

Technical Data

Operating Ranges

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

Max. Operating Pressure 600 PSIG

Materials of Construction

Body.....Bronze, 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.

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)

0 - 600 PSIG



VALVE SIZE -

082 - 1/4" 083 - 3/8" 084 - 1/2"

086 - 3/4" 880 - 1" - 1-1/2" 812 - 2"

CONFIGURATION

816

TP - Threaded Female Pipe

- 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

* 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.

OPTIONS

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

BODY STYLE

- Globe Body G

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

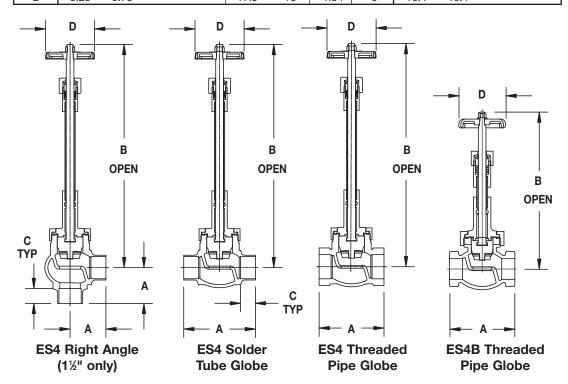
FLOW COEFFICIENT (Cv)

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	_	_	

DIMENSIONS inches **AND WEIGHTS** pounds

ES4B - 088 - TPG - TW

	Dimensions							Weight (Approx.)				
Size	STG	TPG	STR	TPR	ES4	B ES4B	C STG STR	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	_	



^{**} Consult Factory