



ES4 SERIES

0 - 600 PSIG

1/4" - 2"



BRONZE EXTENDED CRYOGENIC SHUTOFF VALVES

Models

- ES4 - Standard Bonnet Extension
- ES4B - Short Bonnet Extension

Features

- Solid Stainless Steel Stem
- Low Initial Cost - Low Maintenance
- Low Heat Leak Extension
- Bubble Tight Shutoff
- Self-Centering Plug Seal
- Easy Inline Maintenance
- Each Valve is Cleaned and Bagged for Oxygen Service per CGA G-4.1
- Designed to Pressure Class 300# per MSS SP-80

Applications

- Cryogenic Storage Tanks
- Cryogenic Transportation Trailers
- Cryogenic Piping Systems
- ES4 for Continuous Use (i.e.: Withdraw)
- ES4B for Intermittant (i.e.: Fill & PB) and Cold Gas (i.e.: Vent & Trycock) Use

Options

- Pneumatic and Electric Actuators
- Positioners & Limit Switches
- Linear & Equal % Flow Plugs
- Brazed in Sch 10 Stainless BWE
- Fabricated Valve Assemblies
- Body Cast with Overseat Boss, suitable for Thermal Relief Port Tap
- British Standard Pipe Thread (BSPT)

Technical Data

Operating Ranges

Temperature-452°F to +300°F
(-269°C to +149°C)

Max. Operating Pressure 600 PSIG

Materials of Construction

BodyBronze, ASTM B-61

Stem and ExtensionStainless Steel,
300 Series

Seat SealKel-F, M400H

PackingTFE, Chevron

Qualification Test:

Functionality10,000 Rotation Cycles

Cryo Seat Leak600 psig

Designed I.A.W. SPTI 170-2

Production Test:

FunctionalityFull Stroke

Proof Pressure660 psig

All Valves Tested I.A.W. MSS SP-80 at 600 psig

Every valve individually boxed; installation & maintenance guide included.

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0 - 600 PSIG

How To Order

ES4B - 088 - TPG - TW

BASIC MODEL NUMBER

- ES4 - Standard Length Bonnet
- ES4B - Short Bonnet

VALVE SIZE

- 082 - 1/4"
- 083 - 3/8"
- 084 - 1/2"
- 086 - 3/4"
- 088 - 1"
- 812 - 1-1/2"
- 816 - 2"

CONFIGURATION

- TP - Threaded Female Pipe
- ST - Silver Brazed Socket, Copper Tube (1/8" over nominal)
- STP** - Silver Brazed Socket Under Seat by FNPT Thread Over Seat
- TST** - FNPT Under Seat by Silver Brazed Socket Over Seat

OPTIONS

- (blank) - Manual Operated
- SG* - Soft Good Kit
- TW* - Top Works Kit Only
- PO** - Pneumatic Operated
- EO** - Electric Operated

BODY STYLE

- G - Globe Body
- R - Right Angle Body 1-1/2" Size Only (Special Orders Only)

FLOW COEFFICIENT (Cv)

Size	STG	TPG	STR	TPR
1/4	1.2	1.7	—	—
3/8	2.4	3	—	—
1/2	3.9	4.2	—	—
3/4	9.2	10.3	—	—
1	15.2	15.2	—	—
1-1/2	30	30	38.5	38.5
2	50	50	—	—

* Top works is complete and assembled with seat, packing and handwheel but without union nut. Order 084 for all 1/4", 3/8" and 1/2" valves. Order 088 for all 3/4" and 1" valves.

** Consult Factory

DIMENSIONS inches AND WEIGHTS pounds

Size	Dimensions								Weight (Approx.)				
	STG	TPG	A	STR	TPR	ES4	B	C	D	STG	TPG	STR	TPR
1/4	3.25	2.63	—	—	—	13.4	8	0.31	3	2.2	2.5	—	—
3/8	3.25	2.63	—	—	—	13.4	8	0.38	3	2.2	2.4	—	—
1/2	3.25	2.63	—	—	—	13.4	8	0.5	3	2.2	2.4	—	—
3/4	4.25	3.75	—	—	—	15.56	9	0.75	3	4.7	5.2	—	—
1	4.25	3.75	—	—	—	15.56	9	0.92	3	4.7	5	—	—
1-1/2	5.25	4.75	2.63	2.38	—	16.34	12	1.09	5	9.5	11.1	9.8	11.3
2	6.25	5.75	—	—	—	17.5	13	1.34	6	16.4	19.4	—	—

