>	<b>681.00</b>	<b>888.00</b>	<b>1,557.00</b>
Package	10	6	5	2	4	2	2	1	1	1
Master Box weight	5.82	6.18	7.96	5.70	16.01	11.26	17.54	18.54	28.37	49.25



## TYPE 712000

Full port 3-piece stainless steel ball valve 1000 psi butt weld with ISO 5211 pad and double "D" stem.

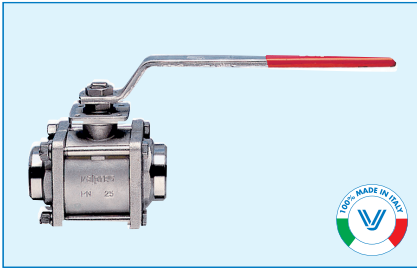
Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>79.00</b>	<b>95.00</b>	<b>113.00</b>	<b>156.00</b>	<b>205.00</b>	<b>255.00</b>	<b>341.00</b>	<b>681.00</b>	<b>888.00</b>	<b>1,557.00</b>
Package	10	6	5	2	4	2	2	1	1	1
Master Box weight	5.91	6.24	8.08	5.83	16.22	11.42	17.78	17.69	28.05	48.30



## TYPE 710190 FOR STEAM

Full port 3-piece stainless steel ball FNPT valve threaded with ISO 5211 pad and double "D" stem.

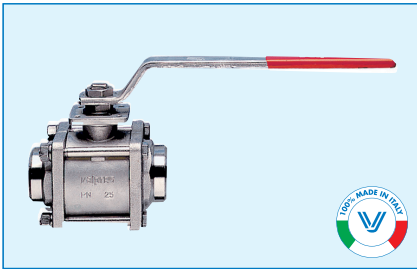
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	<b>85.00</b>	<b>85.00</b>	<b>104.00</b>	<b>125.00</b>	<b>174.00</b>	<b>228.00</b>	<b>292.00</b>	<b>375.00</b>	<b>737.00</b>	<b>1,006.00</b>	<b>1,667.00</b>
Package	10	10	6	5	2	4	2	2	1	1	1
Master Box weight	6.50	6.12	6.30	7.89	5.76	15.61	11.47	17.31	18.26	28.19	48.13



### TYPE 710061 FOR STEAM

Full port 3-piece stainless steel ball valve socket weld, with ISO 5211 pad and double "D" stem.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	85.00	104.00	125.00	174.00	228.00	292.00	375.00	737.00	1,006.00	1,667.00
Package	10	6	5	2	4	2	2	1	1	1
Master Box weight	5.82	6.18	7.96	5.70	16.01	11.26	17.54	18.54	28.37	49.25



### TYPE 710062 FOR STEAM

Full port 3-piece stainless steel ball valve butt weld, with ISO 5211 pad and double "D" stem.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	85.00	104.00	125.00	174.00	228.00	292.00	375.00	737.00	1,006.00	1,667.00
Package	10	6	5	2	4	2	2	1	1	1
Master Box weight	5.91	6.24	8.08	5.83	16.22	11.42	17.78	17.69	28.05	48.30



### TYPE 710003

Full port 3-piece carbon steel ball valve 1000 psi, FNPT threaded with ISO 5211 pad and double "D" stem.

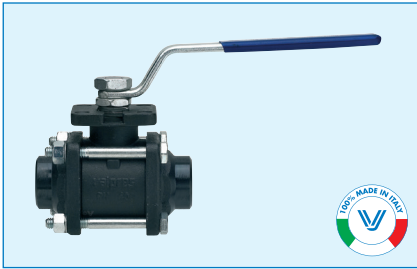
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	74.00	74.00	78.00	93.00	128.00	159.00	201.00	254.00	485.00	638.00	1,121.00
Package	5	5	5	5	2	4	2	2	1	1	1
Master Box weight	5.66	5.18	4.95	7.39	5.65	15.22	11.24	17.46	19.11	29.61	49.15



### TYPE 714000

Full port 3-piece carbon steel ball valve 1000 psi socket weld with ISO 5211 pad and double "D" stem.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	74.00	78.00	93.00	128.00	159.00	201.00	254.00	485.00	638.00	1,121.00
Package	6	6	5	2	4	2	2	1	1	1
Master Box weight	6.33	5.93	7.31	5.63	15.49	10.86	18.08	17.98	29.60	49.20



### TYPE 715000

Full port 3-piece carbon steel ball valve 1000 psi butt weld with ISO 5211 pad and double "D" stem.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	74.00	78.00	93.00	128.00	159.00	201.00	254.00	485.00	638.00	1,121.00
Package	6	6	5	2	4	2	2	1	1	1
Master Box weight	6.05	6.05	7.59	5.72	15.92	11.44	17.87	17.43	28.81	47.30



### TYPE 710085 FOR STEAM

Full port 3-piece carbon steel ball valve FNPT threaded with ISO 5211 pad and double "D" stem.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	81.00	81.00	85.00	101.00	139.00	187.00	240.00	308.00	546.00	756.00	1,264.00
Package	5	5	5	5	2	4	2	2	1	1	1
Master Box weight	5.66	5.18	4.95	7.39	5.65	15.22	11.24	17.46	19.11	29.61	49.15



### TYPE 710064 FOR STEAM

Full port 3-piece carbon steel ball valve socket weld with ISO 5211 pad and double "D" stem.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	81.00	85.00	101.00	139.00	187.00	240.00	308.00	546.00	756.00	1,264.00
Package	6	6	5	2	4	2	2	1	1	1
Master Box weight	6.33	5.93	7.31	5.63	15.49	10.86	18.08	17.98	29.60	49.20



### TYPE 710065 FOR STEAM

Full port 3-piece carbon steel ball valve butt weld with ISO 5211 pad and double "D" stem.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	81.00	85.00	101.00	139.00	187.00	240.00	308.00	546.00	756.00	1,264.00
Package	6	6	5	2	4	2	2	1	1	1
Master Box weight	6.05	6.05	7.59	5.72	15.92	11.44	17.87	17.43	28.81	47.30



### TYPE 610LL (FNPT) – 611LL (SW) – 612LL (BW)

Full port 3-piece carbon steel ball valve with locking lever.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	34.00	34.00	44.00	54.00	69.00	99.00	139.00	202.00	433.00	609.00	1,066.00
Package	1	1	1	1	1	1	1	1	1	1	1
Master Box weight	0.8	0.8	1.1	1.5	2.2	3.6	5.3	8.1	16.2	22.5	45.7



### TYPE 710LL (FNPT) – 711LL (SW) – 712LL (BW)

Full port 3-piece stainless steel ball valve with locking lever.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	41.00	41.00	53.00	66.00	83.00	119.00	172.00	249.00	540.00	752.00	1,315.00
Package	1	1	1	1	1	1	1	1	1	1	1
Master Box weight	0.8	0.8	1.1	1.5	2.2	3.6	5.3	8.1	16.2	22.5	45.7



### TYPE 620LL (FNPT) – 621LL (SW) – 622LL (BW)

Full port 3-piece carbon steel direct mount ball valve with locking lever and ISO 5211 direct mounting pad.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	71.00	71.00	73.00	84.00	118.00	162.00	233.00	330.00	640.00	802.00	1,380.00
Package	1	1	1	1	1	1	1	1	1	1	1
Master Box weight	1.4	1.4	1.6	1.8	3.0	6.0	6.5	9.8	21.0	28.0	47.9



### TYPE 720LL (FNPT) – 721LL (SW) – 722LL (BW)

Full port 3-piece stainless steel direct mount ball valve with locking lever and ISO 5211 direct mounting pad.

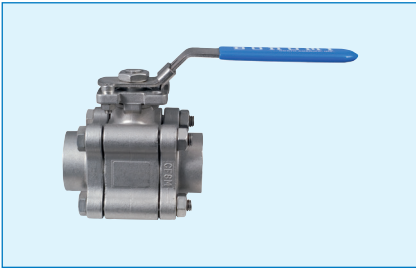
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	81.00	81.00	83.00	95.00	135.00	185.00	280.00	375.00	756.00	941.00	1,618.00
Package	1	1	1	1	1	1	1	1	1	1	1
Master Box weight	1.4	1.4	1.6	1.8	3.0	6.0	6.5	9.8	21.0	28.0	47.9



### TYPE 630LL (FNPT) – 631LL (SW) – 632LL (BW)

Full port high performance 3-piece carbon steel ball valves with locking lever and ISO 5211 direct mounting pad.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	82.00	82.00	89.00	117.00	149.00	215.00	274.00	512.00	C/F	C/F	C/F
Package	1	1	1	1	1	1	1	1	1	1	1
Master Box weight	1.4	1.4	1.6	1.8	3.0	6.0	6.5	9.8	21.0	28.0	47.9



### TYPE 730LL (FNPT) – 731LL (SW) – 732LL (BW)

Full port high performance 3-piece stainless steel ball valves with locking lever and ISO 5211 direct mounting pad.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	92.00	92.00	101.00	140.00	182.00	263.00	333.00	633.00	C/F	C/F	C/F
Package	1	1	1	1	1	1	1	1	1	1	1
Master Box weight	1.4	1.4	1.6	1.8	3.0	6.0	6.5	9.8	21.0	28.0	47.9



### TYPE 770

3-piece stainless steel, full port sanitary valve, standard seats, locking handle and ISO 5211 direct mounting pad.

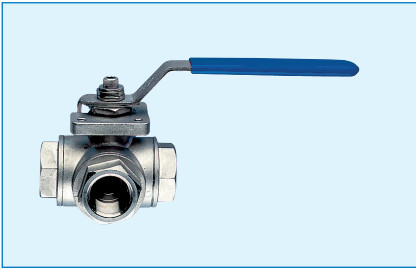
Size	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"
US\$	120.00	124.00	158.00	321.00	419.00	833.00	1,082.00	1,782.00
Package	12	12	12	6	4	2	2	1
Master Box weight	21.58	24.46	39.58	44.98	41.94	45.14	59.54	46.50



### TYPE 771

3-piece stainless steel, full port sanitary valve, cavity-filled seats, locking handle and ISO 5211 direct mounting pad.

Size	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"
US\$	138.00	141.00	185.00	389.00	535.00	1,016.00	1,414.00	2,215.00
Package	12	12	12	6	4	2	2	1
Master Box weight	21.58	24.46	39.58	44.98	41.94	45.14	59.54	46.50



### TYPE 955N "T" 965N "L"

Stainless steel 3-way, reduced port ball valve, with ISO 5211 direct mounting pad, FNPT threaded.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
US\$	107.00	128.00	170.00	230.00	316.00	469.00	847.00	1,055.00
Package	30	10	10	6	4	3	2	2
Master Box weight	43.50	19.00	33.50	28.80	29.80	34.80	41.80	46.50



### TYPE 956N "T" 966N "L"

Stainless steel 3-way, full port ball valve, with ISO 5211 direct mounting pad, FNPT threaded.

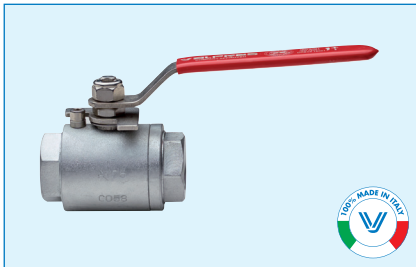
Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
US\$	106.00	107.00	126.00	164.00	227.00	334.00	476.00	817.00
Package	30	30	20	10	6	4	3	2
Master Box weight	43.50	43.50	38.00	32.50	29.40	28.40	35.40	42.80



## TYPE 1300

3-piece stainless steel standard port instrumentation ball valve 2000 psi with compression ends, locking handle and ISO 5211 direct mounting pad.

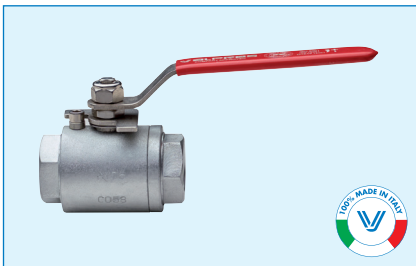
Size	1/4"	3/8"	1/2"	3/4"
<b>US\$</b>	<b>158.00</b>	<b>167.00</b>	<b>181.00</b>	<b>229.00</b>
Package	1	1	1	1
Master Box weight	0.8	0.9	0.9	1.2



## TYPE 709001

Stainless steel bar stock ANSI class 800 ball valve FNPT threaded.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
<b>US\$</b>	<b>110.10</b>	<b>111.50</b>	<b>130.75</b>	<b>141.15</b>	<b>191.65</b>	<b>384.40</b>	<b>422.70</b>	<b>624.75</b>
Package	1	1	1	1	1	1	1	1
Weight	1.54	1.48	2.12	3.42	5.18	7.05	12.34	17.41



## TYPE 709101

Carbon steel bar stock ANSI class 800 ball valve FNPT threaded.

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
<b>US\$</b>	<b>60.20</b>	<b>60.20</b>	<b>68.35</b>	<b>72.80</b>	<b>89.90</b>	<b>136.70</b>	<b>161.95</b>	<b>228.80</b>
Package	1	1	1	1	1	1	1	1
Weight	1.54	1.48	2.12	3.42	5.18	7.05	12.34	17.41



## TYPE 720016

Stainless steel flanged ANSI 150 Wafer ball valve.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
<b>720016 US\$</b>	<b>211.00</b>	<b>243.00</b>	<b>267.00</b>	<b>343.00</b>	<b>392.00</b>	<b>512.00</b>	<b>757.00</b>	<b>978.00</b>	<b>1,389.00</b>	<b>2,725.00</b>	<b>3,884.00</b>
<b>720370 US\$</b>	<b>232.00</b>	<b>268.00</b>	<b>293.00</b>	<b>377.00</b>	<b>432.00</b>	<b>563.00</b>	<b>833.00</b>	<b>1,076.00</b>	<b>1,528.00</b>	<b>2,997.00</b>	<b>4,272.00</b>
Package	1	1	1	1	1	1	1	1	1	1	1
Weight	2.86	4.18	5.95	9.25	9.25	13.4	22.04	29.76	46.07	82.67	135.58



## TYPE 720017

Carbon steel flanged ANSI 150 Wafer ball valve.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
<b>720017 US\$</b>	<b>132.00</b>	<b>140.00</b>	<b>162.00</b>	<b>200.00</b>	<b>230.00</b>	<b>272.00</b>	<b>435.00</b>	<b>512.00</b>	<b>766.00</b>	<b>1,335.00</b>	<b>1,979.00</b>
<b>720791 US\$</b>	-	-	<b>179.00</b>	-	<b>253.00</b>	<b>299.00</b>	-	<b>563.00</b>	<b>843.00</b>	-	-
<b>720569 US\$</b>	<b>146.00</b>	<b>154.00</b>	<b>179.00</b>	<b>220.00</b>	<b>253.00</b>	<b>299.00</b>	<b>478.00</b>	<b>563.00</b>	<b>843.00</b>	<b>1,468.00</b>	<b>2,177.00</b>
Package	1	1	1	1	1	1	1	1	1	1	1
Weight	2.86	4.18	5.95	9.25	13.00	19.18	34.17	45.19	75.39	115.74	202.82



## TYPE 720288

Stainless steel flanged ANSI 300 Wafer ball valve.

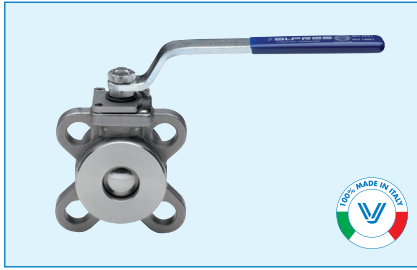
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
<b>720288 US\$</b>	<b>284.00</b>	<b>348.00</b>	<b>377.00</b>	<b>480.00</b>	<b>625.00</b>	<b>906.00</b>	<b>1,515.00</b>	<b>1,754.00</b>	<b>3,292.00</b>	<b>7,032.00</b>
<b>720741 US\$</b>	<b>312.00</b>	<b>383.00</b>	<b>415.00</b>	<b>527.00</b>	<b>688.00</b>	<b>997.00</b>	<b>1,666.00</b>	<b>1,929.00</b>	<b>3,621.00</b>	<b>7,735.00</b>
Package	1	1	1	1	1	1	1	1	1	1
Weight	3.10	5.50	6.80	9.30	15.00	16.00	26.00	38.00	67.00	158.60



## TYPE 720289

Carbon steel flanged ANSI 300 Wafer ball valve.

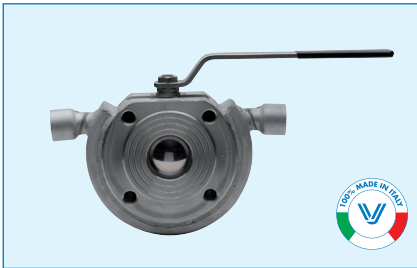
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
<b>720289 US\$</b>	202.00	229.00	232.00	297.00	338.00	441.00	672.00	776.00	1,399.00	2,745.00
<b>720744 US\$</b>	222.00	252.00	255.00	327.00	371.00	485.00	740.00	854.00	1,539.00	3,019.00
Package	1	1	1	1	1	1	1	1	1	1
Weight	3.10	5.50	6.80	9.30	15.00	23.00	39.00	54.00	99.80	222.50



## TYPE 725002 FOR STEAM

Stainless steel, flanged ANSI 150 Wafer ball valve. Steam service trim.

Size	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>US\$</b>	226.00	258.00	289.00	383.00	586.00	757.00	1,093.00
Package	1	1	1	1	1	1	1
Weight	2.86	3.63	4.73	8.26	16.20	22.70	35.27



## TYPE WAFER – SPECIAL USES ON REQUEST

Flanged ball valve with jacket in stainless or carbon steel, full bore sizes from 1/2" to 6".

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
<b>US\$ STAINLESS STEEL</b>	CONSULT FACTORY										
<b>US\$ CARBON STEEL</b>	CONSULT FACTORY										
Weight SS	2.1	2.6	3	4.3	5.4	8	11.9	15.4	23.4	42.8	67.4
Weight CS	2.1	2.6	3.5	5.1	7.1	10.2	17.1	22.4	36.8	44	69.2

\*Amounts to be added to the base price of the valves.

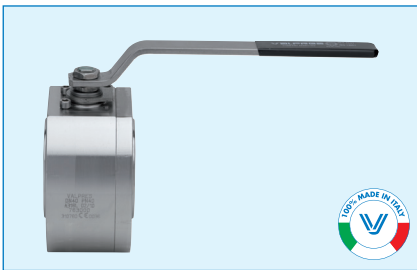


## TYPE WAFER – SPECIAL USES ON REQUEST

Flanged ball valve with jacket in stainless or carbon steel, full bore sizes from 1/2" to 6".

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
<b>US\$ STAINLESS STEEL</b>	CONSULT FACTORY										
<b>US\$ CARBON STEEL</b>	CONSULT FACTORY										
Weight SS	3.2	3.7	4.2	5.4	6.6	9.1	12.9	16.6	25.4	45.6	69
Weight CS	3.2	3.7	4.6	6.3	8.4	11.4	18.4	23.7	39	47	70.8

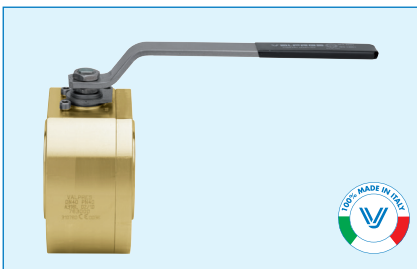
\*Amounts to be added to the base price of the valves.



## TYPE 763100

Stainless steel flanged ANSI 600 Wafer ball valve.

Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
<b>US\$</b>	512.00	648.00	660.00	1,017.00	1,519.00	2,933.00	5,858.00
Package	1	1	1	1	1	1	1
Weight	5.29	8.38	10.58	24.68	30.86	70.53	154.28

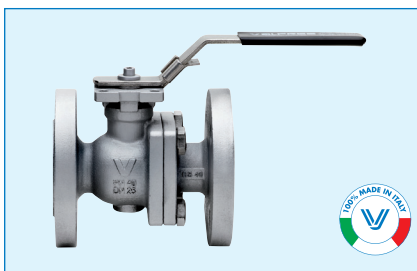


## TYPE 764100

Carbon steel flanged ANSI 600 Wafer ball valve.

Size	3/4"	1"	1 1/2"	2"	3"	4"
<b>US\$</b>	453.00	456.00	594.00	817.00	1,452.00	2,507.00
Package	1	1	1	1	1	1
Weight	8.38	10.58	24.68	30.86	70.53	154.28





### TYPE 766000

Stainless steel flanged ANSI 150 Split-body, full port ball valve with locking handle and ISO 5211 direct mounting pad.

Size	1"	1 1/2"	2"	3"	4"
<b>US\$</b>	<b>324.00</b>	<b>473.00</b>	<b>624.00</b>	<b>1,164.00</b>	<b>1,620.00</b>
Package	1	1	1	1	1
Weight	8.38	15.43	21.16	39.45	53.56



### TYPE 766000SRL

**NEW**

Stainless steel flanged ANSI 150 Split-body, full port ball valve with spring return lever handle and ISO 5211 direct mounting pad.

Size	1"	1 1/2"	2"
<b>US\$</b>	<b>435.00</b>	<b>684.00</b>	<b>838.00</b>
Package	1	1	1
Weight	8.38	15.43	21.16



### TYPE 766001

Carbon steel flanged ANSI 150 Split-body, full port, flanged ends ball valve with locking handle and ISO 5211 direct mounting pad.

Size	1"	1 1/2"	2"	3"	4"
<b>US\$</b>	<b>246.00</b>	<b>348.00</b>	<b>449.00</b>	<b>822.00</b>	<b>1,117.00</b>
Package	1	1	1	1	1
Weight	-	8.38	15.43	39.45	53.56

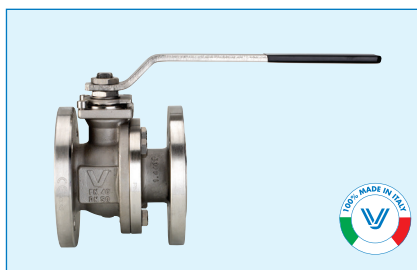


### TYPE 766001SRL

**NEW**

Carbon steel flanged ANSI 150 Split-body, full port, flanged ends ball valve with spring return lever handle and ISO 5211 direct mounting pad.

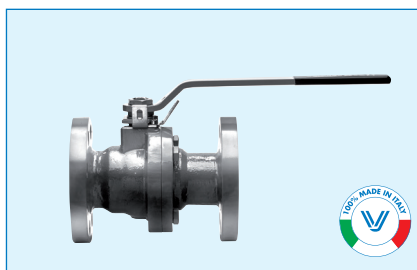
Size	1"	1 1/2"	2"
<b>US\$</b>	<b>355.00</b>	<b>561.00</b>	<b>664.00</b>
Package	1	1	1
Weight	-	8.38	15.43



### TYPE 760005

Stainless steel flanged ANSI 150 full port, Split-body ball valve, fire safe, Antistatic Device with ISO5211 pad and double "D" stem.

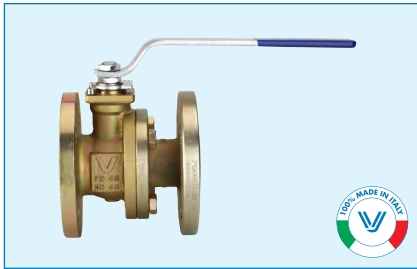
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"
<b>760005 US\$</b>	<b>274.00</b>	<b>305.00</b>	<b>369.00</b>	<b>581.00</b>	<b>812.00</b>	<b>1,475.00</b>	<b>1,987.00</b>	<b>4,537.00</b>	<b>8,631.00</b>	<b>20,948.00</b>	<b>31,529.00</b>
<b>760021 US\$</b>	<b>301.00</b>	<b>336.00</b>	<b>406.00</b>	<b>639.00</b>	<b>893.00</b>	<b>1,623.00</b>	<b>2,185.00</b>	<b>4,991.00</b>	<b>9,494.00</b>	<b>23,043.00</b>	<b>34,682.00</b>
Package	1	1	1	1	1	1	1	1	1	1	1
Weight	4.21	5.36	8.15	15.65	23.80	47.61	67.00	171.91	274.62	429.78	559.82



### TYPE 68J000 API 608

Stainless steel flanged, ANSI 150, full port, Split-body ball valve with ISO 5211 pad and double "D" stem.

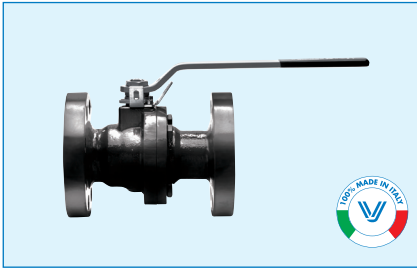
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"
<b>US\$</b>	<b>494.00</b>	<b>576.00</b>	<b>683.00</b>	<b>964.00</b>	<b>1,171.00</b>	<b>2,086.00</b>	<b>2,948.00</b>	<b>6,920.00</b>
Package	1	1	1	1	1	1	1	1
Weight	5.29	7.27	10.60	19.17	26.23	53.12	84.85	189.10



### TYPE 762000

Carbon steel flanged, ANSI 150, full port, Split-body ball valve, fire safe, Antistatic Device with ISO 5211 pad and double "D" stem.

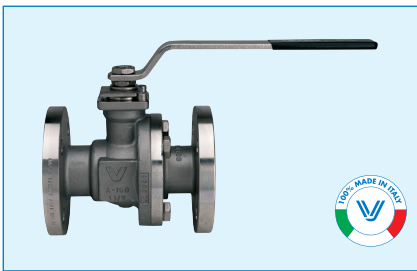
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"
762000 S\$	214.00	230.00	274.00	405.00	507.00	851.00	1,152.00	2,925.00	5,165.00	12,551.00	17,299.00
760137 S\$	236.00	253.00	301.00	445.00	558.00	936.00	1,267.00	3,217.00	5,681.00	13,806.00	19,029.00
Package	1	1	1	1	1	1	1	1	1	1	1
Weight	4.21	5.36	8.15	15.65	23.80	47.61	67.00	171.91	274.62	429.78	559.82



### TYPE 68F000 API 608

Carbon steel flanged ANSI 150, full port, Split-body ball valve with ISO 5211 pad and double "D" stem.

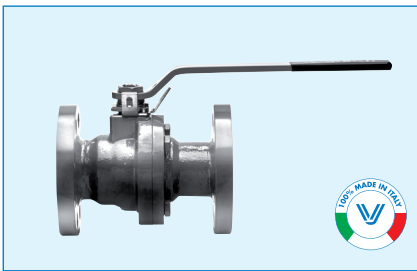
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"
US\$	434.00	490.00	581.00	874.00	1,033.00	1,871.00	2,669.00	6,409.00
Package	1	1	1	1	1	1	1	1
Weight	5.29	7.27	10.60	19.17	26.23	53.12	84.85	189.10



### TYPE 761030

Stainless steel flanged ANSI 300, full port Split-body ball valve, fire safe, Antistatic Device with ISO 5211 pad and double "D" stem.

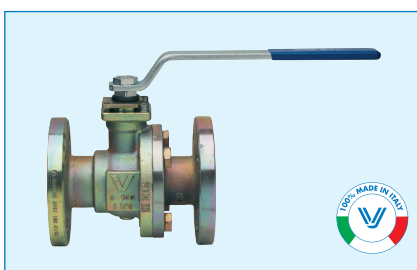
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"
US\$	322.00	371.00	507.00	766.00	880.00	1,772.00	2,501.00	6,413.00	13,388.00
Package	1	1	1	1	1	1	1	1	1
Weight	5.07	7.71	11.46	22.04	26.45	59.51	90.36	204.97	332.80



### TYPE 68J100 API 608

Stainless steel flanged, ANSI 300, full port Split-body ball valve with ISO 5211 pad and double "D" stem.

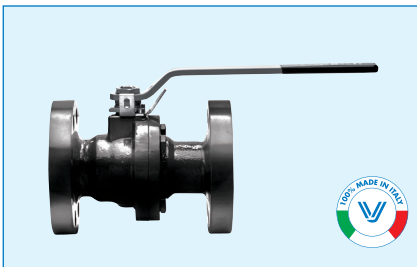
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"
US\$	554.00	654.00	779.00	1,178.00	1,377.00	2,583.00	3,722.00	8,605.00
Package	1	1	1	1	1	1	1	1
Weight	6.83	9.92	14.11	25.57	31.74	70.53	115.49	240.24



### TYPE 761031

Carbon steel flanged ANSI 300, full port split-body ball valve, fire safe, Antistatic Device with ISO 5211 pad and double "D" stem.

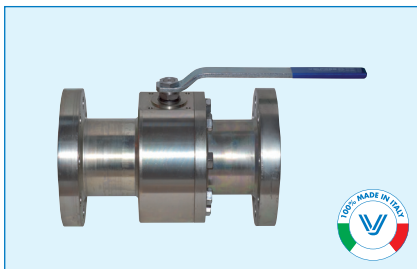
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"
US\$	244.00	274.00	338.00	500.00	587.00	1,088.00	1,468.00	3,644.00	7,513.00
Package	1	1	1	1	1	1	1	1	1
Weight	5.07	7.71	11.46	22.04	26.45	59.51	90.36	204.97	332.80



### TYPE 68F100 API 608

Carbon steel, flanged ANSI 300, full port Split-body ball valve with ISO 5211 pad and double "D" stem.

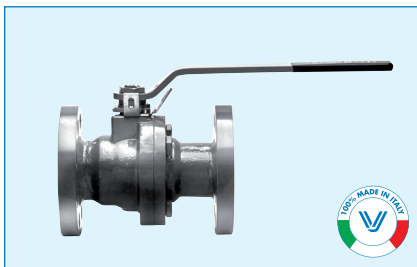
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"
US\$	434.00	490.00	581.00	874.00	1,033.00	1,871.00	2,669.00	6,409.00
Package	1	1	1	1	1	1	1	1
Weight	6.83	9.92	14.11	25.57	31.74	70.53	115.49	240.24



### TYPE 760200

Stainless steel flanged ANSI 600 full port Split-body ball valve with ISO 5211 pad and double "D" stem.

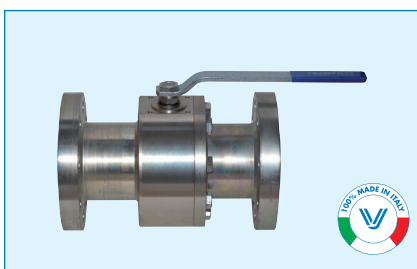
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
US\$	1,117.00	1,569.00	1,818.00	2,989.00	3,568.00	6,421.00	14,049.00
Package	1	1	1	1	1	1	1
Weight	9.04	13.22	19.62	44.08	56.20	114.61	213.79



### TYPE 68J401 API 608

Stainless steel, flanged ANSI 600, full port Split-body ball valve with ISO 5211 pad and double "D" stem.

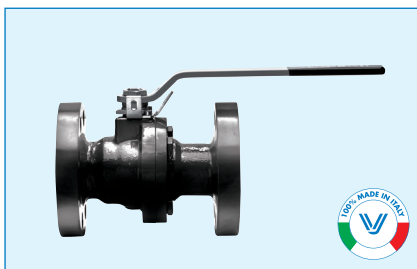
Size	1/2"	3/4"	1"	1 1/2"	2"
US\$	720,00	820,00	959,00	1,442,00	1,741,00
Package	1	1	1	1	1
Weight	7.93	11.24	15.87	29.09	38.35



### TYPE 760150

Carbon steel flanged ANSI 600 full port Split-body ball valve with ISO 5211 pad and double "D" stem.

Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
US\$	824.00	925.00	1,015.00	1,455.00	1,671.00	3,019.00	4,916.00
Package	1	1	1	1	1	1	1
Weight	9.04	13.22	19.62	44.08	56.20	114.61	213.79



### TYPE 68F400 API 608

Carbon steel, flanged ANSI 600, full port split-body ball valve with ISO 5211 pad and double "D" stem.

Size	1/2"	3/4"	1"	1 1/2"	2"
US\$	587.00	645.00	746.00	1,107.00	1,310.00
Package	1	1	1	1	1
Weight	7.93	11.24	15.87	29.09	38.35



### TYPE 776018 (L)

Stainless steel flanged ANSI 150 3-way diverter ball valve with ISO 5211 pad and double "D" stem.

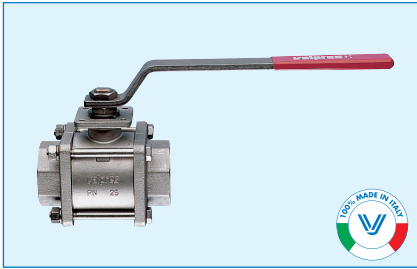
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	559.00	597.00	619.00	871.00	1,050.00	1,157.00	2,349.00	3,037.00	4,345.00
Package	1	1	1	1	1	1	1	1	1
Weight	4.91	6.30	8.57	13.69	18.73	27.05	44.10	53.66	84.76



### TYPE 776032 (L)

Carbon steel flanged ANSI 150 3-way diverter ball valve with ISO 5211 pad and double "D" stem.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
US\$	350.00	355.00	366.00	441.00	527.00	647.00	945.00	1,235.00	1,739.00	3,517.00	5,412.00
Package	1	1	1	1	1	1	1	1	1	1	1
Weight	4.91	6.30	8.57	13.69	18.73	27.05	44.10	53.66	84.76	140.00	200.00



### TYPE 710190-V36/V6/V9

3 piece stainless steel FNPT threaded, 30-60, 60, and 90 degrees V-ball valve.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
US\$	89.00	117.00	162.00	200.00	259.00	405.00	1,289.00	2,300.00
Package	1	1	1	1	1	1	1	1
Weight	0.88	1.32	2.42	3.36	4.61	7.08	29.45	46.79



### TYPE V300-V600-V900

3 piece stainless steel direct mount FNPT threaded, 30, 60, and 90 degrees V-ball valve.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
US\$	91.00	117.00	153.00	185.00	262.00	367.00	877.00	1,196.00	2,328.00
Package	1	1	1	1	1	1	1	1	1
Master Box weight	1.3	1.6	2.3	3.4	5.5	7.6	14.1	24.6	48.4



### TYPE 720370-V36/V6/V9

Stainless steel flanged ANSI 150, 30-60, 60, and 90 degrees V-ball valve.

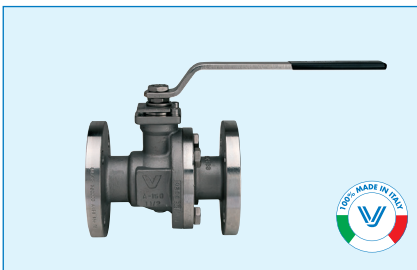
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"
US\$	175.00	220.00	279.00	458.00	578.00	1,094.00	1,470.00	6,333.00
Package	1	1	1	1	1	1	1	1
Weight	2.86	3.96	5.95	7.27	12.12	28.21	46.07	101.63



### TYPE 725002-V36/V6/V9

Stainless steel flanged ANSI 150, 30-60, 60, and 90 degrees V-ball valve.

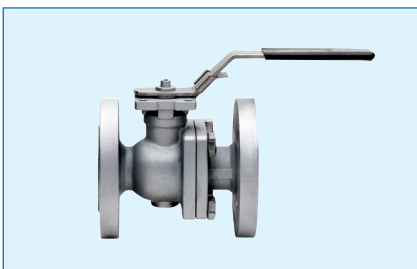
Size	1"	1 1/4"	1 1/2"	2"	3"
US\$	CONSULT FACTORY				
Package	1	1	1	1	1
Weight	2.86	3.64	4.74	8.27	22.71



### TYPE 760021-V36/V6/V9

Stainless steel flanged ANSI 150, 30-60, 60, and 90 degrees V-ball valve.

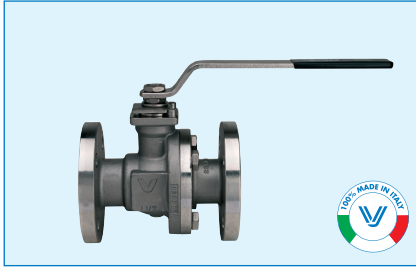
Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"
US\$	168.00	209.00	277.00	487.00	711.00	1,534.00	1,934.00	5,213.00
Package	1	1	1	1	1	1	1	1
Weight	4.21	5.36	8.15	15.65	23.80	47.61	67.00	171.91



### TYPE VF300-600-900

Stainless steel flanged ANSI 150, 30, 60, and 90 degrees V-ball valve.

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
US\$	184.00	235.00	317.00	391.00	535.00	765.00	1,327.00	1,591.00	2,085.00	5,705.00
Package	1	1	1	1	1	1	1	1	1	1
Weight	3.90	4.90	6.80	9.20	13.30	19.20	24.80	41.00	57.00	168.00



## TYPE 760195-V36/V6/V9

Stainless steel flanged ANSI 300, 30-60, 60, and 90 degrees V-ball valve.

Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
US\$	216.00	274.00	408.00	693.00	880.00	2,082.00	2,564.00
Package	1	1	1	1	1	1	1
Weight	5.07	7.71	11.46	22.04	26.45	59.51	90.36



## TYPE N500N

Lever operated butterfly valve EPDM seat, wafer body nylon coated disc.



EPDM only

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
N500N US\$	60.00	72.00	81.00	107.00	139.00	170.00	279.00	380.00	549.00
540N (Buna) US\$	56.00	67.00	74.00	98.00	128.00	153.00	255.00	346.00	482.00
Package	1	1	1	1	1	1	1	1	1
Weight	7.50	9.10	10.40	12.80	17.40	19.20	33.40	48.10	77.30



## TYPE N500S

Lever operated butterfly valve EPDM seat, wafer body SS disc.



EPDM only

Size	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
N500S US\$	63.00	64.00	79.00	89.00	125.00	165.00	212.00	374.00	560.00	859.00
530S (Viton) US\$		149.00	190.00	205.00	300.00	418.00	511.00	735.00	1,117.00	1,492.00
540S (Buna) US\$		60.00	73.00	82.00	115.00	153.00	192.00	343.00	508.00	775.00
Package	1	1	1	1	1	1	1	1	1	1
Weight	6.80	7.50	9.10	10.40	12.80	17.40	19.20	33.40	48.10	77.30



## TYPE N501N

Lever operated butterfly valve EPDM seat, lug body nylon coated disc.



EPDM only

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
N501N US\$	69.00	83.00	93.00	131.00	166.00	207.00	319.00	451.00	632.00
541N (Buna) US\$	64.00	77.00	90.00	121.00	153.00	188.00	293.00	411.00	572.00
Package	1	1	1	1	1	1	1	1	1
Weight	10.40	11.30	12.40	21.80	26.00	33.30	44.40	64.90	94.00



## TYPE N501S

Lever operated butterfly valve EPDM seat, lug body SS disc.



EPDM only

Size	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
N501S US\$	72.00	74.00	90.00	101.00	149.00	190.00	247.00	413.00	625.00	961.00
531S (Viton) US\$		158.00	200.00	217.00	322.00	442.00	542.00	770.00	1,176.00	1,584.00
541S (Buna) US\$		69.00	82.00	97.00	137.00	174.00	228.00	379.00	568.00	868.00
Package	1	1	1	1	1	1	1	1	1	1
Weight	10.40	11.30	12.40	21.80	26.00	33.30	44.40	64.90	94.00	



## TYPE GN500N

Gear operated butterfly valve EPDM seat, wafer body nylon coated disc.



EPDM only

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
GN500N US\$	155.00	167.00	176.00	202.00	234.00	265.00	406.00	507.00	708.00
G540N (Buna) US\$	151.00	162.00	169.00	193.00	223.00	248.00	382.00	473.00	641.00
Package	1	1	1	1	1	1	1	1	1
Weight	17.00	18.60	19.90	22.30	26.90	28.70	57.80	70.90	104.60



## TYPE GN500S

Gear operated butterfly valve EPDM seat, wafer body SS disc.



Size	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
GN500S US\$	158.00	159.00	174.00	184.00	220.00	260.00	307.00	501.00	687.00	1,018.00
G530S (Viton) US\$	242.00	244.00	285.00	300.00	395.00	513.00	606.00	862.00	1,244.00	1,651.00
G540S (Buna) US\$	149.00	155.00	168.00	177.00	210.00	248.00	287.00	470.00	635.00	934.00
Package	1	1	1	1	1	1	1	1	1	1
Weight	16.30	17.00	18.60	19.90	22.30	26.90	28.70	57.80	70.90	104.60



## TYPE GN501N

Gear operated butterfly valve EPDM seat, lug body nylon coated disc.



Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
GN501N US\$	164.00	178.00	188.00	226.00	261.00	302.00	446.00	578.00	791.00
G541N (Buna) US\$	159.00	172.00	185.00	216.00	248.00	283.00	420.00	538.00	731.00
Package	1	1	1	1	1	1	1	1	1
Weight	19.90	20.80	21.90	31.30	35.50	42.80	68.80	87.80	121.30



## TYPE GN501S

Gear operated butterfly valve EPDM seat, lug body SS disc.



Size	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
GN501S US\$	167.00	169.00	185.00	196.00	244.00	285.00	342.00	540.00	752.00	1,120.00
G531S (Viton) US\$	253.00	295.00	312.00	417.00	537.00	637.00	897.00	1,303.00	1,743.00	
G541S (Buna) US\$	164.00	177.00	192.00	232.00	269.00	323.00	506.00	695.00	1,027.00	
Package	1	1	1	1	1	1	1	1	1	
Weight	19.90	20.80	21.90	31.30	35.50	42.80	68.80	87.80	121.30	



## TYPE 8100

Carbon steel manually operated ANSI 150, high performance Wafer style, butterfly valves.

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
8100 US\$	367.00	405.00	498.00	627.00	785.00	971.00	1,460.00	2,174.00	3,513.00
G8100 US\$	466.00	504.00	597.00	728.00	886.00	1,072.00	1,587.00	2,310.00	4,263.00
Package	1	1	1	1	1	1	1	1	1
Weight	19.90	20.80	21.90	31.30	35.50	42.80	68.80	87.80	121.30



## TYPE 9100

Stainless steel manually operated ANSI 150, high performance wafer style, butterfly valves.

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
9100 US\$	538.00	586.00	708.00	882.00	1,126.00	1,384.00	2,063.00	3,048.00	4,885.00
G9100 US\$	637.00	685.00	807.00	983.00	1,227.00	1,485.00	2,190.00	3,184.00	5,635.00
Package	1	1	1	1	1	1	1	1	1
Weight	10.40	11.30	12.40	21.80	26.00	33.30	44.40	64.90	94.00



## TYPE 8101

Carbon steel manually operated ANSI 150, high performance lug style, butterfly valves.

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
8101 US\$	390.00	446.00	529.00	752.00	949.00	1,139.00	1,669.00	2,636.00	3,990.00
G8101 US\$	489.00	545.00	628.00	853.00	1,050.00	1,240.00	1,796.00	2,772.00	4,740.00
Package	1	1	1	1	1	1	1	1	1
Weight	17.00	18.60	19.90	22.30	26.90	28.70	57.80	70.90	104.60





## TYPE 9101

Stainless steel manually operated ANSI 150, high performance lug style, butterfly valves.

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
<b>9101 US\$</b>	571.00	646.00	749.00	1,080.00	1,384.00	1,647.00	2,290.00	3,804.00	5,661.00
<b>G9101 US\$</b>	670.00	745.00	848.00	1,181.00	1,485.00	1,748.00	2,417.00	3,940.00	6,411.00
Package	1	1	1	1	1	1	1	1	1
Weight	17.00	18.60	19.90	22.30	26.90	28.70	57.80	70.90	104.60



## TYPE 8300

Carbon steel manually operated ANSI 300, high performance wafer style, butterfly valves.

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
<b>8300 US\$</b>	371.00	421.00	505.00	653.00	817.00	1,050.00	1,592.00	2,503.00	3,826.00
<b>G8300 US\$</b>	470.00	520.00	604.00	754.00	918.00	1,151.00	1,719.00	2,639.00	4,576.00
Package	1	1	1	1	1	1	1	1	1
Weight	19.90	20.80	21.90	31.30	35.50	42.80	68.80	87.80	121.30



## TYPE 9300

Stainless steel manually operated ANSI 300, high performance wafer style, butterfly valves.

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
<b>9300 US\$</b>	545.00	613.00	716.00	921.00	1,160.00	1,470.00	2,245.00	3,533.00	5,306.00
<b>G9300 US\$</b>	644.00	712.00	815.00	1,022.00	1,261.00	1,571.00	2,372.00	3,669.00	6,056.00
Package	1	1	1	1	1	1	1	1	1
Weight	19.90	20.80	21.90	31.30	35.50	42.80	68.80	87.80	121.30



## TYPE 8301

Carbon steel manually operated ANSI 300, high performance lug style, butterfly valves.

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
<b>8301 US\$</b>	437.00	516.00	616.00	799.00	979.00	1,352.00	2,055.00	3,147.00	4,581.00
<b>G8301 US\$</b>	536.00	615.00	715.00	900.00	1,080.00	1,453.00	2,182.00	3,283.00	5,331.00
Package	1	1	1	1	1	1	1	1	1
Weight	19.90	20.80	21.90	31.30	35.50	42.80	68.80	87.80	121.30



## TYPE 9301

Stainless steel manually operated ANSI 300, high performance lug style, butterfly valves.

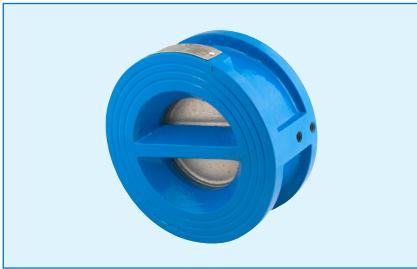
Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
<b>9301 US\$</b>	653.00	767.00	898.00	1,163.00	1,421.00	1,977.00	3,034.00	4,618.00	6,545.00
<b>G9301 US\$</b>	752.00	866.00	997.00	1,264.00	1,522.00	2,078.00	3,161.00	4,754.00	7,295.00
Package	1	1	1	1	1	1	1	1	1
Weight	19.90	20.80	21.90	31.30	35.50	42.80	68.80	87.80	121.30



## TYPE L700-G700 (Gear operated)

Grooved end butterfly valve - EPDM coated disc, ISO 5211 direct mounting pad for automation..

Size	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
<b>L700 US\$</b>	84.00	97.00	122.00	170.00	236.00	297.00	503.00	693.00	807.00
<b>G700 US\$</b>	179.00	192.00	217.00	269.00	331.00	392.00	630.00	820.00	966.00
Package	1	1	1	1	1	1	1	1	1
Weight	3.90	4.80	5.90	9.90	16.70	21.10	32.40	54.40	76.00



## CI150E (EPDM seat) – CI150V (VITON seat)

Double door Wafer style check valve.

**NSF**  
EPDM  
only

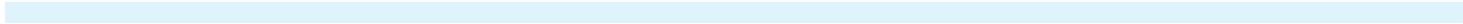
SIZE	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
CI150E US\$	60.00	76.00	111.00	155.00	196.00	268.00	444.00	707.00	920.00
CI150V US\$	66.00	80.00	108.00	144.00	182.00	244.00	396.00	621.00	838.00
Package	1	1	1	1	1	1	1	1	1
weight	3.30	5.30	7.90	12.60	16.10	19.80	37.50	57.30	92.60

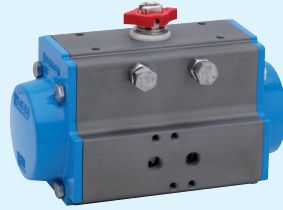


## STEM EXTENSION

Lever stem extension for 70,71,72,76, and 776 valve series.

SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"
CODE	890022	890022	890023	890023	890024	890024	890025	890025	890026	890026
US\$	31.00	31.00	37.00	37.00	37.00	37.00	41.00	41.00	41.00	41.00
Package	1	1	1	1	1	1	1	1	1	1
Pkg. weight	-	-	-	-	-	-	-	-	-	-





## DOUBLE ACTING PNEUMATIC ACTUATORS "DA"

MODEL	DA 32	DA 52	DA 63	DA 75	DA 85	DA 100	DA 115	DA 125	DA 140	DA 160	DA 180	DA 200	DA 230	DA 270	DA 330
FKM/VITON SEALS	82DA1307	82DA1310	82DA1312	82DA1375	82DA1314	82DA1318	82DA1370	82DA1319	82DA1320	82DA1379	82DA1380	82DA1321	82DA1323	82DA1377	82DA1333
US\$	105.00	161.00	188.00	256.00	285.00	358.00	475.00	556.00	799.00	1,098.00	1,363.00	1,640.00	2,777.00	3,659.00	9,566.00
Pkg. weight	1.08	2.47	3.66	6.13	8.60	12.12	19.51	23.81	35.93	47.95	63.93	81.57	128.97	182.25	370.38

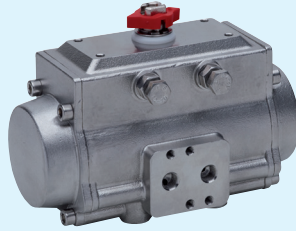
## SPRING RETURN PNEUMATIC ACTUATORS "SR"

MODEL	SR 52	SR 63	SR 75	SR 85	SR 100	SR 115	SR 125	SR 140	SR 160	SR 180	SR 200	SR 230	SR 270	SR 330
FKM/VITON SEALS	82SR1310	82SR1312	82SR1375	82SR1314	82SR1318	82SR1370	82SR1319	82SR1320	82SR1379	82SR1380	82SR1321	82SR1323	82SR1377	82SR1333
US\$	172.00	202.00	279.00	318.00	410.00	547.00	627.00	920.00	1,315.00	1,724.00	2,045.00	3,673.00	4,246.00	11,747.00
Pkg. weight	2.87	4.34	7.47	10.58	15.43	25.24	31.04	48.06	65.04	87.96	121.25	156.53	221.06	460.77



## ACTUATOR 0°-180°

MODEL	DA 52	DA 63	DA 75	DA 85	DA 100	DA 115	DA 125	DA 140	DA 160
CODE	83DA0110	83DA0112	83DA0175	83DA0114	83DA0118	83DA0170	83DA0119	83DA0120	83DA0179
US\$	344.00	404.00	483.00	619.00	767.00	851.00	1,004.00	1,446.00	1,724.00
Pkg. weight	3.75	5.51	9.26	13.18	18.81	30.09	38.25	55.12	68.78



## STAINLESS STEEL ACTUATOR 0°-90°

MODEL	DA 52	DA 63	DA 75	DA 85	DA 100
CODE	84DA0010	84DA0012	84DA0075	84DA0014	84DA0018
<b>US\$</b>	<b>730.00</b>	<b>799.00</b>	<b>1,055.00</b>	<b>1,306.00</b>	<b>1,596.00</b>
Weight (Lbs)	5.00	6.90	10.90	16.60	22.50

MODEL	SR 52	SR 63	SR 75	SR 85	SR 100
CODE	84SR0010	84SR0012	84SR0075	84SR0014	84SR0018
<b>US\$</b>	<b>764.00</b>	<b>852.00</b>	<b>1,118.00</b>	<b>1,364.00</b>	<b>1,692.00</b>
Weight (Lbs)	5.40	7.60	12.30	18.50	25.90



## PTFE-COATED PNEUMATIC ACTUATORS

MODEL	DA 32	DA 52	DA 63	DA 75	DA 85	DA 100	DA 115	DA 125	DA 140	DA 160	DA 180	DA 200	DA 230	DA 270	DA 330
CODE	82DAC607	82DAC610	82DAC612	82DAC675	82DAC614	82DAC618	82DAC670	82DAC619	82DAC620	82DAC679	82DAC680	82DAC621	82DAC623	82DAC677	82DAC633
<b>US\$</b>	<b>130.00</b>	<b>195.00</b>	<b>240.00</b>	<b>330.00</b>	<b>363.00</b>	<b>460.00</b>	<b>604.00</b>	<b>720.00</b>	<b>978.00</b>	<b>1,403.00</b>	<b>C/F</b>	<b>C/F</b>	<b>C/F</b>	<b>C/F</b>	<b>C/F</b>
Weight (Lbs)	1.08	2.47	3.66	6.13	8.60	12.12	19.51	23.81	35.93	47.95	63.93	81.57	128.97	182.25	370.38

MODEL	SR 52	SR 63	SR 75	SR 85	SR 100	SR 115	SR 125	SR 140	SR 160	SR 180	SR 200	SR 230	SR 270	SR 330
CODE	82SRC610	82SRC612	82SRC675	82SRC614	82SRC618	82SRC670	82SRC619	82SRC620	82SRC679	82SRC680	82SRC621	82SRC623	82SRC677	82SRC633
<b>US\$</b>	<b>207.00</b>	<b>255.00</b>	<b>352.00</b>	<b>394.00</b>	<b>504.00</b>	<b>672.00</b>	<b>790.00</b>	<b>1,097.00</b>	<b>1,597.00</b>	<b>C/F</b>	<b>C/F</b>	<b>C/F</b>	<b>C/F</b>	<b>C/F</b>
Weight (Lbs)	2.87	4.34	7.47	10.58	15.43	25.24	31.04	48.06	65.04	87.96	121.25	156.53	221.06	460.77

## LIST PRICE PNEUMATIC ACTUATOR SPARE PARTS

### SET OF SPRINGS FOR SPRING RETURN ACTUATORS

\*screws not included

SIZE	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	RI3385	RI3386	RI3387	RI3388	RI3389	RI3390	RI3391	RI4048	RI4738	RI4600	RI4746	RI4601	RI3531	RI4602
US\$	27.72	29.70	44.55	51.48	77.22	109.89	131.67	199.98	390.06	497.97	710.82	111.87	116.82	209.88

### SET OF SEALS O-RING (NBR70 -4 F + 185 F)

SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	RI3101	RI4603	RI4604	RI4605	RI4606	RI4607	RI4608	RI4609	RI4610	RI4611	RI4612	RI4613	RI4614	RI4615	RI4616
US\$	10.89	10.89	10.89	36.63	50.49	65.34	74.25	74.25	76.23	97.02	112.86	172.26	184.14	198.00	328.68

### SET OF SEALS O-RING (VITON -4 F + 302 F)

SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	RI3326	RI4617	RI4618	RI4619	RI4620	RI4621	RI4622	RI4623	RI4624	RI4625	RI4626	RI4627	RI4628	RI4629	RI4630
US\$	19.80	20.79	27.72	36.63	50.49	65.34	74.25	74.25	76.23	97.02	112.86	172.26	184.14	198.00	328.68

### SET OF SEALS O-RING (SILICON -40 F + 302 F)

SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	-	RI4631	RI4632	RI4633	RI4634	RI4635	RI4636	RI4637	RI4638	RI4639	RI4640	RI4641	RI4642	RI4643	RI4644
US\$		16.83	25.74	32.67	55.44	59.40	70.29	73.26	79.20	79.20	131.67	148.50	157.41	190.08	258.39

### SET GUIDES FOR ACTUATORS (TEMPERATURE -4 F + 185 F)

SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	-	RI4645	RI4646	RI4647	RI4648	RI4649	RI4650	RI4651	RI4652	RI4653	RI4654	RI4655	RI4656	RI4657	RI4658
US\$		13.86	13.86	13.86	14.85	14.85	18.81	18.81	94.05	123.75	130.68	133.65	315.81	347.49	479.16

### SET GUIDES FOR ACTUATORS (TEMPERATURE -4 F + 302 F)

SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	-	RI4659	RI4660	RI4661	RI4662	RI4663	RI4664	RI4665	RI4666	RI4667	RI4668	RI4669	RI4670	RI4671	RI4672
US\$		18.81	21.78	22.77	30.69	30.69	33.66	35.64	76.23	114.84	122.76	135.63	163.35	356.40	485.10

### PINION NAMUR

SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	RI3156	RI4673	RI4674	RI4675	RI4676	RI4677	RI4678	RI4679	RI4680	RI4681	RI4682	RI4683	RI4684	RI4685	RI4686
US\$	70.29	73.26	86.13	97.02	111.87	129.69	179.19	205.92	275.22	333.63	369.27	443.52	767.25	972.18	1,979.01

### PISTON (1 PIECE)

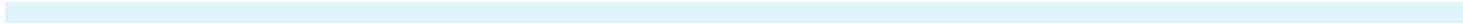
SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
CODE	RI3215	RI3535	RI3536	RI3537	RI3538	RI3539	RI3540	RI3541	RI4053	RI3919	RI4687	RI3920	RI4688	RI3921	RI4689
US\$	18.81	28.71	29.70	38.61	45.54	58.41	75.24	94.05	170.28	245.52	246.51	309.87	370.26	557.37	826.65

### END CAP

SIZE	32	52	63	75	85	100	115	125	140	160	180	200	230	270	330
RIGHT	RI3401	RI4690	RI4692	RI4694	RI4696	RI4698	RI4700	RI4702	RI4704	RI4706	RI4708	RI4710	RI4712	RI4714	RI4715
US\$	14.85	16.83	18.81	22.77	29.70	49.50	56.43	63.36	100.98	153.45	164.34	188.10	254.43	443.52	877.14
LEFT	RI3401	RI4691	RI4693	RI4695	RI4697	RI4699	RI4701	RI4703	RI4705	RI4707	RI4709	RI4711	RI4713	RI4714	RI4716
US\$	14.85	16.83	18.81	22.77	29.70	49.50	56.43	63.36	100.98	153.45	164.34	188.10	254.43	443.52	877.14

FOR STAINLESS STEEL ACTUATOR SPARE PARTS, PLEASE CONTACT OUR SALES DEPARTMENT







**STANDARD VERSION 0° - 90° - Standard suffix - 00\***

MODEL	VB010
VOLTAGE	110V AC (-003)
CODE	85H10010
US\$	233.00
VOLTAGE	24V AC/DC (-002)
CODE	85L00010
US\$	221.00
WEIGHT	2.0

**STANDARD VERSION 0° - 90° (ON REQUEST 0° - 180° - 0° - 270°) - Standard suffix - 00\***



MODEL	VB015	VB030	VB060	VB110	VB190	VB270	VB350
VOLTAGE	110V AC (-003)						
CODE	85H00101	85H00103	85H00106	85H00111	85H00119	85H00127	85H00135
US\$	287.00	429.00	508.00	606.00	642.00	689.00	805.00
VOLTAGE	24V AC/DC (-002)						
CODE	85L00101	85L00103	85L00106	85L00111	85L00119	85L00127	85L00135
US\$	239.00	392.00	447.00	530.00	552.00	596.00	739.00
VOLTAGE	12V AC/DC (-001)						
CODE	85L10101	85L10103	85L10106	85L10111	85L10119	85L10127	85L10135
US\$	287.00	429.00	508.00	606.00	642.00	689.00	805.00
WEIGHT	3.09	5.07	7.26	10.80	10.80	13.23	13.23

**VERSION WITH BATTERY BACK-UP \*01 (OPERATING NORMALLY CLOSED) - Standard suffix - 01\***



MODEL	VB015	VB030	VB060	VB110	VB190	VB270	VB350
VOLTAGE	110V AC (-013)						
CODE	NOT AVAILABLE	85H00903	85H00906	85H00911	85H00919	85H00927	85H00935
US\$	-	1,097.00	1,168.00	1,286.00	1,378.00	1,463.00	1,561.00
VOLTAGE	24V AC/DC (-012)						
CODE	NOT AVAILABLE	85L00903	85L00906	85L00911	85L00919	85L00927	85L00935
US\$	-	1,022.00	1,091.00	1,217.00	1,304.00	1,391.00	1,483.00
WEIGHT	-	5.51	7.72	11.68	11.68	13.89	13.89

**VERSION WITH POSITIONER 4-20 mA or 0-10V DC - or REVERSE 20-4 mA or 10-0V DC - Standard suffix - 02\***



MODEL	VB015	VB030	VB060	VB110	VB190	VB270	VB350
VOLTAGE	110V AC (-023)						
CODE	NOT AVAILABLE	85H01003	85H01006	85H01011	85H01019	85H01027	85H01035
US\$	-	1,045.00	1,109.00	1,201.00	1,287.00	1,378.00	1,470.00
VOLTAGE	24V AC/DC (-022)						
CODE	NOT AVAILABLE	85L01003	85L01006	85L01011	85L01019	85L01027	85L01035
US\$	-	952.00	1,016.00	1,109.00	1,188.00	1,279.00	1,364.00
VOLTAGE	12V AC/DC (-021)						
CODE	NOT AVAILABLE	85L11003	85L11006	85L11011	85L11019	85L11027	85L11035
US\$	-	1,045.00	1,109.00	1,201.00	1,287.00	1,378.00	1,470.00
WEIGHT	-	5.07	7.26	10.80	10.80	13.23	13.23

**VERSION WITH BATTERY BACK-UP \*04 (OPERATING NORMALLY CLOSED) - Standard suffix - 04\***



MODEL	VB015	VB030	VB060	VB110	VB190	VB270	VB350
VOLTAGE	110V AC (-043)						
CODE	NOT AVAILABLE	85H0CD03	85H0CD06	85H0CD11	85H0CD19	85H0CD27	85H0CD35
US\$	-	1,284.00	1,350.00	1,499.00	1,606.00	1,706.00	1,819.00
VOLTAGE	24V AC/DC (-042)						
CODE	NOT AVAILABLE	85L0CD03	85L0CD06	85L0CD11	85L0CD19	85L0CD27	85L0CD35
US\$	-	1,201.00	1,273.00	1,420.00	1,521.00	1,623.00	1,731.00
WEIGHT	-	5.51	7.72	11.68	11.68	13.89	13.89

**VERSION WITH MIDDLE POSITION \*06 4-20 mA or 0-10V DC - or REVERSE 20-4 mA or 10-0V DC - Standard suffix - 06\***



MODEL	VB015	VB030	VB060	VB110	VB190	VB270	VB350
VOLTAGE	110V AC (-063)						
CODE	NOT AVAILABLE	85H0CE03	85H0CE06	85H0CE11	85H0CE19	85H0CE27	85H0CE35
US\$	-	953.00	993.00	1,047.00	1,145.00	1,178.00	1,227.00
VOLTAGE	24V AC/DC (-062)						
CODE	NOT AVAILABLE	85L0CE03	85L0CE06	85L0CE11	85L0CE19	85L0CE27	85L0CE35
US\$	-	507.00	574.00	642.00	673.00	717.00	848.00
VOLTAGE	12V AC/DC (-061)						
CODE	NOT AVAILABLE	85L1CE03	85L1CE06	85L1CE11	85L1CE19	85L1CE27	85L1CE35
US\$	-	546.00	638.00	723.00	765.00	816.00	921.00
WEIGHT	-	5.07	7.26	10.80	10.80	13.23	13.23



**STANDARD VERSION 0° - 90° (ON REQUEST 0° - 180° - 0° - 270°) - Standard suffix - 00\***



MODEL	VB030M	VB060M	VB110M	VB190M	VB270M	VB350M
<b>VOLTAGE</b>						
110V AC (-003)						
CODE	86H00103	86H00106	86H00111	86H00119	86H00127	86H00135
US\$	534.00	722.00	948.00	999.00	1,374.00	1,463.00
<b>VOLTAGE</b>						
24V AC/DC (-002)						
CODE	86L00103	86L00106	86L00111	86L00119	86L00127	86L00135
US\$	486.00	662.00	903.00	952.00	1,321.00	1,406.00
<b>VOLTAGE</b>						
12V AC/DC (-001)						
CODE	86L10103	86L10106	86L10111	86L10119	86L10127	86L10135
US\$	534.00	722.00	948.00	999.00	1,374.00	1,463.00
WEIGHT	7.70	9.9	18.7	18.7	20.9	20.9

**VERSION WITH BATTERY BACK-UP \*01 (OPERATING NORMALLY CLOSED) - Standard suffix - 01\***



MODEL	VB030M	VB060M	VB110M	VB190M	VB270M	VB350M
<b>VOLTAGE</b>						
110V AC (-013)						
CODE	86H00903	86H00906	86H00911	86H00919	86H00927	86H00935
US\$	1,201.00	1,512.00	1,872.00	1,968.00	2,211.00	2,423.00
<b>VOLTAGE</b>						
24V AC/DC (-012)						
CODE	86L00903	86L00906	86L00911	86L00919	86L00927	86L00935
US\$	1,132.00	1,430.00	1,807.00	1,900.00	2,137.00	2,343.00
WEIGHT	7.8	10.0	19.0	19.0	21.2	21.2

**VERSION WITH POSITIONER 4-20 mA or 0-10V DC - or REVERSE 20-4 mA or 10-0V DC - Standard suffix - 02\***



MODEL	VB030M	VB060M	VB110M	VB190M	VB270M	VB350M
<b>VOLTAGE</b>						
110V AC (-023)						
CODE	86H01003	86H01006	86H01011	86H01019	86H01027	86H01035
US\$	1,206.00	1,432.00	1,811.00	1,904.00	2,158.00	2,365.00
<b>VOLTAGE</b>						
24V AC/DC (-022)						
CODE	86L01003	86L01006	86L01011	86L01019	86L01027	86L01035
US\$	1,125.00	1,334.00	1,733.00	1,822.00	2,067.00	2,268.00
<b>VOLTAGE</b>						
12V AC/DC (-021)						
CODE	86L11003	86L11006	86L11011	86L11019	86L11027	86L11035
US\$	1,206.00	1,432.00	1,811.00	1,904.00	2,158.00	2,365.00
WEIGHT	7.7	9.9	18.7	18.7	20.9	20.9

**VERSION WITH BATTERY BACK-UP \*04 (OPERATING NORMALLY CLOSED) - Standard suffix - 04\***



MODEL	VB030M	VB060M	VB110M	VB190M	VB270M	VB350M
<b>VOLTAGE</b>						
110V AC (-043)						
CODE	86H0CD03	86H0CD06	86H0CD11	86H0CD19	86H0CD27	86H0CD35
US\$	1,598.00	1,678.00	2,024.00	2,202.00	2,487.00	2,726.00
<b>VOLTAGE</b>						
24V AC/DC (-042)						
CODE	86LOCD03	86LOCD06	86LOCD11	86LOCD19	86LOCD27	86LOCD35
US\$	1,516.00	1,596.00	1,959.00	2,131.00	2,411.00	2,643.00
WEIGHT	7.8	10.0	19.0	19.0	21.2	21.2

**VERSION WITH MIDDLE POSITION \*06 4-20 mA or 0-10V DC - or REVERSE 20-4 mA or 10-0V DC - Standard suffix - 06\***



MODEL	VB030M	VB060M	VB110M	VB190M	VB270M	VB350M
<b>VOLTAGE</b>						
110V AC (-063)						
CODE	86HOCE03	86HOCE06	86HOCE11	86HOCE19	86HOCE27	86HOCE35
US\$	1171.00	1239.00	1683.00	1830.00	1928.00	2113.00
<b>VOLTAGE</b>						
24V AC/DC (-062)						
CODE	86LOCE03	86LOCE06	86LOCE11	86LOCE19	86LOCE27	86LOCE35
US\$	1081.00	1151.00	1607.00	1748.00	1856.00	2035.00
<b>VOLTAGE</b>						
12V AC/DC (-061)						
CODE	86L1CE03	86L1CE06	86L1CE11	86L1CE19	86L1CE27	86L1CE35
US\$	1148.00	1219.00	1664.00	1810.00	1907.00	2090.00
WEIGHT	7.7	9.9	18.7	18.7	20.9	20.9



**SPRING RETURN ELECTRIC ACTUATORS (NO MANUAL OVERRIDE)**  
Standard suffix - 05\*



MODEL	EA045	EA120	EA180	EA230
VOLTAGE	24 AC/DC or 100-240 AC (-052 OR-053)			
WEIGHT	60.0	126.0	209.0	209.0
US\$	5,237.00	7,620.00	12,497.00	13,230.00

**SPRING RETURN ELECTRIC ACTUATORS (WITH MANUAL OVERRIDE)**  
Standard suffix - 05\*

MODEL	EA045-M	EA120-M	EA180-M	EA230-M
VOLTAGE	24 AC/DC or 100-240 AC (-052 OR-053)			
WEIGHT	82.0	163.0	298.0	298.0
US\$	6,685.00	9,527.00	14,586.00	15,320.00

\*VOLTAGE: 052 = 24V AC/DC / 053 = 120V AC



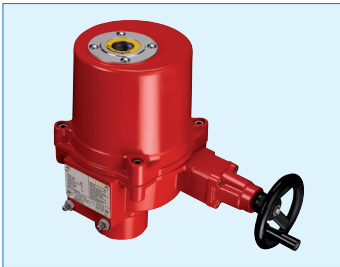
**EXPLOSION PROOF ELECTRIC ACTUATORS (NO MANUAL OVERRIDE) - Standard Suffix - 00\***



NEMA 4x, 7, 8, 9  
IP68

**NEW**

MODEL	EAX035	EAX045
VOLTAGE	24 AC/DC OR 100-240 AC)	
ON-OFF (US\$) -00*	1379.00	1874.00
POSITIONER (US\$) -02*	2228.00	2723.00
WEIGHT	4.41	6.61



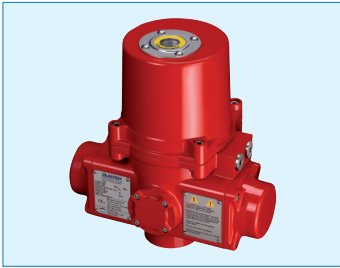
**EXPLOSION PROOF ELECTRIC ACTUATORS (MANUAL OVERRIDE) - Standard Suffix - 00\***



NEMA 4x, 7, 8, 9  
IP68

**NEW**

MODEL	EAX080	EAX130	EAX360	EAX450
VOLTAGE	24 AC/DC OR 100-240 AC			
ON-OFF (US\$) -00*	3295.00	3506.00	4137.00	4453.00
POSITIONER (US\$) -02*	4313.00	4523.00	5155.00	5471.00
WEIGHT	24.25	24.25	44.09	44.09



**SPRING RETURN EXPLOSION PROOF ELECTRIC ACTUATORS (NO MANUAL OVERRIDE)**  
Standard Suffix - 05\*



NEMA 4x, 7, 8, 9  
IP68

**NEW**

MODEL	EAX045
VOLTAGE	24 AC/DC OR 100-240 AC
ON-OFF (US\$)	7795.00
POSITIONER (US\$)	8798.00
WEIGHT	82.00



**SPRING RETURN EXPLOSION PROOF ELECTRIC ACTUATORS (MANUAL OVERRIDE)**  
Standard Suffix - 05\*



NEMA 4x, 7, 8, 9  
IP68

**NEW**

MODEL	EAX120	EAX180	EAX230
VOLTAGE	24 AC/DC OR 100-240 AC		
ON-OFF (US\$)	11,382.00	18,723.00	19,817.00
POSITIONER (US\$)	12,385.00	19,726.00	20,820.00
WEIGHT	163.00	298.00	298.00

VOLTAGE SUFFIX					
ON/OFF		POSITIONER		SPRING RETURN W POSITIONER	
-002	24V AC/DC	-022	24V AC/DC	-052	24V AC/DC
-003	100-240V AC/DC	-023	100-240V AC/DC	-053	100-240V AC/DC



## WARRANTY, LIMITATIONS OF LIABILITY, RETURNS

Bonomi North America, Inc. warrants that its products shipped to its initial purchaser will be free of all defects in material and workmanship for a period of one year from the date of delivery.

Should any failure to conform to this warranty appear before the one year delivery period, and the product[s] are stored, installed, and maintained in accordance with the published Bonomi North America literature recommendations and standard industry practice, Bonomi North America, Inc. will repair or replace the product at its own expense.

The correction of non-conformities in the time period mentioned above shall constitute fulfillment of all Bonomi North America, Inc. liabilities to its initial purchaser. Bonomi North America, Inc. shall not be liable for consequential damages to loss of other equipment or property, loss profits or revenue, except the price of the Bonomi North America goods to which this liability is referred.

The customer is expected to check the received goods upon arrival at its premises. Any evident damage to the product or severe damage to its packaging that could affect the functionality of the received item should be reported immediately and no later than 10 days after delivery, preferably with pictures, to sales@bonominorthamerica.com. This includes reporting any incorrect product and/or incorrect quantities.

The customer must obtain an RMA (return of materials authorization) from the Inside Sales Department prior to returning any items. The request for RMA should include part number, quantity, and customer's purchase order or invoice number with which the product was originally shipped.

The purchase of interim replacement item(s) does not relieve the customer of financial responsibility of the returned items. All returned items will be inspected, tested, and evaluated. The results of this process will always dictate the follow-up action. All returns must come from the initial purchaser and should not ship directly from the contractor or end-user to Bonomi North America.

If a returned product is confirmed defective, with the above mentioned warranty conditions, Bonomi North America, Inc. has a first duty of repairing the product, if possible. Should a repair not be possible then the next option should be a replacement or a credit.

No credit will be issued for returned products that have been clearly misused, installed incorrectly, manipulated, modified, damaged at the customer's premises or during the return shipment. However, if the product can be properly repaired at a reasonable cost, Bonomi North America, Inc. will offer the repair option to the customer.

If the purpose of the RMA is to return items ordered in error or items that were not able to be utilized, then these returns will be subject to a restock fee. The standard restock fee for manually operated valves is 20% while automated packages and items requiring partial/full disassembly and testing when returning will be subject to a 30% restocking fee.

These items must return in new/unused and in resellable condition in order to qualify for credit. Preventing damage to returning merchandise during the shipping process will be the sole responsibility of the customer. It is recommended that new packing materials be used when returning goods as the packing materials used to ship from our business is intended for single use only.

If the returning merchandise comprises all or the majority of the cost of the original PO under which it was ordered and where there was free freight granted, then Bonomi North America, Inc. may ask to recoup some or all of the original freight cost, deducting this amount from the final credit.

Likewise, if the returning merchandise comprises all of a PO that originally shipped via a prepay-and-add method then Bonomi North America, Inc. will deduct this freight amount from the final credit, should the invoice be open at the time of crediting.

Even in the above mentioned cases, the return of non-defective customized products such as assembled packages of valves and actuators and/or of orders supplied more than 2 months before and/or exceeding the value of \$1,500, will be at the discretion of Bonomi North America and, if accepted, may result in significantly higher restocking fees, depending on the amount of labor involved in disassembling, refurbishing, testing, and restocking the individual components.









**BONOMI NORTH AMERICA, Inc.**  
750 Imperial Court – Charlotte, NC 28273 – U.S.A.  
Phone 704-412-9031 – Fax 704-412-9032  
[www.bonominorthamerica.com](http://www.bonominorthamerica.com) – [sales@bonominorthamerica.com](mailto:sales@bonominorthamerica.com)  
**CANADIAN WAREHOUSE**  
1290 Speers Road – Oakville, Ontario – Canada L6L 2X4  
Phone 905-827-6117 – Fax 905-827-2715 – [scartmell@bonominorthamerica.com](mailto:scartmell@bonominorthamerica.com)



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