

# econ<sup>®</sup> Ball Valves & Accessories





®

EECC





# Proven quality since 1892

Econosto, part of the ERIKS group, has been offering a wide variety of engineered products since 1892. By focusing on technical superiority along with guaranteed quality, Econosto's line of Econ® products are now sold in most of the major markets throughout the world. Given the strength of the North American markets, the Econ® brand of ball valves, actuators, and accessories are now being inventoried and sold in the United States and Canada. Primary amongst the targeted market segments are the following:

- Chemical and Petrochemical
- Food and Beverage
- HVAC
- Marine
- Mining
- Oil and Gas
- Original Equipment Manufacturing
- Pulp and Paper
- Semiconductor
- Water and Wastewater

## Econ® Valve Products

Econosto offers a variety of valve and valve related products. Included are ball valves, butterfly valves, double block and bleed expanding plug valves, control valves, solenoid valves, pneumatic and electric valve actuators, valve position limit switches and analog and digital valve positioners under its own Econ® label and reputable leading brands. Econosto is constantly looking to enhance and improve its Econ® valve related offering and new products are being added constantly.

## Up to Date Product Features

The Econ® brand of products are designed around today's standards and expectations that come from various agencies and customer groups. Throughout its extensive product offering, Econ® products have added features, which make them suitable for a wide spectrum of applications.

## Proven Quality

Quality is the driving force behind the Econosto and it's Econ® brand of products. Econosto has its own teams of Quality Inspectors stationed strategically close to or within their manufacturing sites in order to guarantee that their high quality standards are rigidly adhered to.

An increasing number of customers rely upon Econ® products because there is a low cost to value ratio. This means that Econ® products are not only cost competitive but also perform as well as or better than more expensive products.



**Econ® Products Featured:**  
*Full Port, Flanged Floating Ball Valve with Spring Return Actuator and Quarter-Turn, Single Acting Smart Positioner.*

# E10: ASME Class 150

## 2 Piece, Full Port, Flanged End Ball Valve with Direct Mount Actuation Design

### Description

The Econ® E10 Series is a two piece, full port, flanged end ball valve with ISO 5211 compliant direct mount actuation pad. The E10 is available in sizes ranging from ½" to 8" with ASME Class 150 flanges. Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

### Features

- Size Range: ½" – 8"
- CF8M and WCB Bodies/316SS Trim
- Fire Safe to API 607 6th Edition
- Built-in ISO 5211 Mounting Pad for Easy Automation
- ATEX 94/9/EC (Ex II 2 G-D EX-c II) Anti-static Design
- TFM 1600 Seat Material (PTFE, RTFE, TFE/SS Options)
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-Luft (VDI 2440, Sec. 3.3.1.3) Certified Live-loaded Stem Packing
- Lockable Lever Handle or "T" Handle
- IEC 61508, SIL 2 capable
- 30° & 60° V-Notch Optional Control Ball



### Standards

- Design: ASME B16.34, API 608
- Fire Safe: API 607, ISO 10497
- Face to Face: ASME B16.10
- Wall Thickness: ASME B16.34
- End Flange: ASME B16.5
- Inspection and Testing: API 598

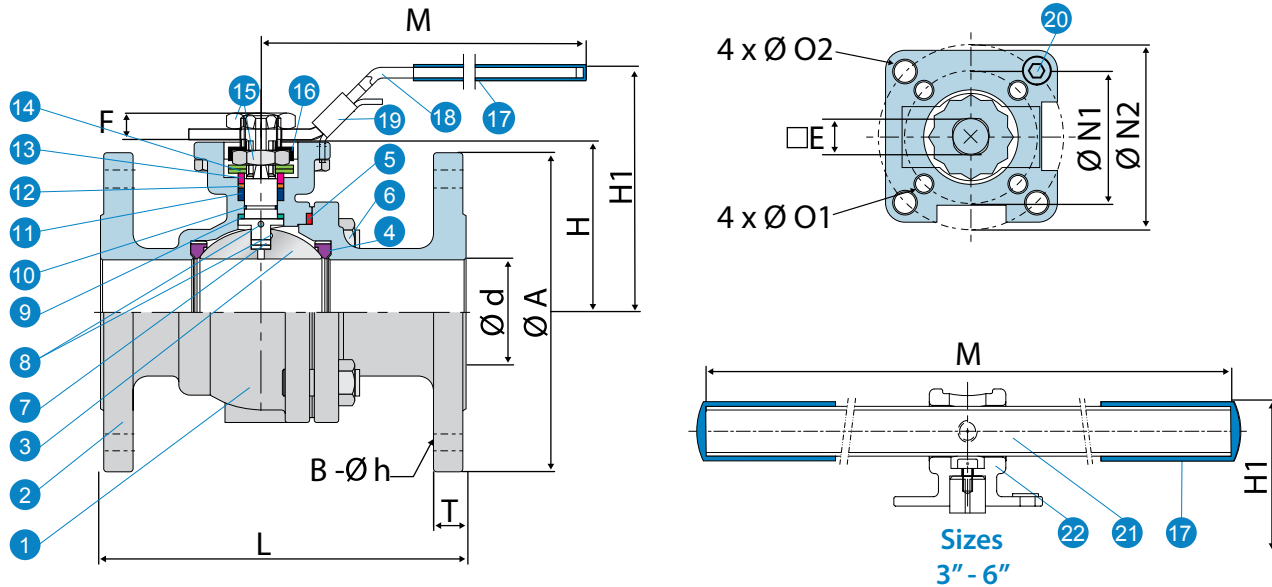
### Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	End Cap	A351-CF8M	A216-WCB
3	Ball	316SS	316SS
4	Ball Seat	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE
5	Body Gasket	316 Spiral Wound + GRAFOIL	316 Spiral Wound + GRAFOIL
6	Bolt	A193-B8	A193-B7
	Bolt Nut	A194-8	A194-2H
7	Stem	316SS	316SS
8	Anti-Static Device	316SS	304SS
9	Thrust Washer	PTFE	PTFE
10	O-Ring	FKM (Viton)	FKM (Viton)
11	Stem Packing	GRAFOIL	GRAFOIL

Item	Component	Material	
12	Bushing	304SS	304SS
13	Gland	316SS	316SS
14	Belleville Washer	301SS	301SS
15	Retaining Nuts	A194-8	A194-8
16	Stop-Lock-Cap	304SS	304SS
17	Lever/Pipe Sleeve <sup>1</sup>	Plastic Vinyl	Plastic Vinyl
18	Lever	304SS	304SS
19	Locking Device	304SS	304SS
20	Stop Bolt	A193-B8	A193-B8
21	T-Handle	A53 + Zn Plated	A53 + Zn Plated
22	Handle Adapter	CF8	CF8

<sup>1</sup> Color: Blue

Note: 8" supplied without operator. Gear operators are available on request.



## Dimensions

E10: Class 150 - Dimensions in Inches (in)

SIZE	Ø d	L	Ø A	T	B	Ø h	H	H1	M	F	Ø 01	Ø 02	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
1/2"	0.59	4.25	3.55	0.32	4	0.63	1.89	3.07	5.71	0.35	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
3/4"	0.79	4.61	3.94	0.35	4	0.63	2.09	3.31	5.71	0.35	0.24	0.24	0.35	1.42 (F03)	1.97 (F05)
1"	0.98	5.00	4.33	0.38	4	0.63	2.30	3.55	6.90	0.43	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/4"	1.26	5.51	4.53	0.44	4	0.63	2.80	4.02	6.90	0.43	0.24	0.35	0.43	1.65 (F04)	2.76 (F07)
1-1/2"	1.50	6.50	5.12	0.50	4	0.63	2.99	4.33	7.49	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
2"	1.97	7.01	5.91	0.56	4	0.75	3.23	4.53	7.49	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
3"	2.99	8.00	7.49	0.69	4	0.75	4.41	6.94	11.82	0.67	0.35	0.43	0.67	2.76 (F07)	4.02 (F10)
4"	3.94	9.02	9.06	0.88	8	0.75	5.51	8.31	15.76	0.87	-	0.43	0.87	-	4.02 (F10)
5"	4.92	14.03	10.05	0.88	8	0.88	7.21	10.36	23.64	1.06	0.55	-	1.06	4.93 (F12)	-
6"	5.91	15.52	11.03	0.94	8	0.88	8.04	11.19	31.52	1.06	0.55	-	1.06	4.93 (F12)	-
8"	7.87	18.01	13.59	1.06	8	0.88	9.97	13.16	31.52	1.06	0.55	-	1.06	4.93 (F12)	-

E10: Class 150 - Dimensions in Millimeters (mm)

SIZE	Ø d	L	Ø A	T	B	Ø h	H	H1	M	F	Ø 01	Ø 02	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
DN15	15	108.0	90.0	8.0	4	16.0	48.0	78.0	145.0	9.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN20	20	117.0	100.0	8.9	4	16.0	53.0	84.0	145.0	9.0	6.0	6.0	9.0	36 (F03)	50 (F05)
DN25	25	127.0	110.0	9.6	4	16.0	58.5	90.0	175.0	11.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN32	32	140.0	115.0	11.2	4	16.0	71.0	102.0	175.0	11.0	6.0	9.0	11.0	42 (F04)	70 (F07)
DN40	38	165.0	130.0	12.7	4	16.0	76.0	110.0	190.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN50	50	178.0	150.0	14.3	4	19.0	82.0	115.0	190.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN80	76	203.0	190.0	17.5	4	19.0	112.0	176.0	300.0	17.0	9.0	11.0	17.0	70 (F07)	102 (F10)
DN100	100	229.0	230.0	22.3	8	19.0	140.0	211.0	400.0	22.0	-	11.0	22.0	-	102 (F10)
DN125	125	356.0	255.0	22.3	8	22.3	183.0	263.0	600.0	27.0	14.0	-	27.0	125 (F12)	-
DN150	150	394.0	280.0	23.9	8	22.3	204.0	284.0	800.0	27.0	14.0	-	27.0	125 (F12)	-
DN200	200	457.0	345.0	27.0	8	22.3	253.0	334.0	800.0	27.0	14.0	-	27.0	125 (F12)	-

# E10: ASME Class 300

## 2 Piece, Full Port, Flanged End Ball Valve with Direct Mount Actuation Design

### Description

The Econ® E10 Series is a two piece, full port, flanged end ball valve with ISO 5211 compliant direct mount actuation pad. The E10 is available in sizes ranging from ½" to 8" with ASME Class 300 flanges. Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

### Features

- Size Range: ½" – 8"
- CF8M and WCB Bodies/316SS Trim
- Fire Safe to API 607 6th Edition
- Built-in ISO 5211 Mounting Pad for Easy Automation
- ATEX 94/9/EC (Ex II 2 G-D EX-c II) Anti-static Design
- TFM 1600 Seat Material (PTFE, RTFE, TFE/SS Options)
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-Luft (VDI 2440, Sec. 3.3.1.3) Certified Live-loaded Stem Packing
- Lockable Lever Handle or "T" Handle
- IEC 61508, SIL 2 capable
- 30° & 60° V-Notch Optional Control Ball



### Standards

- Design: ASME B16.34, API 608
- Fire Safe: API 607, ISO 10497
- Face to Face: ASME B16.10
- Wall Thickness: ASME B16.34
- End Flange: ASME B16.5
- Inspection and Testing: API 598

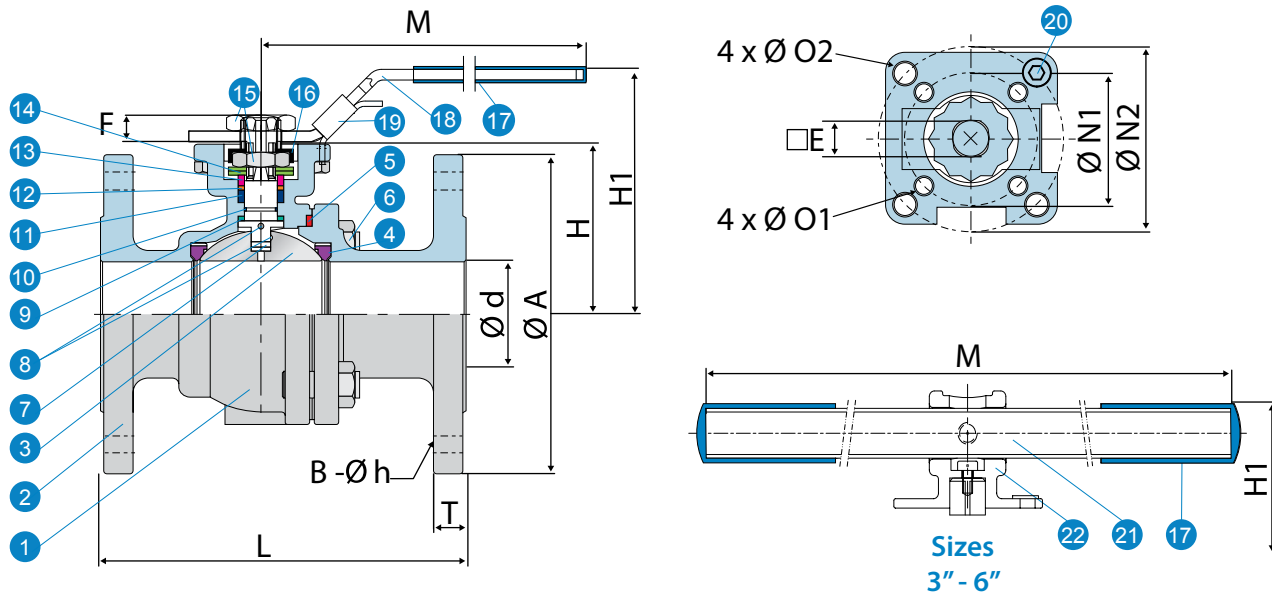
### Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	End Cap	A351-CF8M	A216-WCB
3	Ball	316SS	316SS
4	Ball Seat	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE
5	Body Gasket	316 Spiral Wound + GRAFOIL	316 Spiral Wound + GRAFOIL
6	Bolt	A193-B8	A193-B7
	Bolt Nut	A194-8	A194-2H
7	Stem	316SS	316SS
8	Anti-Static Device	316SS	304SS
9	Thrust Washer	PTFE	PTFE
10	O-Ring	FKM (Viton)	FKM (Viton)
11	Stem Packing	GRAFOIL	GRAFOIL

Item	Component	Material	
12	Bushing	304SS	304SS
13	Gland	316SS	316SS
14	Belleville Washer	301SS	301SS
15	Retaining Nuts	A194-8	A194-8
16	Stop-Lock-Cap	304SS	304SS
17	Lever/Pipe Sleeve <sup>1</sup>	Plastic Vinyl	Plastic Vinyl
18	Lever	304SS	304SS
19	Locking Device	304SS	304SS
20	Stop Bolt	A193-B8	A193-B8
21	T-Handle	A53 + Zn Plated	A53 + Zn Plated
22	Handle Adapter	CF8	CF8

<sup>1</sup> Color: Blue

Note: 8" supplied without operator. Gear operators are available on request.



## Dimensions

E10: Class 300 - Dimensions in Inches (in)															
SIZE	Ø d	L	Ø A	T	B	Ø h	H	H1	M	F	Ø 01	Ø 02	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
1/2"	0.59	5.52	3.74	0.50	4	0.63	1.93	3.11	5.71	0.35	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
3/4"	0.79	5.99	4.53	0.56	4	0.75	2.30	3.51	5.71	0.35	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
1"	0.98	6.50	4.93	0.63	4	0.75	2.50	3.74	6.90	0.43	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/4"	1.26	7.01	5.32	0.69	4	0.75	2.80	4.02	6.90	0.43	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/2"	1.50	7.49	6.11	0.75	4	0.88	3.15	4.45	7.49	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
2"	1.97	8.51	6.50	0.82	4	0.75	3.35	4.65	7.49	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
3"	2.99	11.11	8.27	1.06	4	0.88	4.41	6.93	11.82	0.67	0.35	0.43	0.67	2.76 (F07)	4.02 (F10)
4"	3.94	12.02	8.87	1.19	8	0.88	5.52	8.31	15.76	0.87	-	0.43	0.87	-	4.02 (F10)
5"	4.93	15.01	11.03	1.32	8	0.88	7.21	10.36	23.64	1.06	0.55	-	1.06	4.92 (F12)	-
6"	5.91	15.88	12.61	1.38	12	1.00	8.04	11.19	31.52	1.06	0.55	-	1.06	4.92 (F12)	-
8"	7.88	19.78	14.97	1.64	12	1.00	9.97	13.16	31.52	1.06	0.55	-	1.06	4.92 (F12)	-

E10: Class 300 - Dimensions in Millimeters (mm)															
SIZE	Ø d	L	Ø A	T	B	Ø h	H	H1	M	F	Ø 01	Ø 02	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
DN15	15	140.0	95.0	12.7	4	16.0	49.0	79.0	145.0	9.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN20	20	152.0	115.0	14.3	4	19.0	58.5	89.0	145.0	9.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN25	25	165.0	125.0	15.9	4	19.0	63.5	95.0	175.0	11.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN32	32	178.0	135.0	17.5	4	19.0	71.0	102.0	175.0	11.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN40	38	190.0	155.0	19.1	4	22.3	80.0	113.0	190.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN50	50	216.0	165.0	20.7	8	19.0	85.0	118.0	190.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN80	76	282.0	210.0	27.0	8	22.3	112.0	176.0	300.0	17.0	9.0	11.0	17.0	70 (F07)	102 (F10)
DN100	100	305.0	225.0	30.2	8	22.3	140.0	211.0	400.0	22.0	-	11.0	22.0	-	102 (F10)
DN125	125	381.0	280.0	33.4	8	22.3	183.0	263.0	600.0	27.0	14.0	-	27.0	125 (F12)	-
DN150	150	403.0	320.0	35.0	12	25.4	204.0	284.0	800.0	27.0	14.0	-	27.0	125 (F12)	-
DN200	200	502.0	380.0	41.7	12	25.4	253.0	334.0	800.0	27.0	14.0	-	27.0	125 (F12)	-



# E15: ASME Class 150

## 1 Piece, Reduced Port, Flanged End Ball Valve with Bracket Mount Actuation Design

### Description

The Econ® E15 Series is a one piece, reduced port, flanged end ball valve with bracket mount actuation pad. The E15 is available in sizes ranging from ½" to 6" with ASME Class 150 flanges. Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

### Features

- Size Range: ½" - 6"
- CF8M and WCB Bodies/316SS Trim
- Fire Safe Design Approved
- Built-in ISO 5211 Mounting Pad for Easy Automation
- TFM 1600 Seat Material (PTFE, RTFE Options)
- Anti-Static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot



### Standards

- Design: ASME B16.34, API 608
- Wall Thickness: ASME B16.34
- End Flange: ASME B16.5
- Inspection and Testing: API 598

### Materials of Construction

Item	Component	Material		Item	Component	Material	
1	Body	A351-CF8M	A216-WCB	12	Belleville Washer	301SS	301SS
2	End Cap	A351-CF8M	A216-WCB	13	Retaining Nuts	A194-8	A194-8
3	Ball	316SS	316SS	14	Stop-Lock-Cap	304SS	304SS
4	Ball Seat	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE	15	Lever/Pipe Sleeve <sup>4</sup>	Plastic Vinyl	Plastic Vinyl
5	Body Gasket <sup>1</sup>	PTFE	PTFE	16	Lever	304SS	304SS
6	Stem	316SS	316SS	17	Locking Device	304SS	304SS
7	Anti-Static Device	316SS	304SS	18	Stop Bolt	A193-B8	A193-B8
8	Thrust Washer	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE	19	T-Handle	A53 + Zn Plated	A53 + Zn Plated
9	Stem Packing <sup>2</sup>	PTFE	PTFE	20	Handle Adapter	CF8	CF8
10	Bushing <sup>3</sup>	50% SS + 50% PTFE	50% SS + 50% PTFE				
11	Gland	316SS	316SS				

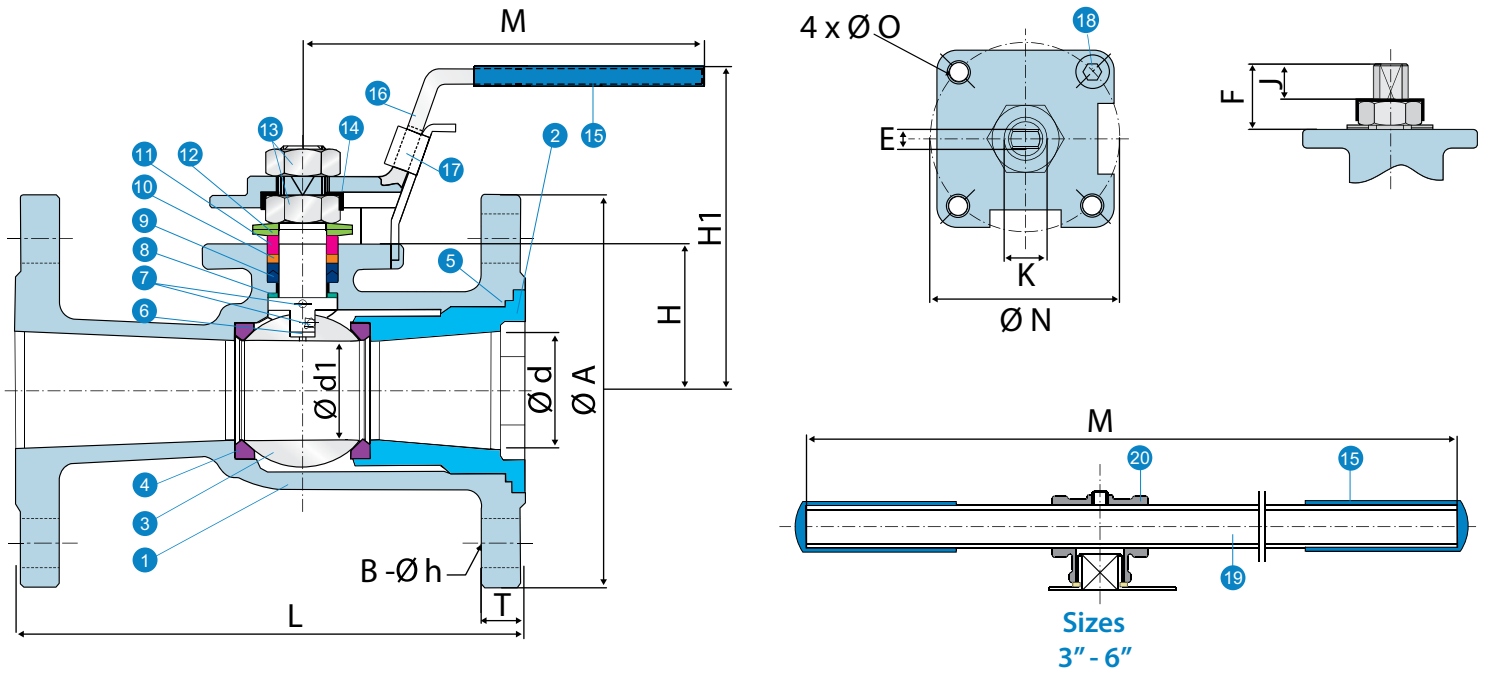
1 Fire safe: 316 Spiral Wound + GRAFOIL

2 Fire safe: GRAFOIL

3 Fire safe: 304SS

4 Color: Blue





## Dimensions

E15: Class 150 - Dimensions in Inches (in)

SIZE	Ø d	Ø d1	L	Ø A	T	H	H1	B	Ø h	M	F	J	E	Ø O	Ø N (ISO)	K
1/2"	0.49	0.39	4.25	3.51	0.40	0.91	2.92	4	0.63	5.36	0.83	0.37	0.25	0.20	1.65 (F04)	3/8-24 UNF
3/4"	0.75	0.49	4.61	3.88	0.43	0.91	2.92	4	0.63	5.36	0.83	0.37	0.25	0.20	1.65 (F04)	3/8-24 UNF
1"	0.99	0.69	5.00	4.26	0.46	1.32	3.45	4	0.63	6.70	0.85	0.40	0.35	0.24	1.97 (F05)	9/16-18 UNF
1-1/4"	1.26	0.99	5.51	4.61	0.52	1.64	3.76	4	0.63	6.70	0.85	0.40	0.35	0.24	1.97 (F05)	9/16-18 UNF
1-1/2"	1.50	1.26	6.50	5.00	0.58	1.87	4.14	4	0.63	7.88	1.26	0.59	0.38	0.32	2.76 (F07)	5/8-18 UNF
2"	1.97	1.50	7.01	6.01	0.64	2.23	4.49	4	0.75	7.88	1.26	0.59	0.38	0.32	2.76 (F07)	5/8-18 UNF
3"	2.99	2.38	8.00	7.51	0.77	2.97	5.59	4	0.75	11.82	1.67	0.73	0.63	0.39	4.02 (F10)	7/8-14 UNF
4"	3.86	2.99	9.02	9.01	0.96	3.78	7.66	8	0.75	15.76	2.17	0.99	0.71	0.39	4.02 (F10)	1-1/8-12 UNF
6"	5.91	3.94	10.52	11.03	1.02	5.24	9.50	8	0.87	15.76	2.44	1.18	0.71	0.39	4.02 (F10)	1-3/8-12 UNF

E15: Class 150 - Dimensions in Millimeters (mm)

SIZE	Ø d	Ø d1	L	Ø A	T	H	H1	B	Ø h	M	F	J	E	Ø O	Ø N (ISO)	K
DN15	12.5	10.0	108.0	89.0	10.1	23.0	74.0	4	16.0	136.0	21.0	9.5	6.3	5	42 (F04)	3/8-24 UNF
DN20	19.0	12.5	117.0	98.6	10.9	23.0	74.0	4	16.0	136.0	21.0	9.5	6.3	5	42 (F04)	3/8-24 UNF
DN25	25.0	17.5	127.0	108.0	11.6	33.5	87.5	4	16.0	170.0	21.5	10.2	9.0	6	50 (F05)	9/16-18 UNF
DN32	32.0	25.0	140.0	117.0	13.1	41.5	95.5	4	16.0	170.0	21.5	10.2	9.0	6	50 (F05)	9/16-18 UNF
DN40	38.0	32.0	165.0	127.0	14.6	47.5	105.0	4	16.0	200.0	32.0	15.0	9.6	8	70 (F07)	5/8-18 UNF
DN50	50.0	38.0	178.0	152.5	16.3	56.5	114.0	4	19.0	200.0	32.0	15.0	9.6	8	70 (F07)	5/8-18 UNF
DN80	76.0	60.3	203.0	190.5	19.5	75.5	142.0	4	19.0	300.0	42.5	18.5	16.0	10	102 (F10)	7/8-14 UNF
DN100	98.0	76.0	229.0	228.6	24.3	96.0	194.5	8	19.0	400.0	55.0	25.0	18.0	10	102 (F10)	1-1/8-12 UNF
DN150	150.0	100.0	267.0	280.0	26.0	133.0	241.0	8	22.0	400.0	62.0	30.0	18.0	10	102 (F10)	1-3/8-12 UNF

# E15: ASME Class 300

## 1 Piece, Reduced Port, Flanged End Ball Valve with Bracket Mount Actuation Design

### Description

The Econ® E15 Series is a one piece, reduced port, flanged end ball valve with bracket mount actuation pad. The E15 is available in sizes ranging from ½" to 4" with ASME Class 300 flanges. Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

### Features

- Size Range: ½" - 4"
- CF8M and WCB Bodies/316SS Trim
- Fire Safe Design Approved
- Built-in ISO 5211 Mounting Pad for Easy Automation
- TFM 1600 Seat Material (PTFE, RTFE Options)
- Anti-Static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot



### Standards

- Design: ASME B16.34, API 608
- Wall Thickness: ASME B16.34
- End Flange: ASME B16.5
- Face to Face: ASME B16.10
- Inspection and Testing: API 598

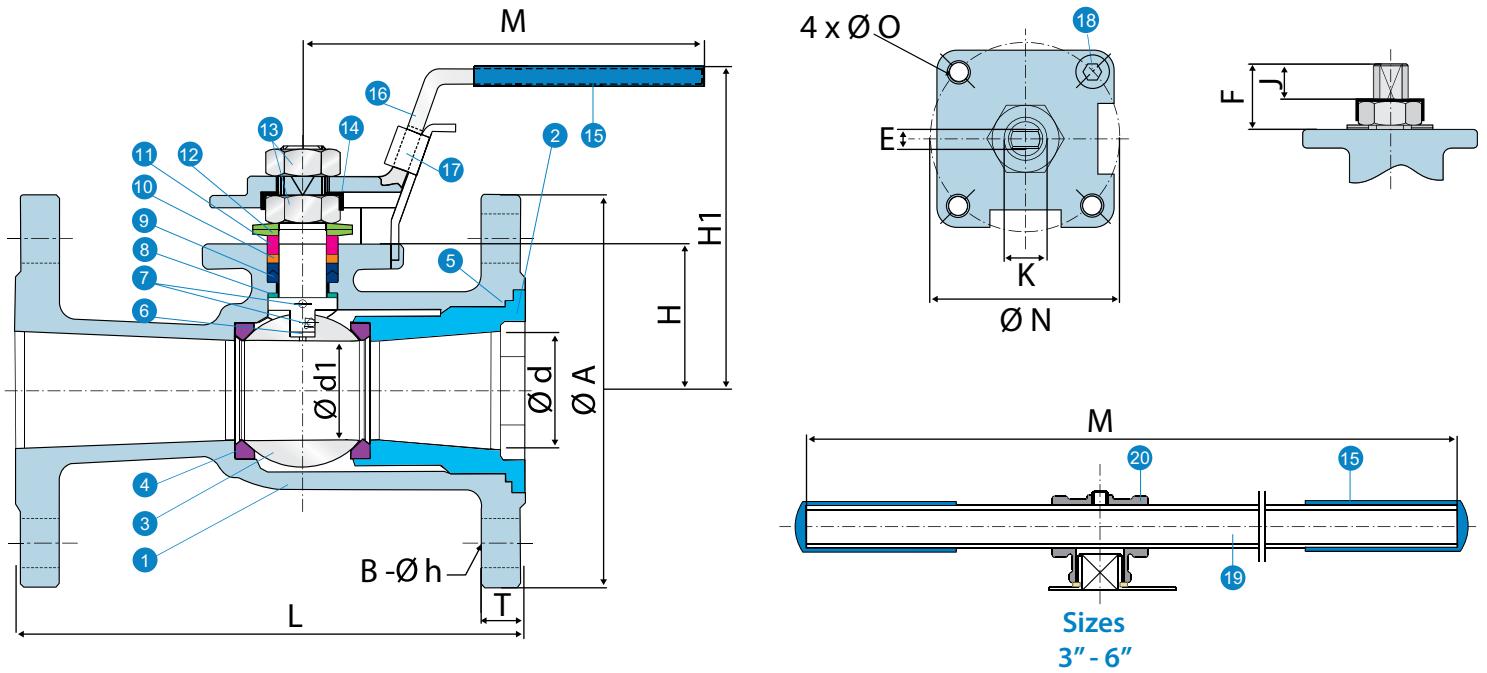
### Materials of Construction

Item	Component	Material		Item	Component	Material	
1	Body	A351-CF8M	A216-WCB	12	Belleville Washer	301SS	301SS
2	End Cap	A351-CF8M	A216-WCB	13	Retaining Nuts	A194-8	A194-8
3	Ball	316SS	316SS	14	Stop-Lock-Cap	304SS	304SS
4	Ball Seat	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE	15	Lever/Pipe Sleeve <sup>3</sup>	Plastic Vinyl	Plastic Vinyl
5	Body Gasket <sup>1</sup>	PTFE	PTFE	16	Lever	304SS	304SS
6	Stem	316SS	316SS	17	Locking Device	304SS	304SS
7	Anti-Static Device	316SS	304SS	18	Stop Bolt	A193-B8	A193-B8
8	Thrust Washer	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE	19	T-Handle	A53 + Zn Plated	A53 + Zn Plated
9	Stem Packing <sup>1</sup>	PTFE	PTFE	20	Handle Adapter	CF8	CF8
10	Bushing <sup>2</sup>	50% SS + 50% PTFE	50% SS + 50% PTFE				
11	Gland	316SS	316SS				

1 Fire safe: GRAFOIL

2 Fire safe: 304SS

3 Color: Blue



## Dimensions

E15: Class 300 - Dimensions in Inches (in)

SIZE	Ø d	Ø d1	L	Ø A	T	H	H1	B	Ø h	M	F	J	E	Ø O	Ø N (ISO)	K
1/2"	0.49	0.39	5.52	3.74	0.58	0.91	2.92	4	0.63	5.40	0.83	0.37	0.25	0.20	1.65 (F04)	3/8-24 UNF
3/4"	0.75	0.49	5.99	4.53	0.64	0.91	2.92	4	0.75	5.40	0.83	0.37	0.25	0.20	1.65 (F04)	3/8-24 UNF
1"	0.99	0.69	6.50	4.93	0.71	1.32	3.45	4	0.75	6.70	0.85	0.40	0.35	0.24	1.97 (F05)	9/16-18 UNF
1-1/4"	1.26	0.99	7.01	5.32	0.77	1.64	3.76	4	0.75	6.70	0.85	0.40	0.35	0.24	1.97 (F05)	9/16-18 UNF
1-1/2"	1.50	1.26	7.49	6.11	0.83	1.87	4.14	4	0.88	7.88	1.26	0.59	0.38	0.32	2.76 (F07)	5/8-18 UNF
2"	1.97	1.50	8.51	6.50	0.89	2.23	4.49	8	0.75	7.88	1.26	0.59	0.38	0.32	2.76 (F07)	5/8-18 UNF
3"	2.99	2.38	11.11	8.27	1.14	2.97	5.59	8	0.88	11.82	1.67	0.73	0.63	0.39	4.02 (F10)	7/8-14 UNF
4"	3.86	2.99	12.02	8.87	1.27	3.78	7.68	8	0.88	15.76	2.17	0.99	0.71	0.39	4.02 (F10)	1-1/8-12 UNF

E15: Class 300 - Dimensions in Millimeters (mm)

SIZE	Ø d	Ø d1	L	Ø A	T	H	H1	B	Ø h	M	F	J	E	Ø O	Ø N (ISO)	K
DN15	12.5	10.0	140.0	95.0	14.7	23.0	74.0	4	16.0	137.0	21.0	9.5	6.3	5	42 (F04)	3/8-24 UNF
DN20	19.0	12.5	152.0	115.0	16.3	23.0	74.0	4	19.0	137.0	21.0	9.5	6.3	5	42 (F04)	3/8-24 UNF
DN25	25.0	17.5	165.0	125.0	17.9	33.5	87.5	4	19.0	170.0	21.5	10.2	9.0	6	50 (F05)	9/16-18 UNF
DN32	32.0	25.0	178.0	135.0	19.5	41.5	95.5	4	19.0	170.0	21.5	10.2	9.0	6	50 (F05)	9/16-18 UNF
DN40	38.0	32.0	190.0	155.0	21.1	47.5	105.0	4	22.3	200.0	32.0	15.0	9.6	8	70 (F07)	5/8-18 UNF
DN50	50.0	38.0	216.0	165.0	22.7	56.5	114.0	8	19.0	200.0	32.0	15.0	9.6	8	70 (F07)	5/8-18 UNF
DN80	76.0	60.3	282.0	210.0	29.0	75.5	142.0	8	22.3	300.0	42.5	18.5	16.0	10	102 (F10)	7/8-14 UNF
DN100	98.0	76.0	305.0	225.0	32.2	96.0	195.0	8	22.3	400.0	55.0	25.0	18.0	10	102 (F10)	1-1/8-12 UNF



# E20: 2000 - 1500 WOG

3 Piece Full Port Ball Valve with NPT, Socket or Butt Weld Ends with Direct Mount Actuation Design

## Description

The Econ® E20 Series is a three piece, full port ball valve with NPT, socket or butt weld ends and ISO 5211 compliant direct mount actuation pad. The E20 is rated to 2000 WOG in sizes ranging from ¼" to 1" and to 1500 WOG in sizes ranging from 1-¼" to 2". Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

## Features

- Size Range: ¼" – 2"
- CF8M and WCB Bodies/316SS Trim
- Fire Safe to API 607 5th Edition
- Built-in ISO 5211 Mounting Pad for Easy Automation
- TFM 4215 Seat Material (TFM 1600 + 15% Carbon Option)
- Anti-Static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-Luft Design/Approved Live Loaded Stem Packing
- 30° & 60° V-Notch Optional Control Ball



## Standards

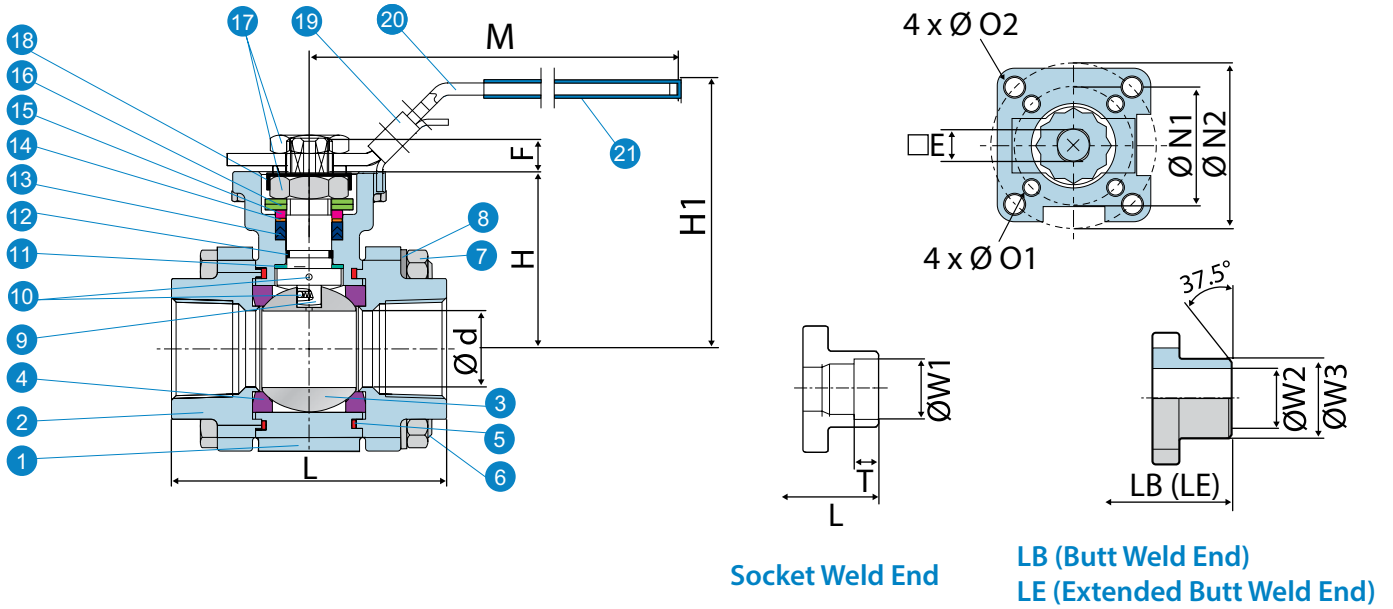
- Design: ASME B16.34, MSS SP-110, API608
- 2000 WOG for ¼" - 1"
- 1500 WOG for 1-¼" - 2"
- Fire Safe: API 607, ISO 10497
- Wall Thickness: ASME B16.34 Class 800
- Pipe Thread: ASME B1.20.1
- Butt Weld: ASME B16.25 (Ø B2 Sch 80)
- Socket Weld ASME B16.11
- Inspection and Testing: API 598

## Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	Cap (Thread)	A351-CF8M	A216-WCB
	Cap (Welding)	A351-CF3M	A216-WCB
3	Ball	316SS	316SS
4	Ball Seat	TFM 4215	TFM 4215
5	Body Gasket	GRAFOIL	GRAFOIL
6	Bolt	A193-B8	A193-B8
7	Bolt Nut	A194-8	A194-8
8	Bolt Washer	304SS	304SS
9	Stem	316SS	316SS
10	Anti-Static Device	316SS	304SS
11	Thrust Washer	PTFE	PTFE

Item	Component	Material	
12	O-Ring	FKM	FKM
13	Stem Packing	GRAFOIL	GRAFOIL
14	Bushing	304SS	304SS
15	Gland	316SS	316SS
16	Belleville Washer	301SS	301SS
17	Retaining Nuts	A194-8	A194-8
18	Stop-Lock-Cap	304SS	304SS
19	Locking Device	304SS	304SS
20	Lever	304SS	304SS
21	Lever Sleeve <sup>1</sup>	Plastic Vinyl	Plastic Vinyl

<sup>1</sup> Color: Blue



## Dimensions

E20: 2000 - 1500 WOG - Dimensions in Inches (in)																	
SIZE	Ø d	L	LB	LE	H	H1	F	M	Ø 01	Ø 02	□E	Ø N1 (ISO 1)	Ø N2 (ISO 2)	T	Ø W1	Ø W2	Ø W3
1/4"	0.42	2.96	2.76	6.50	1.69	3.27	0.28	5.32	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)	0.39	0.55	0.30	0.71
3/8"	0.50	2.96	2.76	6.50	1.69	3.27	0.28	5.32	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)	0.39	0.70	0.42	0.71
1/2"	0.59	2.96	2.96	6.50	1.69	3.27	0.28	5.32	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)	0.39	0.86	0.55	0.87
3/4"	0.79	3.15	3.55	7.49	1.97	3.03	0.35	5.32	0.24	0.28	0.35	1.42 (F03)	1.97 (F05)	0.51	1.07	0.74	1.10
1"	0.99	3.55	3.94	8.51	2.29	3.45	0.43	6.70	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)	0.51	1.33	0.96	1.34
1-1/4"	1.28	4.33	4.33	9.02	2.48	4.06	0.43	6.70	0.24	0.35	0.43	1.65 (F04)	2.76 (F07)	0.63	1.68	1.28	1.69
1-1/2"	1.50	4.73	4.93	9.50	2.94	4.18	0.55	7.88	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)	0.63	1.91	1.50	1.97
2"	1.97	5.52	5.91	11.50	3.35	4.61	0.55	7.88	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)	0.67	2.41	1.94	1.22

E20: 2000 - 1500 WOG - Dimensions in Millimeters (mm)																	
SIZE	Ø d	L	LB	LE	H	H1	F	M	Ø 01	Ø 02	□E	Ø N1 (ISO 1)	Ø N2 (ISO 2)	T	Ø W1	Ø W2	Ø W3
DN8	10.6	75.0	70.0	165.0	43.0	83.0	7.0	135.0	6.0	6.0	9.0	36 (F03)	42 (F04)	10.0	14.0	7.6	18.0
DN10	12.7	75.0	70.0	165.0	43.0	83.0	7.0	135.0	6.0	6.0	9.0	36 (F03)	42 (F04)	10.0	17.8	10.7	18.0
DN15	15.0	75.0	75.0	165.0	43.0	83.0	7.0	135.0	6.0	6.0	9.0	36 (F03)	42 (F04)	10.0	21.8	13.9	22.0
DN20	20.0	80.0	90.0	190.0	50.0	77.0	9.0	135.0	6.0	7.0	9.0	36 (F03)	50 (F05)	13.0	27.1	18.8	28.0
DN25	25.0	90.0	100.0	216.0	58.0	87.5	11.0	170.0	6.0	7.0	11.0	42 (F04)	50 (F05)	13.0	33.8	24.3	34.0
DN32	32.4	110.0	110.0	229.0	63.0	103.0	11.0	170.0	6.0	9.0	11.0	42 (F04)	70 (F07)	16.0	42.6	32.5	43.0
DN40	38.0	120.0	125.0	241.0	74.5	106.0	14.0	200.0	7.0	9.0	14.0	50 (F05)	70 (F07)	16.0	48.6	38.1	50.0
DN50	50.0	140.0	150.0	292.0	85.0	117.0	14.0	200.0	7.0	9.0	14.0	50 (F05)	70 (F07)	17.0	61.2	49.2	31.0

# E30: 2000 - 1500 WOG

2 Piece, Full Port NPT Ball Valve with Direct Mount Actuation Design

## Description

The Econ® E30 Series is a two piece, full port ball valve with NPT ends and ISO 5211 compliant direct mount actuation pad. The E30 is rated to 2000 WOG in sizes ranging from ¼" to 1" and 1500 WOG in sizes ranging from 1-¼" to 2". Valve bodies are made of either CF8M or WCB with 316SS trim and TFM 4215 seats.

## Features

- Size Range: ¼" – 2"
- CF8M and WCB Bodies/316SS Trim
- Fire Safe Design Approved
- Built-in ISO 5211 Mounting Pad for Easy Automation
- TFM 4215 Seats
- Anti-Static Devices for Ball-stem-body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-Luft Design/Approved Live Loaded Stem Packing



## Standards

- Design: ASME B16.34, MSS SP-110
- 2000 WOG for ¼" - 1"
- 1500 WOG for 1¼" - 2"
- Pipe Thread: ASME B1.20.1
- Inspection and Testing: API 598

## Materials of Construction

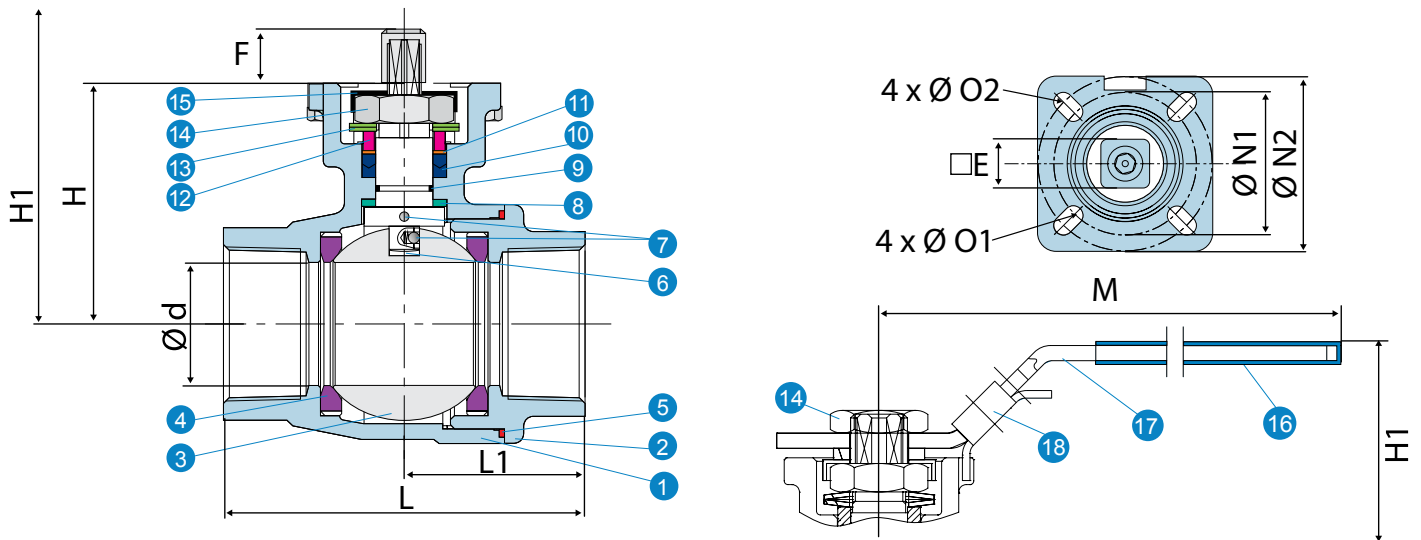
Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	End Cap	A351-CF8M	A216-WCB
3	Ball	316SS	316SS
4	Ball Seat	TFM4215 / TFM1600 + 15% Carbon	TFM4215 / TFM1600 + 15% Carbon
5	Body Gasket <sup>1</sup>	PTFE	PTFE
6	Stem	316SS	316SS
7	Anti-Static Device	316SS	304SS
8	Thrust Washer	PTFE	PTFE
9	O-Ring	FKM	FKM
10	Stem Packing <sup>1</sup>	PTFE	PTFE
11	Bushing <sup>2</sup>	50% SS + 50% PTFE	50% SS + 50% PTFE
12	Gland	316SS	316SS
13	Belleville Washer	301SS	301SS
14	Retaining Nuts	A194-8	A194-8
15	Stop-Lock-Cap	304SS	304SS
16	Lever Sleeve <sup>3</sup>	Plastic Vinyl	Plastic Vinyl
17	Lever	304SS	304SS
18	Locking Device	304SS	304SS

1 Fire safe: GRAFOIL

2 Fire safe: 304SS

3 Color: Blue





## Dimensions

E30: 2000 - 1500 WOG - Dimensions in Inches (in)

SIZE	Ø d	L	L1	H	H1	F	M	Ø O1	Ø O2	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
1/4"	0.42	2.44	1.14	1.70	2.76	0.35	5.71	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
3/8"	0.47	2.44	1.14	1.70	2.76	0.35	5.71	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
1/2"	0.59	2.96	1.36	1.70	2.76	0.35	5.71	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
3/4"	0.79	3.15	1.46	2.00	3.07	0.35	5.71	0.24	0.28	0.35	1.42 (F03)	1.97 (F05)
1"	0.99	3.55	1.77	2.29	3.51	0.43	6.90	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/4"	1.26	4.33	2.01	2.48	3.68	0.43	6.90	0.24	0.35	0.43	1.65 (F04)	2.76 (F07)
1-1/2"	1.50	4.73	2.36	2.92	4.18	0.55	7.49	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
2"	1.97	5.51	2.76	3.29	4.55	0.55	7.49	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)

E30: 2000 - 1500 WOG - Dimensions in Millimeters (mm)

SIZE	Ø d	L	L1	H	H1	F	M	Ø O1	Ø O2	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
DN8	10.6	62.0	29.0	43.1	70.0	9.0	145.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN10	12.0	62.0	29.0	43.1	70.0	9.0	145.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN15	15.0	75.0	34.5	43.1	70.0	9.0	145.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN20	20.0	80.0	37.0	50.7	78.0	9.0	145.0	6.0	7.0	9.0	36 (F03)	50 (F05)
DN25	25.0	90.0	45.0	58.0	89.0	11.0	175.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN32	32.0	110.0	51.0	63.0	93.5	11.0	175.0	6.0	9.0	11.0	42 (F04)	70 (F07)
DN40	38.0	120.0	60.0	74.0	106.0	14.0	190.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN50	50.0	140.0	70.0	83.5	115.5	14.0	190.0	7.0	9.0	14.0	50 (F05)	70 (F07)

# E52: 1000 WOG

2 Piece, Full Port NPT Ball Valve

## Description

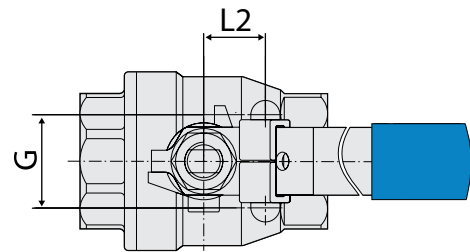
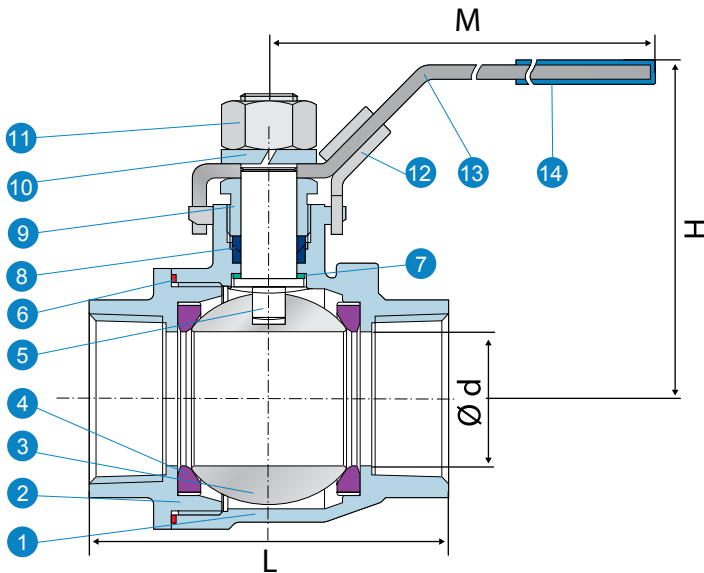
The Econ® E52 Series is a two piece, full port ball valve with NPT ends. The E52 is rated to 1000 WOG and is available in sizes ranging from 1/4" to 2". Valve bodies are made of either CF8M or WCB with 316SS trim and PTFE seats.

## Features

- Size Range: 1/4" – 2"
- CF8M and WCB Bodies/316SS Trim
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot

## Standards

- Design: ASME B16.34,
- Pipe Thread: ASME B1.20.1
- Inspection and Testing: API 598



## Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	Cap	A351-CF8M	A216-WCB
3	Ball	316SS	316SS
4	Ball Seat	PTFE	PTFE
5	Stem	316SS	316SS
6	Body Gasket	PTFE	PTFE
7	Thrust Washer	PTFE	PTFE
8	V-Ring Packing	PTFE	PTFE
9	Gland Nut	304SS	304SS
10	Stem Washer	304SS	304SS
11	Retaining Nut	A194-8	A194-8
12	Locking Device	304SS	304SS
13	Lever	304SS	304SS
14	Lever Sleeve	Plastic Vinyl	Plastic Vinyl

## Dimensions

E52: 1000 WOG - Dimensions in Inches (in)						
SIZE	Ø d	L	H	M	L2	G
1/4"	0.42	2.29	2.29	3.94	0.50	1.12
3/8"	0.47	2.29	2.29	3.94	0.50	1.12
1/2"	0.59	2.44	2.29	3.94	0.50	1.12
3/4"	0.79	2.85	2.52	5.08	0.87	1.37
1"	0.99	3.35	3.03	6.15	0.87	1.37
1-1/4"	1.26	3.70	3.27	6.15	0.93	1.50
1-1/2"	1.50	4.14	3.78	7.19	0.93	1.50
2"	1.97	4.92	4.02	7.19	0.93	1.50

E52: 1000 WOG - Dimensions in Millimeters (mm)						
SIZE	Ø d	L	H	M	L2	G
DN8	10.6	58.0	58.0	100.0	12.7	28.5
DN10	12.0	58.0	58.0	100.0	12.7	28.5
DN15	15.0	62.0	58.0	100.0	12.7	28.5
DN20	20.0	72.4	64.0	129.0	22.0	34.8
DN25	25.0	85.0	77.0	156.0	22.0	34.8
DN32	32.0	94.0	83.0	156.0	23.6	38.1
DN40	38.0	105.0	96.0	182.5	23.6	38.1
DN50	50.0	125.0	102.0	182.5	23.6	38.1

# E55: 1000 WOG

1 Piece, Reduced Port NPT Ball Valve

## Description

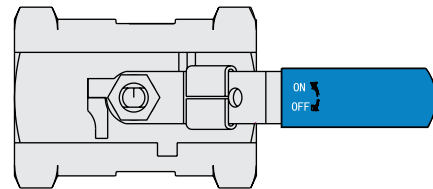
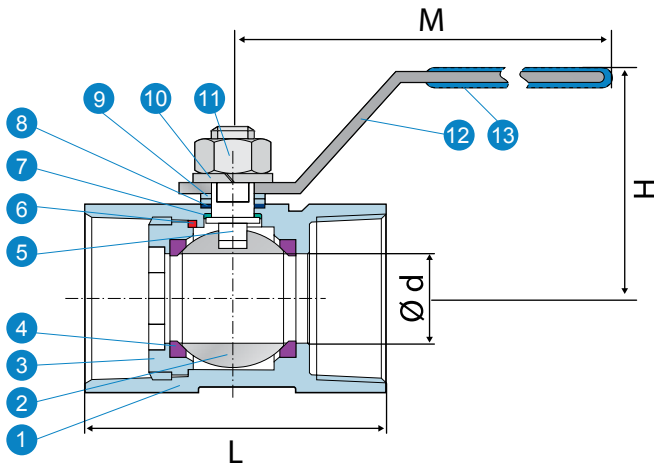
The Econ® E55 Series is a one piece, double reduced port ball valve with NPT ends. The E55 is rated to 1000 WOG and is available in sizes ranging from 1/4" to 2". Valve bodies are made of either 316SS or Carbon Steel with 316SS trim and PTFE seats.

## Features

- Size Range: 1/4" – 2"
- Carbon Steel and 316SS Bodies/316SS Trim
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- Locking Device is Available Upon Request

## Standards

- Design: ASME B16.34, MSS SP-110
- Pipe Thread: ASME B1.20.1
- Inspection and Testing: MSS SP-110



## Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	Ball	316SS	316SS
3	End Plug	A351-CF8M	A216-WCB
4	Ball Seat	PTFE	PTFE
5	Stem	316SS	316SS
6	Body Gasket	PTFE	PTFE
7	Thrust Washer	PTFE	PTFE
8	Stem Packing	PTFE	PTFE
9	Gland Nut	304SS	304SS
10	Stem Washer	304SS	304SS
11	Retaining Nut	A194-8	A194-8
12	Lever	304SS	304SS
13	Lever Sleeve	Plastic Vinyl	Plastic Vinyl

## Dimensions

E55: 1000 WOG - Dimensions in Inches (in)				
SIZE	Ø d	L	H	M
1/4"	0.20	1.64	1.34	2.76
3/8"	0.28	1.85	1.38	3.15
1/2"	0.36	2.29	1.73	3.62
3/4"	0.49	2.40	1.81	3.62
1"	0.59	2.90	2.01	4.53
1-1/4"	0.79	3.07	2.29	4.53
1-1/2"	0.99	3.35	2.60	5.00
2"	1.26	4.02	2.84	5.00

E55: 1000 WOG - Dimensions in Millimeters (mm)				
SIZE	Ø d	L	H	M
DN8	5.0	41.5	34.0	70.0
DN10	7.0	47.0	35.0	80.0
DN15	9.1	58.0	44.0	92.0
DN20	12.5	61.0	46.0	92.0
DN25	15.0	73.5	51.0	115.0
DN32	20.0	78.0	58.0	115.0
DN40	25.0	85.0	66.0	127.0
DN50	32.0	102.0	72.0	127.0



# E60: ASME Class 150

## 3-Way Full Port, Flanged End Ball Valve with Direct Mount Actuation Design

### Description

The Econ® E60 Series is a three-way, flanged end ball valve with ISO 5211 compliant direct mount actuation pad. The E60 is available in sizes ranging from ¼" to 4" with ASME Class 150 flanges. Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

### Features

- Size Range: ¼" – 4"
- CF8M and WCB Bodies/316SS Trim
- Built-in ISO 5211 Mounting Pad for Easy Automation
- Anti-Static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-LUFT Design/Approved Live Loaded Stem Packing
- Locking in Every 90° Increments
- L-Port and T-Port Configurations Available

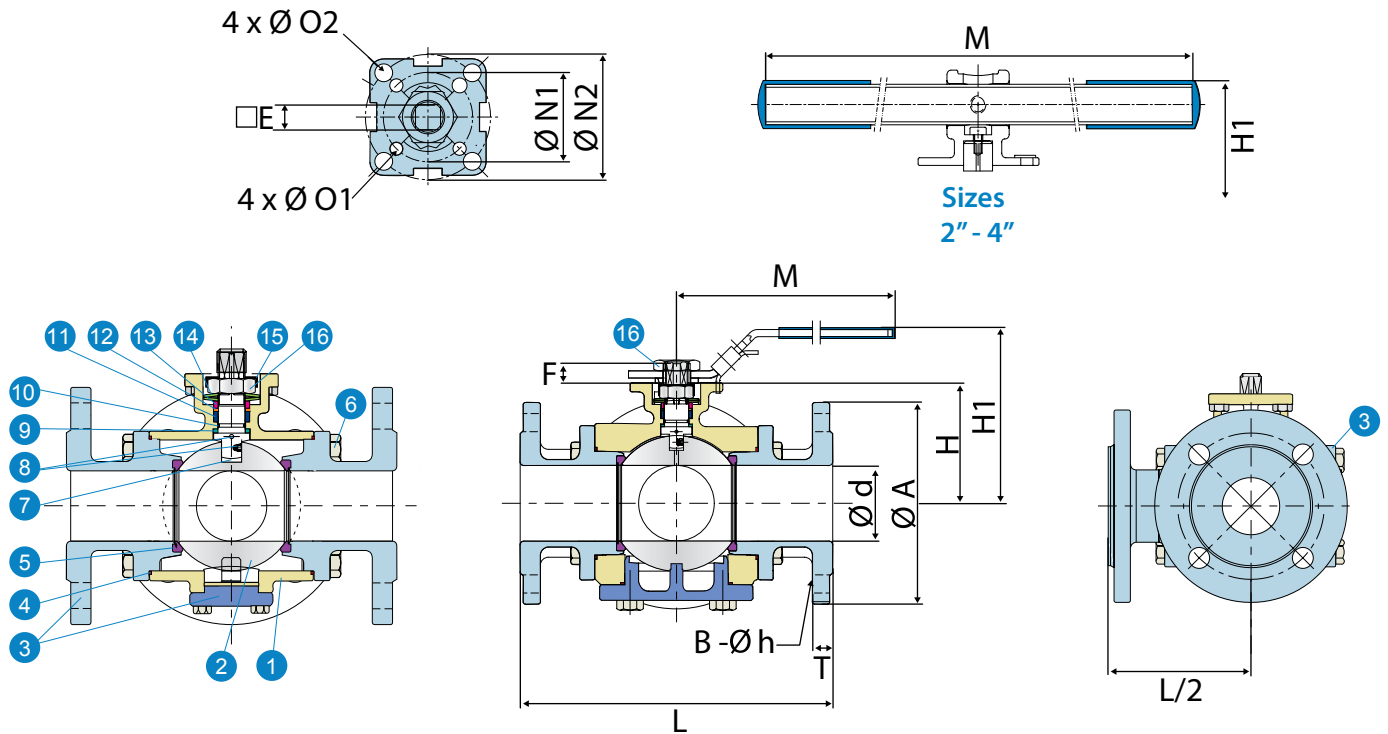


### Standards

- Design: ASME B16.34, API 608
- Flanged Ends: ASME B16.5
- Wall Thickness: ASME B16.34
- Inspection and Testing: API 598

### Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	Ball	316SS	316SS
3	Cap	A351-CF8M	A216-WCB
	End Cap	A351-CF8M	A216-WCB
	Bottom Cap	A351-CF8M	A216-WCB
4	Body Gasket	PTFE	PTFE
5	Ball Seat	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE
6	Bolt	A193-B8	A193-B7
7	Stem	316SS	316SS
8	Anti-Static Device	316SS	304SS
9	Thrust Washer	PTFE	PTFE
10	O-Ring	FKM	FKM
11	Stem Packing	PTFE	PTFE
12	Bushing	50% SS + 50% PTFE	50% SS + 50% PTFE
13	Gland	316SS / 304SS	316SS / 304SS
14	Belleville Washer	301SS	301SS
15	Stop-Lock-Cap	304SS	304SS
16	Retaining Nuts	A194-8	A194-8



Sizes  
2" - 4"

## Dimensions

E60: Class 150 - Dimensions in Inches (in)															
SIZE	Ø d	L	Ø A	T	H	H1	M	B	Ø h	F	Ø O1	Ø O2	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
1/2"	0.59	5.91	3.55	0.32	2.09	3.28	5.69	4	0.63	0.35	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
3/4"	0.79	6.50	3.94	0.35	2.25	3.43	5.69	4	0.63	0.35	0.24	0.28	0.35	1.42 (F03)	1.97 (F05)
1"	0.98	7.13	4.33	0.38	2.68	3.90	6.90	4	0.63	0.43	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/4"	1.26	7.49	4.53	0.44	2.84	4.06	6.90	4	0.63	0.43	0.24	0.35	0.43	1.65 (F04)	2.76 (F07)
1-1/2"	1.50	8.35	5.12	0.50	3.35	4.69	7.88	4	0.63	0.55	0.28	0.35	0.55	2 (F05)	2.76 (F07)
2"	1.93	9.06	5.91	0.56	3.62	4.96	7.88	4	0.75	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
3"	2.95	12.21	7.49	0.69	4.69	7.29	15.76	4	0.75	0.67	0.35	0.43	0.67	2.76 (F07)	4.02 (F10)
4"	3.90	14.46	9.06	0.88	5.91	8.71	15.76	8	0.75	0.87	-	0.43	0.87	-	4.02 (F10)

E60: Class 150 - Dimensions in Millimeters (mm)															
SIZE	Ø d	L	Ø A	T	H	H1	M	B	Ø h	F	Ø O1	Ø O2	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
DN15	15	150.0	90.0	8.0	53.0	83.3	144.5	4	16.0	9.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN20	20	165.0	100.0	8.9	57.0	87.0	144.5	4	16.0	9.0	6.0	7.0	9.0	36 (F03)	50 (F05)
DN25	25	181.0	110.0	9.6	68.0	99.0	175.0	4	16.0	11.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN32	32	190.0	115.0	11.2	72.0	103.0	175.0	4	16.0	11.0	6.0	9.0	11.0	42 (F04)	70 (F07)
DN40	38	212.0	130.0	12.7	85.0	119.0	200.0	4	16.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN50	49	230.0	150.0	14.3	92.0	126.0	200.0	4	19.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN80	75	310.0	190.0	17.5	119.0	185.0	400.0	4	19.0	17.0	9.0	11.0	17.0	70 (F07)	102 (F10)
DN100	99	367.0	230.0	22.3	150.0	221.0	400.0	8	19.0	22.0	-	11.0	22.0	-	102 (F10)

# E60: ASME Class 300

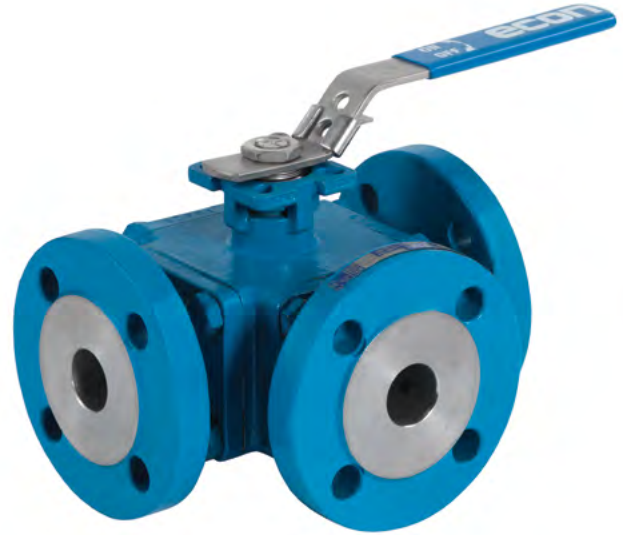
## 3-Way Full Port, Flanged End Ball Valve with Direct Mount Actuation Design

### Description

The Econ® E60 Series is a three-way, flanged end ball valve with ISO 5211 compliant direct mount actuation pad. The E60 is available in sizes ranging from ¼" to 4" with ASME Class 300 flanges. Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

### Features

- Size Range: ¼" – 4"
- CF8M and WCB Bodies/316SS Trim
- Built-in ISO 5211 Mounting Pad for Easy Automation
- Anti-Static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-LUFT Design/Approved Live Loaded Stem Packing
- Locking in Every 90° Increments
- L-Port and T-Port Configurations Available



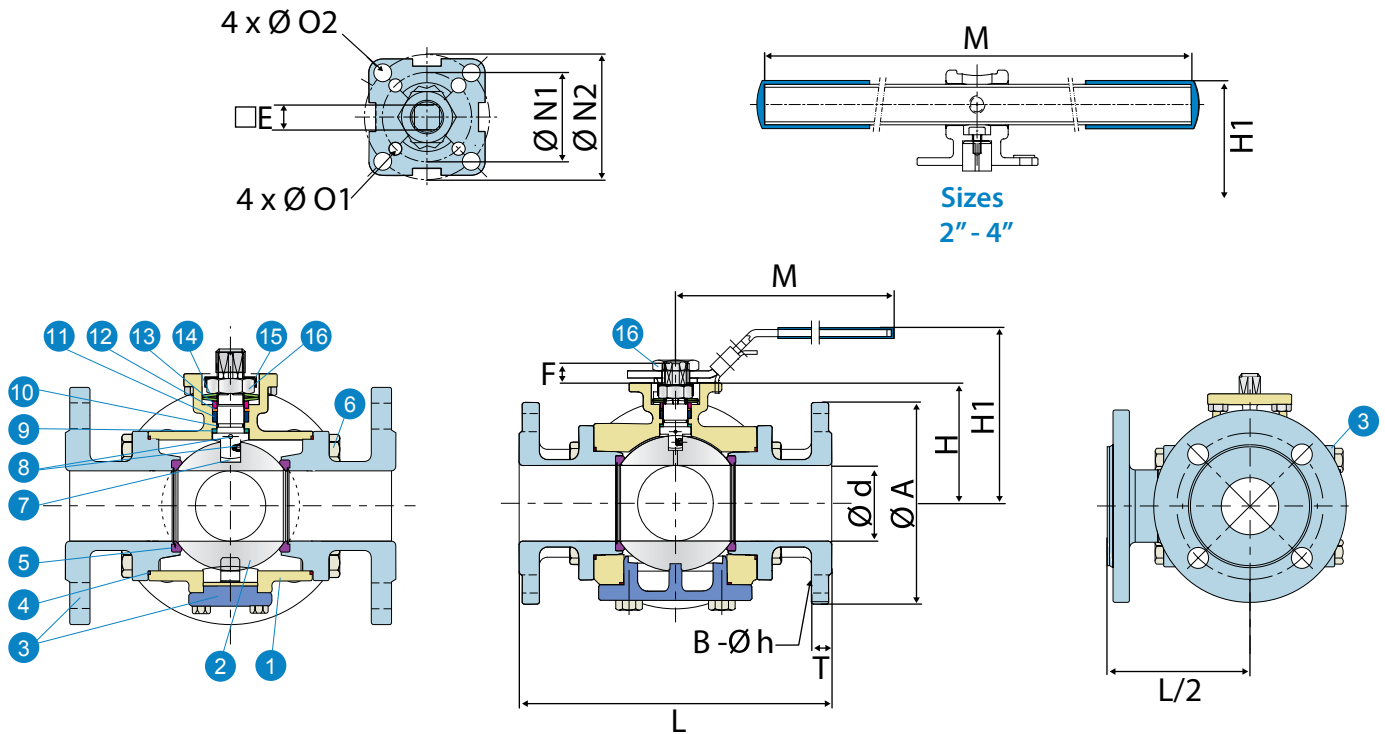
### Standards

- Design: ASME B16.34, API 608
- Flanged Ends: ASME B16.5
- Wall Thickness: ASME B16.34
- Inspection and Testing: API 598

### Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	Ball	316SS	316SS
3	Cap	A351-CF8M	A216-WCB
	End Cap	A351-CF8M	A216-WCB
	Bottom Cap	A351-CF8M	A216-WCB
4	Body Gasket	PTFE	PTFE
5	Ball Seat	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE
6	Bolt	A193-B8	A193-B7
7	Stem	316SS	316SS
8	Anti-Static Device	316SS	304SS
9	Thrust Washer	PTFE	PTFE
10	O-Ring	FKM	FKM
11	Stem Packing	PTFE	PTFE
12	Bushing	50% SS + 50% PTFE	50% SS + 50% PTFE
13	Gland	316SS / 304SS	316SS / 304SS
14	Belleville Washer	301SS	301SS
15	Stop-Lock-Cap	304SS	304SS
16	Retaining Nuts	A194-8	A194-8





## Dimensions

E60: Class 300 - Dimensions in Inches (in)															
SIZE	Ø d	L	Ø A	T	H	H1	M	B	Ø h	F	Ø 01	Ø 02	□E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
1/2"	0.59	5.91	3.74	0.50	2.09	3.28	5.69	4	0.63	0.35	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
3/4"	0.79	6.50	4.53	0.56	2.25	3.43	5.69	4	0.75	0.35	0.24	0.28	0.35	1.42 (F03)	1.65 (F05)
1"	0.98	7.13	4.93	0.63	2.68	3.90	6.90	4	0.75	0.43	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/4"	1.26	8.16	5.32	0.69	2.84	4.06	6.90	4	0.75	0.43	0.24	0.35	0.43	1.65 (F04)	2.76 (F07)
1-1/2"	1.50	9.22	6.11	0.75	3.35	4.69	7.88	4	0.88	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
2"	1.93	10.17	6.50	0.82	3.62	4.96	7.88	8	0.75	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
3"	2.95	14.18	8.27	1.06	4.69	7.29	15.76	8	0.88	0.67	0.35	0.43	0.67	2.76 (F07)	4.02 (F10)
4"	3.90	15.68	8.87	1.19	5.91	8.71	15.76	8	0.88	0.87	-	0.43	0.87	-	4.02 (F10)

E60: Class 300 - Dimensions in Millimeters (mm)															
SIZE	Ø d	L	Ø A	T	H	H1	M	B	Ø h	F	Ø 01	Ø 02	□E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
DN15	15	150.0	95.0	12.7	53.0	83.3	144.5	4	16.0	9.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN20	20	165.0	115.0	14.3	57.0	87.0	144.5	4	19.0	9.0	6.0	7.0	9.0	36 (F03)	42 (F05)
DN25	25	181.0	125.0	15.9	68.0	99.0	175.0	4	19.0	11.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN32	32	207.0	135.0	17.5	72.0	103.0	175.0	4	19.0	11.0	6.0	9.0	11.0	42 (F04)	70 (F07)
DN40	38	234.0	155.0	19.1	85.0	119.0	200.0	4	22.3	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN50	49	258.0	165.0	20.7	92.0	126.0	200.0	8	19.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN80	75	360.0	210.0	27.0	119.0	185.0	400.0	8	22.3	17.0	9.0	11.0	17.0	70 (F07)	102 (F10)
DN100	99	398.0	225.0	30.2	150.0	221.0	400.0	8	22.3	22.0	-	11.0	22.0	-	102 (F10)

# E70: 1000 WOG

## 3-Way Full Port NPT Ball Valve with Direct Mount Actuation Design

### Description

The Econ® E70 Series is a three-way, full port ball valve with NPT ends and ISO 5211 compliant direct mount actuation pad. The E70 is rated to 1000 WOG and is available in sizes ranging from 1/4" to 1-1/2". Valve bodies are made of either CF8M or WCB with 316SS trim and a variety of seat materials to choose from.

### Features

- Size Range: 1/2" – 1-1/2"
- CF8M and WCB Bodies/316SS Trim
- Built-in ISO 5211 Mounting Pad for Easy Automation
- Anti-Static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- TA-LUFT Design/Approved Live Loaded Stem Packing
- Positive Position Location at 90° Increments
- Locking in Every 90° Increments
- L-Port and T-Port Configurations Available

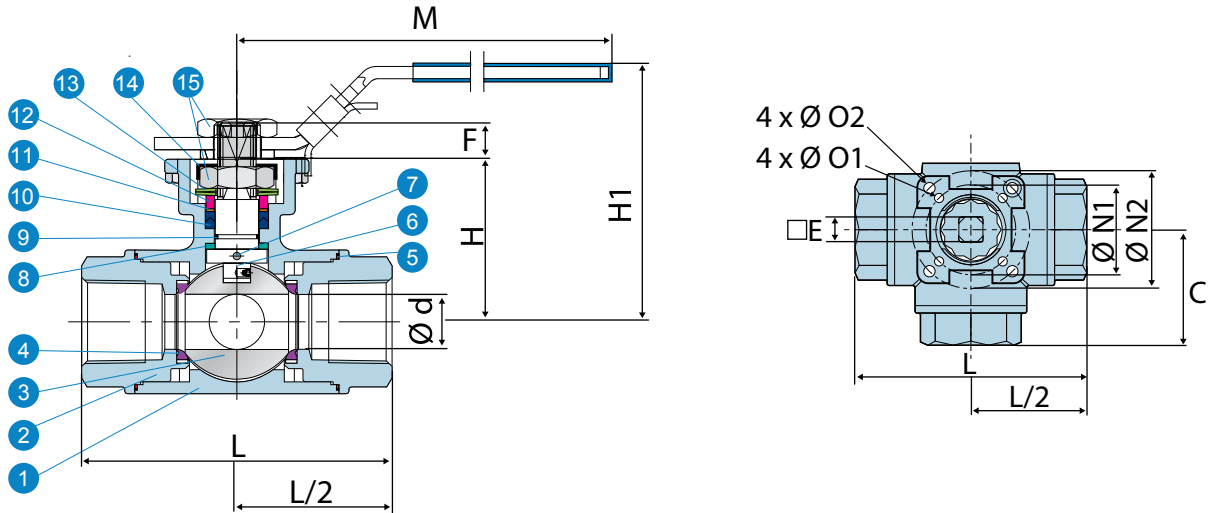


### Standards

- Design: ASME B16.34, MSS SP-110
- Wall Thickness: ASME B16.34 Class 400
- Pipe Thread: ASME B1.20.1
- Inspection and Testing: API 598

### Materials of Construction

Item	Component	Material	
1	Body	A351-CF8M	A216-WCB
2	End Cap	A351-CF8M	A216-WCB
3	Ball	316SS	316SS
4	Ball Seat	TFM1600 / PTFE / RTFE	TFM1600 / PTFE / RTFE
5	Body Gasket	PTFE	PTFE
6	Stem	316SS	316SS
7	Anti-Static Device	316SS	304SS
8	Thrust Washer	PTFE	PTFE
9	O-Ring	FKM	FKM
10	Stem Packing	PTFE	PTFE
11	Bushing	50% SS + 50% PTFE	50% SS + 50% PTFE
12	Gland	316SS	316SS
13	Belleville Washer	301SS	301SS
14	Stop-Lock-Cap	304SS	304SS
15	Retaining Nuts	A194-8	A194-8



## Dimensions

E70: 1000 WOG - Dimensions in Inches (in)

SIZE	Ø d	L	H	H1	M	F	C	Ø O1	Ø O2	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
1/2"	0.59	3.47	1.93	3.03	5.79	0.35	1.73	0.28	0.24	0.35	1.42 (F03)	1.97 (F05)
3/4"	0.79	4.25	2.34	3.43	6.96	0.43	2.13	0.28	0.24	0.43	1.65 (F04)	1.97 (F05)
1"	0.98	4.88	2.48	3.66	6.96	0.43	2.44	0.35	0.24	0.43	1.65 (F04)	2.76 (F07)
1-1/4"	1.26	5.32	2.90	4.06	8.47	0.55	2.66	0.35	0.28	0.55	1.97 (F05)	2.76 (F07)
1-1/2"	1.57	6.46	3.26	4.45	8.47	0.55	3.23	0.35	0.28	0.55	1.97 (F05)	2.76 (F07)

E70: 1000 WOG - Dimensions in Millimeters (mm)

SIZE	Ø d	L	H	H1	M	F	C	Ø O1	Ø O2	□ E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
DN15	15	88.0	49.0	77.0	147.0	9.0	44.0	7.0	6.0	9.0	36 (F03)	50 (F05)
DN20	20	108.0	59.5	87.0	176.5	11.0	54.0	7.0	6.0	11.0	42 (F04)	50 (F05)
DN25	25	124.0	63.0	93.0	176.5	11.0	62.0	9.0	6.0	11.0	42 (F04)	70 (F07)
DN32	32	135.0	73.5	103.0	215.0	14.0	67.5	9.0	7.0	14.0	50 (F05)	70 (F07)
DN40	40	164.0	82.8	113.0	215.0	14.0	82.0	9.0	7.0	14.0	50 (F05)	70 (F07)

# Cv of Ball Valve

## Standard and V-Notch Balls

### Standard Ball

Cv Value of Ball Valve													
Size/Series	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"	5"	6"	8"
	DN8	DN10	DN15	DN20	DN25	DN32	DN40	DN50	DN80	DN100	DN125	DN150	DN200
E10	-	-	18	36	48	72	120	190	600	1100	1700	2600	4200
E15	-	-	15	18	36	48	58	120	450	600	-	-	-
E20	-	-	18	36	48	72	120	190	-	-	-	-	-
E30	-	-	18	36	48	72	120	190	-	-	-	-	-
E52	-	-	18	36	48	72	120	190	600	-	-	-	-
E55	-	-	-	-	18	36	48	72	-	-	-	-	-
E60	15	15	18	36	45	58	112	224	410	762	-	-	-
E70	13	13	18	36	45	58	120	-	-	-	-	-	-

### 30° V-Notch Ball

Cv Value of Ball Valve with 30° V-Notch													
Series	Size		V-Notch	10% Open	20% Open	30% Open	40% Open	50% Open	60% Open	70% Open	80% Open	90% Open	100% Open
	E10 & E20	1/2"	DN15	30°	0.00	0.00	0.16	0.45	0.79	1.36	1.94	3.03	4.21
E10 & E20	3/4"	DN20	30°	0.01	0.01	0.27	0.76	1.32	2.28	3.25	5.10	7.08	9.26
E10 & E20	1"	DN25	30°	0.01	0.01	0.42	1.17	2.04	3.52	5.03	7.88	10.94	14.31
E10 & E20	1-1/2"	DN40	30°	0.02	0.03	0.95	2.30	4.09	6.63	9.78	13.73	19.13	23.85
E10 & E20	2"	DN50	30°	0.00	0.00	2.76	5.70	9.84	15.25	23.02	32.12	42.09	42.18
E10	3"	DN80	30°	0.02	1.88	6.10	12.01	20.45	31.24	44.97	61.75	84.75	103.82
E10	4"	DN100	30°	0.08	4.41	11.07	21.56	36.32	56.01	81.77	113.91	157.89	176.19
E10	6"	DN150	30°	0.03	4.24	17.35	39.34	70.13	108.15	160.02	226.81	301.33	387.09

### 60° V-Notch Ball

Cv Value of Ball Valve with 60° V-Notch													
Series	Size		V-Notch	10% Open	20% Open	30% Open	40% Open	50% Open	60% Open	70% Open	80% Open	90% Open	100% Open
	E10 & E20	1/2"	DN15	60°	0.01	0.01	0.27	0.76	1.33	2.30	3.29	5.15	7.15
E10 & E20	3/4"	DN20	60°	0.01	0.01	0.46	1.29	2.24	3.87	5.52	8.66	12.02	15.72
E10 & E20	1"	DN25	60°	0.03	0.17	0.55	1.64	2.76	5.10	7.07	13.01	17.47	24.29
E10 & E20	1-1/2"	DN40	60°	0.01	0.01	1.24	3.39	6.27	10.18	15.80	23.64	34.77	45.76
E10 & E20	2"	DN50	60°	0.05	0.07	2.59	6.90	12.08	19.63	31.35	47.42	70.82	81.13
E10	3"	DN80	60°	0.03	2.24	8.09	17.30	29.89	47.73	73.19	106.87	157.58	190.40
E10	4"	DN100	60°	0.07	5.64	15.02	29.85	51.10	83.04	132.96	212.46	340.90	401.72
E10	6"	DN150	60°	0.00	6.49	26.68	62.56	112.45	183.18	289.67	437.26	654.69	782.39

Note:

The data is tested in pure water at ambient temperature. The value above will vary in different mediums.

Cv is the flow coefficient in imperial units. It is defined as the flow rate in US gallons per minute [gpm] of water at a temperature of 60°F with a pressure drop across the valve of 1 psi.



## Standard Ball

Kv Value of Ball Valve													
Size/Series	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"	5"	6"	8"
	DN8	DN10	DN15	DN20	DN25	DN32	DN40	DN50	DN80	DN100	DN125	DN150	DN200
E10	-	-	15	31	41	62	103	163	514	943	1458	2228	3599
E15	-	-	13	15	31	41	50	103	386	514	-	-	-
E20	-	-	15	31	41	62	103	163	-	-	-	-	-
E30	-	-	15	31	41	62	103	163	-	-	-	-	-
E52	-	-	15	31	41	62	103	163	514	-	-	-	-
E55	-	-	-	-	15	31	41	62	-	-	-	-	-
E60	13	13	15	31	39	50	96	192	351	653	-	-	-
E70	11	11	15	31	39	50	103	-	-	-	-	-	-

## 30° V-Notch Ball

Kv Value of Ball Valve with 30° V-Notch													
Series	Size		V-Notch	10% Open	20% Open	30% Open	40% Open	50% Open	60% Open	70% Open	80% Open	90% Open	100% Open
E10 & E20	1/2"	DN15	30°	0.00	0.00	0.14	0.39	0.68	1.17	1.68	2.62	3.64	4.77
E10 & E20	3/4"	DN20	30°	0.01	0.01	0.24	0.65	1.14	1.97	2.82	4.41	6.12	8.01
E10 & E20	1"	DN25	30°	0.01	0.01	0.36	1.01	1.76	3.04	4.35	6.82	9.46	12.38
E10 & E20	1-1/2"	DN40	30°	0.02	0.03	0.82	1.99	3.54	5.73	8.46	11.88	16.55	20.63
E10 & E20	2"	DN50	30°	0.00	0.00	2.39	4.93	8.51	13.19	19.91	27.78	36.41	36.49
E10	3"	DN80	30°	0.02	1.63	5.28	10.39	17.69	27.02	38.90	53.41	73.31	89.80
E10	4"	DN100	30°	0.07	3.81	9.58	18.65	31.42	48.45	70.73	98.53	136.57	152.40
E10	6"	DN150	30°	0.03	3.67	15.01	34.03	60.66	93.55	138.42	196.19	260.65	334.83

## 60° V-Notch Ball

Kv Value of Ball Valve with 60° V-Notch													
Series	Size		V-Notch	10% Open	20% Open	30% Open	40% Open	50% Open	60% Open	70% Open	80% Open	90% Open	100% Open
E10 & E20	1/2"	DN15	60°	0.01	0.01	0.24	0.66	1.15	1.99	2.84	4.45	6.18	8.09
E10 & E20	3/4"	DN20	60°	0.01	0.01	0.40	1.11	1.94	3.34	4.78	7.49	10.39	13.60
E10 & E20	1"	DN25	60°	0.03	0.15	0.48	1.42	2.39	4.41	6.12	11.25	15.11	21.01
E10 & E20	1-1/2"	DN40	60°	0.01	0.01	1.07	2.93	5.42	8.81	13.67	20.45	30.08	39.58
E10 & E20	2"	DN50	60°	0.04	0.06	2.24	5.97	10.45	16.98	27.12	41.02	61.26	70.18
E10	3"	DN80	60°	0.03	1.94	7.00	14.96	25.85	41.29	63.31	92.44	136.31	164.70
E10	4"	DN100	60°	0.06	4.88	12.99	25.82	44.20	71.83	115.01	183.78	294.88	347.49
E10	6"	DN150	60°	0.00	5.61	23.08	54.11	97.27	158.45	250.56	378.23	566.31	676.77

Note:

The data is tested in pure water at ambient temperature. The value above will vary in different mediums.

Kv is the flow coefficient in metric units. It is defined as the flow rate in cubic meters per hour [m<sup>3</sup>/h] of water at a temperature of 16°C with a pressure drop across the valve of 1 bar.

# Torque Figures

Close to Open Torque at Various Differential Pressure ( $\Delta P$ )

E10: Class 150/300 with Standard Seats (TFM1600)									
Valve Torque at Differential Pressure ( $\Delta P$ )									
Size / $\Delta P$		75 psig		150 psig		285 psig		740 psig	
		5 bar		10 bar		20 bar		50 bar	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
1/2"	DN15	5	44	5	44	5	44	5	44
3/4"	DN20	6	53	6	53	6	53	6	53
1"	DN25	10	88	10	88	11	97	11	97
1-1/4"	DN32	13	115	13	115	15	133	17	150
1-1/2"	DN40	19	168	19	168	22	195	24	212
2"	DN50	25	221	29	257	32	283	35	310
3"	DN80	65	575	72	637	81	717	90	796
4"	DN100	100	885	110	973	122	1080	135	1195
5"	DN125	190	1681	210	1858	245	2168	285	2522
6"	DN150	280	2478	306	2708	340	3009	530	4690
8"	DN200	370	3274	430	3805	487	4310	760	6726

E15: Class 150/300 with Standard Seats (TFM1600)									
Valve Torque at Differential Pressure ( $\Delta P$ )									
Size / $\Delta P$		75 psig		150 psig		285 psig		740 psig	
		5 bar		10 bar		20 bar		50 bar	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
1/2"	DN15	5	44	5	44	5	44	5	44
3/4"	DN20	6	53	6	53	6	53	6	53
1"	DN25	8	72	8	72	8	72	9	80
1-1/4"	DN32	12	106	12	106	13	116	13	116
1-1/2"	DN40	15	133	15	133	17	152	19	168
2"	DN50	22	195	23	204	25	220	28	248
3"	DN80	48	425	51	252	55	487	60	531
4"	DN100	72	638	80	708	90	795	96	850
6"	DN150	130	1151	140	1239	156	1380	164	1450

E20: 2000 - 1500 WOG with Standard Seats (TFM4125)															
Valve Torque at Differential Pressure ( $\Delta P$ )															
Size / $\Delta P$		75 psig		150 psig		300 psig		700 psig		1000 psig		1500 psig		2000 psig	
		5 bar		10 bar		20 bar		50 bar		63 bar		100 bar		140 bar	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
1/4"	DN8	7	62	7	62	7	62	7	62	7	62	7	62	7	62
3/8"	DN10	7	62	7	62	7	62	7	62	7	62	7	62	7	62
1/2"	DN15	7	62	7	62	7	62	7	62	7	62	7	62	8	71
3/4"	DN20	8	71	8	71	8	71	8	71	8	71	8	71	9	80
1"	DN25	13	115	13	115	13	115	13	115	13	115	13	115	16	142
1-1/4"	DN32	17	150	17	150	20	177	22	195	25	221	26	230	29	257
1-1/2"	DN40	25	221	25	221	29	257	31	274	34	301	37	328	41	363
2"	DN50	33	292	33	292	42	372	46	407	49	434	55	487	59	522

Note:

1. E10, E52, E60 & E70 Series: Torque values increase 30% if selected seat material is Reinforced PTFE, EK+PTFE or TFM4215.
2. E15 Series (Reduced Port): Torque values increase 30% if selected seat material is Reinforced PTFE, EK+PTFE or TFM4215.
3. For E20 & E30 Series: If the working temperature is greater than 356°F (180°C), an additional safety factor minimum of 20% is recommended.
4. For actuator sizing, a safety factor minimum of 30% is recommended.

# Torque Figures

Close to Open Torque at Various Differential Pressure ( $\Delta P$ )

## E30: 2000 - 1500 WOG with Standard Seats (TFM4125)

### Valve Torque at Differential Pressure ( $\Delta P$ )

Size / $\Delta P$		75 psig		150 psig		300 psig		700 psig		1000 psig		1500 psig		2000 psig	
		5 bar		10 bar		20 bar		50 bar		63 bar		100 bar		140 bar	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
1/4"	DN8	7	62	7	62	7	62	7	62	7	62	7	62	7	62
3/8"	DN10	7	62	7	62	7	62	7	62	7	62	7	62	7	62
1/2"	DN15	7	62	7	62	7	62	7	62	7	62	7	62	8	71
3/4"	DN20	8	71	8	71	8	71	8	71	8	71	8	71	9	80
1"	DN25	13	115	13	115	13	115	13	115	13	115	13	115	16	142
1-1/4"	DN32	17	150	17	150	20	177	22	195	25	221	26	230	29	257
1-1/2"	DN40	25	221	25	221	29	257	31	274	34	301	37	328	41	363
2"	DN50	33	292	33	292	42	372	46	407	49	434	55	487	59	522

## E52: 1000 WOG with Standard Seats (PTFE)

### Valve Torque at Differential Pressure ( $\Delta P$ )

Size / $\Delta P$		75 psig		150 psig		300 psig		700 psig		1000 psig	
		5 bar		10 bar		20 bar		50 bar		63 bar	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
1/4"	DN8	5	44	5	44	5	44	5	44	5	44
3/8"	DN10	5	44	5	44	5	44	5	44	5	44
1/2"	DN15	5	44	5	44	5	44	5	44	5	44
3/4"	DN20	6	53	6	53	6	53	6	53	6	53
1"	DN25	10	88	10	88	11	97	11	97	11	97
1-1/4"	DN32	13	115	13	115	15	133	17	150	19	168
1-1/2"	DN40	19	168	19	168	22	195	24	212	26	230
2"	DN50	25	221	29	257	32	283	35	310	38	336

## E60: Class 150/300 with Standard Seats (TFM1600)

### Valve Torque at Differential Pressure ( $\Delta P$ )

Size / $\Delta P$		75 psig		150 psig		285 psig		740 psig	
		5 bar		10 bar		20 bar		50 bar	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
1/2"	DN15	8	71	8	71	9	80	9	80
3/4"	DN20	12	106	12	106	13	115	13	115
1"	DN25	18	159	18	159	19	168	22	195
1-1/4"	DN32	23	204	23	204	27	239	33	292
1-1/2"	DN40	32	283	32	283	38	336	45	398
2"	DN50	45	398	50	442	56	496	65	575
3"	DN80	110	973	122	1080	138	1221	160	1416
4"	DN100	190	1681	209	1850	232	2053	265	2345

## E70: 1000 WOG with Standard Seats (TFM1600)

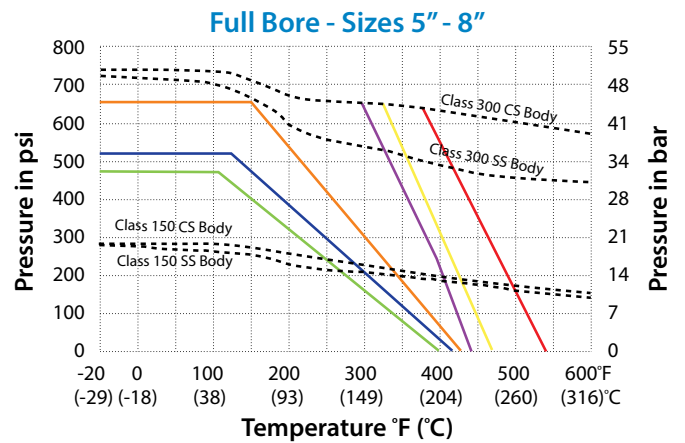
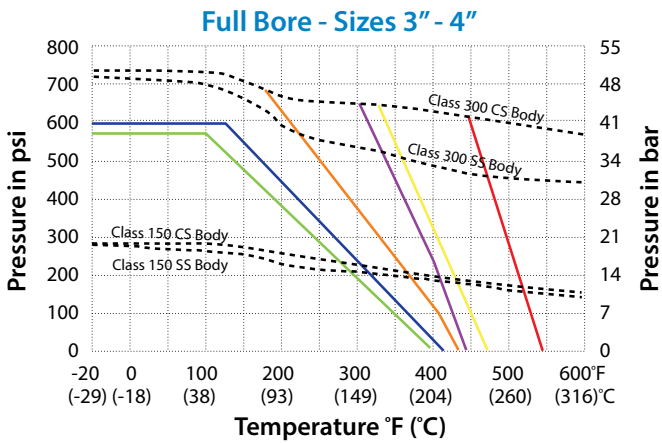
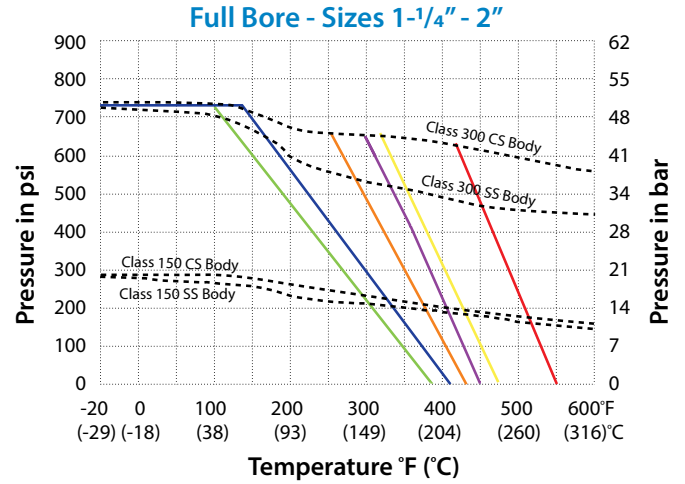
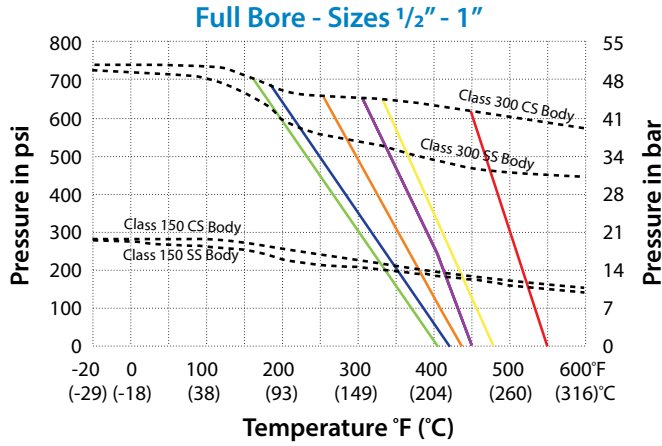
### Valve Torque at Differential Pressure ( $\Delta P$ )

Size / $\Delta P$		75 psig		150 psig		300 psig		700 psig		1000 psig	
		5 bar		10 bar		20 bar		50 bar		63 bar	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
1/2"	DN15	9	80	9	80	9	80	9	80	9	80
3/4"	DN20	9	80	9	80	10	88	10	88	10	88
1"	DN25	14	124	14	124	15	133	15	133	15	133
1-1/4"	DN32	18	159	18	159	18	159	20	177	22	195
1-1/2"	DN40	25	221	26	230	26	230	28	248	30	265

# Seat Performance Capabilities

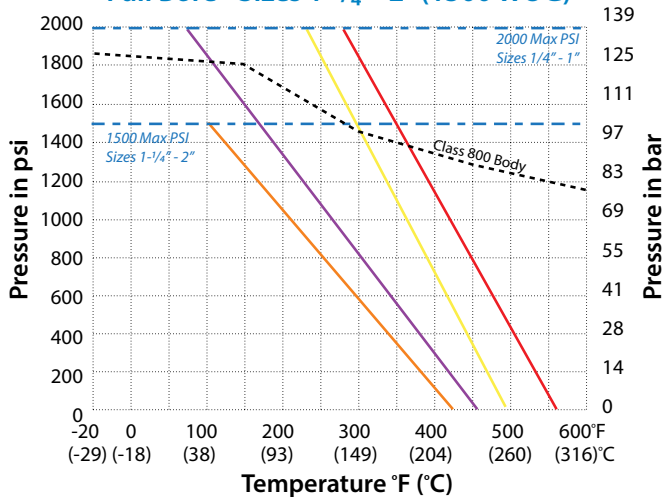
## Pressure Temperature Data

### Floating Ball Valves, Class 150/300



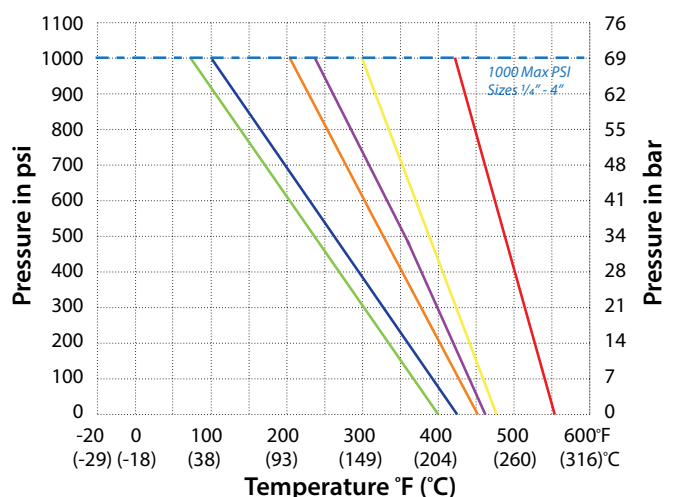
### Floating Ball Valves, 2000 - 1500 WOG

Full Bore - Sizes 1/4" - 1" (2000 WOG)  
Full Bore - Sizes 1-1/4" - 2" (1500 WOG)



### Floating Ball Valves, 1000 WOG

Full Bore - Sizes 1/4" - 4"



Seat Materials: ■ PTFE ■ RTFE ■ TFM1600 ■ EK+PTFE ■ PEEK ■ TFM4215

PTFE is the standard seat material for E52 & E55 Series. TFM1600 is the standard seat material for E10, E15, E60 & E70 Series. TFM4215 is the standard seat material for E20 and E30 Series.

Body Ratings: Body Ratings of Stainless Steel (SS) - A351-CF8M, Carbon Steel (CS) - A216-WCB or other body materials are referred to ASME B16.34

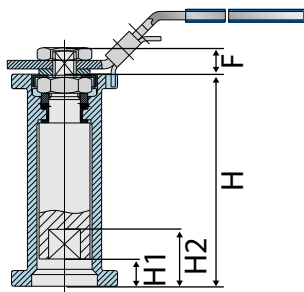


### Description

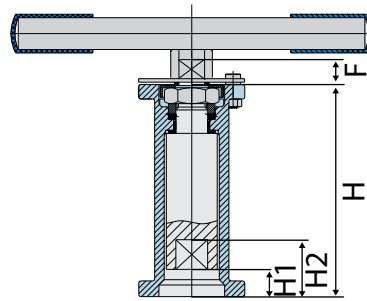
Stem extensions can be mounted on any Econ® valve with direct mount actuation design. These extensions are made of stainless steel and have PTFE bushings for smooth and clearance free operation. A guide ring at the bottom ensures a solid connection between the extension and the ball valve.

### Features

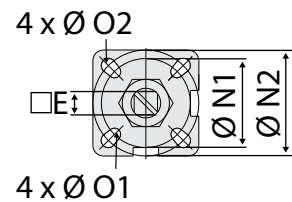
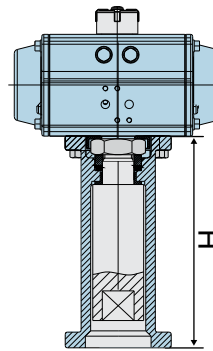
- 4" Extension
- Square Stem
- Suited for Manual or Automated Valves
- 316SS
- Live Loaded Packing Arrangement
- Bolts Directly to ISO 5211 Mounting Pad
- Optional Leak Sensing Port
- Allows Direct Actuator Mounting



**Sizes**  
1/2" - 2"



**Sizes**  
3" - 4"



### Dimensions

Direct Mount Stem Extension - Dimensions in Inches (in)									
SIZE	H	H1	H2	F	Ø 01	Ø 02	□E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
1/2"	3.94	0.47	0.91	0.35	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
3/4"	3.94	0.47	0.91	0.35	0.24	0.24	0.35	1.42 (F03)	1.65 (F04)
1"	3.94	0.59	1.06	0.43	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/4"	3.94	0.59	1.06	0.43	0.24	0.28	0.43	1.65 (F04)	1.97 (F05)
1-1/2"	3.94	0.51	1.18	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
2"	3.94	0.51	1.18	0.55	0.28	0.35	0.55	1.97 (F05)	2.76 (F07)
3"	3.94	0.95	1.81	0.67	0.35	0.43	0.67	2.76 (F07)	4.02 (F10)
4"	3.94	1.77	2.05	0.87	-	0.43	0.87	-	4.02 (F10)

Direct Mount Stem Extension - Dimensions in Millimeters (mm)									
SIZE	H	H1	H2	F	Ø 01	Ø 02	□E	Ø N1 (ISO 1)	Ø N2 (ISO 2)
DN15	100	12.0	23.0	9.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN20	100	12.0	23.0	9.0	6.0	6.0	9.0	36 (F03)	42 (F04)
DN25	100	15.0	27.0	11.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN32	100	15.0	27.0	11.0	6.0	7.0	11.0	42 (F04)	50 (F05)
DN40	100	13.0	30.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN50	100	13.0	30.0	14.0	7.0	9.0	14.0	50 (F05)	70 (F07)
DN80	100	24.0	46.0	17.0	9.0	11.0	17.0	70 (F07)	102 (F10)
DN100	100	45.0	52.0	22.0	-	11.0	22.0	-	102 (F10)



# Accessories

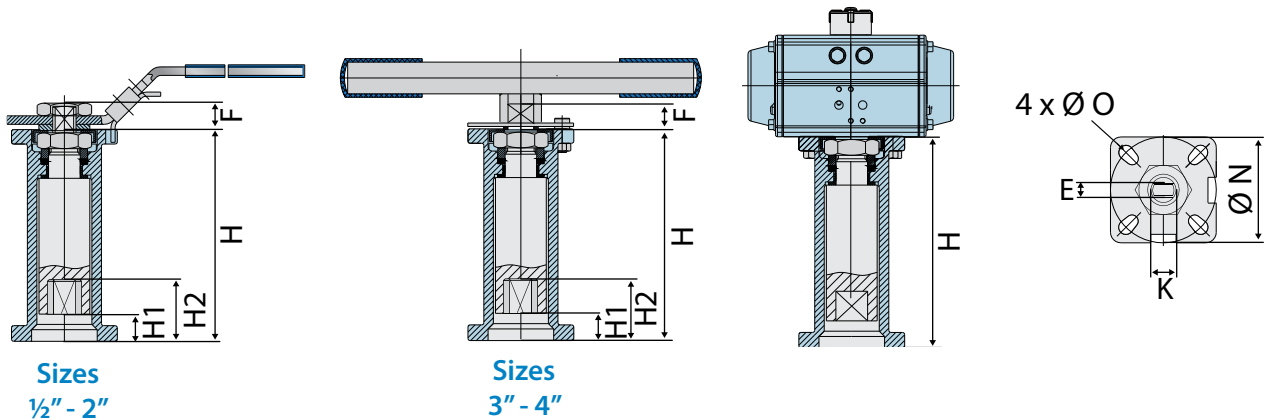
## Stem Extension for Bracket Mount Actuation Design

### Description

Econ® stem extensions can be mounted on Econ® ball valves with bracket mount actuation design (E15 Series). These extensions are made of stainless steel and have PTFE bushings for smooth and clearance free operation. A guide ring at the bottom ensures a solid connection between the extension and the ball valve.

### Features

- 4" Extension
- Double D Stem, Gland Packing and Test Connection
- Suited for Manual or Automated Valves
- 316SS
- Live Loaded Packing Arrangement
- Bolts Directly to ISO 5211 Mounting Pad
- Optional Leak Sensing Port
- Allows Direct Actuator Mounting
- Lever Can Be Used



### Dimensions

Bracket Mount Stem Extension - Dimensions in Inches (in)								
SIZE	H	H1	H2	F	Ø O	E	Ø N (ISO)	K
1/2"	3.94	0.47	0.91	0.35	0.20	0.25	1.65 (F04)	3/8-24 UNF
3/4"	3.94	0.47	0.91	0.35	0.20	0.25	1.65 (F04)	3/8-24 UNF
1"	3.94	0.59	1.06	0.43	0.24	0.35	1.97 (F05)	9/16-18 UNF
1-1/4"	3.94	0.59	1.06	0.43	0.24	0.35	1.97 (F05)	9/16-18 UNF
1-1/2"	3.94	0.51	1.18	0.55	0.32	0.38	2.76 (F07)	5/8-18 UNF
2"	3.94	0.51	1.18	0.55	0.32	0.38	2.76 (F07)	5/8-18 UNF
3"	3.94	0.94	1.81	0.67	0.39	0.63	4.02 (F10)	7/8-14 UNF
4"	3.94	1.77	2.05	0.87	0.39	0.71	4.02 (F10)	1-1/8-12 UNF

Bracket Mount Stem Extension - Dimensions in Millimeters (mm)								
SIZE	H	H1	H2	F	Ø O	E	Ø N (ISO)	K
DN15	100	11.9	23.1	8.9	5.0	6.3	42 (F04)	3/8-24 UNF
DN20	100	11.9	23.1	8.9	5.0	6.3	42 (F04)	3/8-24 UNF
DN25	100	15.0	26.9	10.9	6.0	9.0	50 (F05)	9/16-18 UNF
DN32	100	15.0	26.9	10.9	6.0	9.0	50 (F05)	9/16-18 UNF
DN40	100	13.0	30.0	14.0	8.0	9.6	70 (F07)	5/8-18 UNF
DN50	100	13.0	30.0	14.0	8.0	9.6	70 (F07)	5/8-18 UNF
DN80	100	23.9	46.0	17.0	10.0	16.0	102 (F10)	7/8-14 UNF
DN100	100	45.0	52.1	22.1	10.0	18.0	102 (F10)	1-1/8-12 UNF



### Rack & Pinion Actuators

- Compact Pneumatic Double Acting or Spring Return Actuators with Aluminum Housing
- 14 Different Sizes and Variety of Spring Combinations
- Bidirectional Travel Stops
- Output Torques up to 56,831 in-lb (6,421 Nm)
- ATEX, SIL 3, CE Certifications
- Mounting Arrangement and Design Comply to NAMUR VDI/VDE 3845 and ISO 5211 Standards
- Anti-corrosive Coatings According to EN-15714



### Scotch Yoke Actuators

- Modularly Designed Double Acting and Spring Return Scotch Yoke Actuators in 10 Different Sizes
- Symmetric Yoke for Constant Output Torque up to 2.2 million in-lb (250,000 Nm)
- Fully Protected Against Ingress Water
- Bidirectional Travel Stops
- Designed in Accordance with Pressure Equipment Directive (PED) 97/23/EC
- ATEX, SIL 3, CE Certifications



### Electric Actuator

- Torque Range from 690 to 25,900 in-lb (78 to 2,926 Nm)
- Standard Weatherproof Enclosure (IP67, NEMA 4, 4X & 6)
- Optional Explosion Proof Enclosure (Exd II BT4Gb or II2G)
- Standardized ISO 5211 Mounting Flange
- Open/Close Limit and Torque Switches
- Manual Override
- Self Locking Gear Train
- Mechanical Stops (Adjustable)
- Optional Proportional Control Card
- 110VAC/24VAC/24VDC Power



# Accessories

## Heavy Duty Lever, Smart Positioner and Limit Switches

### Heavy Duty Lever

- Option for Econ® Ball Valves with Direct Mount Top Flange
- For Ball Valves Sizes 1/4" to 3"
- Molded Lever for Severe Operating Conditions
- Compatible with Econ® E10, E20, E30, E60 and E70 Series of Ball Valves
- Figure 6001B



### Smart Positioners

- Linear or Rotary Action
- Single or Double Acting
- Push Button Calibration
- 4 - 20 mA Input Control Signal
- -22°F to 185°F (-30°C to 85°C) Ambient Temperature
- LCD Display
- HART Capable
- Linear, Quick Opening, =%, & User Defined Characteristics
- 70 LPM Air Capacity
- IP66 Enclosure
- Figure 3301 through 3304



### Limit Switches

- For General Purpose or Explosion Proof Applications
- Micro mechanical Switches or Inductive Switches
- Red and Yellow Visual Position Indicators
- ATEX Certified
- Econ® Brand or Customer Preference
- Compatible with 3-Way Valves Using a Special Visual Position Indicator
- Figures 79651, 79652 and 79653





# Ball Valve Ordering Matrix

## How to Order

**Example:** A 2", Two Piece ASME Class 150, Full Port Ball Valve with Flanged Ends, Carbon Steel Body, Stainless Steel Trim, TFM1600 Seats, Graphite Packing, NACE Compliant, Fire Safe, Locking Lever Operated is written: 10E10-AR-CSFG-NFC-0200

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>
10E10	A	R	C	S	F	G	N	F	C	0200

A	Construction Type
10E10	2-PC. ASME-150, Full Port, Flanged
30E10	2-PC. ASME-300, Full Port, Flanged
10E15	1-PC. ASME-150, Reduced Port, Flanged
30E15	1-PC. ASME-300, Reduced Port, Flanged
2WE20	3-PC. 2000WOG, Full Port, NPT/SW/BW/BWE (≤1")
5WE20	3-PC. 1500WOG, Full Port, NPT/SW/BW/BWE (>1")
2WE30	2-PC. 2000WOG, Full Port, NPT (≤1")
5WE30	2-PC. 1500WOG, Full Port, NPT (>1")
1WE52	2-PC. 1000WOG, Full Port, NPT*
1WE55	1-PC. 1000WOG, Double Red. Port, NPT*
10E60	3-Way ASME-150, Full Port, L/T Port, Flanged
30E60	3-Way ASME-300, Full Port, L/T Port, Flanged
1WE70	3-Way 1000WOG, Full Port, L/T Port, NPT

B	Port Configuration
A	As Defined (Standard Configuration)
T	T-Port
L	L-Port
3	30° V-Notch**
6	60° V-Notch**

C	End Connection
B	BW x BW**
X	BWE x BWE
R	RF Flange
O	FNPT x FNPT
W	SW x SW
U	FNPT x SW
J	RTJ Flange**

D	Body Material
C	Carbon Steel (A216-WCB)
A	Alloy 20**
S	Stainless Steel (A351-CF8M)

E	Trim
C	Carbon Steel
A	Alloy 20**
S	Stainless Steel

F	Seats
E	EK+PTFE**
F	TFM1600
G	TFM4215
H	TFM1600 + 15% Carbon**
P	PEEK***
R	RTFE**
T	PTFE
Z	METAL**
V	50%PTFE +50%SS**

G	Body Gasket
G	Graphite
T	PTFE

H	NACE
N	NACE
O	NON-NACE

I	Fire Safe
F	Fire Safe
O	NON-Fire Safe

J	Operator
C	Locking Lever
L	T-Handle
G	Gear

K	Port Size	
	NPS	DN
0025	1/4"	8
0038	3/8"	10
0050	1/2"	15
0075	3/4"	20
0100	1"	25
0125	1-1/4"	32
0150	1-1/2"	40
0200	2"	50
0250	2-1/2"	65
0300	3"	80
0400	4"	100
0500	5"	125
0600	6"	150
0800	8"	200

Note:

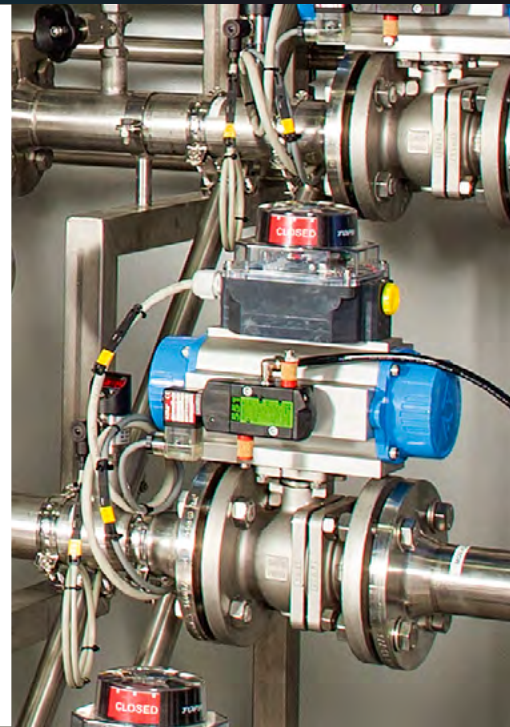
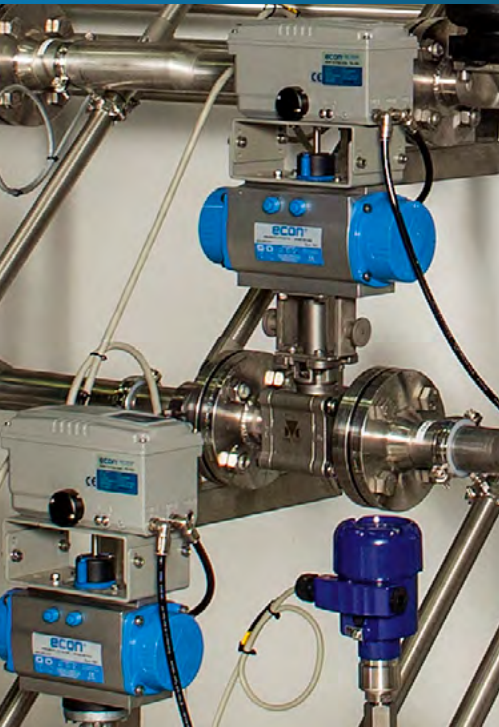
\* Manual operation only (A)

\*\* Full factory lead time may be required for valves with these components.

\*\*\* PEEK Seats only available for valves sizes 4" and below.







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local distributor/agent

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