



Product Sample Booklet 2018 19





High Purity, High Performance

HIGH PRESSURE SINGLE STAGE REGULATOR

- ▼ SS 316L construction or 316L VAR secondary remelt.
- ▼ 10 µin. surface finish.
- ▼ Hastelloy internals for corrosion resistance.
- ▼ Face-seal versatility permit use in both vacuum and positive pressure applications.
- ▼ Cleaned, assembled and packaged for high purity semiconductor applications.
- ▼ Each regulator is individually assembled, pressure tested, helium leak tested.



OPERATING PARAMETERS

Inlet Pressure		3,500psig(241 bar)
		For UR101 300 psig(21 bar)
Delivery Pressure Range	UR 101	1 to 10 psig(0.07 to 0.7bar)
	UR 102	1 to 30psig(0.07 to 2bar)
	UR 106	2 to 60psig(0.14 to 4bar)
	UR 1001	2 to 100psig(0.14 to 7bar)
	UR 1005	5 to 150psig(0.34 to 10bar)
Design Proof Pressure		5000psig(345bar)
Burst Pressure		10000psig(690bar)

OTHER PARAMETERS

Inlet/outlet Connectors	1/4 or 3/8 inch face seal or tube weld
Flow Coefficient(cv)	0.09
Internal Volume	0.49in ³ (8 cm ³)
Operating Temperature	-40°F to +160°F(-40°C to +71°C)
Surface Finish	10 µin.(0.25 µm)Ra avg.standard
Inboard Leakage	2 x 10 ⁻¹⁰ sccs
Outboard Leakage	2 x 10 ⁻⁹ sccs He
Leakage Across Seat	4 x 10 ⁻⁸ sccs He
Installation	surface or panel mounting
Supply Pressure Effect	0.25 psig per 100psig source pressure change
Gauge Port Connections	1/4" male swivel(1/4" female swivel are available)

MATERIAL OF CONSTRUCTION

Body, Nozzle	SS 316L
Poppet, Diaphragm	SS 316L/Hastelloy® C-22
Finish	Electropolished and passivated
Seat	PCTFE
Nozzle	SS 316L

All specifications subject to change without notice.

HIGH PRESSURE SINGLE STAGE REGULATOR High Purity, High Performance

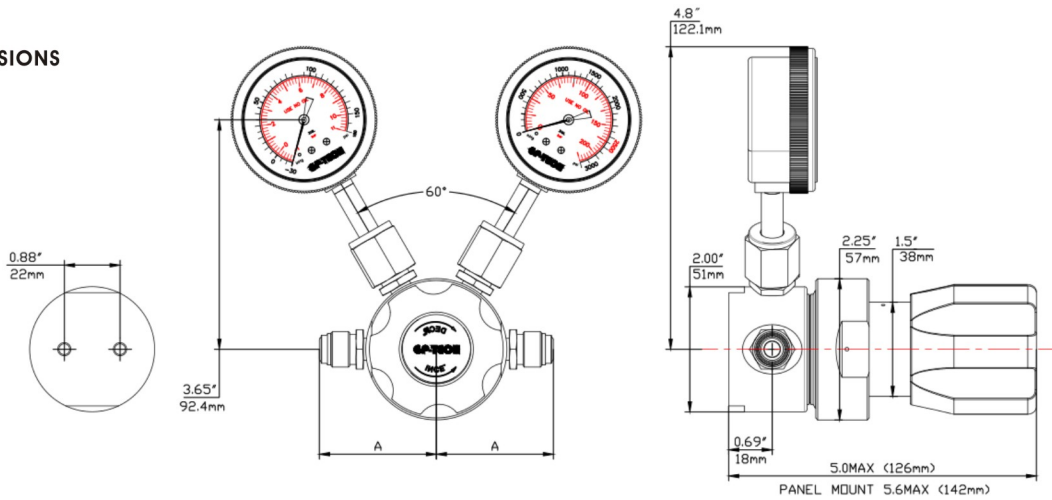
UR 100 SERIES



UR 100 SERIES

ULTRA CLEAN BY DESIGN AND MANUFACTURING

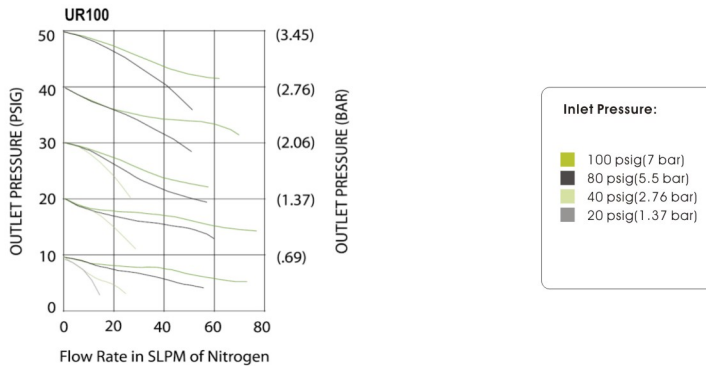
DIMENSIONS



Face Seal	A	
	in	mm
1/4"	1.85±0.01	47
3/8"	2.35±0.02	60

*All dimensions in inches(mm). Metric dimensions are for reference only.

FLOW DATA



ORDERING INFORMATION

Sample Order Number	UR 100 SS 3 F4 F4		
UR 100 Series	UR101 = 1-10psig(0.07 to 0.7bar) UR102 = 1-30psig(0.07 to 2bar) UR106 = 2-60psig(0.14 to 4bar) UR1001 = 2-100psi(0.14 to 7bar) UR1005 = 5-150psig(0.34 to 10bar)	Connections Inlet/Outlet	F4 = 1/4 inch face seal female M4 = 1/4 inch face seal male F6 = 3/8 inch face seal female M6 = 3/8 inch face seal male Tube weld stub available
Material	SS = Stainless steel 316L SH = Stainless steel 316L with Hastelly® C-22 internals	Delivery Gauge	0 = No gauge 1 = -30-0-30 psig/bar 2 = -30-0-60 psig/bar 3 = -30-0-100 psig/bar 4 = -30-0-160 psig/bar
Porting	2 = 2 ports butt weld 3 = 3 ports butt weld 4 = 4 ports butt weld	Options	P = Panel mounting



High Purity, High Performance HIGH FLOW PRESSURE REGULATOR

- ▼ SS 316L construction or 316L VAR secondary remelt.
- ▼ For high flow rates at point of use applications.
- ▼ 10 µin. surface finish.
- ▼ Hastelloy internals available for corrosion resistance.
- ▼ Cleaned, assembled and packaged for high purity semiconductor applications.
- ▼ Each regulator is individually assembled, pressure tested, helium leak tested.



OPERATING PARAMETERS

Inlet Pressure		3,000psig(207bar)
		For UR122 1,700psig(117bar)
Delivery Pressure Range	UR 122	1 to 30 psig(0.07 to 2 bar)
	UR 126	2 to 60psig(0.14 to 4 bar)
	UR 1201	2 to 100psig(0.14 to 7bar)
	UR 1205	5 to 150psig(0.34 to 10bar)
Design Proof Pressure		2,550psig(176bar)
Burst Pressure		8,000psig(552bar)

OTHER PARAMETERS

Inlet/outlet Connectors	1/4,3/8,1/2 inch face seal or tube weld
Flow Coefficient(cv)	0.9
Internal Volume	1.07in ³ (17.6 cm ³)
Operating Temperature	-40 °F to +160 °F(-40 °C to +71 °C)
Surface Finish	10 µin.(0.25 µm)Ra avg.standard
Inboard Leakage	2 x 10 ⁻¹⁰ sccs
Outboard Leakage	2 x 10 ⁻⁹ sccs He
Leakage Across Seat	4 x 10 ⁻⁸ sccs He
Installation	surface or panel mounting
Supply Pressure Effect	3.5 psig per 100psig source pressure change
Gauge Port Connections	1/4" male swivel(1/4" female swivel are available)

MATERIAL OF CONSTRUCTION

Body, Nozzle	SS 316L
Poppet	SS 316L/Hastelloy® C-22
Diaphragm	SS 316L/Hastelloy® C-22
Finish	Electropolished and passivated
Seat	PCTFE

All specifications subject to change without notice.

HIGH FLOW PRESSURE REGULATOR High Purity, High Performance

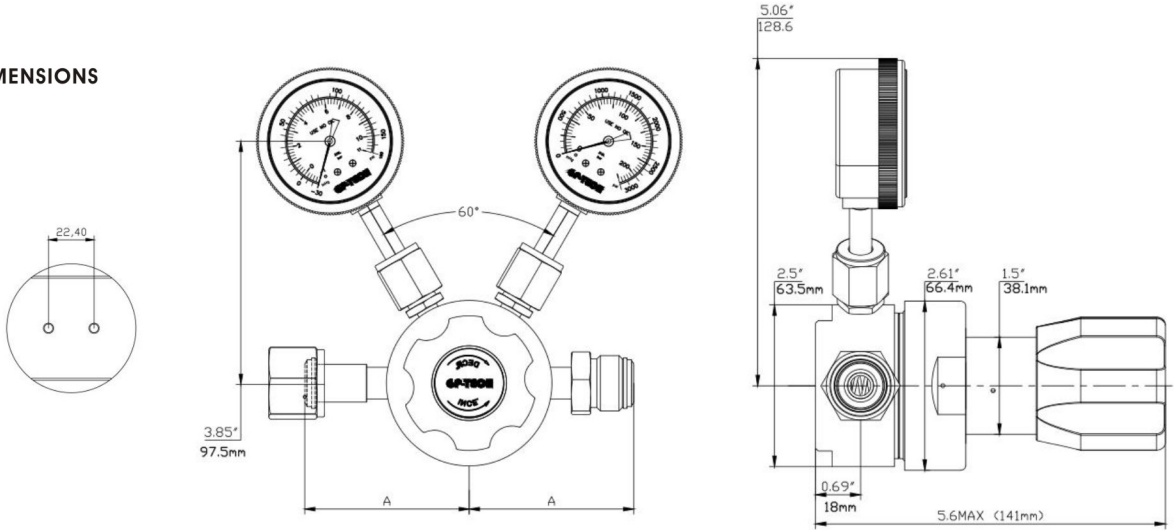
UR 120 SERIES



UR 120 SERIES

ULTRA CLEAN BY DESIGN AND MANUFACTURING

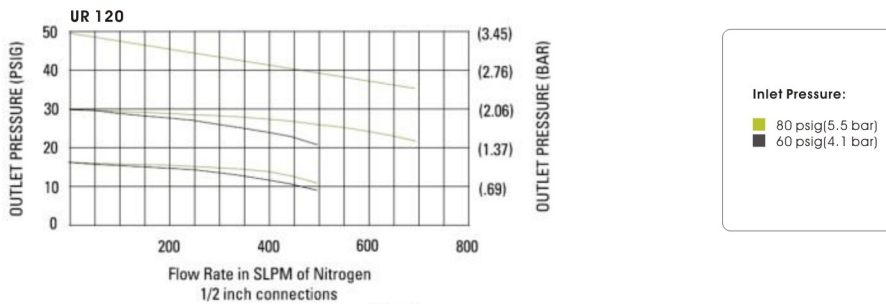
DIMENSIONS



Face Seal	A	
	in	mm
1/4"	2.15 ± .01	55
3/8", 1/2"	2.61 ± .02	66

*All dimensions in inches(mm). Metric dimensions are for reference only.

FLOW DATA



ORDERING INFORMATION

Sample Order Number	UR 120 SS 3 F4 F4		
UR 120 Series	UR 122 = 1-30psig(0.07 to 2bar) UR 126 = 2-60psig(0.14 to 4bar) UR 1201 = 2-100psi(0.14 to 7bar) UR 1205 = 5-150psig(0.34 to 10bar)	Connections Inlet/Outlet	F4 = 1/4 inch face seal female M4 = 1/4 inch face seal male F6 = 3/8 inch face seal female M6 = 3/8 inch face seal male F8 = 1/2 inch face seal female M8 = 1/2 inch face seal male Tube weld stub available
Material	SS = Stainless steel 316L SH = Stainless steel 316L with Hastelloy® C-22 internals	Delivery Gauge	0 = No gauge 1 = -30-0-30 psig/bar 2 = -30-0-60 psig/bar 3 = -30-0-100 psig/bar 4 = -30-0-160 psig/bar
Porting	2 = 2 ports butt weld 3 = 3 ports butt weld 4 = 4 ports butt weld	Options	P = Panel mounting

LOW PRESSURE DIAPHRAGM VALVE



- ▼ Visible indicator handle
- ▼ Compact designed body with minimal dead space
- ▼ Excellent finish level of wetted areas with GP-TECH's own electro polish process
- ▼ Specification 316L SS material for ultra-pure, flammable, or toxic fluid lines in semiconductor manufacturing equipment and facilities.
- ▼ All valves are helium leak tested

Handle position



Close



Open



MATERIAL OF CONSTRUCTION

Part	Material
Body	SUS316L
Diaphragm	Nickel-cobalt alloy
Seat Packing	PCTFE
Handle	ADC12

OPERATING PARAMETERS

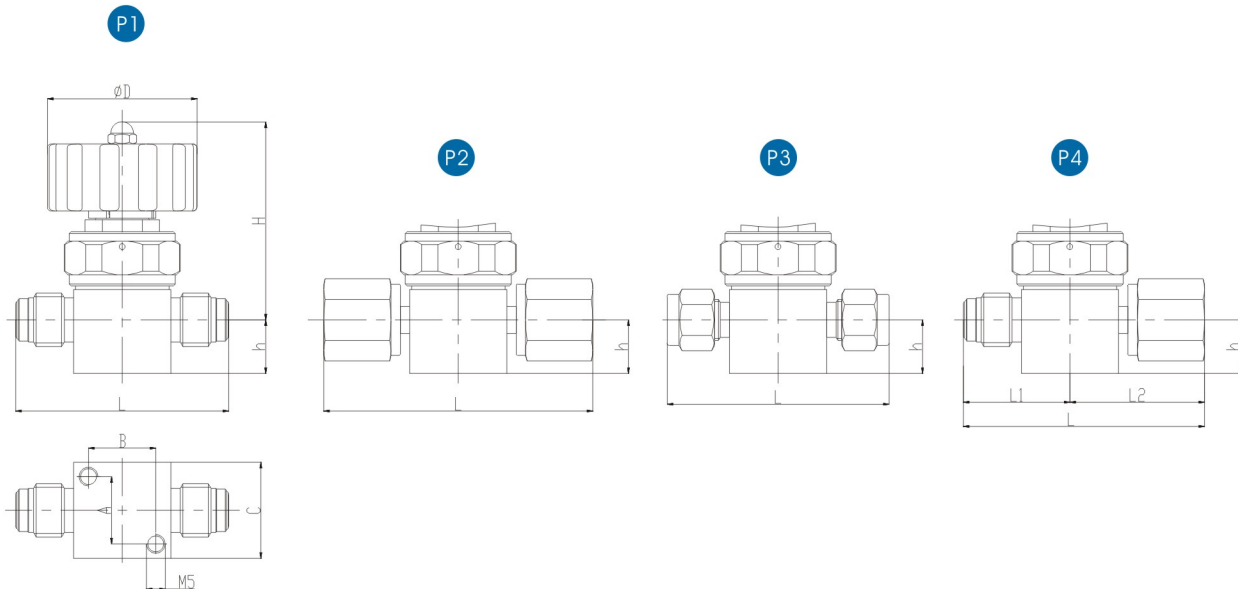
Nominal Diameter	1/4"	3/8", 1/2"
Maximum Cv(with N2 gas at 20°C)	0.3	0.65
Max. Operating Pressure	1 Mpa	
Fluid Temperature Range	-10 to 80°C	
Leak Rate External Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
Seat Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
End Connection	GP-TECH Tube Fitting / Male Face Seal / Female Face Seal / Tube Butt Weld	

* Materials other than SUS316L double-melt are also available

UDM SERIES

ULTRA CLEAN BY DESIGN AND MANUFACTURING

DIMENSTIONS



Units:mm

Picture	Connection	L	L1	L2	L3	h	H	D	A	B	C
1	1/4" Male Face Seal	57				14.3	53	40	18	18	26
1	3/8" Male Face Seal	76.2				11.1	60.8	40	20.2	20.2	35
1	1/2" Male Face Seal	76.2				11.1	60.8	40	20.2	20.2	35
2	1/4"Female Face Seal	70.6				14.3	53	40	18	18	26
2	3/8"Female Face Seal	83				12.7	60.8	40	20.2	20.2	35
2	1/2"Female Face Seal	92				12.7	60.8	40	20.2	20.2	35
3	1/4" OD	63.5				14.3	53	40	18	18	26
3	3/8" OD	80				12.7	60.8	40	20.2	20.2	35
3	1/2" OD	85				12.7	60.8	40	20.2	20.2	35
4	1/4"Male Face Seal Inlet and female outlet	65.7	31	34.7	38.1	14.3	53	40	18	18	26
4	3/8"Male Face Seal Inlet and female outlet	79.2	37.7	41.5	43.1	12.7	60.8	40	20.2	20.2	35

Ultra High Purity
LOW PRESSURE DIAPHRAGM VALVE

ORDERING INFORMATION

Sample Order Number		UDM-SM-04-MM-BA	
Series	UDM	Connections Inlet/Outlet	MM=Male Face Seal on both ends FF=Female Face Seal on both ends MF=Male Face Seal Inlet and Female Face Seal Outlet LOK=GP-TECH
Material	SM=316L SS Single Melt DM=316L SS Double Melt		
Size	04=1/4" 06=3/8" 08=1/2"	Surface Finish Level	BA=BA Grade EP=EP Grade

■ Dimensions are for reference only and are subject to change without prior notice.

LOW PRESSURE DIAPHRAGM VALVE-PNEUMATIC ACTUATING OPERATION



- ▼ The simplified actuator design makes it more compact
- ▼ Excellent finish level of wetted areas with GP-TECH's own electro polish process
- ▼ Specification 316L SS material for ultra-pure, flammable, or toxic fluid lines in semiconductor manufacturing equipment and facilities
- ▼ All valves are helium leak tested

LOW PRESSURE DIAPHRAGM VALVE-PNEUMATIC ACTUATING OPERATION Ultra High Purity



Actuator Configuration



Normal Close



Normal Open

MATERIAL OF CONSTRUCTION

Part	Material
Body	SUS316L
Diaphragm	Nickel-cobalt alloy
Seat Packing	PCTFE
Handle	Aluminum alloy(alumite coated)

OPERATING PARAMETERS

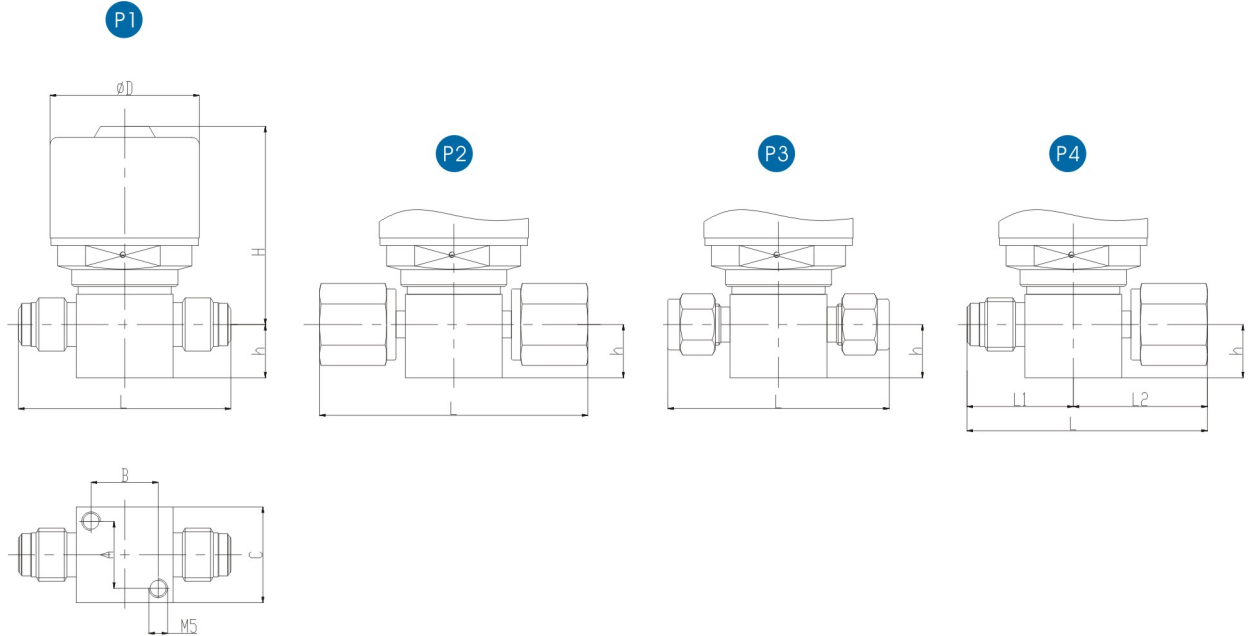
	1/4"	3/8", 1/2"
Nominal Diameter	1/4"	3/8", 1/2"
Maximum Cv(with N2 gas at 20°C)	0.3	0.65
Max.Operating Pressure	1 Mpa	
Fluid Temperature Range	-10 to 80°C	
Actuation Pressure	0.4 to 0.6 MPA	
Supply Air Connection	M5 x 0.8	
Leak Rate External Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
Seat Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
End Connection	GP-TECH Tube Fitting /Male Face Seal/Female Face Seal / Tube Butt Weld	

* Materials other than SUS316L double-melt are also available

UDM-P SERIES

ULTRA CLEAN BY DESIGN AND MANUFACTURING

DIMENSTIONS



Units:mm

Picture	Connection	L	L1	L2	L3	h	H	D	A	B	C
1	1/4" Male Face Seal	57				14.3	53	40	18	18	26
1	3/8" Male Face Seal	76.2				11.1	67.5	55	20.2	20.2	35
1	1/2" Male Face Seal	76.2				11.1	67.5	55	20.2	20.2	35
2	1/4" Female Face Seal	70.6				14.3	53	40	18	18	26
2	3/8" Female Face Seal	83				12.7	67.5	55	20.2	20.2	35
2	1/2" Female Face Seal	83				12.7	67.5	55	20.2	20.2	35
3	1/4" OD	63.5				14.3	53	40	18	18	26
3	3/8" OD	80				12.7	67.5	55	20.2	20.2	35
3	1/2" OD	85				12.7	67.5	55	20.2	20.2	35
4	1/4" Male Face Seal Inlet and female outlet	65.7	31	34.7	38.1	14.3	54	40	18	18	26
4	3/8" Male Face Seal Inlet and female outlet	79.2	37.7	41.5	43.1	12.7	67.5	55	20.2	20.2	35

ORDERING INFORMATION

Sample Order Number		UDM-P-NO-SM-04-MM-BA	
Series	UDM-P	Connections Inlet/Outlet	MM= Male Face Seal on both ends FF= Female Face Seal on both ends MF= Male Face Seal Inlet and Female Face Seal Outlet LOK=GP-TECH
Actuator Configuration	NO=Normal Open NC=Normal Close		
Material	SM=316L SS Single Melt DM=316L SS Double Melt	Surface Finish Level	BA=BA Grade EP=EP Grade
Size	04=1/4" 06=3/8" 08=1/2"		

LOW PRESSURE DIAPHRAGM VALVE-PNEUMATIC ACTUATING OPERATION Ultra High Purity

Dimensions are for reference only and are subject to change without prior notice.

HIGH PRESSURE DIAPHRAGM VALVE



- ▼ Visible indicator handle
- ▼ Compact designed body with minimal dead space
- ▼ Excellent finish level of wetted areas with GP-TECH's own electro polish process
- ▼ Specification 316L SS material for ultra-pure, flammable, or toxic fluid lines in semiconductor manufacturing equipment and facilities
- ▼ All valves are helium leak tested

Handle Position



Close



Open



HIGH PRESSURE DIAPHRAGM VALVE Ultra High Purity

MATERIAL OF CONSTRUCTION

Part	Material
Body	SUS316L
Diaphragm	Nickel-cobalt alloy
Seat Packing	PCTFE
Handle	ADC12

OPERATING PARAMETERS

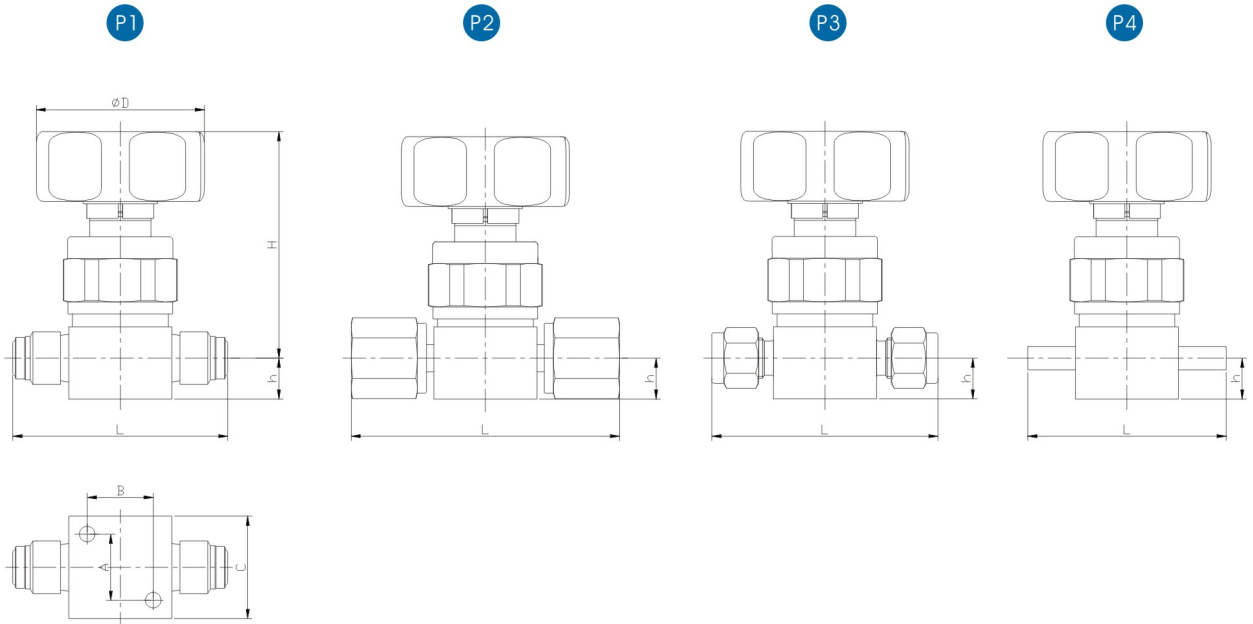
Nominal Diameter	1/4"	3/8", 1/2"
Maximum Cv(with N2 gas at 20°C)	0.28	0.7
Max. Operating Pressure	20.5 Mpa	
Fluid Temperature Range	-10 to 40°C	
Leak Rate External Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
Seat Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
End Connection	GP-TECH Tube Fitting / Male Face Seal / Female Face Seal / Tube Butt Weld	

* Materials other than SUS316L double-melt are also available

UDB SERIES

ULTRA CLEAN BY DESIGN AND MANUFACTURING

DIMENSTIONS



Units:mm

Picture	Connection	L	h	H	D	A	B	C
1	1/4" Male Face Seal	58.7	11.1	60.9	48	18	18	28
1	3/8" Male Face Seal	82.5	18.3	81.7	50	27	27	38.1
1	1/2" Male Face Seal	82.5	18.3	81.7	50	27	27	38.1
2	1/4" Female Face Seal	73	11.1	60.9	48	18	18	28
2	3/8" Female Face Seal	79.5	18.3	81.7	50	27	27	38.1
2	1/2" Female Face Seal	85.7	18.3	81.7	50	27	27	38.1
3	1/4" OD	48.5	11.1	60.9	48	18	18	28
3	3/8" OD	64.3	18.3	81.7	50	27	27	38.1
3	1/2" OD	67.1	18.3	81.7	50	27	27	38.1
4	1/4" Weld Tube	54	11.1	60.9	48	18	18	28
4	3/8" Weld Tube	114.3	18.3	81.7	50	27	27	38.1
4	1/2" Weld Tube	114.6	18.3	81.7	50	27	27	38.1

HIGH PRESSURE DIAPHRAGM VALVE Ultra High Purity

ORDERING INFORMATION

Sample Order Number		UDB-SM-04-MM-BA	
Series	UDB	Connections Inlet/Outlet	MM=Male Face Seal on both ends FF=Female Face Seal on both ends LOK=GP-TECH W=Weld Tube
Material	SM=316L SS Single Melt DM=316L SS Double Melt		
Size	04=1/4" 06=3/8" 08=1/2"	Surface Finish Level	BA=BA Grade EP=EP Grade

Dimensions are for reference only and are subject to change without prior notice.

HIGH PRESSURE DIAPHRAGM VALVE-PNEUMATIC ACTUATING OPERATION



- ▼ The simplified actuator design makes it more compact
- ▼ Excellent finish level of wetted areas with GP-TECH's own electro polish process
- ▼ Specification 316L SS material for ultra-pure, flammable, or toxic fluid lines in semiconductor manufacturing equipment and facilities
- ▼ All valves are helium leak tested

Actuator Configuration



Normal Close

Normal Open



HIGH PRESSURE DIAPHRAGM VALVE-PNEUMATIC ACTUATING OPERATION Ultra High Purity

MATERIAL OF CONSTRUCTION

Part	Material
Body	SUS316L
Diaphragm	Nickel-cobalt alloy
Seat Packing	PCTFE(standard)
Actuator	Aluminum alloy(alumite coated)

OPERATING PARAMETERS

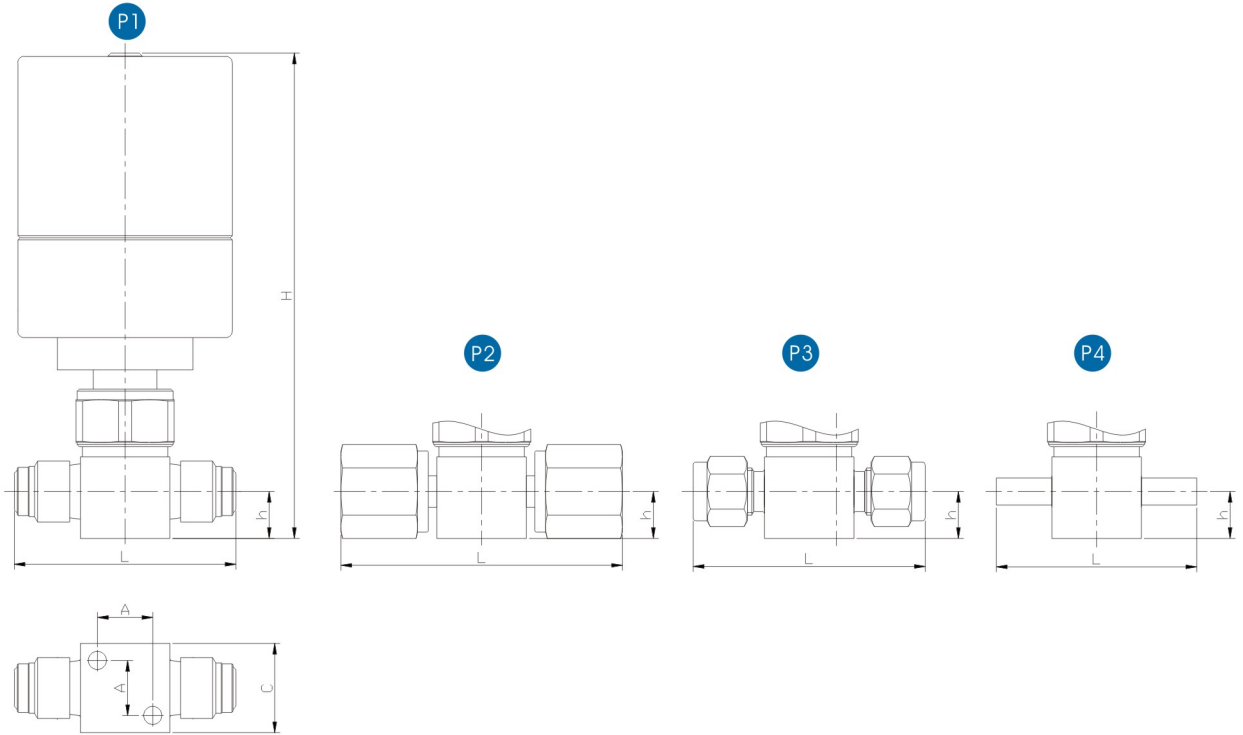
	1/4"	3/8", 1/2"
Nominal Diameter	1/4"	3/8", 1/2"
Maximum Cv(with N2 gas at 20°C)	0.3	0.65
Max.Operating Pressure	20.5 Mpa	
Fluid Temperature Range	-10 to 40°C	
Actuator Pressure	0.4 to 0.6 MPA	
Supply Air Connection	M5x0.8	
Leak Rate External Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
Seat Leak	<5*10 ⁻¹⁰ Pa•m ³ /sec	
End Connection	GP-TECH Tube Fitting / Male Face Seal / Female Face Seal / Tube Butt Weld	

* Materials other than SUS316L double-melt are also available

UDB-P SERIES

ULTRA CLEAN BY DESIGN AND MANUFACTURING

DIMENSIONS



Units:mm

Picture	Connection	L	h	H	D	A	B	C
1	1/4" Male Face Seal	52	11	113.7	50	13	13	21
1	3/8" Male Face Seal	82.5	18.3	134	57	27	27	38.1
1	1/2" Male Face Seal	82.5	18.3	134	57	27	27	38.1
2	1/4" Female Face Seal	66	11	113.7	50	13	13	21
2	3/8" Female Face Seal	93.5	18.3	134	57	27	27	38.1
2	1/2" Female Face Seal	99.3	18.3	134	57	27	27	38.1
3	1/4" OD	41	11	113.7	50	13	13	21
3	3/8" OD	64.3	18.3	134	57	27	27	38.1
3	1/2" OD	67.1	18.3	134	57	27	27	38.1
4	1/4" Weld Tube	51	11	113.7	50	13	13	21
4	3/8" Weld Tube	114.6	18.3	134	57	27	27	38.1
4	1/2" Weld Tube	114.6	18.3	134	57	27	27	38.1

ORDERING INFORMATION

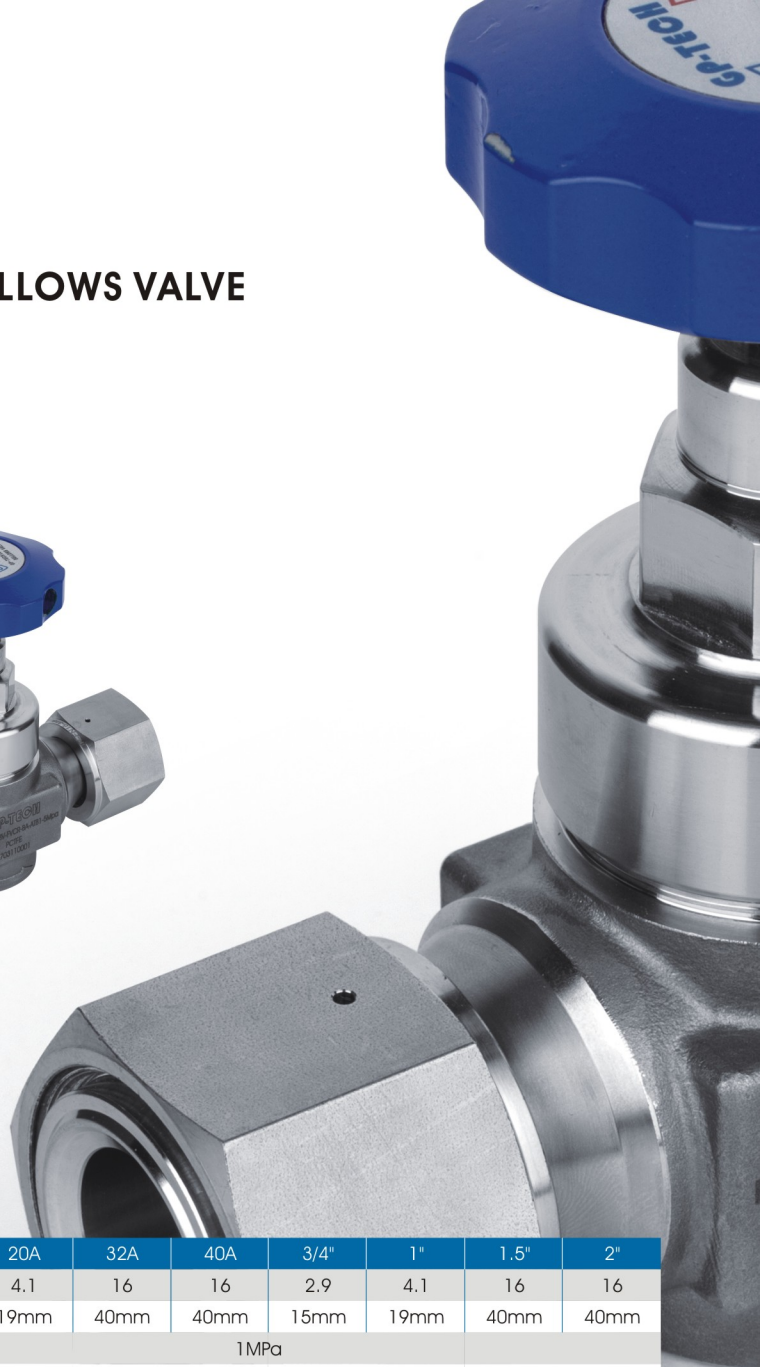
Sample Order Number		UDM-P-NO-SM-04-MM-BA	
Series	UDM-P	Connections Inlet/Outlet	MM= Male Face Seal on both ends FF= Female Face Seal on both ends LOK= GP-TECH W= Weld Tube
Actuator Configuration	NO= Normal Open NC= Normal Close		
Material	SM= 316L SS Single Melt DM= 316L SS Double Melt	Surface Finish Level	BA= BA Grade EP= EP Grade
Size	04= 1/4" 06= 3/8" 08= 1/2"		

HIGH PRESSURE DIAPHRAGM VALVE-PNEUMATIC ACTUATING OPERATION Ultra High Purity

Dimensions are for reference only and are subject to change without prior notice.

LOW PRESSURE MANUAL BELLOWS VALVE

- ▼ High flow and compact design
- ▼ The valve seat is designed to meet UHP system requirements
- ▼ Material: SS316, Alloy C276
- ▼ Handle colors available on request
- ▼ Suitable for inert and most specialty gases



OPERATING PARAMETERS

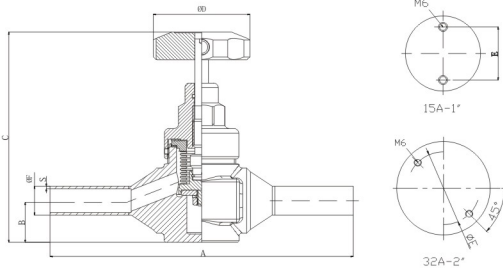
Size	15A	20A	32A	40A	3/4"	1"	1.5"	2"
Cv Value	2.9	4.1	16	16	2.9	4.1	16	16
Orifice Size	15mm	19mm	40mm	40mm	15mm	19mm	40mm	40mm
Max. Working Pressure(G.)	1MPa							
Max. Working Temp.	-10°C~80°C							
Internal Leakage Allowance(He)	1x10 ⁻⁶ Pa · M ³ /S							
Test Pressure ≤ 1x10 ⁻² torr	1x10 ⁻⁶ Pa · M ³ /S							
Holding Time ≥ 30sec.								
External Leakage Allowance(He)	1x10 ⁻⁶ Pa · M ³ /S							
Test Pressure ≤ 1x10 ⁻² torr	1x10 ⁻⁶ Pa · M ³ /S							
Holding Time ≥ 1 min.								
GRADE	BA				EP			
Inner Surface Roughness	Ry ≤ 3.0µm 10 µ inch Ra(Avg.) Cut off length: 0.8mm Measuring length: 4mm				Ry ≤ 0.7µm 5 µ inch Ra(Avg.) Cut off length: 0.25mm Measuring length: 1.25mm			
Polishing	Maching Finish				Electro Polishing Finish			

* Materials other than SUS316L double-melt are also available

ABV SERIES

DIMENSIONS

Butt Weld

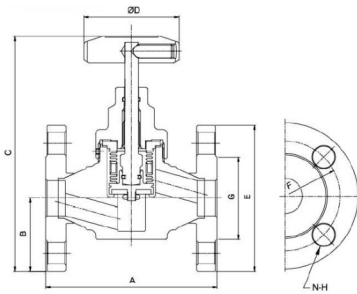


MATERIAL OF CONSTRUCTION

Body	Stainless Steel 316L Single Melt Stainless Steel 316L Double Melt Stainless Steel 304
Disk	PTFE
Bellows	Stainless Steel 316L
Handle	ALUMINUM

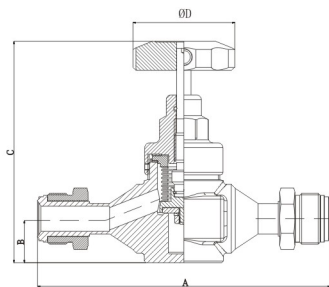
CONNECTION	SIZE	A	B	C	D	E	F	S
Butt Weld	15A	190	27	143	65	35	21.6	1.65
	20A	200	27	143	65	35	27.2	1.65
	32A	270	51	239	125	60	42.7	1.65
	40A	270	51	239	125	60	60.4	1.65
	3/4"	200	27	143	65	35	19.05	1.65
	1"	200	27	143	65	35	25.4	1.65
	1.5"	270	51	239	125	60	38.1	1.65
	2"	270	51	239	125	60	50.8	1.65

Flange



CONNECTION	SIZE	A	B	C	D	E	F	G	N-H	Standard
Flange	15A	108	47.5	165	65	95	70	51	4-Ø15	JIS10K
	20A	117	50	165	65	100	75	56	4-Ø15	
	32A	165	67.5	256	125	135	100	76	4-Ø19	
	40A	165	70	258	125	140	105	81	4-Ø19	
	3/4"	117	50	165	65	100	69.9	42.9	4-Ø16	ASME B16.5 (class 150)
	1"	117	55	170	65	110	79.4	50.8	4-Ø16	
	1.5"	165	62.5	250.5	125	125	98.4	73	4-Ø16	
	2"	165	75	263	125	150	120.7	92.1	4-Ø19	

Face Seal



CONNECTION	SIZE	STYLE	A	B	C	D	E
Face Seal	3/4"	MVCR	183.2	27	143	65	35
		FVCR	143	27	143	65	35
	1"	MVCR	195.5	27	143	65	35
		FVCR	145.2	27	143	65	35

ORDERING INFORMATION

Sample Order Number		ABV-SM-15-W-BA	
Series	ABV	Connections Inlet/Outlet	MM=Male Face Seal on both ends FF=Female Face Seal on both ends W=Butt Weld FL=Flange
Material	SM=316L SS Single Melt DM=316L SS Double Melt HC=Hastelloy	Surface Finish Level	BA=BA Grade EP=EP Grade
Size	15=15A 20=20A 32=32A 40=40A T12=3/4" T16=1" T24=1.5" T32=2"		

LOW PRESSURE PNEUMATIC BELLOWS VALVE

- ▼ Max. Working pressure: 1MPa
- ▼ Size: 32A / 40A / 50A / 2"
- ▼ The valve seat is designed to meet UHP system requirements
- ▼ Material: SS316, Alloy C276
- ▼ Suitable for inert and most specialty gases



LOW PRESSURE PNEUMATIC BELLOWS VALVE Ultra High Purity

ABV SERIES

MAJOR SPECIFICATIONS

Size	15A	20A	32A	40A	3/4"	1"	1.5"	2"
Cv Value	2.9	4.1	16	16	2.9	4.1	16	16
Orifice Size	15mm	19mm	40mm	40mm	15mm	19mm	40mm	40mm
Max. Working Pressure(G.)	1MPa							
Operating Pressure(G.)	0.4~0.7MPa							
Max. Working Temp.	-10°C~80°C							
Internal Leakage Allowance(He)								
Test Pressure ≤ 1x10 ⁻² torr	1x10 ⁻⁶ Pa · M ³ /S							
Holding Time ≥ 15sec.								
External Leakage Allowance(He)								
Test Pressure ≤ 1x10 ⁻² torr	1x10 ⁻⁶ Pa · M ³ /S							
Holding Time ≥ 1 min.								
GRADE	BA				EP			
Inner Surface Roughness	Ry ≤ 3.0μm 10 μ inch Ra(Avg.) Cut off length: 0.8mm Measuring length: 4mm				Ry ≤ 0.7μm 5 μ inch Ra(Avg.) Cut off length: 0.25mm Measuring length: 1.25mm			
Polishing	Maching Finish				Electro Polishing Finish			

* Materials other than SUS316L double-melt are also available

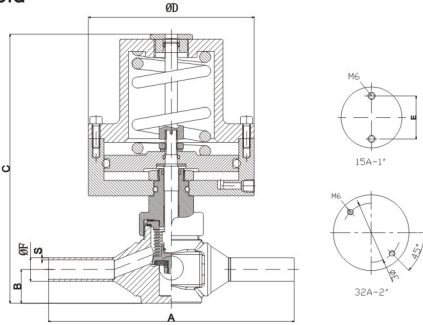
ABV-P SERIES

MATERIAL OF CONSTRUCTION

Body	SCS16 SCS13
Disk	PTFE
Bellows	Stainless Steel 316L
Handle	Aluminum alloy(alumite coated)

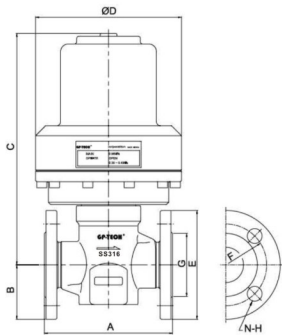
DIMENSIONS

Butt Weld



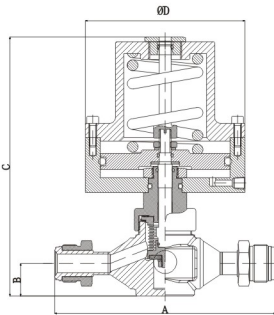
CONNECTION	SIZE	A	B	C	D	E	F	S
Butt Weld	15A	190	27	215	135	35	21.6	1.65
	20A	200	27	215	135	35	27.2	1.65
	32A	270	51	360	188	60	42.7	1.65
	40A	270	51	360	188	60	60.4	1.65
	3/4"	200	27	215	135	35	19.05	1.65
	1"	200	27	215	135	35	25.4	1.65
	1.5"	270	51	360	188	60	38.1	1.65
	2"	270	51	360	188	60	50.8	1.65

Flange



CONNECTION	SIZE	A	B	C	D	E	F	G	N-H	Standard
Flange	15A	108	47.5	228	135	95	70	51	4-Ø15	JIS10K
	20A	117	50	237	135	100	75	56	4-Ø15	
	32A	165	67.5	376.5	188	135	100	76	4-Ø19	
	40A	165	70	379	188	140	105	81	4-Ø19	
	3/4"	117	50	237	135	100	69.9	42.9	4-Ø16	ASME B16.5 (class 150)
	1"	117	55	242	135	110	79.4	50.8	4-Ø16	
	1.5"	165	62.5	371.5	188	125	98.4	73	4-Ø16	
	2"	165	75	384	188	150	120.7	92.1	4-Ø19	

Face Seal



CONNECTION	SIZE	STYLE	A	B	C	D	E
Face Seal	3/4"	MVCR	183.2	27	215	135	35
		FVCR	143	27	215	135	35
	1"	MVCR	195.5	27	215	135	35
		FVCR	145.2	27	215	135	35

ORDERING INFORMATION

Sample Order Number		ABV-P-NO-SM-15-W-BA	
Series	ABV-P	Connections	MM=Male Face Seal on both ends FF=Female Face Seal on both ends W=Butt Weld FL=Flange
Actuator Configuration	NO=Normal Open NC=Normal Close		
Material	SM=316L SS Single Melt DM=316L SS Double Melt HC=Hastelloy	Surface Finish Level	BA=BA Grade EP=EP Grade
Size	15=15A 20=20A 32=32A 40=40A T12=3/4" T16=1" T24=1.5" T32=2"		

LOW PRESSURE PNEUMATIC BELLOWS VALVE Ultra High Purity

Dimensions are for reference only and are subject to change without prior notice.

GP-TECH®

High Performance HIGH FLOW BELLOWS VALVE



- ▼ High purity gas distribution system control
- ▼ High flow with compact design
- ▼ Purge connections and purge valves are integrated in valve body
- ▼ Ba grade wetted surfaces to 20 Ra Max. (Optional electropolished 10 Ra max surface finish available)
- ▼ Available in pneumatic

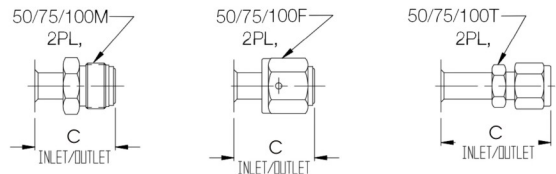
MATERIAL OF CONSTRUCTION

MATERIAL OF CONSTRUCTION	Wetted Areas	CF3M, 316L Stainless Steel, 316, PCTFE, Vespel, Nickel
	Non-Wetted Areas	304, 316L Stainless Steel
MAXIMUM OPERATING PRESSURE	UBY Series	Vacuum- 375 psig(25.8 bar)
	UBYA Series (Pneumatic)	Vacuum-250psig(0-17.2bar) ,900-100psig for actuator(6.2-6.9bar)
Maximum Operating Temperature	PCTFE Seat/Vespel® Seat	-22°F(-30°C) to 180°F(82°C)/302°F(150°C)

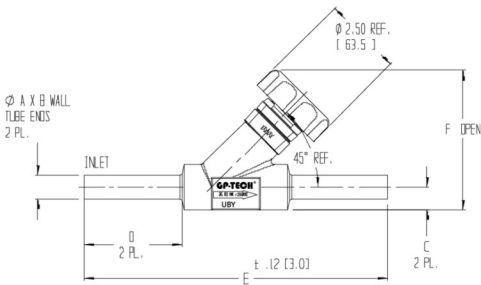
Technical Data

Optional Valve End Connections
Available On UBY 3/4" Body Sizes(1/2", 3/4", 1")

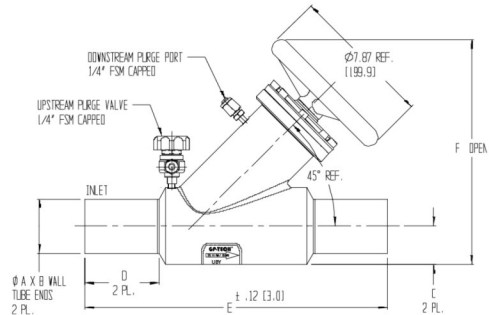
Size	Dimension "C"		
	M	F	T
1/2"	1.54(39.1MM)	1.54(39.1MM)	2.10(53.3MM)
3/4"	2.04(51.8MM)	2.04(51.8MM)	2.03(51.6MM)
1"	2.36(59.9MM)	2.36(59.9MM)	2.49(63.2MM)



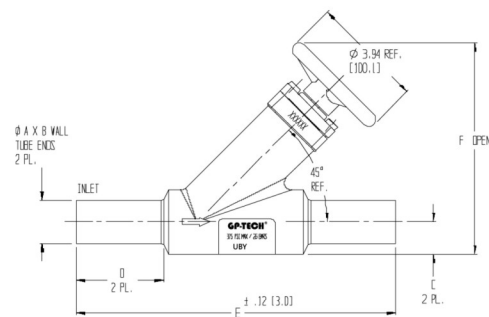
Body (1/2", 3/4", 1", 15A, 20A, 25A)



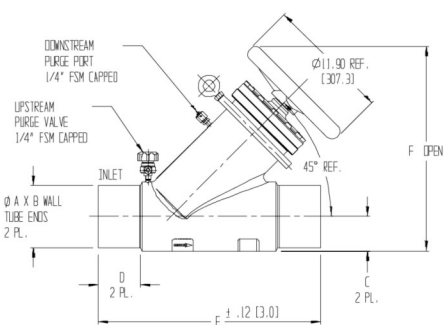
Body (3", 4", 65A, 80A, 100A)



Body (1.5", 2", 32A, 40A)



Body (6", 8", 125A, 150A, 200A, 250A)



Units:mm

- * All tolerances are ± 0.06 in. (± 1.52 mm) unless otherwise stated.
- * Specifications are subject to change without notice.

HIGH PERFORMANCE
HIGH FLOW BELLOWS VALVE

UBY SERIES

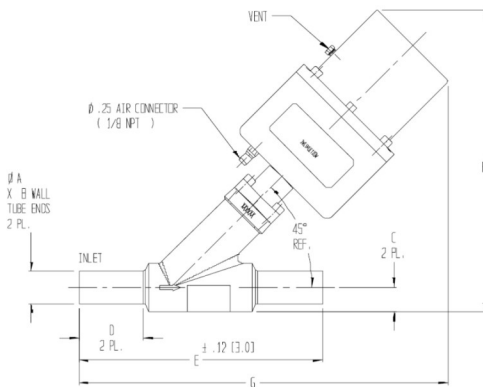
UBY SERIES

DIMENSIONS

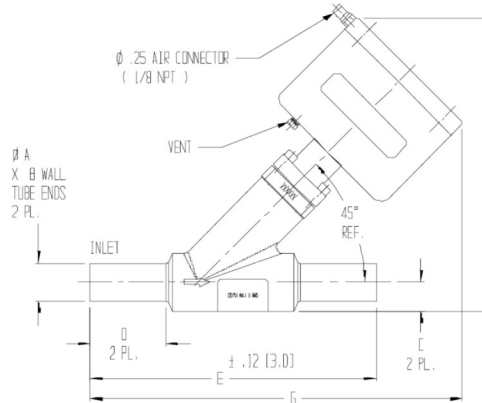
SIZE	A	B	C	D	E	F
UBY 1/2"	Ø.500(12.7mm)	.049(1.2mm)	.710(18.03mm)	4.04(102.6mm)	11.41(289.8mm)	4.14 Open(105.2mm)
UBY 3/4"	Ø.750(19.05mm)	.065(1.65mm)	.710(18.03mm)	3.04(77.2mm)	9.41(239.0mm)	4.14 Open(105.2mm)
UBY 1"	Ø1.000(25.4mm)	.065(1.65mm)	.710(18.03mm)	3.04(77.2mm)	9.41(239.0mm)	4.14 Open(105.2mm)
UBY 1.5A	Ø.850(21.6mm)	.065(1.65mm)	.710(18.03mm)	3.04(77.2mm)	9.41(239.0mm)	4.14 Open(105.2mm)
UBY 20A	Ø1.070(27.2mm)	.065(1.65mm)	.710(18.03mm)	3.04(77.2mm)	9.41(239.0mm)	4.14 Open(105.2mm)
UBY 25A	Ø1.340(34.0mm)	.065(1.65mm)	.710(18.03mm)	3.04(77.2mm)	9.41(239.0mm)	4.14 Open(105.2mm)
UBY 1.5"	Ø1.500(38.1mm)	.065(1.65mm)	1.13(28.7mm)	3.06(77.7mm)	11.21(284.7mm)	7.32 Open(185.8mm)
UBY 2"	Ø2.000(50.8mm)	.065(1.65mm)	1.13(28.7mm)	3.98(101.1mm)	13.21(335.5mm)	7.32 Open(185.8mm)
UBY 3.2A	Ø1.680(42.7mm)	.065(1.65mm)	1.13(28.7mm)	2.98(75.7mm)	11.21(284.7mm)	7.32 Open(185.8mm)
UBY 40A	Ø1.910(48.5mm)	.065(1.65mm)	1.13(28.7mm)	3.98(101.1mm)	13.21(335.5mm)	7.32 Open(185.8mm)
UBY 50A	Ø2.380(60.4mm)	.065(1.65mm)	1.13(28.7mm)	4.06(103.1mm)	13.21(335.5mm)	7.32 Open(185.8mm)
UBY 3"	Ø3.000(76.2mm)	.065(1.65mm)	2.13(54.1mm)	4.08(103.6mm)	16.67(423.4mm)	14.46 Open(367.3mm)
UBY 4"	Ø4.000(101.6mm)	.083(2.11mm)	2.13(54.1mm)	4.08(103.6mm)	16.67(423.4mm)	14.46 Open(367.3mm)
UBY 6.5A	Ø3.004(76.3mm)	.083(2.11mm)	2.13(54.1mm)	4.08(103.6mm)	16.67(423.4mm)	14.46 Open(367.3mm)
UBY 80A	Ø3.508(89.11mm)	.083(2.11mm)	2.13(54.1mm)	4.08(103.6mm)	16.67(423.4mm)	14.46 Open(367.3mm)
UBY 100A	Ø4.500(114.3mm)	.083(2.11mm)	2.13(54.1mm)	4.21(106.9mm)	16.67(423.4mm)	14.46 Open(367.3mm)
UBY 6"	Ø6.000(152.4mm)	.109(2.77mm)	3.30(83.8mm)	4.11(104.4mm)	21.38(543.1mm)	23.51 Open(597.2mm)
UBY 8"	Ø9.000(203.2mm)	.110(2.79mm)	3.30(83.8mm)	9.95(252.7mm)	33.06(839.7mm)	23.51 Open(597.2mm)
UBY 1.25A	Ø5.504(139.8mm)	.110(2.79mm)	3.30(83.8mm)	4.11(104.4mm)	21.38(543.1mm)	23.51 Open(597.2mm)
UBY 1.50A	Ø6.504(165.2mm)	.110(2.79mm)	3.30(83.8mm)	4.11(104.4mm)	21.38(543.1mm)	23.51 Open(597.2mm)
UBY 200A	Ø8.516(216.3mm)	.110(2.79mm)	3.30(83.8mm)	9.95(252.7mm)	33.06(839.7mm)	23.51 Open(597.2mm)
UBY 250A	Ø10.530(267.5mm)	.130(4.00mm)	3.30(83.8mm)	9.95(252.7mm)	33.06(839.7mm)	23.51 Open(597.2mm)

PNEUMATIC ACTUATING OPERATION

UBY 1"NC(1"/1.5"/2"/3.2A/40A/50A)



UBY 1"NO/DA(1"/1.5"/2"/3.2A/40A/50A)



Options

Pneumatic operating types

Normally open,
normally closed,
dual acting

Operating pressure

90-100 psig
(6.2-6.9 bar)

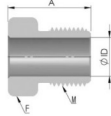
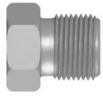
ORDERING INFORMATION

Sample Order Number		UBY-SM-1/2"-BA-NC-1/4"-M	
Series	UBY	Actuator Configuration	NO=Normal Open NC=Normal Close DA=Dual Acting M=Manual Handle
Material	SM=316L SS Single Melt DM=316L SS Double Melt HC=Hastelloy	Purge Valve Size	1/4"
Size	1/2"-250A(See Dimensions)	Purge Valve Connection	MM= Male Face Seal FF=Female Face Seal
Surface Finish Level	BA=BA Grade EP=EP Grade		

GP-TECH®

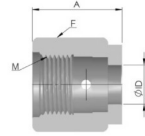
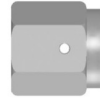
METAL SEAL FITTINGS

Male Nut



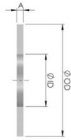
Head Size	Ordering Number	ID	A	F	M
1/4"	GV-MN04	9.10	18.30	15.90	9/16-18UNF
1/2"	GV-MN08	15.50	20.00	23.80	7/8-14UNF
3/4"	GV-MN12	22.60	25.40	33.30	11/4-18UNEF
1"	GV-MN16	30.50	30.20	41.30	11/2-20UNF

Female Nut



Head Size	Ordering Number	ID	A	F
1/4"	GV-FN04	9.10	20.75	19.05
1/2"	GV-FN08	15.50	22.50	26.90
3/4"	GV-FN12	22.60	28.50	38.10
1"	GV-FN16	30.50	34.00	44.50

Gasket Retainer Assembly



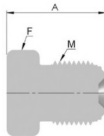
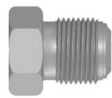
Head Size	Ordering Number	OD	ID	A
1/4"	GV-GSK04	11.85	5.50	0.70
1/2"	GV-GSK08	19.30	11.70	0.70
3/4"	GV-GSK12	28.00	16.80	0.70
1"	GV-GSK16	34.20	22.60	0.70

Gasket Non-Retained Style



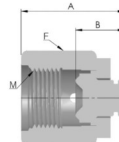
Head Size	Ordering Number	OD	ID	A
1/4"	GV-NGSK04	11.90	5.60	0.70
1/2"	GV-NGSK08	19.80	11.20	0.70
3/4"	GV-NGSK12	29.00	16.80	0.70
1"	GV-NGSK16	35.60	22.30	0.70

Plug



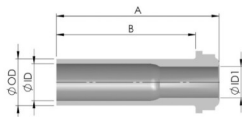
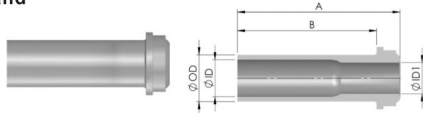
Head Size	Ordering Number	A	F
1/4"	GV-PG04	23.20	15.90
1/2"	GV-PG08	27.30	23.80
3/4"	GV-PG12	36.30	33.30
1"	GV-PG16	38.60	41.30

Cap



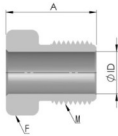
Head Size	Ordering Number	A	B	F
1/4"	GV-CP04	22.90	11.30	19.10
1/2"	GV-CP08	25.60	12.20	27.00
3/4"	GV-CP12	32.80	13.70	38.10
1"	GV-CP16	39.40	16.00	44.50

Hvcr Gland



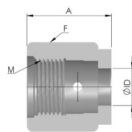
Head Size	Tube Size(OD)	Ordering Number	OD	ID	ID ₁	A	B
1/4"	3/8"	GV-HG06	9.53	7.53	6.35	33.20	28.40

Hvcr Male Nut



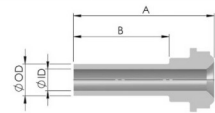
Head Size	Ordering Number	ID	A	F
1/4"	GV-HMN04	9.90	18.30	15.90

Hvcr Female Nut



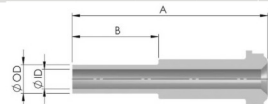
Head Size	Ordering Number	ID	A	F
1/4"	GV-HFN04	9.90	20.75	19.05

Long Gland-F



Head Size	Tube Size(OD)	Ordering Number	OD	ID	A	B
1/4"	1/4"	GV-LGF04	6.35	4.35	28.00	19.05
3/8"	3/8"	GV-LGF06	9.53	7.53	28.50	19.05
1/2"	1/2"	GV-LGF08	12.70	10.22	28.50	19.05
1/2"	1/4"	GV-LGF08-04	6.35	4.35	28.50	19.05
3/4"	3/4"	GV-LGF12	19.05	15.75	34.50	19.05
1"	1"	GV-LGF16	25.40	22.10	38.60	20.00

Long Gland-M

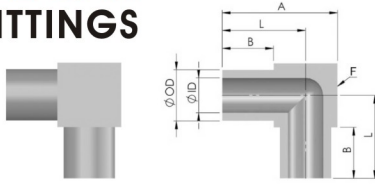


Head Size	Tube Size(OD)	Ordering Number	OD	ID	A	B
1/4"	1/4"	GV-LGM04	6.35	4.35	43.20	19.05
3/8"	3/8"	GV-LGM06	9.53	7.53	45.50	19.05
1/2"	1/2"	GV-LGM08	12.70	10.22	45.50	19.05
1/2"	1/4"	GV-LGM08-04	6.35	4.35	45.50	19.05
3/4"	3/4"	GV-LGM12	19.05	15.75	51.60	19.05
1"	1"	GV-LGM16	25.40	22.10	58.90	20.00

GP-TECH®

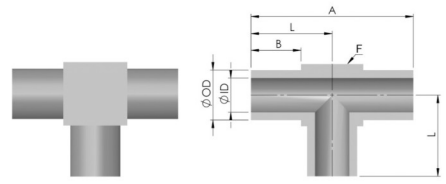
WELD FITTINGS

Micro Elbow



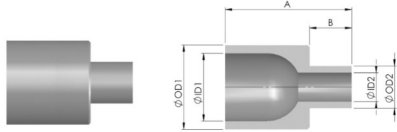
Size(OD)	Ordering Number	OD	ID	A	B	L	F
1/4"	GV-ME04	6.35	4.35	14.29	6.35	10.32	7.94
3/8"	GV-ME06	9.53	7.53	17.46	6.35	11.91	11.11
1/2"	GV-ME08	12.70	10.22	20.64	6.35	13.50	14.29
3/4"	GV-ME12	19.05	15.75	27.00	6.35	16.68	20.65
6M	GV-ME6M	6.00	4.00	14.29	6.35	10.32	7.94
8M	GV-ME8M	8.00	6.00	17.46	6.35	11.91	11.11
10M	GV-ME10M	10.00	8.00	17.46	6.35	11.91	11.11
12M	GV-ME12M	12.00	10.00	20.64	6.35	13.50	14.29

Micro Tee



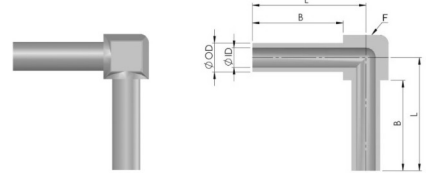
Size(OD)	Ordering Number	OD	ID	A	B	L	F
1/4"	GV-MT04	6.35	4.35	20.64	6.35	10.32	7.94
3/8"	GV-MT06	9.53	7.53	23.81	6.35	11.91	11.11
1/2"	GV-MT08	12.70	10.22	26.99	6.35	13.50	14.29
3/4"	GV-MT12	19.05	15.75	33.35	6.35	16.68	20.65
6M	GV-MT6M	6.00	4.00	20.64	6.35	10.32	7.94
8M	GV-MT8M	8.00	6.00	23.81	6.35	11.91	11.11
10M	GV-MT10M	10.00	8.00	23.81	6.35	11.91	11.11
12M	GV-MT12M	12.00	10.00	26.99	6.35	13.50	14.29

Micro R-Union



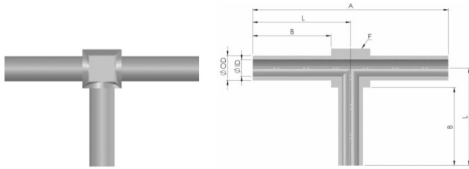
Size(OD)	Ordering Number	OD		ID		A	B
OD1		OD2	ID1	ID2			
3/8" 1/4"	GV-MRU06-04	9.53	6.35	7.53	4.35	19.05	6.35
1/2" 1/4"	GV-MRU08-04	12.70	6.35	10.22	4.35	19.05	6.35
1/2" 3/8"	GV-MRU08-06	12.70	9.53	10.22	7.53	19.05	6.35

Long Elbow



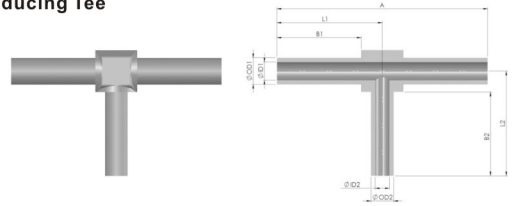
Size(OD)	Ordering Number	OD	ID	B	L	F
1/4"	GV-LE04	6.35	4.35	20.00	25.00	10.00
3/8"	GV-LE06	9.53	7.53	20.00	26.00	12.50
1/2"	GV-LE08	12.70	10.22	20.00	28.00	16.00
3/4"	GV-LE12	19.05	15.75	23.00	34.00	22.00
1"	GV-LE16	25.40	22.10	23.00	37.50	28.50

Long Tee



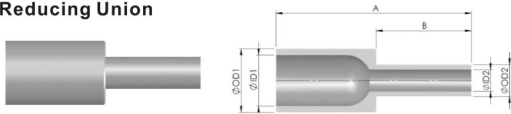
Size(OD)	Ordering Number	OD	ID	A	B	L	F
1/4"	GV-LT04	6.35	4.35	50.00	20.00	25.00	10.00
3/8"	GV-LT06	9.53	7.53	52.00	20.00	26.00	12.50
1/2"	GV-LT08	12.70	10.22	56.00	20.00	28.00	16.00
3/4"	GV-LT12	19.05	15.75	68.00	23.00	34.00	22.00
1"	GV-LT16	25.40	22.10	75.00	23.00	37.50	28.50

Long Reducing Tee



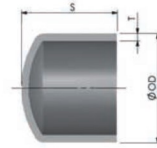
Size(OD)	Ordering Number	OD		ID		A	B1	L1	B2	L2	F
OD1		OD2	ID1	ID2							
3/8" 1/4"	GV-LRT06-04	9.53	6.35	7.53	4.35	52.00	20.00	26.00	20.00	26.00	12.50
1/2" 1/4"	GV-LRT08-04	12.70	6.35	10.22	4.35	56.00	20.00	28.00	20.00	28.00	16.00
1/2" 3/8"	GV-LRT08-06	12.70	9.53	10.22	7.53	56.00	20.00	28.00	20.00	28.00	16.00
3/4" 1/4"	GV-LRT12-04	19.05	6.35	15.75	4.35	68.00	23.00	34.00	20.00	31.00	22.00
3/4" 3/8"	GV-LRT12-06	19.05	9.53	15.75	7.53	68.00	23.00	34.00	20.00	31.00	22.00
3/4" 1/2"	GV-LRT12-08	19.05	12.70	15.75	10.22	68.00	23.00	34.00	20.00	31.00	22.00
1" 1/4"	GV-LRT16-04	25.40	6.35	22.10	4.35	75.00	23.50	37.50	20.00	34.00	28.50
1" 3/8"	GV-LRT16-06	25.40	9.53	22.10	7.53	75.00	23.50	37.50	20.00	34.00	28.50
1" 1/2"	GV-LRT16-08	25.40	12.70	22.10	10.22	75.00	23.50	37.50	20.00	34.00	28.50
1" 3/4"	GV-LRT16-12	25.40	19.05	22.10	15.75	75.00	23.50	37.50	23.00	34.00	28.50

Long Reducing Union



Size(OD)	Ordering Number	OD		ID		A	B
OD1		OD2	ID1	ID2			
3/8" 1/4"	GV-LRU06-04	9.53	6.35	7.53	4.35	39.00	19.00
1/2" 1/4"	GV-LRU08-04	12.70	6.35	10.22	4.35	39.00	19.00
1/2" 3/8"	GV-LRU08-06	12.70	9.53	10.22	7.53	39.00	19.00
3/4" 1/4"	GV-LRU012-04	19.05	6.35	15.75	4.53	42.90	19.00
3/4" 3/8"	GV-LRU012-06	19.05	9.53	15.75	7.53	42.90	19.00
3/4" 1/2"	GV-LRU012-08	19.05	12.70	15.75	10.22	42.90	19.00
1" 1/4"	GV-LRU16-04	25.40	6.35	22.10	4.35	44.50	19.00
1" 3/8"	GV-LRU16-06	25.40	9.53	22.10	7.53	44.50	19.00
1" 1/2"	GV-LRU16-08	25.40	12.70	22.10	10.22	44.50	19.00
1" 3/4"	GV-LRU16-12	25.40	19.05	22.10	15.75	44.50	23.00

GP-TECH® BEND FITTINGS



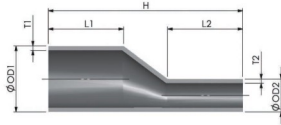
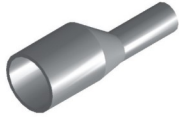
CAP

Tube Size

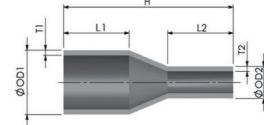
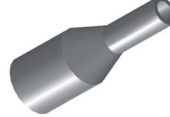
Units=mm

OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
S	12.7	12.7	12.7	12.7	12.7	25.4	38.1	38.1	38.1	38.1	38.1	63.5

ECC Reducer



CON Reducer



Tube Size

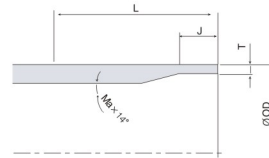
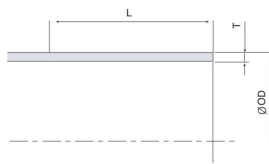
Units=mm

OD1	OD2	H
1/4"		60(70)
3/8"	1/4"	60(70)
1/2"	3/8"-1/4"	60(75)
5/8"	1/2"-1/4"	70(90)
3/4"	5/8"-1/4"	75(100)
1"	3/4"-1/4"	75(105)
1 1/4"	1"-1/4"	75(120)

Tube Size

Units=mm

OD1	OD2	H
1 1/2"	1 1/4"-1/4"	85(125)
2"	1 1/4"-1/4"	95(130)
2 1/2"	2"-1/4"	105(140)
3"	2 1/2"-1/4"	110(165)
4"	3"-1/4"	130(175)
5"	4"-1/4"	180(230)
6"	5"-1/4"	200(250)



Reducer

Tube Size

Pipe Size	Outer Diameter	Thickness	Straight End Length	Thinning Length
	OD(mm)	T	L	J
1/4"	6.35	1.0(0.89)	29.0	4
3/8"	9.53	1.0(0.89)	29.0	4
1/2"	12.7	1.0, 1.24(1.65)	29.0	4
5/8"	15.88	1.0(1.24)	36.0	4
3/4"	19.05	1.65(1.24)	36.0	5
1"	25.4	1.65(1.24)	36.0	5
1 1/4"	31.8	1.65	36.0	5
1 1/2"	38.1	1.65	46.0	5
2"	50.8	1.65	46.0	5
2 1/2"	63.5	1.65	51.0	5
3"	76.2	1.65	51.0	5
4"	101.6	2.1	51.0	6
5"	127.0	2.77(3.05)	56.0	8
6"	152.4	2.77(3.05)	56.0	8

Ordering Number

Sample Order Number	GBFSS-RT-08-04-BA		
Brand	G=Gptech	Size	04=1/4" 06=3/8" 08=1/2" 10=5/8" 12=3/4" 24=1 1/2" 32=2" 40=2 1/2" 48=3"
Fitting Type	BF=Bend Fitting		
Material	SS=Stainless steel(SS) H=Hastelloy	Surface Finish Level	BA=Bright Annealed EP=Electro Polished
Name	90E=90° Elbow 45E=45° Elbow ET=Equal Tee RT=Reducing Tee C=Cap CR=Cap ER=Ecc Reducer CNR=Con Reducer		