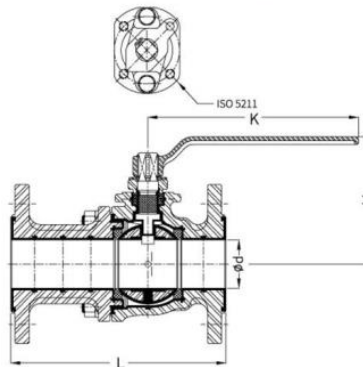


PFA LINED 2-WAY BALL VALVES

PB16 JIS 10K



DIMENSIONS UNIT:mm

SIZE	L	Φd	H	K	ISO 5211	SIZE	L	Φd	H	K	ISO 5211
1/2"	140	15	81	145	F04	2"	216	50	132	225	F07
3/4"	152	20	83	145	F04	2-1/2"	240	65	164	350	F07
1"	165	25	98	165	F05	3"	250	80	173	350	F07
1-1/2"	191	40	124	225	F07	4"	280	100	229	400	F10

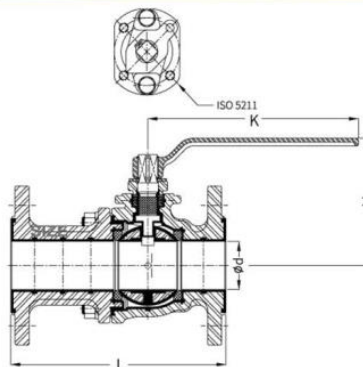
SPECIFICATIONS

Size Range 15A~100A
Pressure grade JIS 10K
Operating temperature -30°C~+160°C
Valve body design ASME B16.34
Maximum operating pressure 1.37 Mpa
Joints flange JIS B2220-10K RF
Face to face BUENO STANDARD
Testing standard JIS B2003

MATERIALS LIST

Designation	Material
BODY	JIS G5121-SCS13A+PFA
CAP	JIS G5121-SCS13A+PFA
STEM	ASTM A276-304+PFA
BALL	ASTM A351-CF8+PFA
HANDLE	ASTM A351-CF8
SEAT	TFM-1600

PB31 PN16



DIMENSIONS UNIT:mm

SIZE	L	Φd	H	K	ISO 5211	SIZE	L	Φd	H	K	ISO 5211
DN15	130	15	81	145	F04	DN50	230	50	132	225	F07
DN20	150	20	83	145	F04	DN65	290	65	164	350	F07
DN25	160	25	98	165	F05	DN80	310	80	173	350	F07
DN40	200	40	124	225	F07	DN100	350	100	229	400	F10

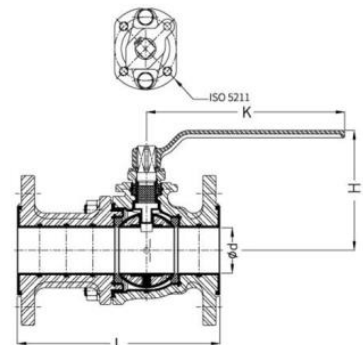
SPECIFICATIONS

Size Range DN15~DN100
Pressure grade PN16
Operating temperature -30°C~+160°C
Valve body design ASME B16.34 & EN12516
Maximum operating pressure 236 PSI
Joints flange EN1092-1 PN16
Face to face EN558
Testing standard BS EN12266-1

MATERIALS LIST

Designation	Material
BODY	EN10213-4/1.4308+PFA Lined
CAP	EN10213-4/1.4308+PFA Lined
BALL	EN10213-4/1.4308+PFA Lined
SEAT	TFM 1600
STEM	ASTM-A276-304+PFA Lined
HANDLE	ASTM-A351-CF8

PB31D PN16



DIMENSIONS UNIT:mm

SIZE	L	Φd	H	K	ISO 5211	SIZE	L	Φd	H	K	ISO 5211
DN15	130	15	81	145	F04	DN50	230	50	132	225	F07
DN20	150	20	83	145	F04	DN65	290	65	164	350	F07
DN25	160	25	98	165	F05	DN80	310	80	173	350	F07
DN40	200	40	124	225	F07	DN100	350	100	229	400	F10

SPECIFICATIONS

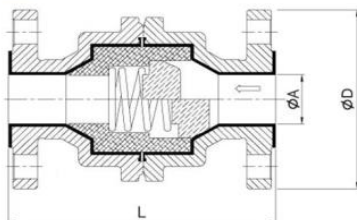
Size Range DN15~DN100
Pressure grade PN16
Operating temperature -10°C~+160°C
Valve body design ASME B16.42 & EN12516
Maximum operating pressure 250 PSI
Joints flange EN1092-2 PN16
Face to face EN558
Testing standard BS EN12266-1

MATERIALS LIST

Designation	Material
BODY	EN1563/EN-JS1040+PFA Lined
CAP	EN1563/EN-JS1040+PFA Lined
BALL	EN10213-4/1.4308+PFA Lined
SEAT	TFM 1600
STEM	ASTM-A276-304+PFA Lined
HANDLE	ASTM-A216-WCB

PFA LINED CHECK VALVES

PC11 CLASS 150 LB



DIMENSIONS UNIT:mm

SIZE	IMPERIAL	φA	L	φD	SIZE	IMPERIAL	φA	L	φD
15	1/2"	15	130	89	50	2"	51	230	152
20	3/4"	20	150	98.6	65	2-1/2"	65	290	178
25	1"	25	160	108	80	3"	76	310	190.5
40	1-1/2"	38.5	200	127	100	4"	102	350	228.6

SPECIFICATIONS

Size range 1/2" ~ 4"

Pressure Grade CLASS 150 LB

Maximum operating pressure

FLOW: 275 psi (19 bar)

CHECK: 150 psi (10 bar)

Valve body design ASME B16.34

Face to face ISO 5752

Operating temperature -30°C ~100°C

Joints ASME B16.5 class 150 RF

Universal Installation Orientation

Low Pressure Applications and No Back

Pressure to seat

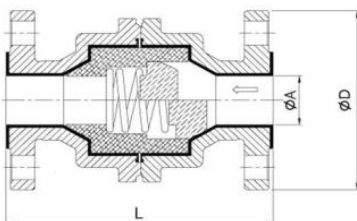
Lining thickness is at least 3mm

Testing standard ASME B16.34

MATERIALS LIST

Designation	Material
BODY	A351-CF8+PFA Lined
CAP	A351-CF8+PFA Lined
SLEEVE	PTFE
DISC	PTFE
SPRING	SUS304*WPA+PFA
WASHER	PTFE

PC-11W CLASS 150 LB



DIMENSIONS UNIT:mm

SIZE	IMPERIAL	φA	L	φD	SIZE	IMPERIAL	φA	L	φD
15	1/2"	15	130	89	50	2"	51	230	152
20	3/4"	20	150	98.6	65	2-1/2"	65	290	178
25	1"	25	160	108	80	3"	76	310	190.5
40	1-1/2"	38.5	200	127	100	4"	102	350	228.6

SPECIFICATIONS

Size range 1/2" ~ 4"

Pressure Grade CLASS 150 LB

Maximum operating pressure

FLOW: 275 psi (19 bar)

CHECK: 150 psi (10 bar)

Valve body design ASME B16.34

Operating temperature -30°C ~100°C

Face to face ISO 5752

Joints ASME B16.5 class 150 RF

Universal Installation Orientation

Low Pressure Applications and

No Back Pressure to seat

Lining thickness is at least 3mm

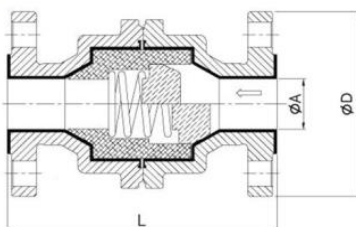
Testing standard ASME B16.34

MATERIALS LIST

Designation	Material
BODY	A216-WCB+PFA Lined
CAP	A216-WCB+PFA Lined
SLEEVE	PTFE
DISC	PTFE
SPRING	SUS304*WPA+PFA
WASHER	PTFE

PFA LINED CHECK VALVES

PC-31 PN16



DIMENSIONS UNIT:mm

SIZE	IMPERIAL	φA	L	φD	SIZE	IMPERIAL	φA	L	φD
15	1/2"	15	130	95	50	2"	51	230	165
20	3/4"	20	150	105	65	2-1/2"	65	290	185
25	1"	25	160	115	80	3"	76	310	200
40	1-1/2"	38.5	200	150	100	4"	102	350	220

SPECIFICATIONS

Size range DN15~DN100

Pressure Grade PN16

Maximum operating pressure

FLOW : 232 psi (16 bar)

CHECK : 150 psi (10 bar)

Valve body design EN 12516

Face to face ISO 5752

Operating temperature

-30°C ~100°C

Joints EN 1092-1

Universal Installation Orientation

Low Pressure Applications and No Back

Pressure to seat

Lining thickness is at least 3mm

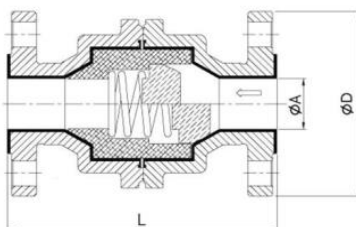
Testing standard EN12266-1

MATERIALS LIST

Designation	Material
BODY	1.4308+PFA Lined
CAP	1.4308+PFA Lined
SLEEVE	PTFE
DISC	PTFE
SPRING	SUS304*WPA+PFA
WASHER	PTFE

PFA LINED CHECK VALVES

PC-31W PN16



DIMENSIONS UNIT:mm

SIZE	IMPERIAL	φA	L	φD	SIZE	IMPERIAL	φA	L	φD
15	1/2"	15	130	95	50	2"	51	230	165
20	3/4"	20	150	105	65	2-1/2"	65	290	185
25	1"	25	160	115	80	3"	76	310	200
40	1-1/2"	38.5	200	150	100	4"	102	350	220

SPECIFICATIONS

Size range DN15~DN100

Pressure Grade PN16

Maximum operating pressure

FLOW: 232 psi (16 bar)

CHECK:150 psi (10 bar)

Valve body design EN 12516

Face to face ISO 5752

Operating temperature -30°C ~100°C

Joints EN 1092-1

Universal Installation Orientation

Low Pressure Applications and No Back

Pressure to seat

Lining thickness is at least 3mm

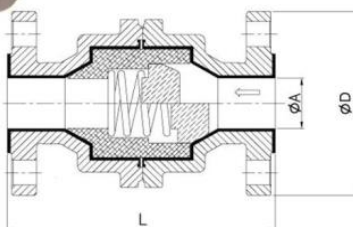
Testing standard EN12266-1

MATERIALS LIST

Designation	Material
BODY	1.0619+PFA Lined
CAP	1.0619+PFA Lined
SLEEVE	PTFE
DISC	PTFE
SPRING	SUS304*WPA+PFA
WASHER	PTFE

PFA LINED CHECK VALVES

PC-51 JIS 10K



DIMENSIONS UNIT:mm

SIZE	IMPERIAL	φA	L	φD	SIZE	IMPERIAL	φA	L	φD
15	1/2"	15	130	95	50	2"	51	230	155
20	3/4"	20	150	100	65	2-1/2"	65	290	175
25	1"	25	160	125	80	3"	76	310	185
40	1-1/2"	38.5	200	140	100	4"	102	350	210

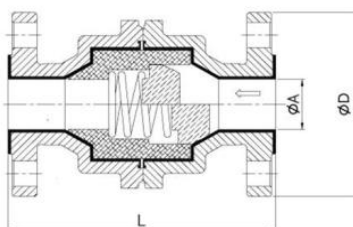
SPECIFICATIONS

Size range 15A~100A
Pressure grade JIS 10K
Maximum operating pressure
 FLOW : 200psi (14kgf / cm²)
 CHECK : 150psi (10kgf / cm²)
Valve body thickness ASME B16.34
Face to face ISO 5752
Operating temperature -30°C ~ 100°C
Joints JIS B2220 10K RF
 Universal installation orientation
 Low pressure applications and no back pressure to seat.
 Lining thickness is at least 3mm
Testing standard JIS B2003

MATERIALS LIST

Designation	Material
BODY	SCS13A+PFA Lined
CAP	SCS13A+PFA Lined
SLEEVE	PTFE
DISC	PTFE
SPRING	SUS304*WPA+PFA
WASHER	PTFE

PC-51W JIS 10K



DIMENSIONS UNIT:mm

SIZE	IMPERIAL	φA	L	φD	SIZE	IMPERIAL	φA	L	φD
15	1/2"	15	130	95	50	2"	51	230	155
20	3/4"	20	150	100	65	2-1/2"	65	290	175
25	1"	25	160	125	80	3"	76	310	185
40	1-1/2"	38.5	200	140	100	4"	102	350	210

SPECIFICATIONS

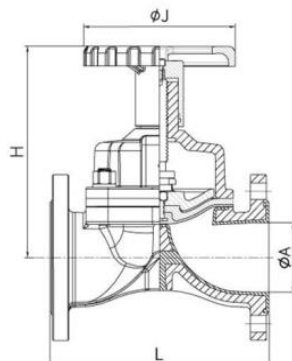
Size range 15A~100A
Pressure Grade JIS 10K
Maximum operating pressure
 FLOW: 200 psi (14 kgf/cm²)
 CHECK: 150 psi (10 kgf/cm²)
Valve body design ASME B16.42
Face to face ISO 5752
Operating temperature -30°C ~ 100°C
Joints JIS B2220 10K RF
 Universal Installation Orientation
 Low Pressure Applications and No Back Pressure to seat
 Lining thickness is at least 3mm
Testing standard JIS B2003

MATERIALS LIST

Designation	Material
BODY	SCW410+PFA Lined
CAP	SCW410+PFA Lined
SLEEVE	PTFE
DISC	PTFE
SPRING	SUS304*WPA+PFA
WASHER	PTFE

PFA LINED DIAPHRAGM VALVES

PD-11 CLASS 150 LB



DIMENSIONS UNIT:mm

SIZE	φA	H	φJ	L	SIZE	φA	H	φJ	L
in mm					in mm				
1/2" 15	15	100	100	108	2" 50	50	168	120	200
3/4" 20	19	103	100	146	2-1/2" 65	65	226	180	226
1" 25	25	108	100	146	3" 80	80	237	180	260
1-1/2" 40	40	153	120	175	4" 100	100	320	230	327

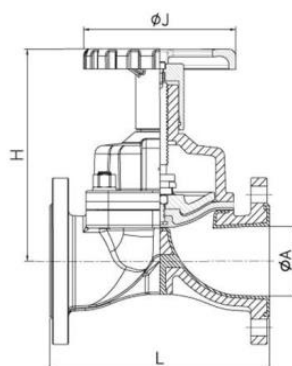
SPECIFICATIONS

Size range 1/2" ~ 4"
Pressure grade CLASS 150 LB
Operating temperature -30°C ~ +120°C
Valve body design ASME B16.34
Maximum operating pressure
 1/2"~1" 14kgf/cm²(200psi)
 1-1/2"~2" 12.3kgf/cm²(175psi)
 2-1/2"~4" 10.5kgf/cm²(150psi)
Joints flange ASME B16.5 CLASS 150 RF
Face to face MSS SP-88

MATERIALS LIST

Designation	Material
BODY	A351 CF8+PFA Lined
BONNET	A351 CF8
HANDLE	A351 CF8
STEM	SS304
DIAPHRAGM	PTFE

PD-11W CLASS 150 LB



DIMENSIONS UNIT:mm

SIZE	φA	H	φJ	L	SIZE	φA	H	φJ	L
in mm					in mm				
1/2" 15	15	100	100	108	2" 50	50	168	120	200
3/4" 20	19	103	100	146	2-1/2" 60	65	226	180	226
1" 25	25	108	100	146	3" 80	80	237	180	260
1-1/2" 40	40	153	120	175	4" 100	100	320	230	327

SPECIFICATIONS

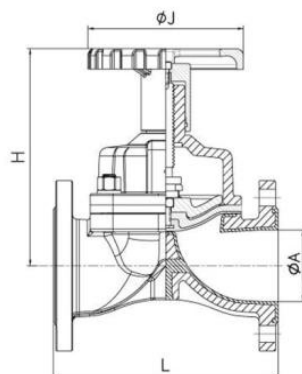
Size range 1/2" ~ 4"
Pressure grade CLASS 150 LB
Operating temperature -30°C ~ +120°C
Valve body design ASME B16.34
Maximum operating pressure
 1/2"~1" 14kgf/cm²(200psi)
 1-1/2"~2" 12.3kgf/cm²(175psi)
 2-1/2"~4" 10.5kgf/cm²(150psi)
Joints flange ASME B16.5 CLASS 150 RF
Face to face MSS SP-88

MATERIALS LIST

Designation	Material
BODY	ASTM A216 Gr.WCB+PFA Lined
BONNET	ASTM A216 Gr.WCB
HANDLE	ASTM A351 CF8
STEM	SS304
DIAPHRAGM	PTFE

PFA LINED DIAPHRAGM VALVES

PD-31 PN16



DIMENSIONS

UNIT:mm

SIZE	DN	φA	H	φJ	L	SIZE	DN	φA	H	φJ	L
1/2"	15	15	100	100	130	2"	50	50	168	120	230
3/4"	20	19	103	100	150	2-1/2"	65	65	226	180	290
1"	25	25	108	100	160	3"	80	80	237	180	310
1-1/2"	40	40	153	120	200	4"	100	100	320	230	350

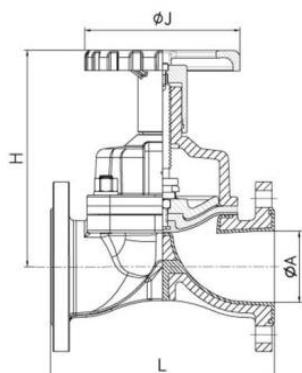
SPECIFICATIONS

Size range DN15~DN100
 Pressure grade PN16
 Operating temperature -30°C~+120°C
 Valve body design EN12516
 Maximum operating pressure
 DN15~DN25 14kgf/cm² (200psi)
 DN40~DN50 12.3kgf/cm² (175psi)
 DN65~DN100 10.5kgf/cm² (150psi)
 Joints EN 1092-1
 Face to face EN-588-1

MATERIALS LIST

Designation	Material
BODY	1.4308+PFA Lined
BONNET	1.4308
HANDLE	1.4308
STEM	SS304
DIAPHRAGM	PTFE

PD-31W PN16



DIMENSIONS

UNIT:mm

SIZE	DN	φA	H	φJ	L	SIZE	DN	φA	H	φJ	L
1/2"	15	15	100	100	130	2"	50	50	168	120	230
3/4"	20	19	103	100	150	2-1/2"	65	65	226	180	290
1"	25	25	108	100	160	3"	80	80	237	180	310
1-1/2"	40	40	153	120	200	4"	100	100	326	230	350

SPECIFICATIONS

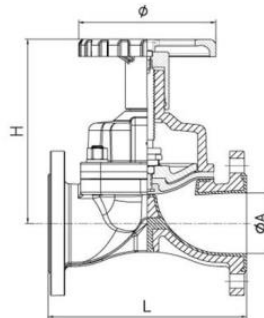
Size range DN15~DN100
 Pressure grade PN16
 Operating temperature -30°C~+120°C
 Valve body design EN12516
 Maximum operating pressure
 DN15~DN25 14kgf/cm² (200psi)
 DN40~DN50 12.3kgf/cm² (175psi)
 DN65~DN100 10.5kgf/cm² (150psi)
 Joints EN 1092-1
 Face to face EN-588-1

MATERIALS LIST

Designation	Material
BODY	1.0619+PFA Lined
BONNET	1.0619
HANDLE	1.0619
STEM	SS304
DIAPHRAGM	PTFE

PFA LINED DIAPHRAGM VALVES

PD-51 JIS 10K



DIMENSIONS UNIT:mm

SIZE		φA	H	φJ	L	SIZE		φA	H	φJ	L
in	mm					in	mm				
1/2"	15	15	100	100	114	2"	50	50	168	120	196
3/4"	20	19	103	100	123	2-1/2"	65	65	226	180	222
1"	25	25	108	100	133	3"	80	80	237	180	260
1-1/2"	40	40	153	120	165	4"	100	100	320	230	313

SPECIFICATIONS

Size range 15A~100A
Pressure grade JIS 10K
Operating temperature -30°C ~+120°C
Valve body design ASME B16.34
Maximum operating pressure
 15A~25A 14kgf/cm² (200psi)
 40A~50A 12.3kgf/cm² (175psi)
 65A~100A 10.5kgf/cm² (150psi)
Joints JIS B2220 10K RF
Face to face ISO 5752;BS-5156

MATERIALS LIST

Designation	Material
BODY	SCS13A+PFA Lined
BONNET	SCS13A
HANDLE	SCS13A
STEM	SS304
DIAPHRAGM	PTFE

PD-51W JIS 10K



DIMENSIONS UNIT:mm

SIZE		φA	H	φJ	L	SIZE		φA	H	φJ	L
in	mm					in	mm				
1/2"	15	15	100	100	114	2"	50	48	168	120	196
3/4"	20	19	103	100	123	2-1/2"	65	65	226	180	222
1"	25	25	108	100	133	3"	80	80	237	180	260
1 1/2"	40	40	153	120	165	4"	100	100	320	230	313

SPECIFICATIONS

Size range 15A~100A
Pressure grade JIS 10K
Operating temperature -30°C ~+120°C
Valve body design ASME B16.42
Maximum operating pressure
 15A~25A 14kgf/cm² (200psi)
 40A~50A 12.3kgf/cm² (175psi)
 65A~100A 10.5kgf/cm² (150psi)
Joints JIS B2220 10K RF
Face to face ISO 5752;BS-5156

MATERIALS LIST

Designation	Material
BODY	SCW410+PFA Lined
BONNET	SCW410
HANDLE	SCW410
STEM	SS304
DIAPHRAGM	PTFE

PFA LINED PLUG VALVES

PP-11D CLASS 150 LB



DIMENSIONS UNIT:mm

SIZE	φC	G	H	L	SIZE	φC	G	H	L
1/2"	60.5	174.5	90	108	1-1/2"	98.6	298.5	130	165
3/4"	69.9	174.5	90	117	2"	120.7	298.5	136	178
1"	79.2	226.5	105	127	3"	152.4	498.5	215	203

SPECIFICATIONS

Size range 1/2"~3"
Pressure grade ASME CLASS 150 LB
Valve body thickness ASME B16.42
Face to face ISO5752 / ASME B16.10
Operating temperature -30°C ~+160°C
Maximum operating pressure 250psi
Shell Tightness Test B16.42
Seat Tightness Test MSS-SP-61

MATERIALS LIST

Designation	Material
BODY	A395-FCD+PFA Lined
PLUG	A395-FCD+PFA Lined
HANDLE	ASTM A53 SCH40 pipe Carbon steel B7
DIAPHRAGM	PTFE

PFA LINED PIPES AND FITTINGS

Design

PIPES AND FITTINGS

Our metal pipes and fittings are either manufactured via casting or through welding seamless pipes. The available dimensions are 1/2"~4", the thickness of pipes and fittings are in accordance with Schedule 40. The default materials used are as follow, if unspecified:

MATERIALS LIST

Designation	Carbon Steel	Stainless Steel
Fittings Seamless Pipe	ASTM A234 grade WPB	ASTM A403
Cast Steel	ASTM A216 grade WCB	ASTM A351
Pipe Seamless Pipe	ASTM A587 or ASTM A53 grade B	ASTM A312

SPECIFICATIONS

Fittings	ASME B16.5 CLASS 150
Pipes	ASME B36.10

FLANGE

The default materials used are as following, if unspecified:

MATERIALS LIST

In accordance with ASTM A105 (If the fitting is made via casting, then the flange will be cast as part of the fitting)

In accordance with ASTM A182

SPECIFICATIONS

ASME B16.5 CLASS150

Welding

In accordance with ASME Boiler and meets the requirements of Pressure Vessel Code, clause nine.

Liner Thickness

PFA

	Size	Thickness
Pipes	1/2"~4"	1/2"~2" 2~2.5mm, 2-1/2"~6" 3~4mm
Fittings	1/2"~4"	1/2"~2" About 3mm 2-1/2"~6" About 4mm

Exhaust Hole

Each pipe and fittings has at least one 2mm diameter exhaust hole in order to release the gas trapped between the liner and the metal part. If the pipe exceeds 500mm in length, it will contain at least two exhaust holes. Reducing flanges do not have exhaust holes.

Coating

A. The standard application of coating contains two layers:

1) Base paint 2) Surface paint. The thickness is approximately 110 μ m.

B. Special requirements for coating are available upon request.

Procedures of Oil- & Water-Free treatment

Assign To Client's Requirement

1. AK3 oil removal (Heated)
2. Acid neutralization
3. Cleaning using RO water
4. Dry nitrogen air spraying
5. Channel seal packaging

Test

We uphold a full inspection policy that requires all finished lined pipe and fitting to pass the following tests before shipment. Other methods of testing can be done upon customer's demand.

- **Pressure Test** Applies max operating pressure*1.5Air
- **Tight Test** Applies max operating pressure*1.1
- **Coating** We pick products on random for testing with paint thickness tester.
- **Appearance**
 1. Each piece is checked for bubbles, pinholes, or other impairing defects before the lining process. Minor blemishes are processed during the coating step.
 2. Blistering and paint peeling are not allowed after coating

- **Spark Test** 15~20KVDC
- **Oil- and Water-Free Test**
Cleaned according to the standard of 1.0mg/ft (MAX)
We can also provide notarization from authorities upon request.



Pressure Test



Coating Test



Spark Test

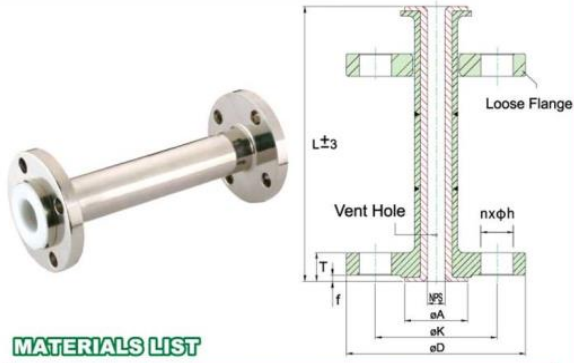
Packaging and Storage

The exhaust holes are sealed before packaging.

• Packaging

1. The ends of normal pipes and flanges are sealed with plastic plates to prevent damage to the liner.
2. For water- and oil-free lined pipes and fittings, the two ends are sealed with adhesive-free tapes (alternatively, the flanges can be sealed by plastic bags), and covered with end caps to prevent damage to the liner. Before storage and shipping, the products are labeled, numbered, and sorted according to order number, charge number, and content. After being properly ordered, they are collectively stored or shipped. The products are packaged with wooden crates when shipped; in addition, the interior of the crate contains a large plastic seal to prevent water and vapor permeation.

PFA Lined Pipe



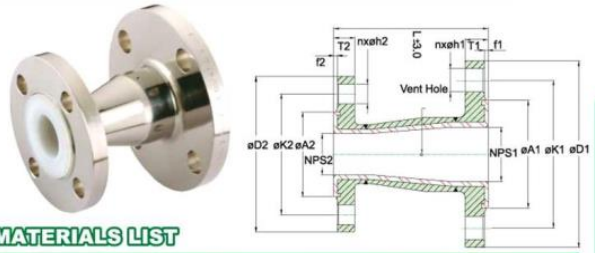
MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105	ASTM A182
Steel frame	ASTM A587 or ASTM A53 grade B	ASTM A312
Steel bend	according to SCH 40	
Standard	one fixed flange, one loose flange	
Liner	PFA	

DIMENSIONS

NPS	L/min.	L/max.	φA	φK	φD	nxφh	T	f/PFA
INCH								
1/2"	100	6000	32	60.5	89	4x16	14.2	3.0
3/4"	100	6000	40	69.9	98.6	4x16	14.2	3.0
1"	100	6000	48	79.2	108	4x16	14.2	3.0
1-1/2"	100	6000	69	98.6	127	4x16	17.3	3.0
2"	150	6000	87.9	120.7	152.4	4x19	18.8	3.0
2-1/2"	150	6000	100.6	139.7	177.8	4x19	21.7	4.1
3"	150	6000	127	152.4	190.5	4x19	23.2	4.1
4"	150	6000	153.2	190.5	228.6	8x19	28.0	4.1
6"	150	6000	212.7	241	279	8x22	29.4	4.1

PFA Lined Concentric Reducer



MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Steel frame	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Steel bend	according to SCH 40	
Standard	two fixed flanges	
Liner	PFA	

DIMENSIONS

NPS	L	φA1	φK1	φD1	nxφh1	T1	φA2	φK2	φD2	nxφh2	T2	f1	f2
INCH												PFA	PFA
1"x1/2"	114	48	79.2	108	4x16	14.2	32	60.5	89	4x16	14.2	3.0	3.0
1"x3/4"	114	48	79.2	108	4x16	14.2	40	69.9	98.6	4x16	14.2	3.0	3.0
1-1/2"x3/4"	114	69	98.6	127	4x16	17.3	40	69.9	98.6	4x16	14.2	3.0	3.0
1-1/2"x1"	114	69	98.6	127	4x16	17.3	48	79.2	108	4x16	14.2	3.0	3.0
2"x1/2"	127	87.9	120.7	152.4	4x19	18.8	32	60.5	89	4x16	14.2	3.0	3.0
2"x3/4"	127	87.9	120.7	152.4	4x19	18.8	40	69.9	98.6	4x16	14.2	3.0	3.0
2"x1"	127	87.9	120.7	152.4	4x19	18.8	48	79.2	108	4x16	14.2	3.0	3.0
2"x1-1/2"	127	87.9	120.7	152.4	4x19	18.8	69	98.6	127	4x16	17.3	3.0	3.0
2-1/2"x1"	140	100.6	139.7	177.8	4x19	21.7	48	79.2	108	4x16	14.2	3.0	3.0
2-1/2"x1-1/2"	140	100.6	139.7	177.8	4x19	21.7	69	98.6	127	4x16	17.3	3.0	3.0
3"x1"	152	127	152.4	190.5	4x19	23.2	48	79.2	108	4x16	14.2	3.0	3.0
3"x1-1/2"	152	127	152.4	190.5	4x19	23.2	69	98.6	127	4x16	17.3	3.0	3.0
3"x2"	152	127	152.4	190.5	4x19	23.2	87.9	120.7	152.4	4x19	18.8	3.0	3.0
3"x2-1/2"	152	127	152.4	190.5	4x19	23.2	100.6	139.7	177.8	4x19	21.7	3.0	4.1
4"x1"	178	153.2	190.5	228.6	8x19	28.0	48	79.2	108	4x16	14.2	3.0	3.0
4"x1-1/2"	178	153.2	190.5	228.6	8x19	28.0	69	98.6	127	4x16	17.3	3.0	3.0
4"x2"	178	153.2	190.5	228.6	8x19	28.0	87.9	120.7	152.4	4x19	18.8	3.0	3.0
4"x3"	178	153.2	190.5	228.6	8x19	28.0	127	152.4	190.5	4x19	23.2	4.1	4.1
6"x2"	229	212.7	241	279	8x22	29.4	87.9	120.7	152.4	4x19	18.8	4.1	3.0
6"x3"	229	212.7	241	279	8x22	29.4	127	152.4	190.5	4x19	23.2	4.1	4.1
6"x4"	229	212.7	241	279	8x22	29.4	153.2	190.5	228.6	8x19	28.0	4.1	4.1

PFA Lined 90° Elbow



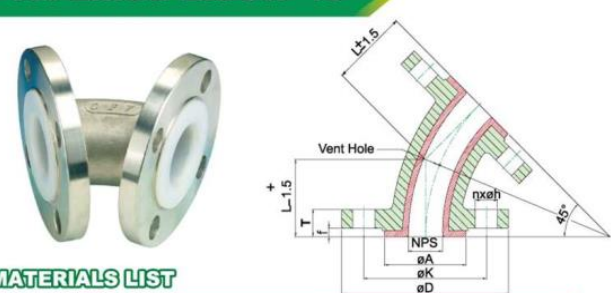
MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Steel frame	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Steel bend	according to SCH 40	
Standard	two fixed flanges	
Liner	PFA	

DIMENSIONS

NPS	L	φA	φK	φD	nxφh	T	f/PFA
INCH							
1/2"	70	32	60.5	89	4x16	14.2	3.0
3/4"	80	40	69.9	98.6	4x16	14.2	3.0
1"	89	48	79.2	108	4x16	14.2	3.0
1-1/2"	102	69	98.6	127	4x16	17.3	3.0
2"	114	87.9	120.7	152.4	4x19	18.8	3.0
2-1/2"	127	100.6	139.7	177.8	4x19	21.7	4.1
3"	140	127	152.4	190.5	4x19	23.2	4.1
4"	165	153.2	190.5	228.6	8x19	28.0	4.1
6"	203	212.7	241	279	8x22	29.4	4.1

PFA Lined Elbow 45°



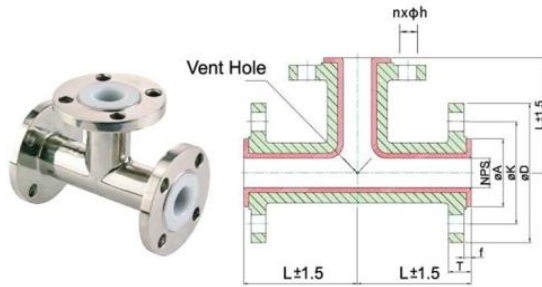
MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Steel frame	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Steel bend	according to SCH 40	
Standard	two fixed flanges	
Liner	PFA	

DIMENSIONS

NPS	L	φA	φK	φD	nxφh	T	f/PFA
INCH							
1/2"	45	32	60.5	89	4x16	14.2	3.0
3/4"	45	40	69.9	98.6	4x16	14.2	3.0
1"	44	48	79.2	108	4x16	14.2	3.0
1-1/2"	57	69	98.6	127	4x16	17.3	3.0
2"	64	87.9	120.7	152.4	4x19	18.8	3.0
2-1/2"	76	100.6	139.7	177.8	4x19	21.7	4.1
3"	76	127	152.4	190.5	4x19	23.2	4.1
4"	102	153.2	190.5	228.6	8x19	28.0	4.1
6"	127	212.7	241	279	8x22	29.4	4.1

PFA Lined Equal Tee



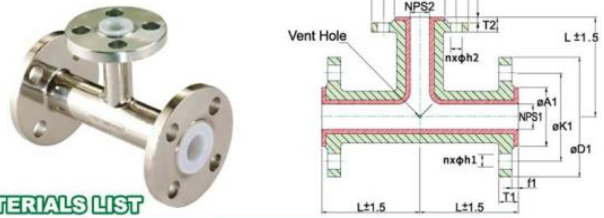
MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105 or A216 WCB	ASTM A182 or A351
Steel frame	ASTM A234 grade WPB or A216 WCB	ASTM A403 or A351
Steel bend	according to SCH 40	
Standard	fixed flanges	
Liner	PFA	

DIMENSIONS

NPS		ANSI B16.5 Class 150						
INCH	L	φA	φK	φD	nxφh	T	f/PFA	
1/2"	70	32	60.5	89	4x16	14.2	3.0	
3/4"	80	40	69.9	98.6	4x16	14.2	3.0	
1"	89	48	79.2	108	4x16	14.2	3.0	
1-1/2"	102	69	98.6	127	4x16	17.3	3.0	
2"	114	87.9	120.7	152.4	4x19	18.8	3.0	
2-1/2"	127	100.6	139.7	177.8	4x19	21.7	4.1	
3"	140	127	152.4	190.5	4x19	23.2	4.1	
4"	165	153.2	190.5	228.6	8x19	28.0	4.1	
6"	203	212.7	241	279	8x22	29.4	4.1	

PFA Lined Reducing Tee



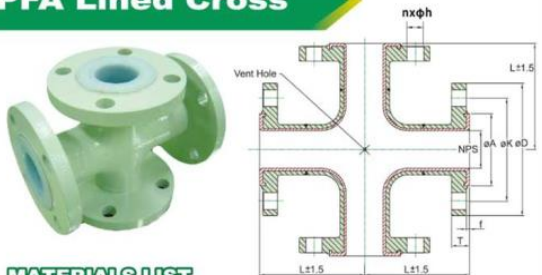
MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or A351
Steel frame	ASTM A234 grade WPB or A216 WCB	ASTM A403 or A351
Steel bend	according to SCH 40	
Standard	fixed flanges	
Liner	PFA	

DIMENSIONS

NPS INCH	L	NPS1/ANSI B16.5 Class 150					NPS2/ANSI B16.5 Class 150					f1	f2
		φA1	φK1	φD1	nxφh1	T1	φA2	φK2	φD2	nxφh2	T2	PFA	PFA
3/4"x1/2"	80	40	69.9	98.6	4x16	14.2	32	60.5	89	4x16	14.2	3.0	3.0
1"x1/2"	89	48	79.2	108	4x16	14.2	32	60.5	89	4x16	14.2	3.0	3.0
1"x3/4"	89	48	79.2	108	4x16	14.2	40	69.9	98.6	4x16	14.2	3.0	3.0
1-1/2"x1/2"	102	69	98.6	127	4x16	17.3	32	60.5	89	4x16	14.2	3.0	3.0
1-1/2"x3/4"	102	69	98.6	127	4x16	17.3	40	69.9	98.6	4x16	14.2	3.0	3.0
1-1/2"x1"	102	69	98.6	127	4x16	17.3	48	79.2	108	4x16	14.2	3.0	3.0
2"x1/2"	114	87.9	120.7	152.4	4x19	18.8	32	60.5	89	4x16	14.2	3.0	3.0
2"x3/4"	114	87.9	120.7	152.4	4x19	18.8	40	69.9	98.6	4x16	14.2	3.0	3.0
2"x1"	114	87.9	120.7	152.4	4x19	18.8	48	79.2	108	4x16	14.2	3.0	3.0
2"x1-1/2"	114	87.9	120.7	152.4	4x19	18.8	69	98.6	127	4x16	17.3	3.0	3.0
2-1/2"x1"	127	100.6	139.7	177.8	4x19	21.7	48	79.2	108	4x16	14.2	4.1	3.0
2-1/2"x1-1/2"	127	100.6	139.7	177.8	4x19	21.7	69	98.6	127	4x16	17.3	4.1	3.0
2-1/2"x2"	127	100.6	139.7	177.8	4x19	21.7	87.9	120.7	152.4	4x19	18.8	4.1	3.0
3"x1/2"	140	127	152.4	190.5	4x19	23.2	32	60.5	89	4x16	14.2	4.1	3.0
3"x1"	140	127	152.4	190.5	4x19	23.2	48	79.2	108	4x16	14.2	4.1	3.0
3"x1-1/2"	140	127	152.4	190.5	4x19	23.2	69	98.6	127	4x16	17.3	4.1	3.0
3"x2"	140	127	152.4	190.5	4x19	23.2	87.9	120.7	152.4	4x19	18.8	4.1	3.0
4"x1"	165	153.2	190.5	228.6	8x19	28.0	48	79.2	108	4x16	14.2	4.1	3.0
4"x1-1/2"	165	153.2	190.5	228.6	8x19	28.0	69	98.6	127	4x16	17.3	4.1	3.0
4"x2"	165	153.2	190.5	228.6	8x19	28.0	87.9	120.7	152.4	4x19	18.8	4.1	3.0
4"x3"	165	153.2	190.5	228.6	8x19	28.0	127	152.4	190.5	4x19	23.2	4.1	4.1
6"x2"	203	212.7	241	279	8x22	29.7	87.9	120.7	152.4	4x19	18.8	4.1	3.0
6"x3"	203	212.7	241	279	8x22	29.7	127	152.4	190.5	4x19	23.2	4.1	4.1
6"x4"	203	212.7	241	279	8x22	29.7	153.2	190.5	228.6	8x19	28.0	4.1	4.1

PFA Lined Cross



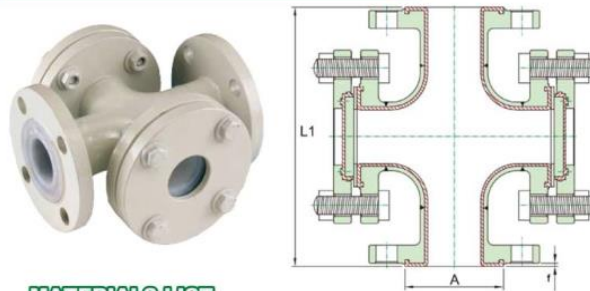
MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105 or A216 WCB	ASTM A182 or A351
Steel frame	ASTM A234 grade WPB or A216 WCB	ASTM A403 or A351
Steel bend	according to SCH 40	
Standard	fixed flanges	
Liner	PFA	

DIMENSIONS

NPS		ANSI B16.5 Class 150						
INCH	L	φA	φK	φD	nxφh	T	f/PFA	
1/2"	70	32	60.5	89	4x16	14.2	3.0	
3/4"	80	40	69.9	98.6	4x16	14.2	3.0	
1"	89	48	79.2	108	4x16	14.2	3.0	
1-1/2"	102	69	98.6	127	4x16	17.3	3.0	
2"	114	87.9	120.7	152.4	4x19	18.8	3.0	
2-1/2"	127	100.6	139.7	177.8	4x19	21.7	4.1	
3"	140	127	152.4	190.5	4x19	23.2	4.1	
4"	165	153.2	190.5	228.6	8x19	28.0	4.1	
6"	203	212.7	241	279	8x22	29.4	4.1	

PFA Lined Sight Glass



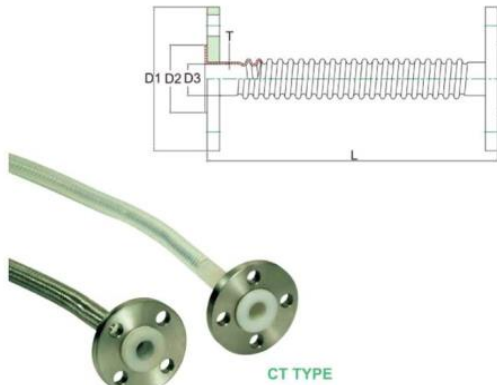
MATERIALS LIST

Parts	Carbon Steel	Stainless Steel
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or A351
Steel frame	ASTM A234 grade WPB or A216 WCB	ASTM A403 or A351
Steel bend	according to SCH 40	
Standard	fixed flanges	
Liner	PFA	

DIMENSIONS

NPS		ANSI B16.5 Class 150		GLASS	
INCH	L1	φA	f/PFA		
1"	178	48	3.0	TK	OD
1-1/2"	204	69	3.0	7mm	40mm
2"	228	87.9	3.0	8mm	70mm
2-1/2"	254	100.6	4.1	10mm	100mm
3"	280	127	4.1		
4"	330	153.2	4.1		
6"	406	212.7	4.1		

PFA SPIRAL TUBE MCT & CT TYPE



MCT TYPE
S.S Wiremesh TK. :1mm
Material : 304

CT TYPE

SPECIFICATIONS

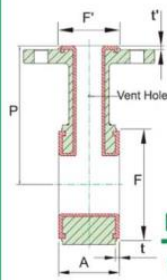
FLANGE : ASME Class 150 Unit:mm

Nominal Size	15 1/2"	20 3/4"	25 1"	32 1-1/4"	40 1-1/2"	50 2"
D1	89.9	98.4	108	117.3	127	152
D2	34.9	42.9	50.8	63.5	73	92
D3	9.52	15.87	22.2	27.94	33.73	45.64
T	1.59	1.59	1.59	1.905	2.19	2.58

FLANGE : JIS 10K Unit:mm

Nominal Size	15 1/2"	20 3/4"	25 1"	32 1-1/4"	40 1-1/2"	50 2"
D1	95	100	125	135	140	155
D2	52	58	70	80	85	96
D3	9.52	15.87	22.2	27.94	33.73	45.64
T	1.5	1.5	1.5	1.9	2.19	2.58

PFA Lined Instrument Connection



Shell : ASTM A48 grade 25 Liner : PFA

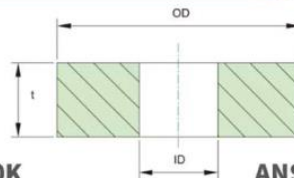
DIMENSIONS

UNIT:mm

Nominal Size	INCH	mm	F	F'	A	P	t	t'
1"x1"	1"	25x25	50.8	50.8	50	90	3	3
1-1/2"x1"	1-1/2"	40x25	73.2	50.8	50	100	3	3
2"x1"	2"	50x25	91.9	50.8	50	114	3	3
2-1/2"x1"	2-1/2"	65x25	104.6	50.8	50	127	4.1	3
3"x1"	3"	80x25	124	50.8	50	140	4.1	3
4"x1"	4"	100x25	157.2	50.8	50	165	4.1	3
6"x1"	6"	150x25	212.7	50.8	50	200	4.1	3

PFA Lined Pipe & Fitting

Solid Spacer



JIS 10K

Material : PTFE/TFM1600

DIMENSIONS

UNIT:mm

Nominal Size		OD	ID	t
JIS	mm			
10K	15	57.3	8.8	3~30
10K	20	62.3	13.93	3~30
10K	25	74.1	19.64	3~30
10K	40	89.1	33.9	3~30
10K	50	104.1	44.51	3~30
10K	65	124.1	54.71	3~30
10K	80	134.1	69.92	3~30
10K	100	159.1	93.25	3~30
10K	150	224	145	3~30

ANSI 150

Material : PTFE/TFM1600

DIMENSIONS

UNIT:mm

Nominal Size	INCH	mm	OD	ID	t
1/2"	1/2"	15	46.5	15.0	3~30
3/4"	3/4"	20	57.2	13.93	3~30
1"	1"	25	66.3	19.64	3~30
1-1/2"	1-1/2"	40	85.3	33.9	3~30
2"	2"	50	105.1	44.51	3~30
3"	3"	80	136.1	69.92	3~30
4"	4"	100	175.1	93.25	3~30
6"	6"	150	224.4	145	3~30

Armored Spacer

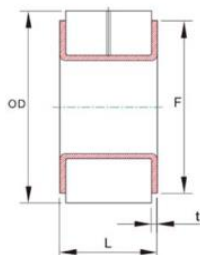
**Shell :
ASTM A48 grade 25
Liner : PFA**



DIMENSIONS

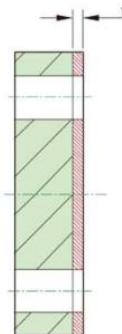
UNIT:mm

Nominal Size	INCH	mm	OD	ID	t	L
1"	1"	25	66.3	46.8	2	30~90
1-1/2"	1-1/2"	40	85.3	69.2	2	30~90
2"	2"	50	105.1	87.9	2	30~90
3"	3"	80	136.1	123	2.5	30~90
4"	4"	100	175.1	153.2	2.5	30~90
6"	6"	150	224.4	212.7	3.0	30~90



PFA Lined Blind Flange

**Flange : ASTM A105
Liner : PFA**



DIMENSIONS

UNIT:mm

Nominal Size	INCH	mm	t
1/2"	1/2"	15	3.0
3/4"	3/4"	20	3.0
1"	1"	25	3.0
1-1/2"	1-1/2"	40	3.0
2"	2"	50	3.0
3"	3"	80	3.0
4"	4"	100	3.0
6"	6"	150	3.0