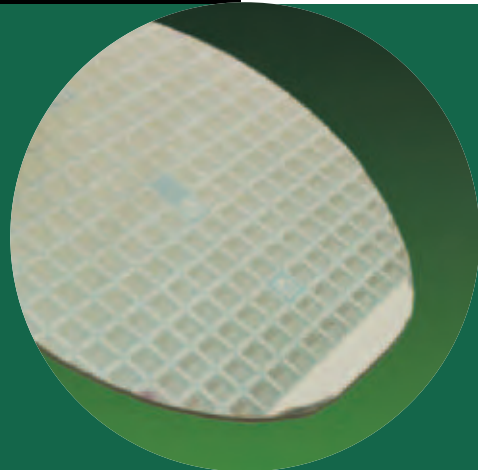


Delivering Value Through Innovation



UHP Face Seal
Fittings from Talon



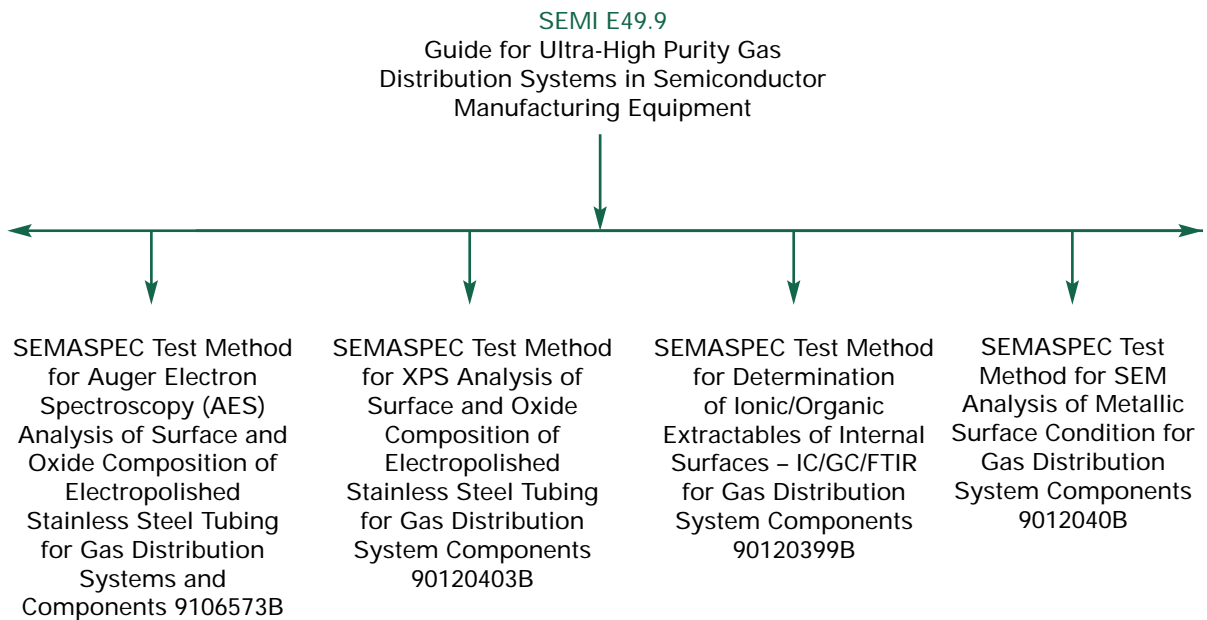
Talon Innovations was founded in 1994 with the sole intention of providing Ultra-High Purity Components to the Semiconductor, Biotech, and Pharmaceutical Industries. In this pursuit, Talon has developed some of the most robust and innovative manufacturing processes used in UHP components.

Talon manufactures a full line of standard *Face Seal Fittings, Mini Buttweled Fittings, Nuts, CGA Connections, Substrates, Bridges, Manifold Bases, etc.* Talon also manufactures a wide range of custom components to customer specifications. Some of these components include, but are not limited to, Custom Face Seal Fittings, Buttweled Fittings, End Caps, OEM Housings, OEM Custom Fittings, Manifold Bases, Mixing Blocks and C-Seal Mounts.

Talon's expertise with materials include various grades of 316L Stainless Steel, Hastelloy® C-22™, Nickel 200, Titanium, Monel 400, Teflon, PEEK, Vespel, Delrin-AF, Kel-F and more.

Talon also offers *Engineering Services* to their customers to aid them in design, manufacturability, surface chemistry analysis, cleanability, purgeability, and feasibility studies.

Talon's products are produced entirely in-house from raw stock through electropolishing, to class 100 inspection and packaging. This allows Talon to control all stages of the process, while not being dependent on outside vendors to control these critical processes. Cleanliness levels and surface chemistry are verified by qualified outside sources in accordance with the guidelines set forth by the following SEMATECH "Semaspec" test methods:



Purity specifications

	Ultra-High Purity "H" and "U"	Standard "S" Level
Material Type	<p>316L VAR Stainless Steel, Surface Chemistry meets or exceeds SEMI E49.9 for Ultra-High Purity applications</p> <p>Other Materials Available Upon Request</p>	<p>316L VAR Stainless Steel</p> <p>Other Materials Available Upon Request</p>
Purity Characteristics	<p>316L in accordance with ASTM A276 and A479</p> <p>Chromium-to-iron atomic percentage ratio equal to or greater than 1.5 within the first 20 Angstroms of the surface layer</p> <p>Chemically Passivated</p> <p>All "H" and "U" parts are electropolished</p>	<p>316L in accordance with ASTM A276 and A479</p> <p>Sulfur Content %: <0.015</p> <p>Carbon Content %: <0.030</p> <p>Chemically Passivated</p> <p>"S" Level parts are not electropolished</p>
Material Traceability	<p>Heat lot traceability is maintained throughout the process and can be marked on product at customer request.</p>	<p>Heat lot traceability is maintained throughout the process and can be marked on product at customer request.</p>
Surface Finish Level	<p>Level "H" 6-10 Ra Level "U" 3-6 Ra</p> <p>Inspected in accordance with the ISO 4288 Profilometry specification</p>	<p>Level "S" is less than or equal to 16 Ra</p>
Cleaning and Packaging	<p>Clean-Room Certified Packaging</p> <p>Individually Double Bagged</p> <p>Internal Electropolished/Bath Electropolish/D.I. Rinse</p> <p>Bulk or Special Packaging Available</p>	<p>Ultrasonic Clean and Rinse</p> <p>Individually Bagged</p> <p>Bulk or Special Packaging Available</p>

SPECIAL SIZES, CONFIGURATIONS, MATERIALS, AND PACKAGING ARE AVAILABLE UPON REQUEST.

HOW
TO
ORDER

Fitting Designator Size Designator Gland/ Fitting Length Material Designator Surface Level Designator

5020 - 4 - 1.10 - S - H

2 = 1/8
4 = 1/4
5.5 = 11/32
6 = 3/8
8 = 1/2
12 = 3/4
16 = 1
24 = 1-1/2
32 = 2

Reducer Example:
6/4 = 3/8 to 1/4

S = 316L VAR
Ultra-High Purity
Material
Specifications
Talon UHP STD
(See table on preceding page.)

Options:

A = 316L
B = 316L VIM/VAR
N = Nickel 200
M = Monel 400
H = Hastelloy C-22

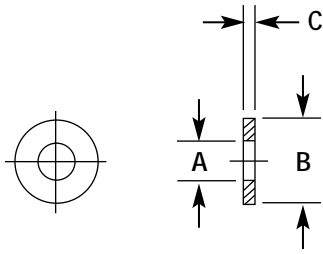
S = Standard Finish
H = High Purity
U = Ultra-High Purity

S = Non-electropolished,
less than or equal to
16 Ra

H = Electropolished
6 – 10 Ra

U = Electropolished
3 – 6 Ra

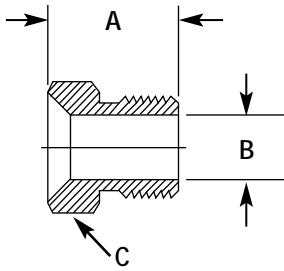
NOTE: Specifications are subject to change without notice.



Gaskets 5030

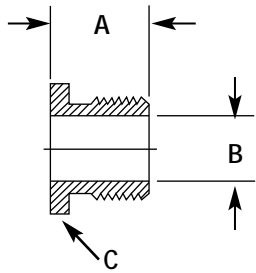
PART NUMBER	SIZE	A	B	C
5030-4S	1/4	.22	.47	.03
5030-4N	1/4	.22	.47	.03
5030-8N	1/2	.44	.78	.03

Blind gaskets and orifice gaskets available. Contact Sales for quote.



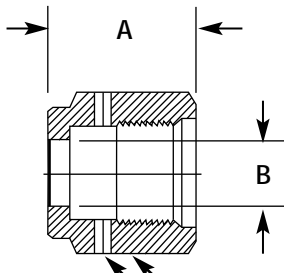
Male Nut 5001

PART NUMBER	SIZE	A (LENGTH)	B	C (HEX FLAT)
5001-4	1/4	.72	.36	5/8
5001-8	1/2	.81	.61	15/16



Male Nut (Short) 5000

PART NUMBER	SIZE	A (LENGTH)	B	C (HEX FLAT)
5000-4	1/4	.54	.36	5/8

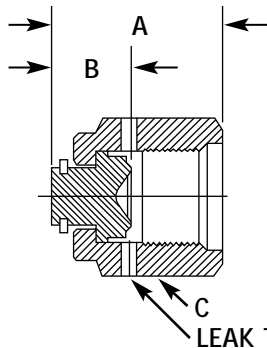


Female Nut 5002

PART NUMBER	SIZE	A (LENGTH)	B	C (HEX FLAT)
5002-4*	1/4	.81	.36	3/4
5002-8*	1/2	.88	.61	1-1/16

*Talon's proprietary silver plating process eliminates flaking, provides high uniformity in layer thickness, and virtually eliminates discoloring over time.

LEAK TEST PORT



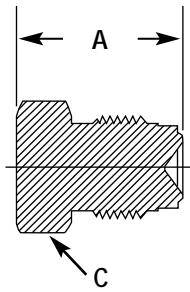
Cap 5003

PART NUMBER	SIZE	A (LENGTH)	B	C (HEX FLAT)
5003-4	1/4	.94	.44	3/4
5003-8	1/2	1.01	.45	1-1/16

LEAK TEST PORT

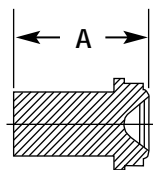
Special sizes, configurations, materials, and packaging are available upon request. All Dimensions are in inches, are for reference only, and are subject to change without notice.

ULTRA-HIGH PURITY FITTINGS



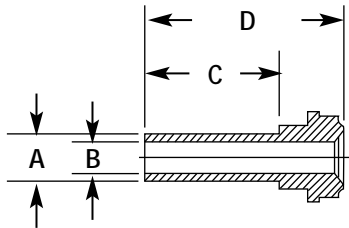
Plugs
5013

PART NUMBER	SIZE	A (LENGTH)	C (HEX FLAT)
5013-4	1/4	.92	5/8
5013-8	1/2	1.08	15/16



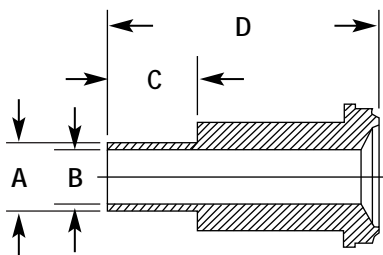
Blind Gland Plug
5019

PART NUMBER	SIZE	A
5019-4	1/4	.75
5019-8	1/2	.81



Butt Weld Gland (1/4)
5020

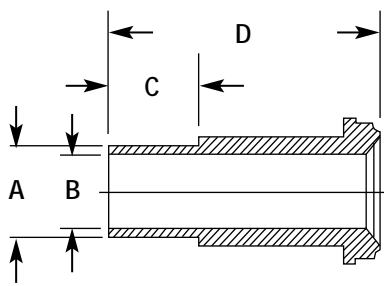
PART NUMBER	A (TUBE O.D.)	B	C	D
5020-4-0.60	1/4	.18	.25	.60
5020-4-0.75	1/4	.18	.25	.75
5020-4-0.98	1/4	.18	.25	.98
5020-4-1.10	1/4	.18	.75	1.10
5020-4-1.12	1/4	.18	.75	1.12
5020-4-1.20	1/4	.18	.75	1.20
5020-4-1.31	1/4	.18	.41	1.31
5020-4-1.50	1/4	.18	.41	1.50
5020-4-1.70	1/4	.18	.75	1.70



Butt Weld Gland (3/8)
5020

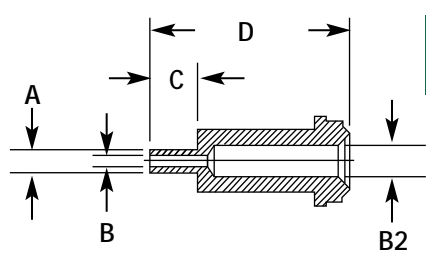
PART NUMBER	A (TUBE O.D.)	B	C	D
5020-6-1.12	3/8	.30	.75	1.12
5020-6-1.50	3/8	.30	.41	1.50
5020-6-1.79	3/8	.30	.75	1.79

Special sizes, configurations, materials, and packaging are available upon request.
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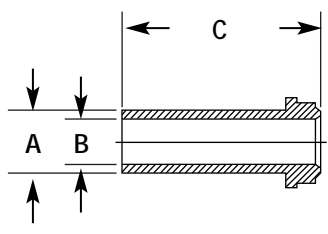
Butt Weld Gland (1/2)
5020

PART NUMBER	A (TUBE O.D.)	B	C	D
5020-8-0.62	1/2	.40	.25	.62
5020-8-1.12	1/2	.40	.75	1.12
5020-8-1.50	1/2	.40	.50	1.50
5020-8-1.79	1/2	.40	.75	1.79
5020-8-1.83	1/2	.40	.75	1.83



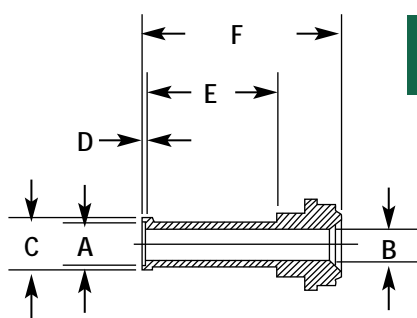
Reducer Gland (1/4)
5015

PART NUMBER	A (TUBE O.D.)	B	B2	C	D
5015-2-1.20	1/8	.07	.18	.26	1.20



High Flow Butt Weld Gland
5017

PART NUMBER	A (TUBE O.D.)	B	C
5017-5.5-0.50	11/32	.25	.50
5017-5.5-0.75	11/32	.25	.75
5017-5.5-1.10	11/32	.25	1.10
5017-5.5-2.02	11/32	.25	2.02

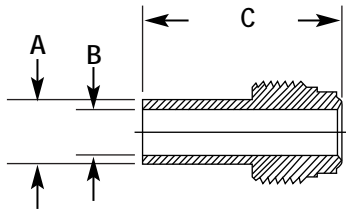


Automatic Tube Weld Gland
5018

PART NUMBER	A (TUBE O.D.)	B	C	D	E	F
5018-4-1.12	1/4	.18	.28	.02	.75	1.12
5018-4-1.72	1/4	.18	.28	.02	.75	1.72
5018-6-1.15	3/8	.30	.41	.03	.75	1.15
5018-6-1.82	3/8	.30	.41	.03	.75	1.82
5018-8-1.16	1/2	.41	.55	.04	.75	1.16
5018-8-1.83	1/2	.41	.55	.04	.75	1.83

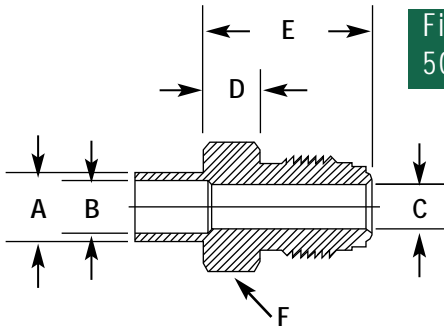
Special sizes, configurations, materials, and packaging are available upon request. All Dimensions are in inches, are for reference only, and are subject to change without notice.

ULTRA-HIGH PURITY FITTINGS



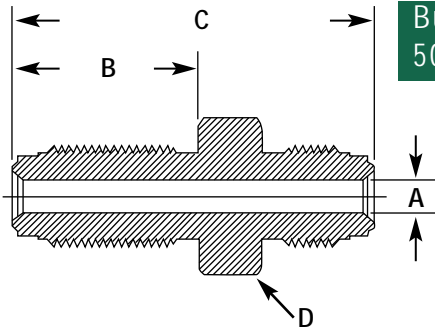
Fixed Male Fitting 5016

PART NUMBER	A (TUBE O.D.)	B	C
5016-4	1/4	.18	1.00
5016-5.5	11/32	.25	1.00
5016-6	3/8	.25	1.00



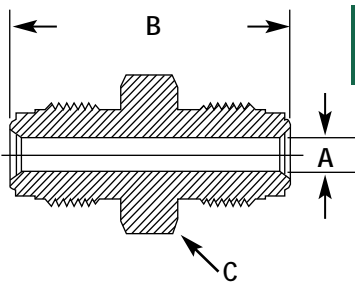
Fixed Male Fitting W/Hex Flat 5025

PART NUMBER	A (TUBE O.D.)	B	C	D	E	F (HEX FLAT)
5025-4-1.68	1/4	N/A	.18	.75	1.68	5/8
5025-5.5-1.68	11/32	N/A	.25	.75	1.68	5/8
5025-6-1.68	3/8	.30	.25	.75	1.68	5/8



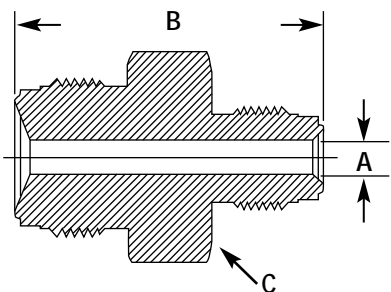
Bulkhead Connector 5014

PART NUMBER	A (TUBE O.D.)	B	C	D (HEX FLAT)
5014-4-1.82	.18	.99	1.82	3/4
5014-4-2.00	.19	1.03	2.00	3/4
5014-4-2.23	.19	1.30	2.23	3/4
5014-8-2.14	.40	1.11	2.14	1-1/16
5014-8-2.38	.41	1.25	2.38	1-1/16
5014-8-2.57	.40	1.48	2.57	1-1/16



Double Male Union 5024

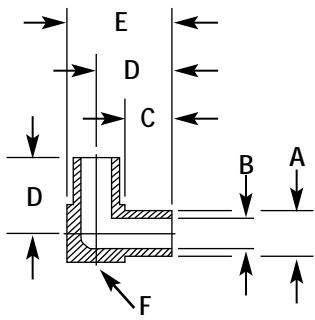
PART NUMBER	A (TUBE O.D.)	B	C
5024-4	.19	1.55	5/8
5024-8	.41	1.84	1



Double Male Reducing Union 5026

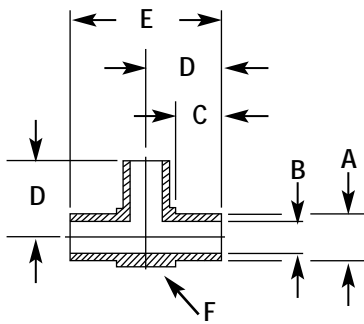
PART NUMBER	A (TUBE O.D.)	B	C
5026-2/4	.09	1.37	5/8
5026-4/8	.19	1.71	1

Special sizes, configurations, materials, and packaging are available upon request.
All Dimensions are in inches, are for reference only, and are subject to change without notice.



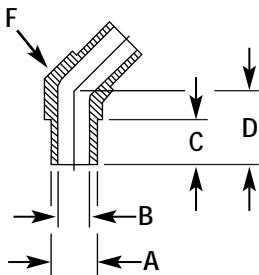
**Mini Elbow (90°)
5004**

PART NUMBER	A (TUBE O.D.)	B	C	D	E	F (BODY CUBE)
5004-4	1/4	.18	.25	.41	.56	5/16
5004-6	3/8	.30	.25	.47	.69	7/16
5004-8	1/2	.40	.25	.54	.81	9/16



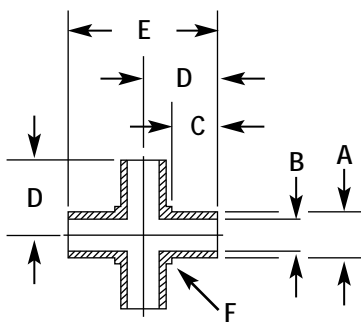
**Mini Tee
5006**

PART NUMBER	A (TUBE O.D.)	B	C	D	E	F (BODY CUBE)
5006-4	1/4	.18	.25	.41	.81	5/16
5006-6	3/8	.30	.25	.47	.94	7/16
5006-8	1/2	.40	.25	.54	1.06	9/16



**Mini Elbow (45°)
5005**

PART NUMBER	A (TUBE O.D.)	B	C	D	F (BODY CUBE)
5005-4	1/4	.18	.25	.41	5/16
5005-6	3/8	.30	.25	.47	7/16
5005-8	1/2	.40	.25	.54	9/16

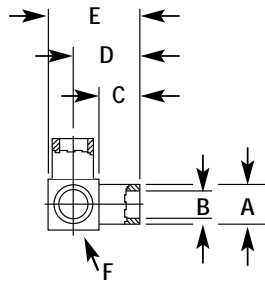


**Mini Cross
5007**

PART NUMBER	A (TUBE O.D.)	B	C	D	E	F (BODY CUBE)
5007-4	1/4	.18	.25	.41	.81	5/16
5007-6	3/8	.30	.25	.47	.94	7/16
5007-8	1/2	.40	.25	.54	1.06	9/16

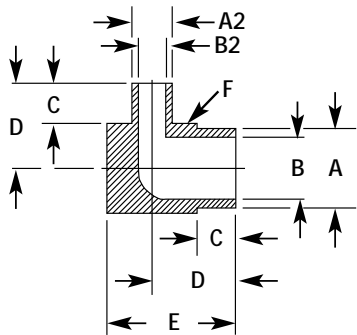
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ULTRA-HIGH PURITY FITTINGS



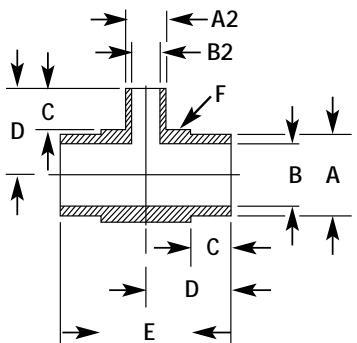
Mini Tribow 5008

PART NUMBER	A (TUBE O.D.)	B	C	D	E	F (BODY CUBE)
5008-4	1/4	.18	.25	.41	.56	5/16
5008-6	3/8	.30	.25	.47	.69	7/16
5008-8	1/2	.40	.25	.54	.81	9/16



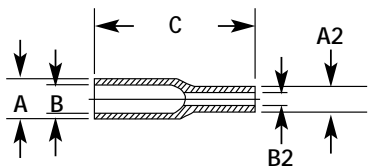
Mini Reducing Elbow 5029

PART NUMBER	A (TUBE O.D.)	A2 (TUBE O.D.)	B	B2	C	D	E	F (BODY CUBE)
5029-6/4	3/8	1/4	.30	.18	.25	.47	.69	7/16
5029-8/4	1/2	1/4	.40	.18	.25	.53	.81	9/16
5029-8/6	1/2	3/8	.40	.30	.25	.53	.81	9/16



Mini Reducing Tee 5009

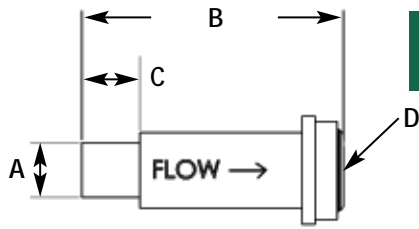
PART NUMBER	A (TUBE O.D.)	A2 (TUBE O.D.)	B	B2	C	D	E	F (BODY CUBE)
5009-6/4	3/8	1/4	.30	.18	.25	.47	.94	7/16
5009-8/4	1/2	1/4	.40	.18	.25	.53	1.06	9/16
5009-8/6	1/2	3/8	.40	.30	.25	.53	1.06	9/16



Mini Butt Weld Reducer 5010

PART NUMBER	A (TUBE O.D.)	A2 (TUBE O.D.)	B	B2	C
5010-4/2	1/4	1/8	.18	.06	.75
5010-6/4	3/8	1/4	.30	.18	.75
5010-8/6	1/2	3/8	.40	.30	.75

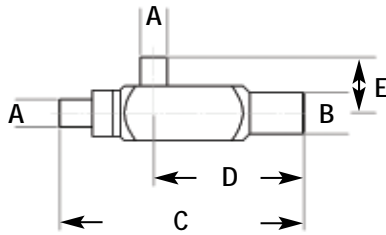
Special sizes, configurations, materials, and packaging are available upon request.
All Dimensions are in inches, are for reference only, and are subject to change without notice.



Gland Check Valve GCV

PART NUMBER	A (TUBE O.D.)	B	C	D (FACE SEAL)
GCV-4-0.60	1/4"	0.60	0.25	1/4"
GCV-4-1.10	1/4"	1.10	0.75	1/4"
GCV-6-1.79	3/8"	1.79	0.75	1/2"
GCV-8-1.79	1/2"	1.79	0.75	1/2"

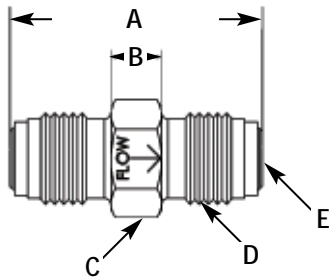
For additional flow, calibration and performance information, please request Talon CV specification sheet.



Tube Stub Vacuum Generator TSVG

PART NUMBER	A (TUBE O.D.)	B (TUBE O.D.)	C	D	E
CVG-4	1/4"	3/8"	2.25	1.38	0.52
CVG-6	3/8"	3/8"	2.25	1.38	0.52

For additional flow, calibration and performance information, please request Talon VG specification sheet.

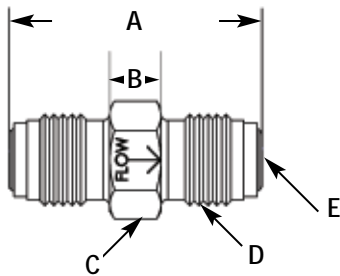


Union Flow Restrictor UFR

PART NUMBER	A	B	C (HEX FLAT)	D (THREAD)	E (FACE SEAL)
CFR-4	1.55	0.31	5/8"	9/16-18	1/4"
CFR-8	1.84	1.84	1"	7/8-14	1/2"

When ordering, please specify the gas type, flow rate, inlet pressure, and outlet pressure.

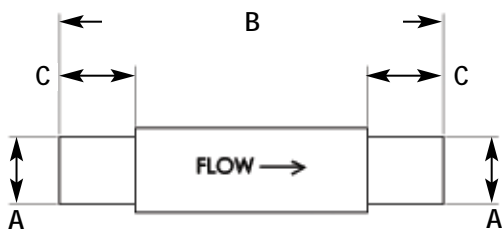
For additional flow, calibration and performance information, please request Talon FR specification sheet.



Union Check Valve UCV

PART NUMBER	A	B	C (HEX FLAT)	D (THREAD)	E (FACE SEAL)
CCV-4	1.55	0.31	5/8"	9/16-18	1/4"
CCV-8	1.84	1.84	1"	7/8-14	1/2"

For additional flow, calibration and performance information, please request Talon CV specification sheet.



Tube Stub Check Valve TSCV

PART NUMBER	A (TUBE O.D.)	B	C
TCV-4-1.60	1/4"	1.40	0.28
TCV-4-1.60	1/4"	1.60	0.28
TCV-4-1.70	1/4"	1.70	0.28
TCV-6-1.60	3/8"	1.60	0.28
TCV-6-1.70	3/8"	1.70	0.28

For additional flow, calibration and performance information, please request Talon CV specification sheet.

Special sizes, configurations, materials, and packaging are available upon request. All Dimensions are in inches, are for reference only, and are subject to change without notice.



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Sauk Rapids, MN 56379

Phone: 320-251-0390
Fax: 320-251-5810

www.taloneng.com
sales@taloneng.com

Rely on Talon expertise

No matter what your requirements, Talon Innovations has the tools and expertise to provide you with solutions that deliver precision, innovation, and real value.

We now possess a decade of experience developing products proven to help semiconductor manufacturers reduce costs and increase productivity. We are committed to helping our customers achieve even greater performance and value in the decades to come.

Contact a Talon representative today to learn more about our modular gas delivery systems, or any of our other quality products.