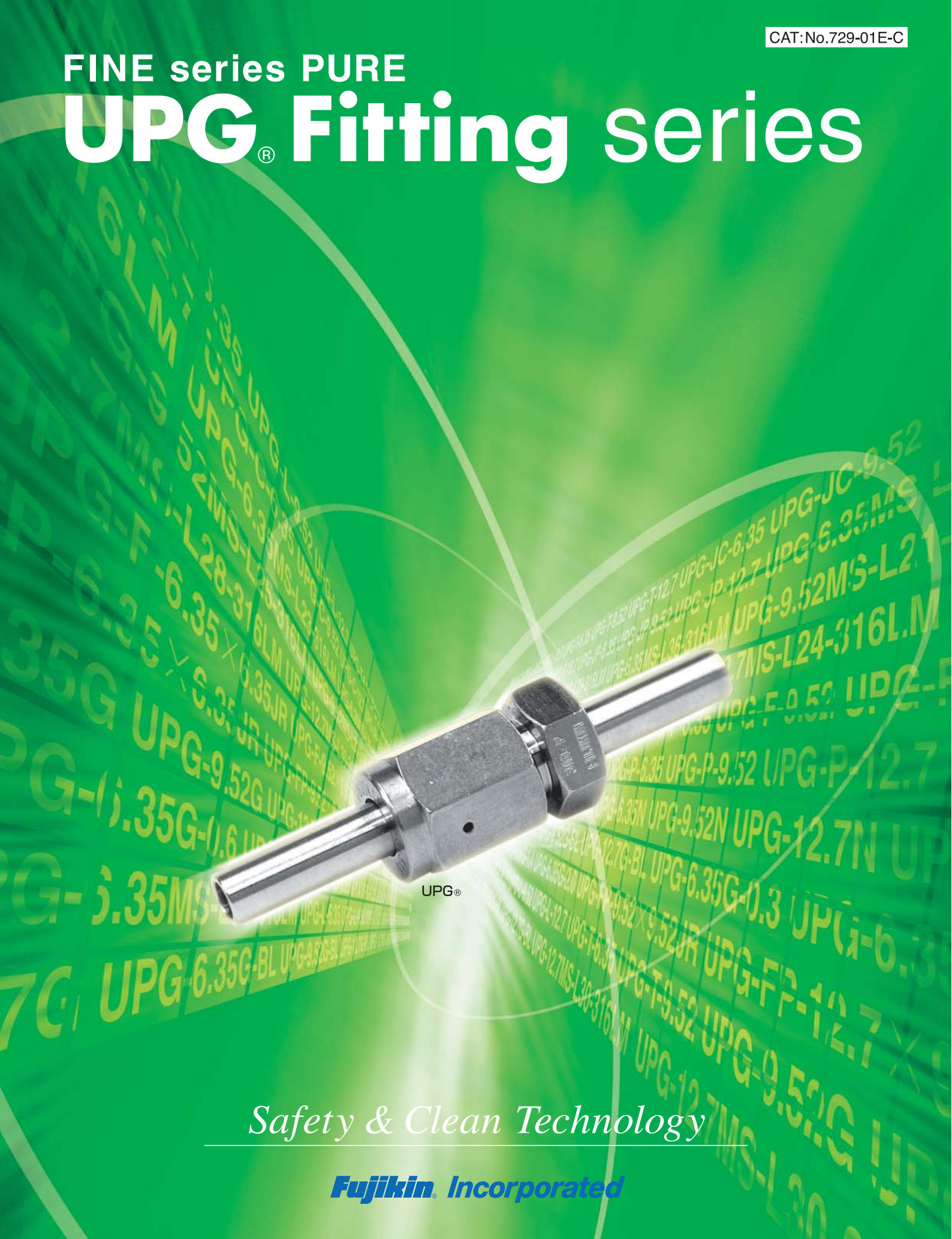
CAT:No.729-01E-C

FINE series PURE

UPG® Fitting series



Safety & Clean Technology

Fujikin Incorporated

Safety & Cleaan Technology

In Persuit of the Ultimate in Reliability: The Fujikin UPG® Fitting Series

UPG® gasket fittings are high-performance tube fittings. They are produced by making full use of design know-how and manufacturing technology Fujikin has accumulated throughout the years as an experienced precision fitting manufacturer.

The very popular UJR gasket fittings line has been redesigned so as to minimize dead-space and have been reduced 30% in size.
These new fittings are extremely reliable,ultra-compact, and with greatly improved sealing performance.

The compact UPG® fitting line - like the UJR line -has four basic constituents: stainless steel body, sleeve, union nut, and gasket.

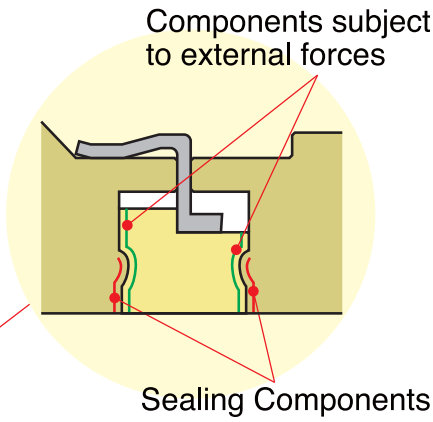
Fujikin Incorporated

UPG® Fittings

UNIQUE FEATURES

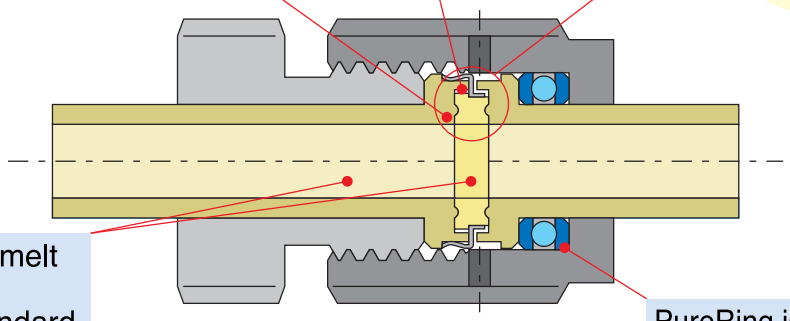
Size Reduction
(30% Smaller than UJR)

Isolation of Sealing Components from External Forces



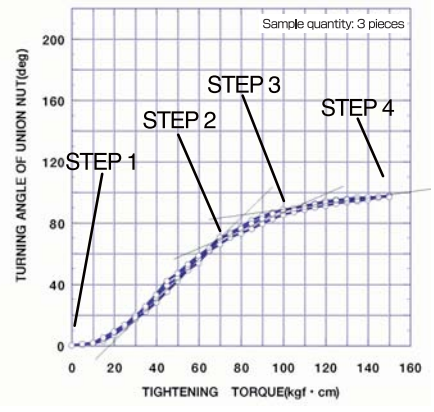
Over-tightening prevention mechanism prevents damage to sealing components

Dead-space free



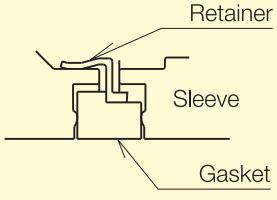
SUS316L double-melt wetted surfaces; UP Treatment standard

PureRing is incorporated into nut,
and prevents the transmission of torque to the sealing components and achieves a particle-free environment

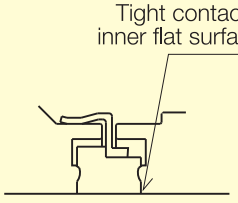


Turning Angle of Nut vs Tightening Torque

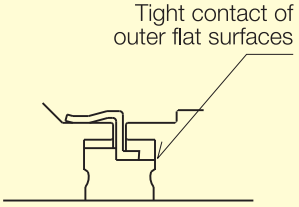
STEP1



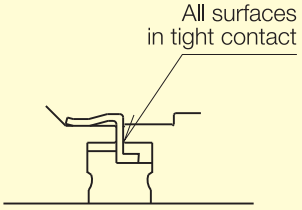
STEP2



STEP3



STEP4

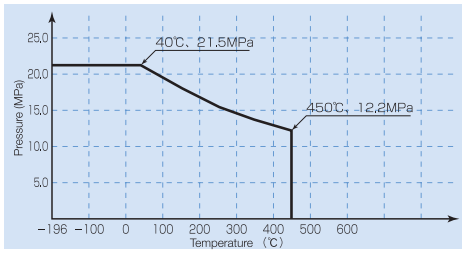


An extremely stable tightening torque results in long-lasting, tight contact between all surfaces
The end result is a torque-controlled assembly throughout.

SPECIFICATIONS - MATERIALS

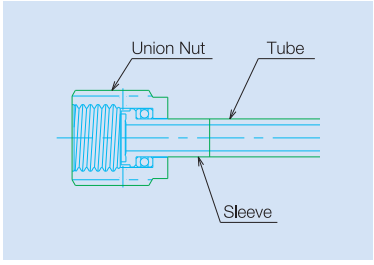
SPECIFICATION	Design Pressure	Ultra-High Vacuum~21.5MPa (3,118 psi)
	Design Temperature	-196 °C~+450 °C (-320 °F~+842 °F)
MATERIAL	Body / Sleeve	SUS316L (Double-Melt)
	Gasket	SUS316L (Double-Melt)
	Nut	SUS316
	Bearing	Stainless Steel

Temperature/Pressure Rating

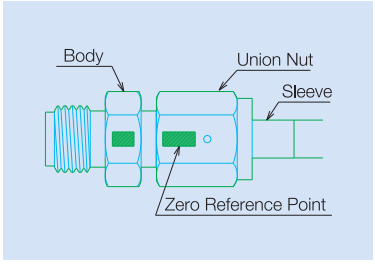


ASSEMBLY

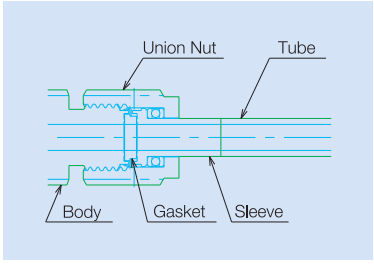
◆Tightening Procedure - Rotation Angle Method



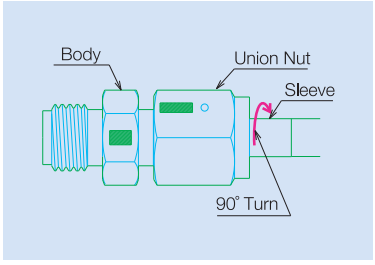
① With the union nut already installed, weld the tube onto the sleeve.



③ Scribe a line with a felt-tip maker on the body and union nut. This will be your zero reference point.



② Attach the gasket with retainer to either the body or the sleeve end. Hand-tighten the nut until the body, gasket, and sleeve are in tight contact.



④ With the body held stationary and noting the reference point, tighten the union nut with a wrench 90. Complete!

Important Note:
If the piping is subjet to stress and the end-connections cannot be tightend by hand, gradually turn the union nut with a wrench until it an increase in torque is noticed. Continue tightening 90° thereafter to achieve a proper seal.

◆Tightening Procedure - Torque Method

① With the union nut already installed, weld the tube onto the sleeve.
② Attach the gasket with retainer to either the body or the sleeve end. Hand-tighten the nut until the body, gasket, and sleeve are in tight contact.
③ With the body held stationary, tighten the union nut with a torque wrench to 11 N.m (97 in.lbs)

TORQUE TIGHTENING CHART

Fitting Size	Tightening Torque
6.35	10.8 N.m (95 in.lb)
9.52	16.7 N.m (147 in.lb)
12.7	46.1 N.m (408 in.lb)

Important Note:
If the piping is subjet to stress and the end-connections cannot be tightend by hand, assembly by torque control method is not possible.

PART NUMBER DESIGNATION

UPG part numbers are outlined below. Please specify the correct part number on all inquiries.

Sleeves, Union Nut, Gasket Part Number Designations

UPG - 6.35 MS - L20 - 316LM - PS

6.35	MS	L20	316LM	PS
Nominal Diameter	Part Name	Sleeve Length	Gasket Material	Inner Surface Treatment

◆Part Name

MS	Male Sleeve
N	Union Nut
G	Gasket

◆Material

316LM	SUS316L Double-Melt Ultra-Low Manganese
FS9	Ferrite-type Special Stainless Steel

◆Inner Surface Treatment

PS	Cr_2O_3 Treatment
BK	BK Treatment

Body Part Number Designations

UPG - F - 6.35

F	6.35
Connector Type	Nomnial Diameter

◆Connector Type

F	Straight Union Body
	Male UJR Connector
P	Bulkhead Union Body
FP	Bulkhead UJR Union Body
L	Elbow Union Body
T	Tee Union Body
JP	Plug Union
C	Coupling Union
JC	Cap Body

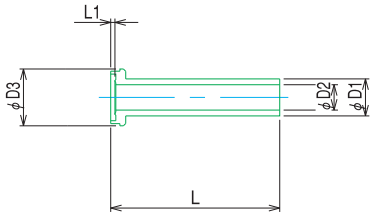
◆Nominal Diamter

6.35 indicates 1/4" OD
9.52 indicates 3/8" OD
12.7 indicates 1/2" OD

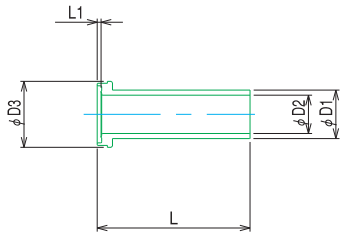
For current and updated information, please visit our website at www.fujikin.co.jp (in the US www.fujikin.com). There you may also download current dimensional drawings.

(Unit : mm)

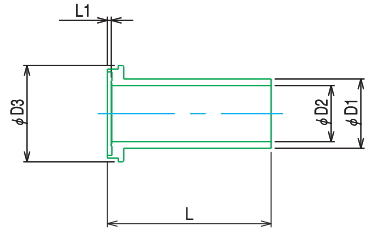
Sleeve



φNom.	φD1	φD2	φD3	L	L1	Part Number
6.35	6.35	4.35	9.75	20	0.7	UPG-6.35MS-L20-316LM
6.35	6.35	4.35	9.75	23	0.7	UPG-6.35MS-L23-316LM
6.35	6.35	4.35	9.75	29	0.7	UPG-6.35MS-L29-316LM
6.35	6.35	4.35	9.75	36	0.7	UPG-6.35MS-L36-316LM

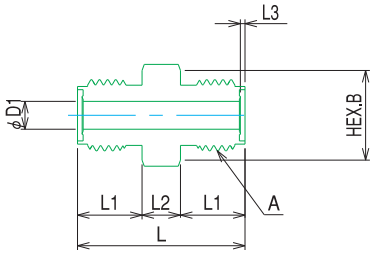


φNom.	φD1	φD2	φD3	L	L1	Part Number
9.52	9.52	7.52	12.95	21	0.7	UPG-9.52MS-L21-316LM
9.52	9.52	7.52	12.95	25	0.7	UPG-9.52MS-L25-316LM
9.52	9.52	7.52	12.95	30	0.7	UPG-9.52MS-L30-316LM
9.52	9.52	7.52	12.95	38	0.7	UPG-9.52MS-L38-316LM



φNom.	φD1	φD2	φD3	L	L1	Part Number
12.7	12.7	10.22	17.65	24	0.7	UPG-12.7MS-L24-316LM
12.7	12.7	10.22	17.65	28	0.7	UPG-12.7MS-L28-316LM
12.7	12.7	10.22	17.65	30.5	0.7	UPG-12.7MS-L30-316LM
12.7	12.7	10.22	17.65	41.5	0.7	UPG-12.7MS-L41-316LM

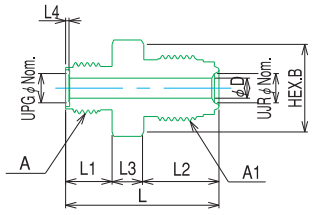
Straight Union Body



φNom.	φD1	A	B	L	L1	L2	L3	Part Number
6.35	4.35	7/16-20UNF	14	26	10	6	0.7	UPG-F-6.35
9.52	7.52	9/16-20UN	17	29	11	7	0.7	UPG-F-9.52
12.7	10.22	3/4-20UNEF	22	33.6	12.8	8	0.7	UPG-F-12.7

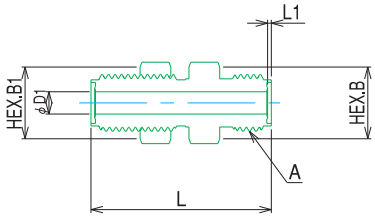
(Unit : mm)

UPG - UJR Adapter



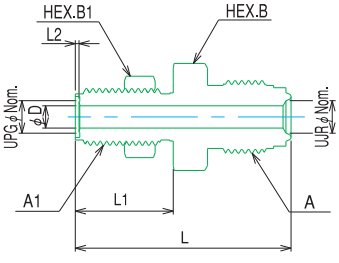
UPG φ Nom.	UJR φ Nom.	A	A1	φD	B	L	L1	L2	L3	L4	Part Number
6.35	6.35	7/16-20UNF	9/16-18UNF	4.35	17	32.7	10	16.3	6.4	0.7	UPG-F-6.35×6.35JR

Bulkhead Union Body



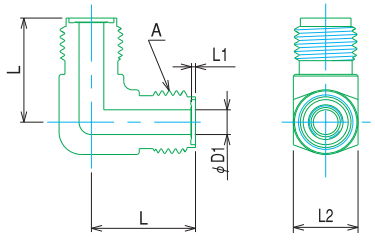
φ Nom.	φD1	A	Panel Hole φ	B	B1	L	L1	Part Number
6.35	4.35	7/16-20UNF	11.2	14	14	37	0.7	UPG-P-6.35
9.52	7.52	9/16-20UN	14.3	17	19	41.5	0.7	UPG-P-9.52
12.7	10.22	3/4-20UNEF	19.1	22	23	48.5	0.7	UPG-P-12.7

Bulkhead UPG - UJR Adapter



UJR φ Nom.	UPG φ Nom.	A	A1	Panel Hole φ	φD	B	B1	L	L1	L2	Part Number
6.35	6.35	9/16-18UNF	7/16-20UNF	11.5	4.35	19	14	44	21	0.7	UPG-FP-6.35×6.35JR

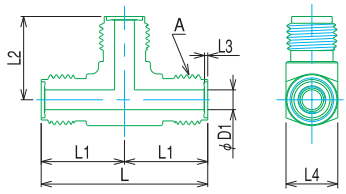
Elbow Union Body



φ Nom.	φD1	A	L	L1	L2	Part Number
3.2	1.8	7/16-20UNF	18.5	0.7	11.5	UPG-L-3.2
6.35	4.35	7/16-20UNF	18.5	0.7	11.5	UPG-L-6.35
9.52	7.52	9/16-20UN	22	0.7	17.2	UPG-L-9.52
12.7	10.22	3/4-20UNEF	25	0.7	21	UPG-L-12.7

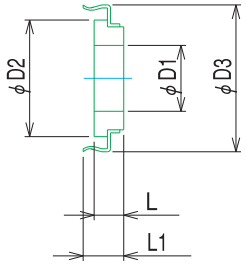
(Unit : mm)

Tee Union Body



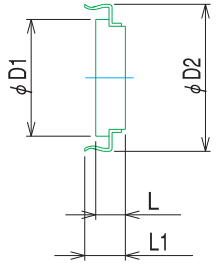
φNom.	φD1	A	L	L1	L2	L3	L4	Part Number
3.2	1.8	7/16-20UNF	37	18.5	18.5	0.7	11.5	UPG-T-3.2
6.35	4.35	7/16-20UNF	37	18.5	18.5	0.7	11.5	UPG-T-6.35
9.52	7.52	9/16-20UN	44	22	22	0.7	17.2	UPG-T-9.52
12.7	10.22	3/4-20UNEF	50	25	25	0.7	21	UPG-T-12.7

Gasket



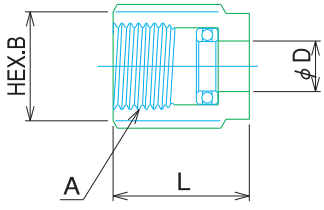
φNom.	φD1	φD2	φD3	L	L1	Part Number
6.35	4.4	7.5	9.8	1.96	2.48	UPG-6.35G
9.52	7.5	10.9	12.95	1.96	2.88	UPG-9.52G
12.7	10.2	14.9	17.65	1.96	2.88	UPG-12.7G

Blind Gasket



φNom.	φD1	φD2	L	L1	Part Number
6.35	7.5	9.8	1.96	2.48	UPG-6.35G-BL
9.52	10.9	12.95	1.96	2.88	UPG-9.52G-BL
12.7	14.9	17.65	1.96	2.88	UPG-12.7G-BL

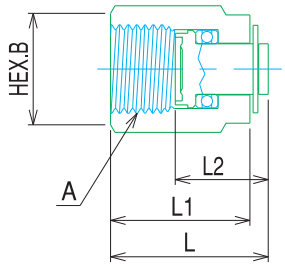
Nut



φNom.	φD	A	B	L	Part Number
6.35	6.5	7/16-20UNF	14	17.5	UPG-6.35N
9.52	9.7	9/16-20UN	17	18.5	UPG-9.52N
12.7	12.9	3/4-20UNEF	22	21	UPG-12.7N

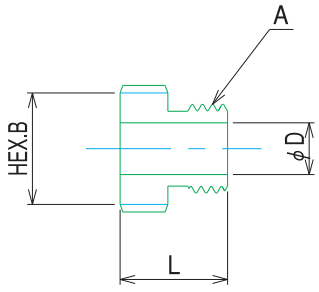
(Unit : mm)

Plug Union



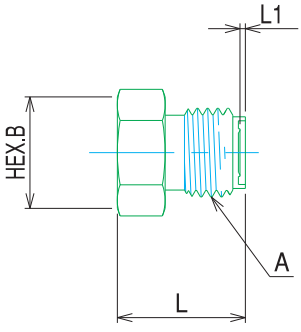
φNom.	A	B	L	L1	L2	Part Number
6.35	7/16-20UNF	14	20.1	17.5	12.1	UPG-JP-6.35
9.52	9/16-20UN	17	21.9	18.5	13.4	UPG-JP-9.52
12.7	3/4-20UNEF	22	24.7	21	14.2	UPG-JP-12.7

Coupling Body



φNom.	φD	A	B	L	Part Number
6.35	6.5	7/16-20UNF	14	13.5	UPG-C-6.35
9.52	9.67	9/16-20UN	17	15	UPG-C-9.52
12.7	12.85	3/4-20UNEF	22	18.8	UPG-C-12.7

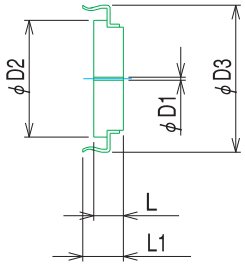
Cap Union Body



φNom.	A	B	L	L1	Part Number
6.35	7/16-20UNF	14	16	0.7	UPG-JC-6.35
9.52	9/16-20UN	17	18	0.7	UPG-JC-9.52
12.7	3/4-20UNEF	22	20.8	0.7	UPG-JC-12.7

OPTION

Orifice Gasket



φNom.	φD1	φD2	φD3	L	L1	Part Number
6.35	0.3	7.5	9.8	1.96	2.48	UPG-6.35G-*

*Orifice Sizes Manufactured: 0.3, 0.4, 0.5, 10, and 20

Fujikin®

Fujikin® Carp® Group

URL http://www.fujikin.co.jp/ E-mail info@fujikin.co.jp

The Year 2005
The 1st Monozukuri (manufacturing) Nippon Grand Awards
: Excellence Prize