

BALON®

2014 Product Catalog



Flanged End Connection

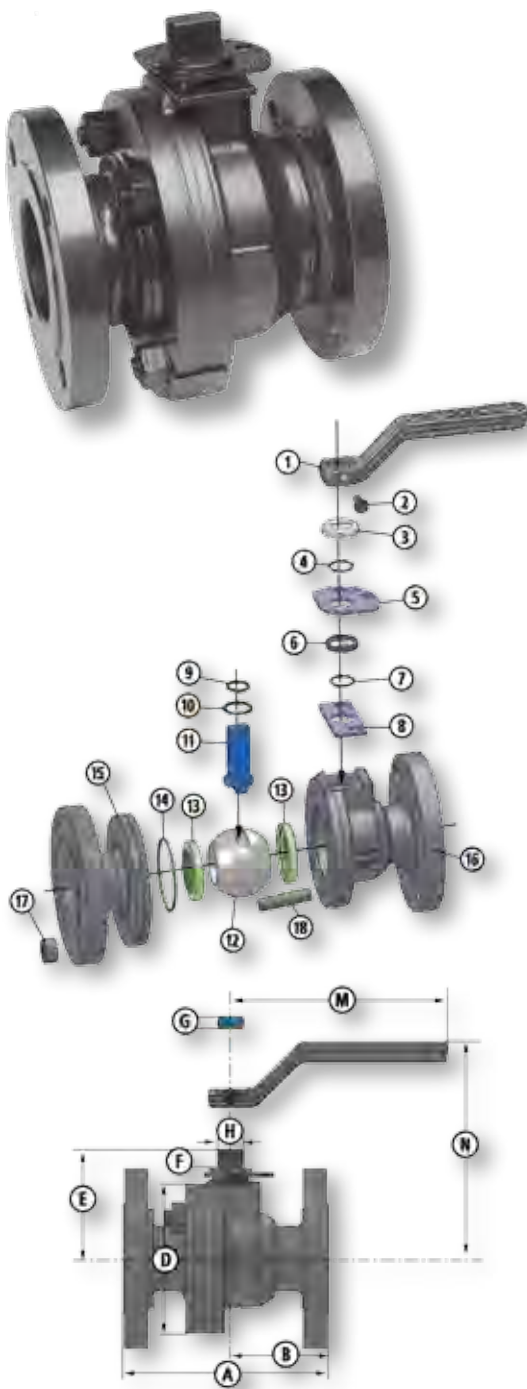
Series F Carbon Steel

- Lever Operated Ball Valve
- ANSI Class 150 (285 PSI WP)
- 2" Through 6"
- Bolted Body Construction
- Available in Low-Temp Service to -50° F
- Multi-Seal Seats
- Fire Safe Design
- NACE Option with 316 Stainless Steel Ball and Stem Available
- Rugged Locking Device Standard
- Maintenance Free

Material Description

ITEM	PART NAME	MATERIAL (STANDARD)	MATERIAL (NACE)	LOW TEMP (NACE)
1	Handle*	Carbon Steel/ Ductile Iron	Carbon Steel/ Ductile Iron	Carbon Steel/ Ductile Iron
2	Handle Bolt	Standard Hex Bolt	Standard Hex Bolt	Standard Hex Bolt
3	Weather Guard	Polyethylene	Polyethylene	Polyethylene
4	Lock Plate Retainer	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
5	Lock Plate	Carbon Steel	Carbon Steel	Carbon Steel
6	Dust Cover	Polyethylene	Polyethylene	Polyethylene
7	Stop Plate Retainer	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
8	Stop Plate	Carbon Steel	Carbon Steel	Carbon Steel
9	Stem O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
10	Stem Seal	TFE	TFE	TFE
11	Stem	Carbon Steel	316 Stainless Steel	316 Stainless Steel
12	Ball	Carbon Steel Nickel Chrome Plated	316 Stainless Steel	316 Stainless Steel
13	Ball Seat	Nylon (TFE Optional)	Nylon (TFE Optional)	Nylon (TFE Optional)
14	Body O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
15	End Adapter	ASTMA216 WCB/A105	ASTMA216 WCB/A105	ASTMA352 LCC/A350 LF2
16	Body	ASTMA216 WCB/A105	ASTMA216 WCB/A105	ASTMA352 LCC/A350 LF2
17	Nuts	ASTM A194 2H	ASTM A194 2HM	ASTM A320 7M
18	Body Bolts	ASTM A193 B7	ASTM A193 B7M	ASTM A320 L7M

*Handle is optional. Ball valves can also be operated with a standard open-end wrench.



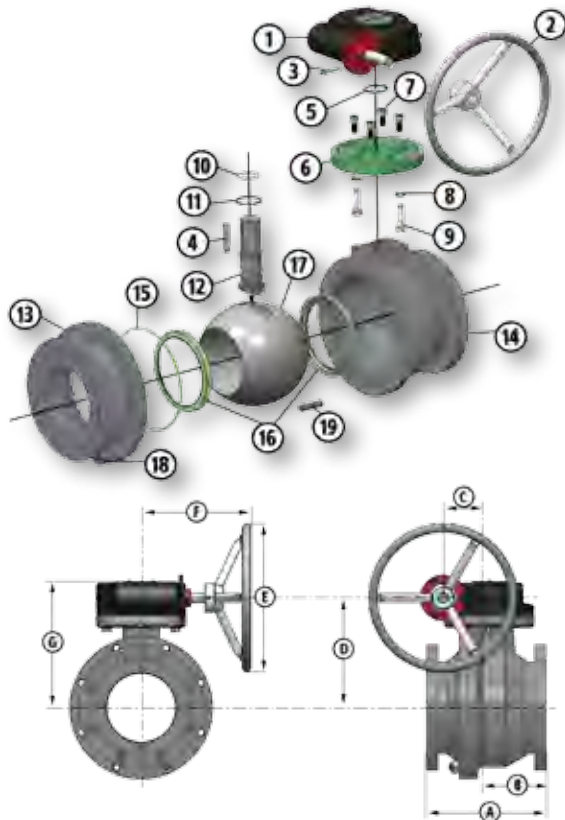
Dimensional Data

SIZE	CATALOG NUMBER			PORT	A	B	D	E	F	G	H	M	N	LBS.	HANDLE	Cv
	STANDARD TRIM CARBON STEEL BALL & STEM	NACE TRIM 316 SS BALL & STEM	LOW TEMP 316 SS BALL & STEM													
2x1.5x2	2R-F13-RF	2R-F13N-RF	2R-F13NL-RF	1.5	7	3.25	5	3.62	.75	.434	.873	7.25	5.25	21.5	P-4128-CS	125
2x2x2	2F-F13-RF	2F-F13N-RF	2F-F13NL-RF	2	7	2.75	6	4.37	.87	.497	.998	10.25	6.20	28	P-4129-CS	-
3x2x3	3R-F13-RF	3R-F13N-RF	3R-F13NL-RF	2	8	3	6	4.37	.87	.497	.998	10.25	6.20	40	P-4129-CS	200
3x3x3	3F-F13-RF	3F-F13N-RF	3F-F13NL-RF	3	8	3.56	7.50	5.75	1.06	.747	1.373	20	7.75	54	P-4127-DI	-
4x3x4	4R-F13-RF	4R-F13N-RF	4R-F13NL-RF	3	9	4.06	7.87	5.75	1.06	.747	1.373	20	7.75	70	P-4127-DI	525
4x4x4	4F-F13-RF	4F-F13N-RF	4F-F13NL-RF	4	9	4.06	9	6.37	1.06	.747	1.373	20	8.37	80	P-4127-DI	-
6x4x6	6R-F13-RF	6R-F13N-RF	N/A	4	10.5	4.81	9.37	6.37	1.06	.747	1.373	20	8.37	102	P-4127-DI	800

Flanged End Connection

Series F Carbon Steel

- Gear Operated Ball Valve
- ANSI Class 150 (285 PSI WP)
- 6" Through 10"
- Bolted Body Construction
 - Available in Low-Temp Service to -50° F
 - Exclusive Balon Gearbox
 - ✓ Suitable for Buried Service
 - ✓ Stainless Steel Input Shaft Standard
 - ✓ Stainless Steel Directional Indicator
 - ✓ Integral Locking Device Standard
 - ✓ Manufactured in our Oklahoma City Plant
 - Multi-Seal Seats
 - Fire Safe Design
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Material Description

ITEM	PART NAME	MATERIAL (STANDARD)	MATERIAL (NACE)	LOW TEMP (NACE)
1	Gear Operator	Ductile Iron	Ductile Iron	Ductile Iron
2	Hand Wheel	Carbon Steel	Carbon Steel	Carbon Steel
3	Drive Pin	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
4	Stem Key	Steel Key Stock	Steel Key Stock	Steel Key Stock
5	Stem Retainer Ring	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
6	Mounting Plate	Ductile Iron	Ductile Iron	Ductile Iron
7	Mounting Plate Screws	Alloy Steel	Alloy Steel	Alloy Steel
8	Lock Washers	Carbon Steel	Carbon Steel	Carbon Steel
9	Mounting Screws	Alloy Steel	Alloy Steel	Alloy Steel
10	Stem O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
11	Stem Seal	TFE	TFE	TFE
12	Stem	Carbon Steel	316 Stainless Steel	316 Stainless Steel
13	End Adapter	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A352 LCC/A350 LF2
14	Body	ASTMA216 WCB/A105	ASTMA216 WCB/A105	ASTM A352 LCC/A350 LF2
15	Body O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
16	Ball Seats	Nylon (TFE Optional)	Nylon (TFE Optional)	Nylon (TFE Optional)
17	Ball	Carbon Steel Nickel Chrome Plated	316 Stainless Steel	316 Stainless Steel
18	Nuts	ASTM A194 2H	ASTM A194 2HM	ASTM A320 7M
19	Body Bolts	ASTM A193 B7	ASTM A193 B7M	ASTM A320 L7M

Dimensional Data

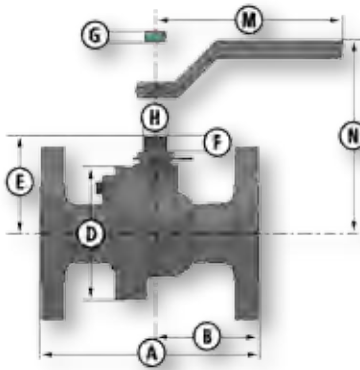
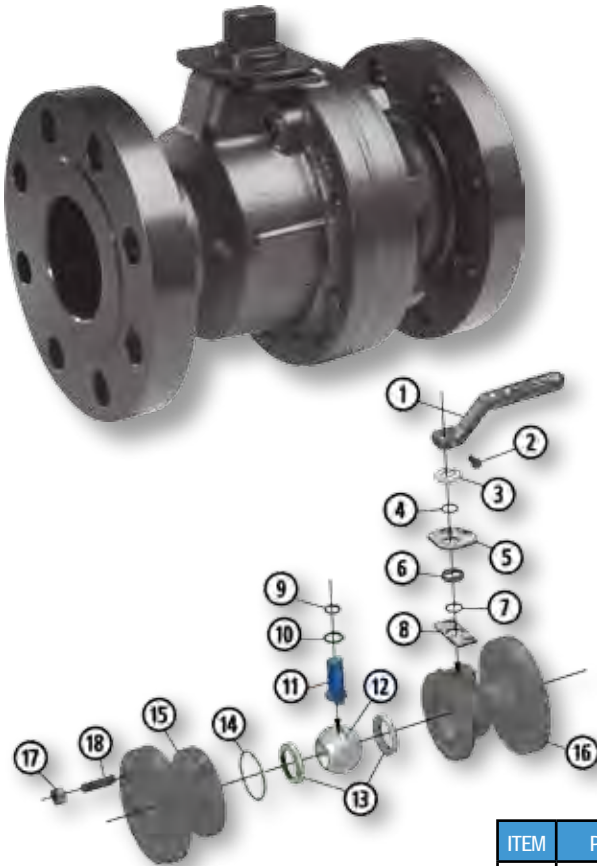
SIZE	CATALOG NUMBER			PORT	A	B	C	D	E	F	G	LBS.	Cv
	STANDARD TRIM CARBON STEEL BALL & STEM	NACE TRIM 316 SS BALL & STEM	LOW TEMP 316 SS BALL & STEM										
6x6x6	6F-F13-RF	6F-F13N-RF	6F-F13NL-RF	6	10.5	4.50	4	9.75	13	9	11.19	230	-
6x6x6	6F-F13-RF15.5	6F-F13N-RF15.5	N/A	6	15.5	4.50	4	9.75	13	9	11.19	255	-
8x6x8	8R-F13-RF	8R-F13N-RF	N/A	6	11.5	5.12	4	9.75	13	9	11.19	285	2200
8x8x8	8F-F13-RF	8F-F13N-RF	8F-F13NL-RF	8	18	8	5.25	12	20	11.5	13.75	520	-
10x8x10	10R-F13-RF	10R-F13N-RF	N/A	8	21	9	5.25	12	20	11.5	13.75	580	4200

Flanged End Connection

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- Fire Safe Design
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2	Handle Bolt	Standard Hex Bolt	Standard Hex Bolt	Standard Hex Bolt
3	Weather Guard	Polyethylene	Polyethylene	Polyethylene
4	Lock Plate Retainer	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
5	Lock Plate	Carbon Steel	Carbon Steel	Carbon Steel
6	Dust Cover	Polyethylene	Polyethylene	Polyethylene
7	Stop Plate Retainer	Carbon- Spring Steel	Carbon Spring Steel	Carbon Spring Steel
8	Stop Plate	Carbon Steel	Carbon Steel	Carbon Steel
9	Stem O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
10	Stem Seal	TFE	TFE	TFE
11	Stem	Carbon Steel	316 Stainless Steel	316 Stainless Steel
12	Ball	Carbon Steel Nickel Chrome Plated	316 Stainless Steel	316 Stainless Steel
13	Ball Seat	Nylon (TFE Optional)	Nylon (TFE Optional)	Nylon (TFE Optional)
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2x1.5x2	2R-F33-RF	2R-F33N-RF	2R-F33NL-RF	1.5	8.50	4	5	3.62	.75	.434	.873	7.25	5.25	29	P-4128-CS	125
2x2x2	2F-F33-RF	2F-F33N-RF	2F-F33NL-RF	2	8.50	3.75	6.50	4.37	.87	.497	.998	10.25	6.20	36	P-4129-CS	-
3x2x3	3R-F33-RF	3R-F33N-RF	3R-F33NL-RF	2	11.12	4.56	6.50	4.37	.87	.497	.998	10.25	6.20	60	P-4129-CS	200
3x3x3	3F-F33-RF	3F-F33N-RF	3F-F33NL-RF	3	11.12	5.12	8	5.75	1.06	.747	1.373	20	7.75	76	P-4127-DI	-
4x3x4	4R-F33-RF*	4R-F33N-RF*	4R-F33NL-RF*	3	12	5.56	8	5.75	1.06	.747	1.373	20	7.75	98	P-4127-DI	525
4x4x4	4F-F33-RF*	4F-F33N-RF*	4F-F33NL-RF*	4	12	5.50	9.37	6.37	1.06	.747	1.373	20	8.37	128	P-4127-DI	-
6x4x6	6R-F33-RF*	6R-F33N-RF*	N/A	4	15.87	7.44	10	6.37	1.06	.747	1.373	20	8.37	196	P-4127-DI	800

* Also available with Gear Operator.

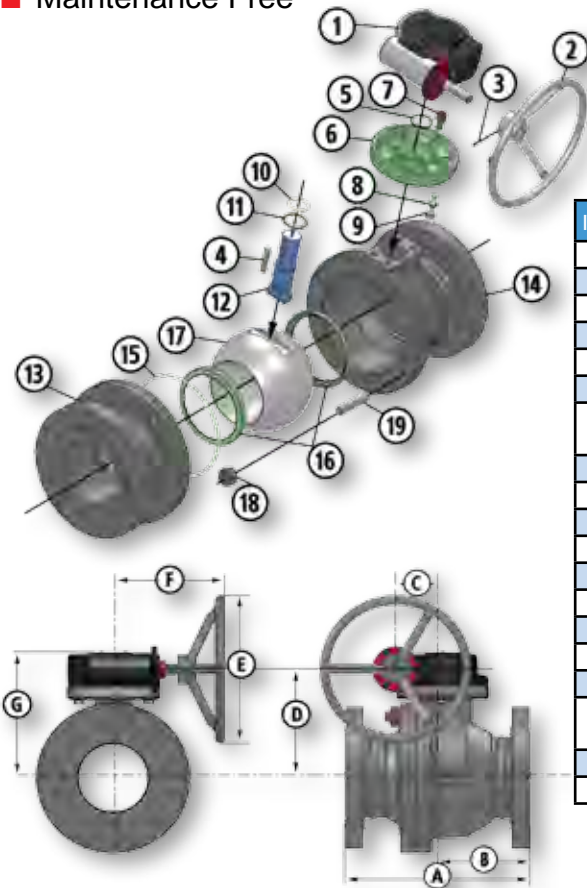
BALON

11.2013 Rev.1

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11	Stem Seal	TFE	TFE	TFE
12	Stem	Carbon Steel	316 Stainless Steel	316 Stainless Steel
13	End Adapter	ASTMA216 WCB/A105	ASTMA216 WCB/A105	ASTMA352 LCC/A350 LF2
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Dimensional Data

SIZE	CATALOG NUMBER			PORT	A	B	C	D	E	F	G	LBS.	Cv
	STANDARD TRIM CARBON STEEL BALL & STEM	NACE TRIM 316 SS BALL & STEM	LOW TEMP 316 SS BALL & STEM										
6x6x6	6F-F33-RF	6F-F33N-RF	6F-F33NL-RF	6	15.87	7.38	4	9.75	13	9	11.19	307	-
8x6x8	8R-F33-RF	8R-F33N-RF	N/A	6	16.50	7.69	4	9.75	13	9	11.19	409	2200

Application Guide

Application Guide

This Balon "Media and Application Guide" provides assistance to the engineer in selecting the best material for a particular service. The final selection of materials however, requires the judgement of the user because it may be necessary to sacrifice certain physical properties of a material to take better advantage of others.

Information contained in the following chart is believed to be reliable and is intended to be used by trained personnel at their own discretion and risk. Due to many factors which affect the rate of corrosion, we suggest that final acceptability be established by test under actual operating conditions.

Ratings are based on media at ambient temperatures except as noted.

E - Excellent G - Good F - Fair U - Unsatisfactory BLANK - Insufficient Data

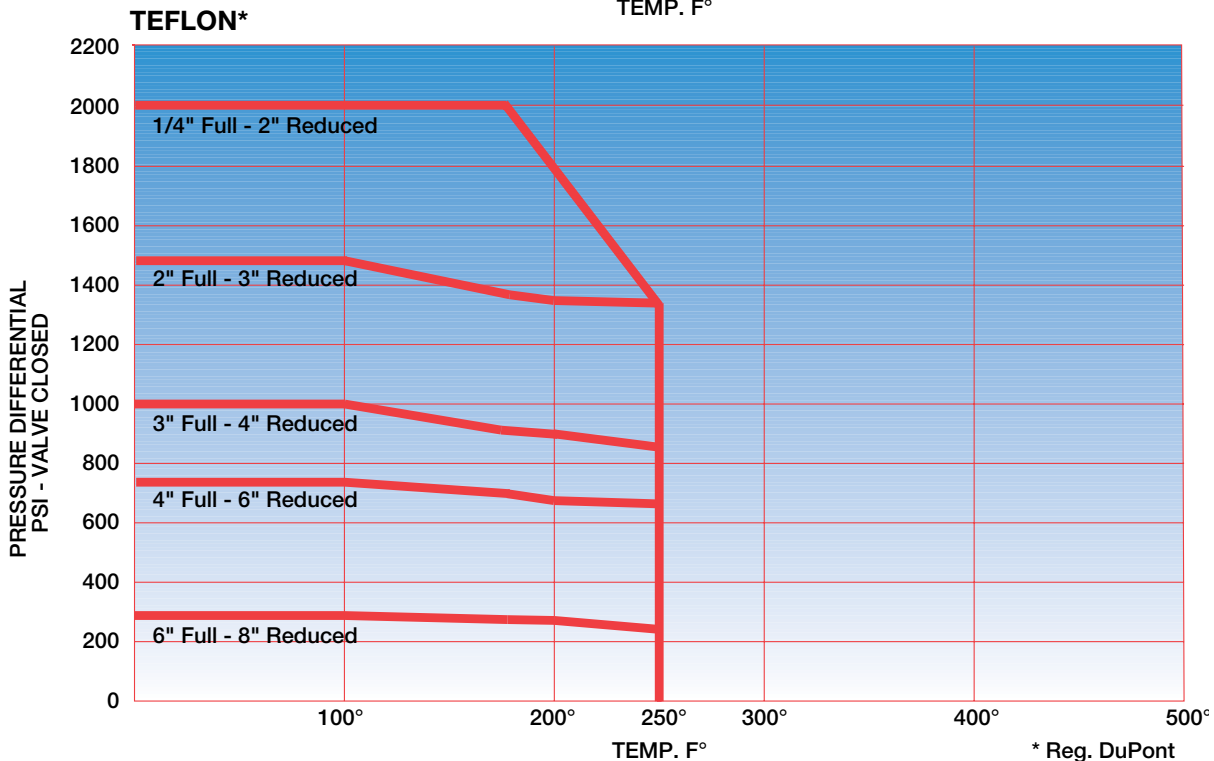
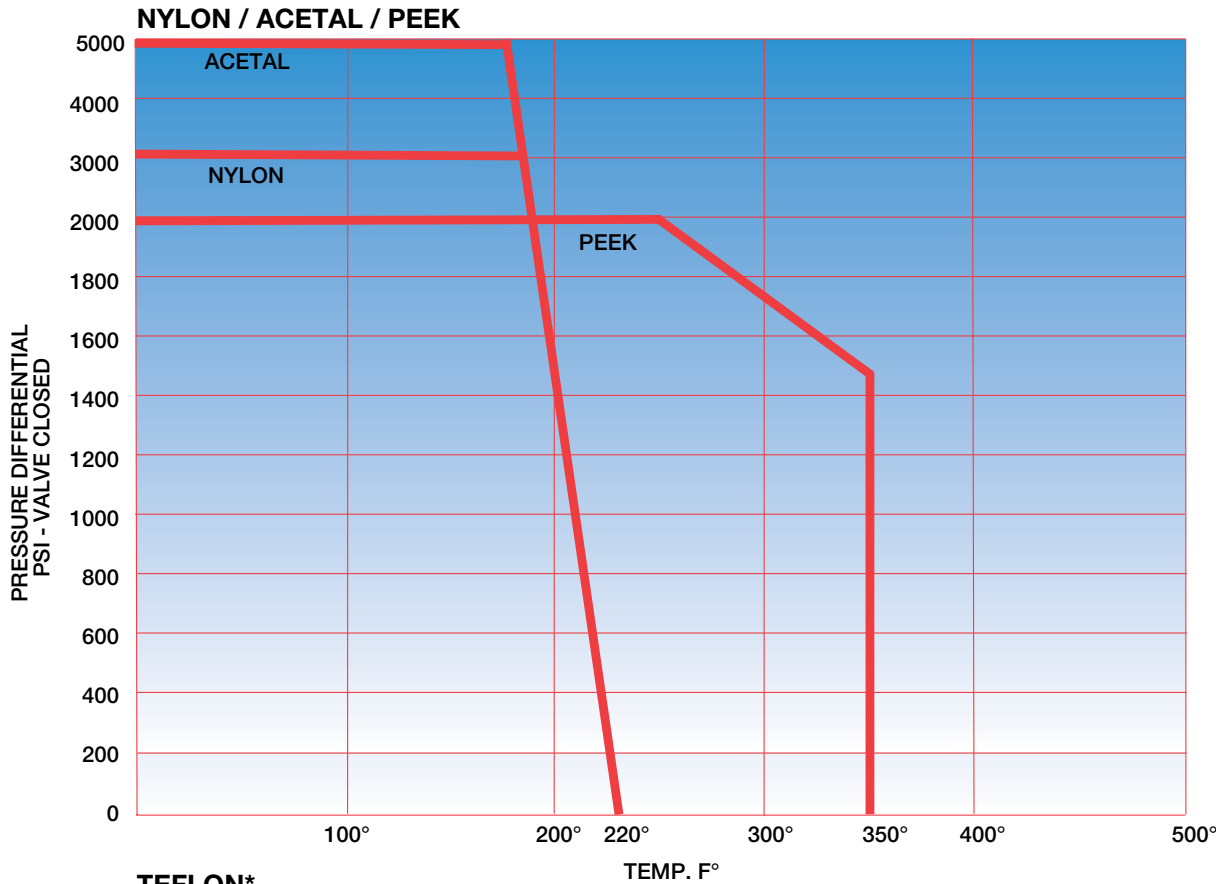
VALVE MATERIAL	SEAT AND SEAL MATERIAL							
	Media *	Carbon Steel	Ductile Iron	316 SS	Buna-N	Viton	Nylon	TFE
Air	E	E	E	E	E	E	E	E
Alcohols	G	G	E	E	E	F	E	E
Amines (conc.)	E	E	E	U	U	E	E	E
Ammonia, Anhydrous	E	G	E	F	U	E	E	E
- Aqueous	E	E	E	F	U	G	E	E
- Solutions	G	G	E	F	U	G	E	E
Benzene or Benzol	G	G	E	U	E	E	E	E
Brines	F	F	G	E	E	E	E	E
Bunker Oils (Fuels)	G	G	E	E	E	E	E	E
Butane	E	E	E	E	E	E	E	E
Carbolic Acid (Phenol)	U	U	G	U	G	U	E	E
Carbon Dioxide, Dry	E	F	E	G	G	G	E	E
Carbonic Acid	U	U	G	G	E	E	E	E
Carbon Tetrachloride, Dry	F	F	E	U	E	E	E	E
- Wet	U	U	G	U	E	E	E	E
Carbonated Water	G	G	E	E	E	G	E	E
Crude Oil, Sweet	E	E	E	E	E	E	E	E
- Sour	G	G	E	F	G	G	E	E
Diethylamine (DEA)	E	E	E	U	U	E	E	E
Diesel Fuels	E	E	E	E	E	E	E	E
Dowtherm A and E	G	G	E	U	E	E	E	E
Drilling Mud	G	G	E	E	E	E	E	E
Ethane	E	E	E	E	E	E	E	E
Ethylene	E	E	E	U	E	E	E	E
Ethylene Glycol	G	G	G	E	E	G	E	E
Fuel Oil	G	G	E	E	E	E	E	E
Gas, Manufactured	G	G	G	E	E	E	E	E
- Natural	G	G	E	E	E	E	E	E
- Odorizers	G	G	E	U	E	G	E	E
- Sour	G	G	E	F	E	E	E	E
Gasoline, Leaded	E	G	E	G	E	E	E	E
- Unleaded	E	G	E	F	E	E	E	E
- Aviation	E	G	E	G	E	E	E	E
- Motor	E	G	E	F	E	E	E	E
Glycols	G	G	G	E	E	G	E	E
Heptane	E	E	E	E	E	E	E	E
Hexane	E	E	E	E	E	E	E	E
Hydraulic Oil								
- Petroleum Base	E	E	E	E	E	E	E	E
- Phosphate Base	E	E	E	U	E	E	E	E
Hydrochloric Acid								
- Air Free	U	U	U	F	E	U	E	E
Hydrofluoric Acid	U	U	U	U	U	U	F	
Hydrogen Gas	G	G	E	E	E	E	E	E
Hydrogen Sulfide, Dry(Conc.)	G	G	E	F	F	E	E	E
Wet(Conc.)	F	U	G	U	F	E	E	E
Illuminating Gas	E	E	E	E	E	E	E	E
Iso-Octane	E	G	E	E	E	E	E	E

VALVE MATERIAL	SEAT AND SEAL MATERIAL							
	Media *	Carbon Steel	Ductile Iron	316 SS	Buna-N	Viton	Nylon	TFE
Isopropyl Alcohol	G	G	G	G	E	G	E	E
- Ether	E	G	E	E	G	U	E	E
JP-4 Fuel	E	E	E	E	E	E	E	E
JP-5 Fuel	E	E	E	E	E	E	E	E
JP-6 Fuel	E	E	E	E	E	E	E	E
Kerosene	G	G	E	E	E	E	E	E
Liquified Pet. Gas (LPG)	G	G	G	E	E	E	E	E
Lubricating Oil	E	E	E	E	E	E	E	E
Mercaptan (Conc.)	G	G	E	F	E	G	E	E
Methane	E	E	E	E	E	E	E	E
Muratic Acid	U	U	U	G	E	U	E	E
Naphtha	G	G	E	G	E	E	E	E
Naphthalene	E	G	E	U	E	E	E	E
Natural Gas	E	E	E	E	E	E	E	E
Nitrogen	E	E	E	E	E	E	E	E
Oil, Animal	E	E	E	E	E	E	E	E
- Cottonseed	F	F	G	E	E	E	E	E
- Fish	G	G	E	E	E	E	E	E
- Fuel	G	G	E	E	E	E	E	E
- Lube	E	E	E	E	E	E	E	E
- Mineral	G	G	E	E	E	E	E	E
- Petroleum, Refined	E	G	E	E	E	E	E	E
Oil-Water Mixtures	E	E	E	E	E	E	E	E
Parafin	G	G	E	G	E	E	E	E
Pentane	G	G	E	U	E	E	E	E
Producer Gas	G	G	G	E	E	E	E	E
Propane	E	E	E	E	E	E	E	E
Propyl Alcohol	E	E	E	E	E	E	E	E
Propylene Glycol	E	E	E	E	E	F	E	E
Sea Water	U	U	E	E	E	E	E	E
Sodium Acetate	G	G	G	G	U	G	E	E
- Hydroxide, Cold, 20%	E	E	E	G	G	E	E	E
- Hydroxide, Hot, 20%	F	F	G	G	G	G	E	E
- Hydroxide, Cold, 50%	G	G	G	F	F	F	F	F
- Hydroxide, Hot, 50%	G	G	G	U	F	U	F	F
- Hydroxide, Cold, 70%	F	F	G	U	F	F	F	F
- Hydroxide, Hot, 70%	G	F	G	U	F	U	F	F
Steam (212° F)	E	E	E	U	U	U	E	E
Stoddard Solvent	G	G	G	E	E	G	E	E
Sulfur Dioxide (Dry)	G	G	E	U	U	F	E	E
Sulfuric Acid, 0-7%	F	F	G	F	E	G	E	E
- 20%	U	U	F	U	E	U	E	E
- 50%	U	U	U	U	E	U	E	E
- 100%	U	U	U	U	E	U	E	E
Toluene or Toluol	E	E	E	U	E	E	E	E
Water, Distilled, Aerated	U	U	E	E	G	E	E	E
- Fresh	F	F	E	E	E	E	E	E
- Sea	U	U	E	E	E	E	E	E
Wax Emulsions	E	G	E	E	E	E	E	E
Waxes	E	E	E	E	E	E	E	E
Xylene, Dry	E	E	E	U	E	E	E	E

* Consult Oklahoma City office for compatibility of Aluminum Bronze Material

Seat Pressure Ratings

Seat Pressure & Temperature Ratings



All Balon valves are rated for a minimum temperature of -20° F except for valves designated as low temperature valves, which are rated for a minimum temperature of -50° F.

* Reg. DuPont

Flow Coefficient Data

Flow Coefficient Data

Cv Ratings of Full Bore Valve

Depending upon pipe schedule with which they are used, Balon full bore valves have bore sizes exceeding or nearly equaling the pipe inside diameter. The best method of computing system pressure losses is to consider the valve an equivalent length of pipe.

Using the Cv method of rating full bore valves does not provide good accuracy. The reason for this is that Cv tests do not provide valid data until the measured pressure drop equals at least 2 psi. In the relatively short length involved in a valve, extremely high velocities are required to generate

that pressure drop.

At these high velocities (which are well beyond those used in industry), other effects such as vibration and pulsation are then created by “super turbulent” flow. The net results are Cv ratings which are lower than would be derived if pressure losses could be consistently measured at velocities in the usable range.

Cv data for reduced port valves are listed on the product pages.

For more information visit our website at www.balon.com

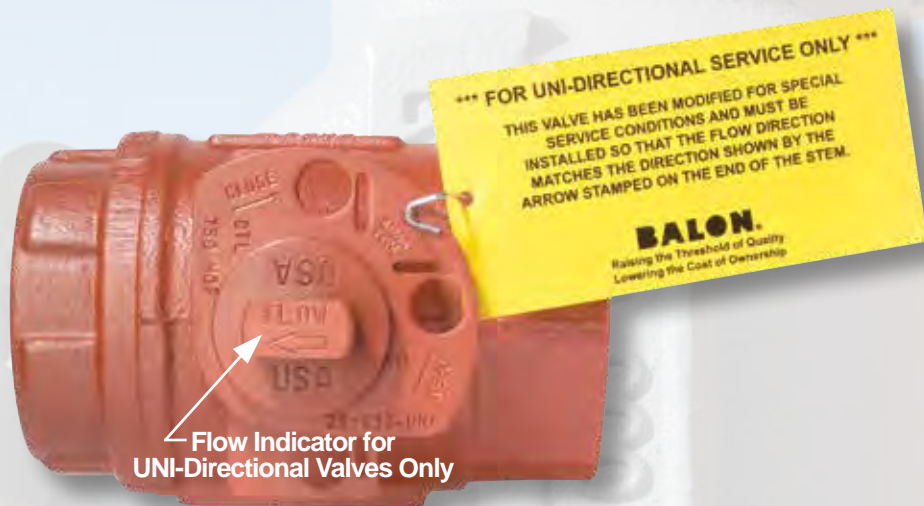


Shale Play Installations



BALON®

FREEZE RESISTANT UNI-DIRECTIONAL OPTION



UNI-Directional Valve

UNI-Directional Modification for Freeze Resistance

While no design can prevent a valve from freezing, Balon offers a UNI-Directional option that reduces the likelihood of a temporary freeze resulting in permanent damage to the valve. This design modification incorporates a relief hole in the upstream side of the closed ball. When water trapped inside the ball cavity freezes and expands, the relief hole allows dissipation of the increased internal pressure.

As shown in the photographs, the addition of the relief hole renders the valve uni-directional with the body side of the valve positioned upstream for proper sealing and operation. Balon's freeze-resistant, UNI-Directional option is available on nearly every ball valve Balon offers. Please call the factory for pricing and availability when requesting the freeze resistant, UNI-Directional option.



Building for the Future...



BALON®

GEAR OPERATOR

BALON GEAR OPERATORS

Why We Make Our Own Gear Operators
Gear Operator Features

G-1

G-2

G-3

Gear Operator

Why We Make Our Own Gear Operators



We manufacture our own Balon gear operators because our customers expect and deserve gear operators that measure up to the proven safety, sealability, and durability of Balon ball valves.

Balon has seized an opportunity to advance gearbox safety and performance where commodity gearbox manufacturers have fallen short. By incorporating rugged features and upgraded materials, the Balon gear operator extends service life and enhances both safety and ease of operation.

And, as with every component of our valves, the Balon gear operator is 100% made in America by Balon Corporation.

Please consult the chart below for sizes and pressure classes on which Balon gear operators are standard.

Balon Gear Operator Models and their corresponding Valves *

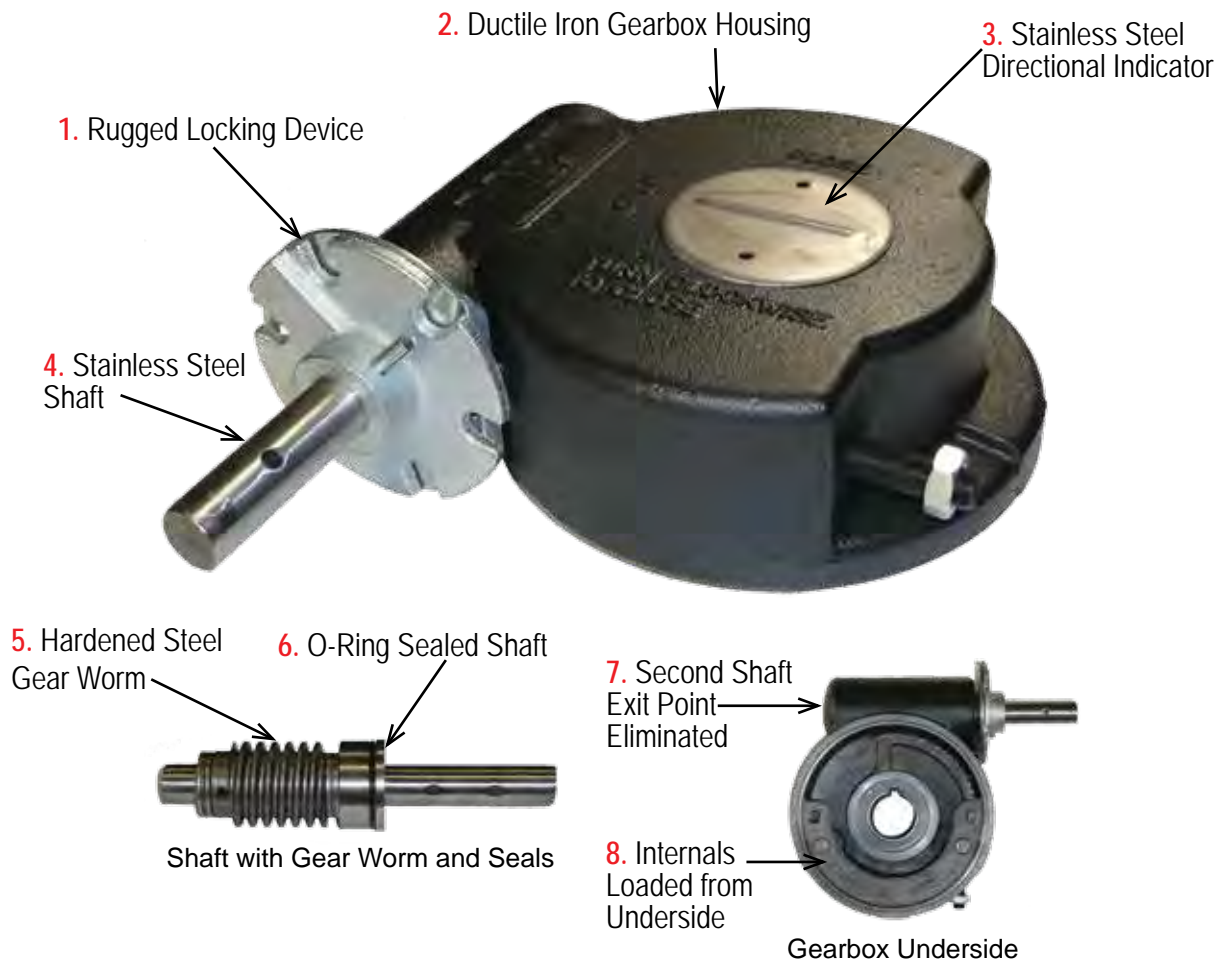
B44 ** 11 Turns	B64 16 Turns	B88 22 Turns	B100 25 Turns
4F-F63-RF(RJ)	6F-F13-RF	8F-F13-RF	10F-T33-RF
4F-F63N-RF(RJ)	6F-F13N-RF	8F-F13N-RF	10F-T33CN-RF
4F-T63-RF(RJ)	6F-F13-RF15.5	8F-T33-RF	10F-T33SN-RF
4F-T63CN-RF (RJ)	6F-F13N-RF15.5	8F-T33CN-RF	10F-T63-RF(RJ)
4F-T63SN-RF (RJ)	6F-F33-RF	8F-T33SN-RF	10F-T63CN-RF(RJ)
6R-F63-RF(RJ)	6F-F33N-RF	8F-T63-RF(RJ)	10F-T63SN-RF(RJ)
6R-F63N-RF(RJ)	6F-F63-RF(RJ)	8F-T63CN-RF(RJ)	
4F-T93-RF(RJ)	6F-F63N-RF(RJ)	8F-T63SN-RF(RJ)	
4F-T93CN-RF(RJ)	6F-T63-RF(RJ)	10R-F13-RF	
4F-T93SN-RF(RJ)	6F-T63CN-RF(RJ)	10R-F13N-RF	
	6F-T63SN-RF(RJ)	10F-T13-RF	
	8R-F13-RF	10F-T13CN-RF	
	8R-F13N-RF	10F-T13SN-RF	
	8R-F33-RF		
	8R-F33N-RF		
	8R-F63-RF(RJ)		
	8R-F63N-RF(RJ)		

* Gear operator models are also applicable on equivalent low-temp, high-temp, and uni-directional valves.

**Balon Gear Operator Model B44 is available as an option on any Balon 3" bore or 4" bore carbon steel flanged valve. Please consult factory for details.



Gear Operator Features



1. Rugged Locking Device Standard

A rugged locking device is standard with every Balon gearbox.

2. Ductile Iron Gearbox Housing

For all gearbox housings, Balon uses high-strength ductile iron, a more malleable material with a yield strength comparable to carbon steel.

3. Stainless Steel Directional Indicator

The Balon gearbox includes a low-profile stainless steel directional indicator. The indicator seal protects the stem journal from external contaminants.

4. Stainless Steel Shaft

All Balon gear operators are equipped with stainless steel shafts as standard, thus reducing corrosion concerns and assuring smoother gearbox operation.

5. Hardened Steel Gear Worm

Gear worms are often susceptible to galling and wear. Balon takes the additional step of hardening our steel gear worms, making them highly resistant to galling and premature failure.

6-8. Suitable for Above Ground and Buried Service

The Balon gearbox is designed to prevent water and external contaminants from invading the box and causing corrosion and operating problems. **6)** The shaft is completely O-ring sealed. **7)** Balon has eliminated the second shaft exit point, a common *entry* point for external contaminants in more ordinary gearboxes. **8)** The internal components of Balon's gearbox are loaded from the underside, not from the top, and are sealed against the encroachment of external contaminants.

We Don't Import Valves We Make Them...



We Don't Export Jobs We Create Them...



BALON®

TRUNNION BALL VALVES

TRUNNION BALL VALVES

T-1

TRUNNION VALVE IDENTIFICATION KEY

T-2

Trunnion Ball Valve Features

T-3

SERIES T BALL VALVES

Carbon Steel, ANSI 150, 285 PSI WP (10")

T-4, T-5

Carbon Steel, ANSI 300, 740 PSI WP (8" Through 10")

T-6, T-7

Carbon Steel, ANSI 600, 1480 PSI WP (4" Through 10")

T-8, T-9

Carbon Steel, ANSI 900, 2220 PSI WP (4")

T-10, T-11

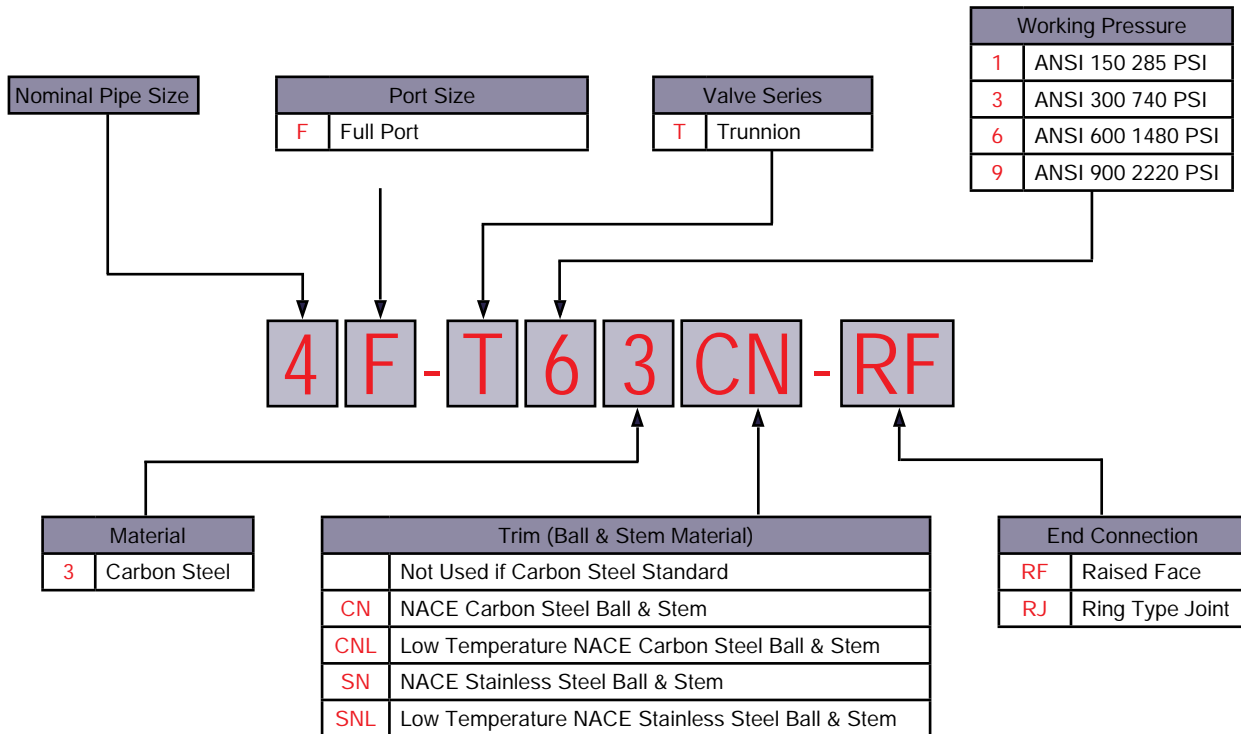
TECHNICAL INFORMATION

Actuator Sizing / Standards and Specifications

T-12

Trunnion Valve Identification Key

Balon Trunnion Ball Valves



Note: For any valves not listed please consult factory.

Trunnion Valve Features

Trunnion Ball Valve Special Features



FULL-RANGE SEALING WITH MULTI-SEAL

Most trunnion-mounted ball valves have difficulty sealing at both high and low pressures. Balon's Multi-Seal seats provide multi sealing surfaces for full-range sealing. This results in steady operating torques for low pressure applications and high pressure applications. Multi-Seal is standard in every valve.

BLOWOUT-PROOF STEM WITH SAFETY SHEAR GROOVE

To prevent hazardous blowout, the Balon Series T stem is internally loaded and back-seated. And, as an added precaution each stem includes Balon's safety shear groove. If the stem should be inadvertently sheared, breakage occurs at a point located a safe distance from the pressure zone.

LOAD-BEARING BLOCKS

Balon has done away with the externally inserted lower trunnion, a hazardous leak path, a maintenance nuisance, and a blowout point. The Balon Series T incorporates load-bearing blocks. Even at maximum pressure, the blocks bear the load uniformly and reduce lateral stress,

keeping the ball centered. Balon has eliminated the premature bearing failure associated with traditional trunnion valve designs.

DOUBLE-BLOCK-AND-BLEED AND SECONDARY SEALING

Every Balon Series T includes a bleed fitting for double-block-and-bleed, and every valve allows grease injection for secondary sealing.

LOCKING DEVICE ON EVERY VALVE

Balon Series T valves, like all Balon gear operated valves, feature standard locking devices in all sizes.

FIRE-SAFE AS STANDARD

With Balon, there is no need to ask for "fire safe." Every Balon Series T ball valve is fire-safe as standard.

100% AMERICAN-MADE

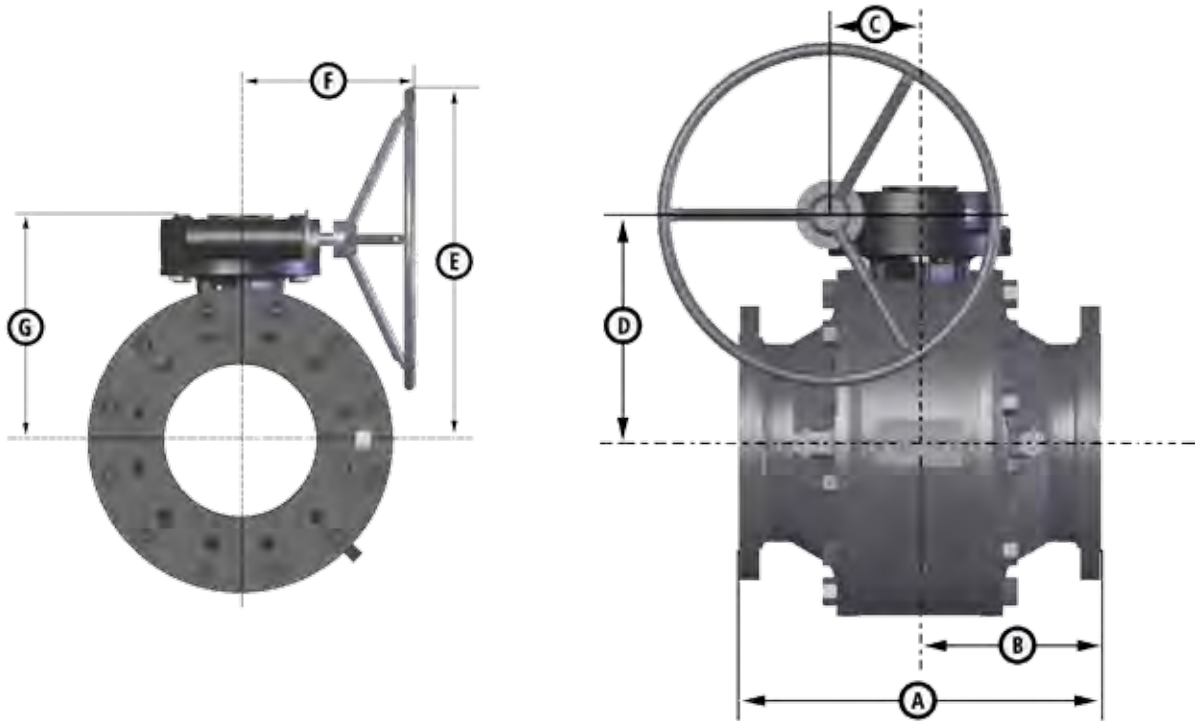
Like all Balon valves, the Series T comprises 100% domestic raw materials. All machining work is performed in our Oklahoma City plant by Balon employees.

Series T Trunnion Valves

Series T Carbon Steel



- Gear Operated Trunnion Ball Valve
- ANSI Class 150 (285 PSI WP)
- 10"
- Bolted Body Construction
- Exclusive Balon Gearbox
 - ✓ Suitable for Buried Service
 - ✓ Stainless Steel Input Shaft Standard
 - ✓ Stainless Steel Directional Indicator
 - ✓ Integral Locking Device Standard
 - ✓ Manufactured in our Oklahoma City Plant
- Multi-Seal Seats
- Fire Safe Design



Dimensional Data

SIZE	CATALOG NUMBER			PORT	A	B	C	D	E	F	G	LBS.
	STANDARD TRIM CARBON STEEL BALL & STEM	NACE TRIM CARBON STEEL BALL & STEM*	NACE TRIM 316 SS BALL & STEM*									
10x10x10	10F-T13-RF	10F-T13CN-RF*	10F-T13SN-RF*	10	21.00	10.5	5.25	13.26	20	13.56	15.25	937.5

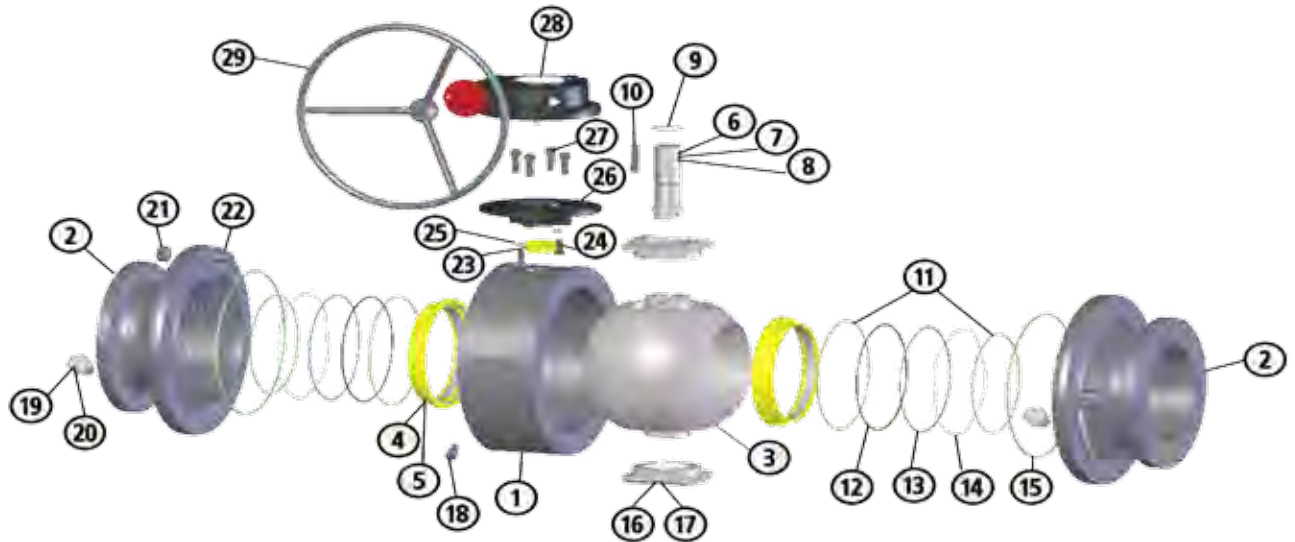
* NACE Valves are also available in low temp. Call factory for details.

BALON

07.2014 Rev.1

Series T Trunnion Valves

Series T Carbon Steel



Material Description

ITEM	PART NAME	STANDARD TRIM	CARBON STEEL NACE	STAINLESS STEEL NACE
1	Body	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
2	Adapter	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
3	Ball	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
4	Seat Carrier	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
5	Seat Insert	Nylon/Acetal	Nylon/Acetal	Nylon/Acetal
6	Stem	Carbon Steel	Carbon Steel	316 Stainless Steel
7	Stem O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
8	Stem Thrust Washer	TFE	TFE	TFE
9	Snap Ring	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
10	Stem Key	Steel Key Stock	Steel Key Stock	Steel Key Stock
11	Seat O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
12	Fireseal	Graphite	Graphite	Graphite
13	Fireseal Support Ring	Stainless Steel	Stainless Steel	Stainless Steel
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750
15	Body O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
16	Bearing Block	Carbon Steel	Carbon Steel	Stainless Steel
17	Trunnion Bearing	316 SS/TFE	316 SS/TFE	316 SS/TFE
18	Bleed Fitting*	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
19	Sealant Injection Fitting	Alloy Steel	Alloy Steel	Alloy Steel
20	Internal Check Fitting	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
21	Nuts	ASTM A194 2H	ASTM A194 2HM	ASTM A194 2HM
22	Studs	ASTM A193 B7	ASTM A193 B7M	ASTM A193 B7M
23	Stem Bearing	Glass/TFE	Glass/TFE	Glass/TFE
24	Hexhead Capscrew	Alloy Steel	Alloy Steel	Alloy Steel
25	Lock Washer	Alloy Steel	Alloy Steel	Alloy Steel
26	Adapter Plate	Ductile Iron	Ductile Iron	Ductile Iron
27	Capscrews	Alloy Steel	Alloy Steel	Alloy Steel
28	Gear Operator	Ductile Iron	Ductile Iron	Ductile Iron
29	Handwheel	Carbon Steel	Carbon Steel	Carbon Steel

* 3/8" NPT

BALON.

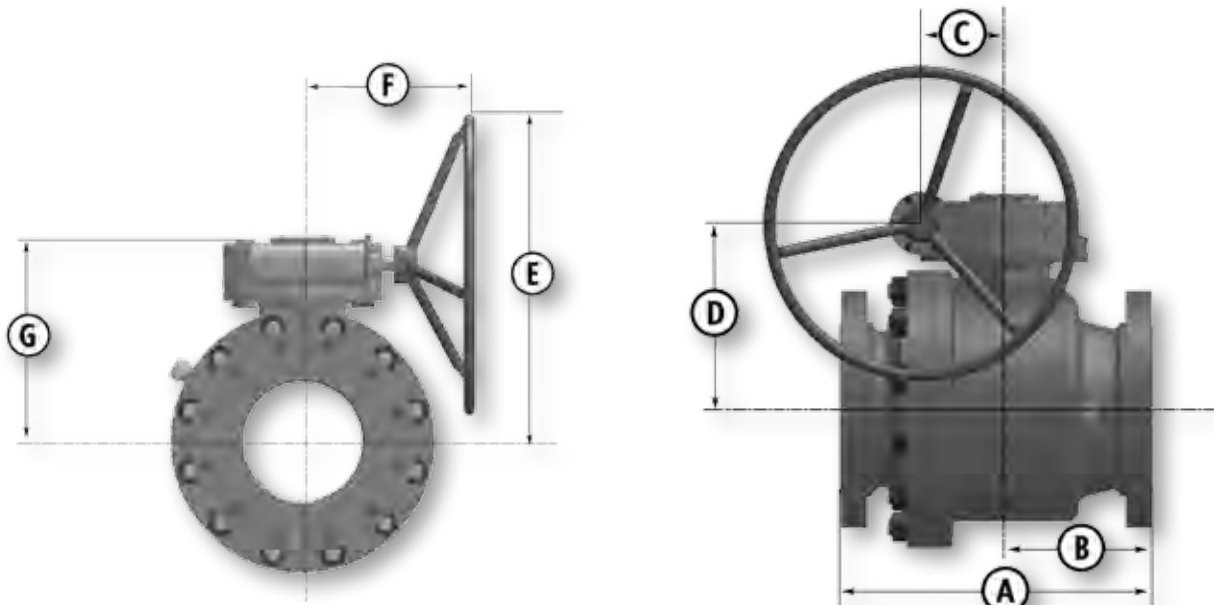
07.2014 Rev.1

Series T Trunnion Valves

Series T Carbon Steel



- Gear Operated Trunnion Ball Valve
- ANSI Class 300 (740 PSI WP)
- 8"
- Bolted Body Construction
- Exclusive Balon Gearbox
 - ✓ Suitable for Buried Service
 - ✓ Stainless Steel Input Shaft Standard
 - ✓ Stainless Steel Directional Indicator
 - ✓ Integral Locking Device Standard
 - ✓ Manufactured in our Oklahoma City Plant
- Multi-Seal Seats
- Fire Safe Design



Dimensional Data

SIZE	CATALOG NUMBER			PORT	A	B	C	D	E	F	G	LBS.
	STANDARD TRIM CARBON STEEL BALL & STEM	NACE TRIM CARBON STEEL BALL & STEM*	NACE TRIM 316 SS BALL & STEM*									
8x8x8	8F-T33-RF	8F-T33CN-RF*	8F-T33SN-RF*	8	19.75	9.37	5.25	11.75	20	11.56	13.67	684
10x10x10	10F-T33-RF	10F-T33CN-RF*	10F-T33SN-RF*	10	22.38	11.2	3.04	17.83	20	13.25	19.57	1200

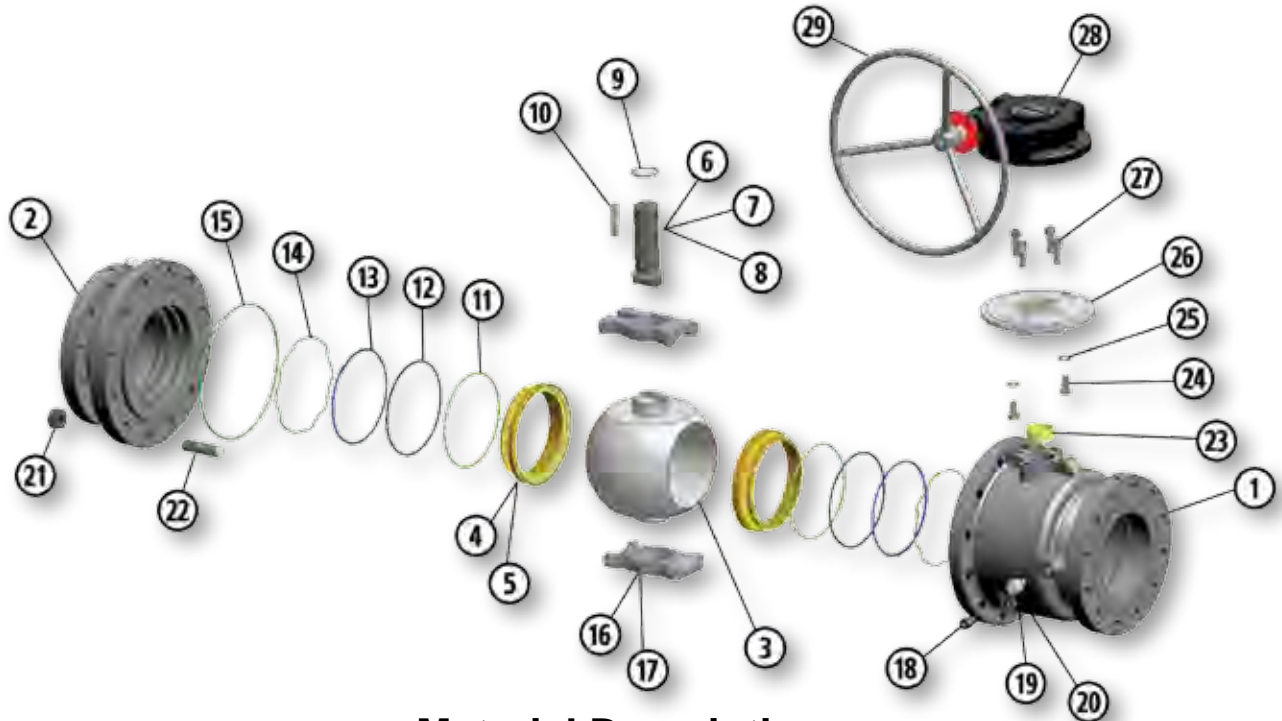
* NACE Valves are also available in low temp. Call factory for details.

BALON

07.2014 Rev.2

Series T Trunnion Valves

Series T Carbon Steel



Material Description

ITEM	PART NAME	STANDARD TRIM	CARBON STEEL NACE	STAINLESS STEEL NACE
1	Body	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
2	Adapter	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
3	Ball	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
4	Seat Carrier	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
5	Seat Insert	Nylon/Acetal	Nylon/Acetal	Nylon/Acetal
6	Stem	Carbon Steel	Carbon Steel	316 Stainless Steel
7	Stem O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
8	Stem Thrust Washer	TFE	TFE	TFE
9	Snap Ring	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
10	Stem Key	Steel Key Stock	Steel Key Stock	Steel Key Stock
11	Seat O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
12	Fireseal	Graphite	Graphite	Graphite
13	Fireseal Support Ring	Stainless Steel	Stainless Steel	Stainless Steel
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750
15	Body O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
16	Bearing Block	Carbon Steel	Carbon Steel	Stainless Steel
17	Trunnion Bearing	316 SS/TFE	316 SS/TFE	316 SS/TFE
18	Bleed Fitting*	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
19	Sealant Injection Fitting	Alloy Steel	Alloy Steel	Alloy Steel
20	Internal Check Fitting	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
21	Nuts	ASTM A194 2H	ASTM A194 2HM	ASTM A194 2HM
22	Studs	ASTM A193 B7	ASTM A193 B7M	ASTM A193 B7M
23	Stem Bearing	Glass/TFE	Glass/TFE	Glass/TFE
24	Hexhead Capscrew	Alloy Steel	Alloy Steel	Alloy Steel
25	Lock Washer	Alloy Steel	Alloy Steel	Alloy Steel
26	Adapter Plate	Ductile Iron	Ductile Iron	Ductile Iron
27	Capscrews	Alloy Steel	Alloy Steel	Alloy Steel
28	Gear Operator	Ductile Iron	Ductile Iron	Ductile Iron
29	Handwheel	Carbon Steel	Carbon Steel	Carbon Steel

* 3/8" NPT

BALON.

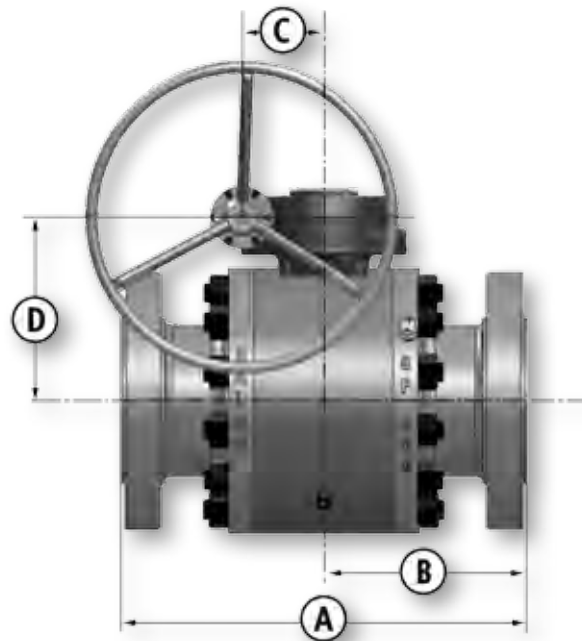
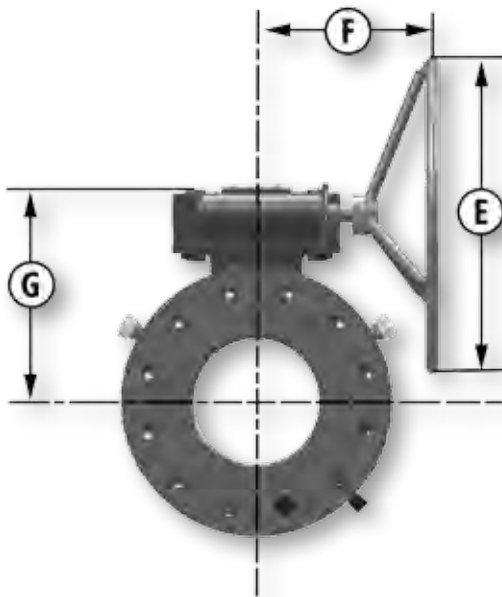
11.2013. Rev1

Series T Trunnion Valves

Series T Carbon Steel



- Gear Operated Trunnion Ball Valve
- 4" Through 10"
- ANSI Class 600 (1480 PSI WP)
- Bolted Body Construction
- Exclusive Balon Gearbox
 - ✓ Suitable for Buried Service
 - ✓ Stainless Steel Input Shaft Standard
 - ✓ Stainless Steel Directional Indicator
 - ✓ Integral Locking Device Standard
 - ✓ Manufactured in our Oklahoma City Plant
- Multi-Seal Seats
- Fire Safe Design



Dimensional Data

SIZE	CATALOG NUMBER			PORT	A		B		C	D	E	F	G	LBS.
	STANDARD TRIM CARBON STEEL BALL & STEM	NACE TRIM CARBON STEEL BALL & STEM	NACE TRIM 316SS BALL & STEM		RF	RTJ	RF	RTJ						
4x4x4	4F-T63	4F-T63CN*	4F-T63SN*	4	17	17.12	9	8.56	3.04	8.06	13	8.75	9.68	309
6x6x6	6F-T63	6F-T63CN*	6F-T63SN*	6	22	22.12	11	11.06	4.06	9.69	20	11.19	11.31	560
8x8x8	8F-T63	8F-T63CN*	8F-T63SN*	8	26	26.12	13	13.06	5.25	11.75	20	11.56	13.68	998
10x10x10	10F-T63	10F-T63CN*	10F-T63SN*	10	31	31.12	15.5	15.56	3.038	17.82	26	14.00	19.57	1550

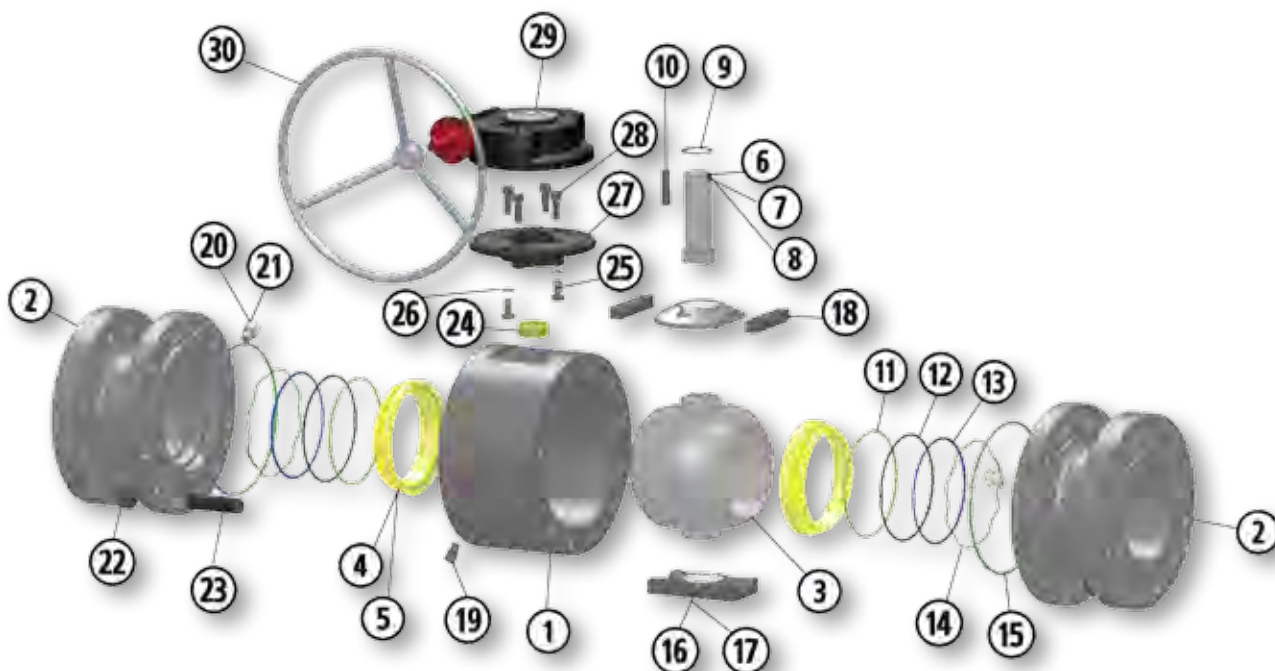
* NACE Valves are also available in low temp. Call factory for details.

BALON

04.2014.Rev.2

Series T Trunnion Valves

Series T Carbon Steel



Material Description

ITEM	PART NAME	STANDARD TRIM	CARBON STEEL NACE	STAINLESS STEEL NACE
1	Body	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
2	Adapter	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
3	Ball	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
4	Seat Carrier	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
5	Seat Insert	Nylon/Acetal	Nylon/Acetal	Nylon/Acetal
6	Stem	Carbon Steel	Carbon Steel	316 Stainless Steel
7	Stem O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
8	Stem Thrust Washer	TFE	TFE	TFE
9	Snap Ring	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
10	Stem Key	Steel Key Stock	Steel Key Stock	Steel Key Stock
11	Seat O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
12	Fireseal	Graphite	Graphite	Graphite
13	Fireseal Support Ring	Stainless Steel	Stainless Steel	Stainless Steel
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750
15	Body O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
16	Bearing Block	Carbon Steel	Carbon Steel	Stainless Steel
17	Trunnion Bearing	316 SS/TFE	316 SS/TFE	316 SS/TFE
18	Spacer Block	Stainless Steel	Stainless Steel	Stainless Steel
19	Bleed Fitting*	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
20	Sealant Injection Fitting	Alloy Steel	Alloy Steel	Alloy Steel
21	Internal Check Fitting	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
22	Nuts	ASTM A194 2H	ASTM A194 2HM	ASTM A194 2HM
23	Studs	ASTM A193 B7	ASTM A193 B7M	ASTM A193 B7M
24	Stem Bearing	Glass/TFE	Glass/TFE	Glass/TFE
25	Hexhead Capscrew	Alloy Steel	Alloy Steel	Alloy Steel
26	Lock Washer	Alloy Steel	Alloy Steel	Alloy Steel
27	Adapter Plate	Ductile Iron	Ductile Iron	Ductile Iron
28	Capscrews	Alloy Steel	Alloy Steel	Alloy Steel
29	Gear Operator	Ductile Iron	Ductile Iron	Ductile Iron
30	Handwheel	Carbon Steel	Carbon Steel	Carbon Steel

* 3/8" NPT

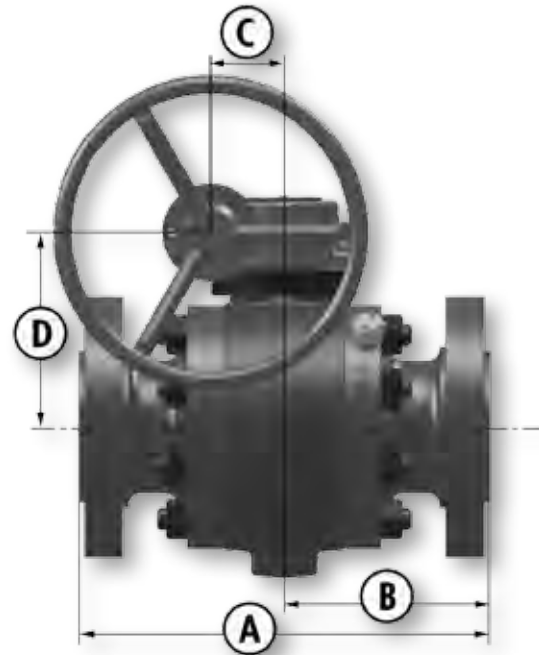
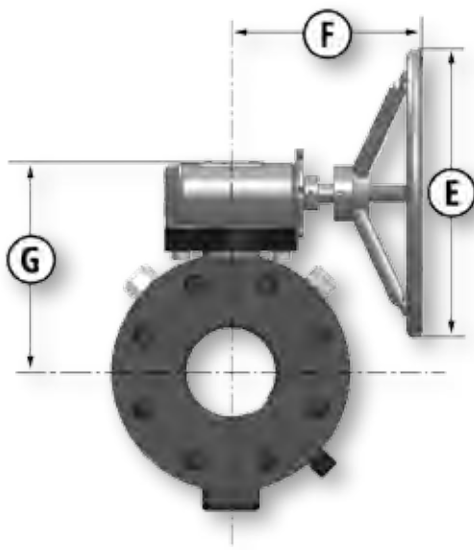
Series T Trunnion Valves

Series T Carbon Steel



- Gear Operated Trunnion Ball Valve
- 4"
- ANSI Class 900 (2220 PSI WP)
- Bolted Body Construction

- Exclusive Balon Gearbox
 - ✓ Suitable for Buried Service
 - ✓ Stainless Steel Input Shaft Standard
 - ✓ Stainless Steel Directional Indicator
 - ✓ Integral Locking Device Standard
 - ✓ Manufactured in our Oklahoma City Plant
- Multi-Seal Seats
- Fire Safe Design



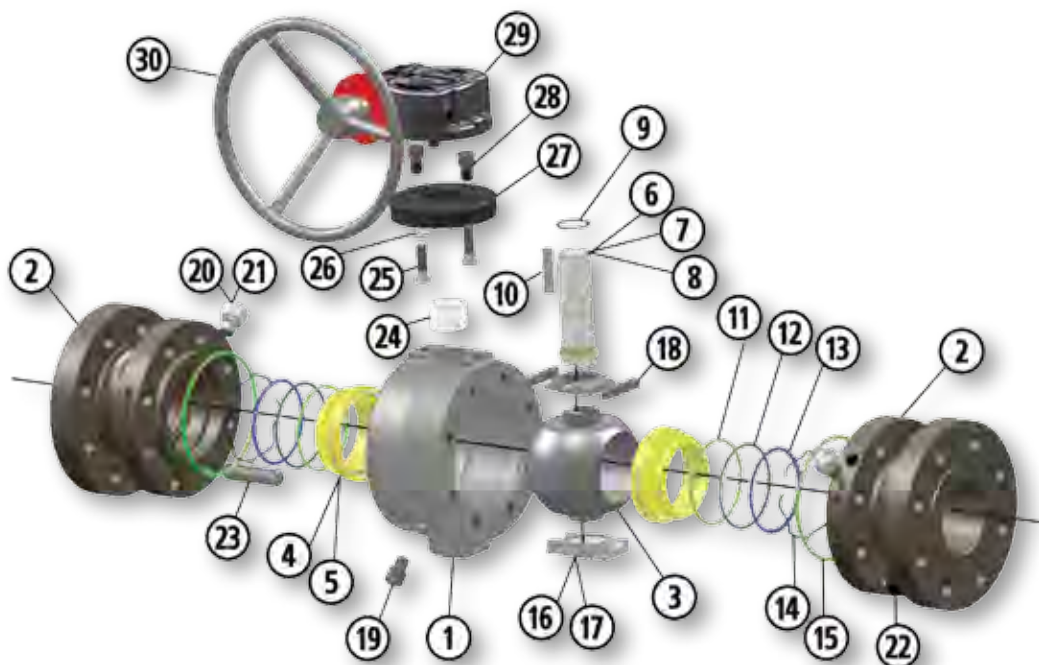
Dimensional Data

SIZE	CATALOG NUMBER			PORT	A		B		C	D	E	F	G	LBS.
	STANDARD TRIM CARBON STEEL BALL & STEM	NACE TRIM CARBON STEEL BALL & STEM	NACE TRIM 316SS BALL & STEM		RF	RTJ	RF	RTJ						
4x4x4	4F-T93	4F-T93CN*	4F-T93SN*	4	18	18.12	9	9.06	3.04	8.06	13	8.75	9.68	331

* NACE Valves are also available in low temp. Call factory for details.

Series T Trunnion Valves

Series T Carbon Steel



Material Description

ITEM	PART NAME	STANDARD TRIM	CARBON STEEL NACE	STAINLESS STEEL NACE
1	Body	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
2	Adapter	ASTM A216 WCB/A105	ASTM A216 WCB/A105	ASTM A216 WCB/A105
3	Ball	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
4	Seat Carrier	Carbon Steel Nickel Chrome Plated	Carbon Steel Nickel Chrome Plated	316 Stainless Steel
5	Seat Insert	Nylon/Acetal	Nylon/Acetal	Nylon/Acetal
6	Stem	Carbon Steel	Carbon Steel	316 Stainless Steel
7	Stem O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
8	Stem Thrust Washer	TFE	TFE	TFE
9	Snap Ring	Carbon Spring Steel	Carbon Spring Steel	Carbon Spring Steel
10	Stem Key	Steel Key Stock	Steel Key Stock	Steel Key Stock
11	Seat O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
12	Fireseal	Graphite	Graphite	Graphite
13	Fireseal Support Ring	Stainless Steel	Stainless Steel	Stainless Steel
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750
15	Body O-Ring	Buna-N	Fluorocarbon	Fluorocarbon
16	Bearing Block	Carbon Steel	Carbon Steel	Stainless Steel
17	Trunnion Bearing	316 SS/TFE	316 SS/TFE	316 SS/TFE
18	Spacer Block	Stainless Steel	Stainless Steel	Stainless Steel
19	Bleed Fitting*	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
20	Sealant Injection Fitting	Alloy Steel	Alloy Steel	Alloy Steel
21	Internal Check Fitting	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
22	Nuts	ASTM A194 2H	ASTM A194 2HM	ASTM A194 2HM
23	Studs	ASTM A193 B7	ASTM A193 B7M	ASTM A193 B7M
24	Stem Bearing	Glass/TFE	Glass/TFE	Glass/TFE
25	Hexhead Capscrew	Alloy Steel	Alloy Steel	Alloy Steel
26	Lock Washer	Alloy Steel	Alloy Steel	Alloy Steel
27	Adapter Plate	Ductile Iron	Ductile Iron	Ductile Iron
28	Cap screws	Alloy Steel	Alloy Steel	Alloy Steel
29	Gear Operator	Ductile Iron	Ductile Iron	Ductile Iron
30	Handwheel	Carbon Steel	Carbon Steel	Carbon Steel

* 3/8" NPT

BALON.

11.2013 Rev.1

Actuator Sizing

Actuator Sizing

Recommended actuator output torques for Balon ball valves may be found on Balon Corporation's website at www.balon.com.

The recommended actuator output torques listed on our website are breakaway torques and are adequate for the operation of Balon ball valves equipped with standard seats and used to control clean liquid at ambient temperature.

The recommended run torque is approximately 1/2, or 50%, of the recommended breakaway torque.

The recommended re-seat torque is approximately 3/4, or 75%, of the recommended breakaway torque.

Corrosion, scale, build-up on the ball, or other service conditions can drastically alter torque requirements and should be given consideration when selecting actuation or automation equipment.



Standards and Specifications

Balon utilizes the following standards in the manufacture of ball valves. It should be noted that not all styles, configurations and materials used in Balon valves meet all of these standards in their entirety.

The user therefore, should specify a given standard if there is a need to assure total compliance with a given standard.

API (American Petroleum Institute)	MSS (Manufacturers Standardization Society)
API-6FA Fire Test For Resilient-Seated Valves	MSS-SP6 Standard Finishes For Contact Faces Of Pipe Flanges And Connection End Flanges Of Valves And Fittings
API 5B Inspection Of Threads	MSS-SP25 Standard Marking System For Valves, Fittings, Flanges And Fittings
API-6D Pipeline Valves, End Closures, Connectors And Swivels.	MSS-SP72 Ball Valves With Flanged Or Butt Welding Ends For General Service
API-Q1 Quality Programs	MSS-SP82 Valve Pressure Test Methods
API-594 Wafer Check Valves	NACE MR-01-75 Sulfide Stress Cracking, Resistant Metallic Material For Oil Field Equipment (NACE Materials Are Optional And Must Be Specified On Purchase Orders)
ANSI (American National Standard Institute)	
ANSI-B 16.5 - Pipe Flanges And Flanged Fittings	
ANSI-B 16.10 - Face-To-Face End-To-End Dimensions	
ANSI-B 16.42 Ductile Iron Pipe Flanges And Flanged Fittings	
ANSI-B 16.34 - Valves - Flanged End, Threaded And Butt Weld	
ANSI-B (B1.20.1) - Pipe Threads General Purpose (Inch)	

CE marking to the PED available on most products

Balon valves contain grease and are not suitable for oxygen service due to an increased risk of combustion or explosion.

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