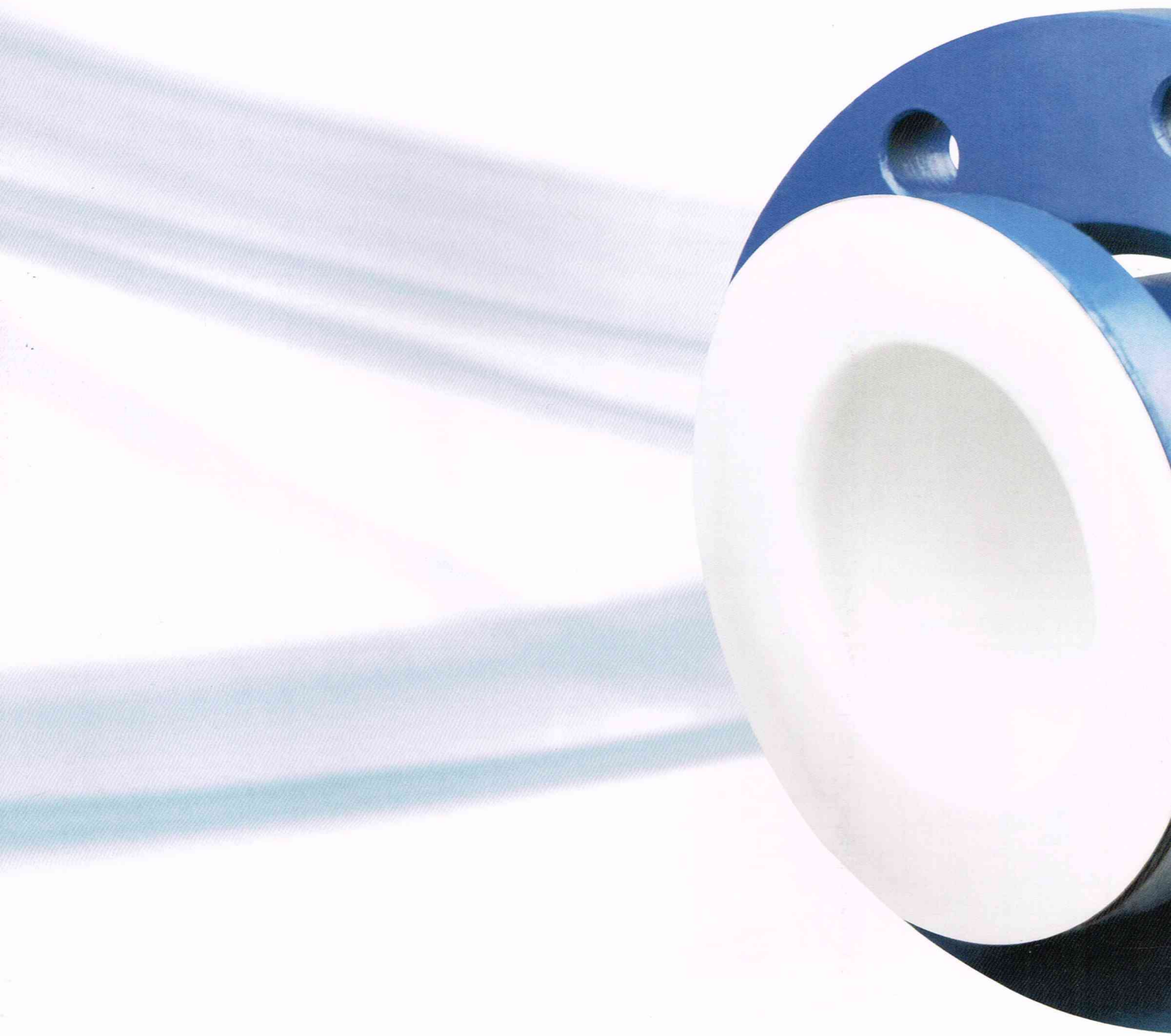


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The Empire Solutions
For Global Industrial Flow Control



※ Specification Instruction

Youfumi manufactures lined pipe and fittings by compression molding, isostatic molding, injection molding, transfer molding, hot rotomolding, ram/paste extrusion, 3D rotational molding etc. Characters as below:

Working temperature is high at the range of -29°C-200°C; except the molten alkali metals, element fluorine and aromatic hydrocarbon, lined products can be used in any chemical medium.

Vacuum resistance. In the range of -29°C-150°C, it is applicable for vacuum condition. In chemical production, the vacuum condition occurs due to cooling, longitudinal emissions, or medium backflow.

High-pressure resistance. Within temperature working condition, it can sustain the working pressure of 3.0MPa.

Resistance to penetration. Adapt the high-quality PTFE, to make it of high density and enough thickness after advanced lining processing, make it excellent anti-osmosis.

PTFE advanced lining molding process achieved the status of synchronous hot expansion or cold shrinkage for steel components and fluorine plastic.

Youfumi adopts the standard size according to HG, GB, DIN, ANSI, and JIS etc., which improves interchangeability, to provide convenience for installation.

Specific gravity:
2.14-2.19g/cm³ as per ASTM D 792 test standard.

Tensile rate:
20.7Mpa minimum as per ASTM D 638 test standard

Elongation rate:
250% minimum as per ASTM D 638 test standard.

Manufacture standard:
ASTM D 4895. Operating in vacuum condition within 150°C.

※ Inspection and Test

The final inspection of the finished products occurs in several ways. First of all by visual control as to clean and good surfaces and subsequently by dimensional control of length, flange face, threads, check of marking etc. Finally a pressure and tightness test according to the shape and dimension is carried out. Special checks in warm water bath with outside pressure or vacuum checks under raised temperatures are possible. 100% of all parts are checked at room temperature.

Spark testing is an important test for lined pipe and fittings and it is subjected to an electrostatic spark test at 10-20KV to ensure the integrity of the liner.

※ **liner Thickness Table**

Unit:mm

DN	NPS	OD of metal pipe	Thickness of metal pipe	PTFE liner flanging width \geq	PTFE liner thickness by ram/paste extrusion	PTFE liner thickness by compression molding	PTFE liner thickness by isostatic molding	PO liner thickness
25	1	32	3	10	2.5	4	4	3
32	1 1/4	38	3	12	2.5	4	4	3
40	1 1/2	47	3.5	14	2.5	4	4	3
50	2	57	3.5	18	3	4.5	4.5	3.5
65	2 1/2	76	4	20	3	4.5	4.5	3.5
80	3	89	4	20	3	4.5	5	3.5
100	4	108	4	25	4	5	5	4
125	5	133	4	25	4	5	5.5	4
150	6	159	5	28	4	5	6	4
200	8	219	6	30	5	6	6	4.5
250	10	273	8	30	5	6	6.5	4.5
300	12	325	8	30	5	6	7	4.5
350	14	377	10	30	5	7	7.5	5.5
400	16	426	10	35	5	7	8	5.5
450	18	480	12	35	5	7	8	6
500	20	530	12	35	5	7	9	6

Note: Thickness can be customised as per requirement.

※ **Maximum Pressure Ratings**

The chart below indicates the maximum pressure ratings for fluorocarbon plastic lined carbon steel pipe and fittings

At Temperature(°C)	PN10 (bar)	PN 25 (bar)
-10	10	25
40	10	25
70	10	25
100	10	25
120	10	25
150	10	23
200	9.5	20
250	8	17

③ Lined Pipeline

Lined Pipeline & Fittings



※ Lining Processing Specification

1 PTFE lined pipe by ram extrusion

PTFE lined pipes with shortest lengths are around 100mm depending upon nominal bore and the longest lengths is 6 meters for up to DN150 and 3 meters above this. Generally constructed from carbon steel pipe, and stainless steel is also popular for dangerous access area where there is the potential for external corrosion.

Lining Material: PFA, PTFE (pure and static conductive)

Nominal diameter: DN25~DN300, 1"~12"

Length: ≤6000mm (size ≤DN150)
≤40000mm (size >DN150)

Temperature range: -20~200°C

Applicable medium:

able to transport any concentration of acid, alkali, organic solvents, strong oxidant, toxic and volatile, flammable



PTFE Lined Pipe



Static Conductive PTFE Lined Pipe

2 PTFE lined pipe or fittings by isostatic molding

Nominal diameter: DN25~DN600, 1"~24"

Length: ≤2000mm

Temperature range: -29~200°C

Applicable medium:

temperature range of -29°C~180°C, vacuum condition is applicable for any corrosive medium pipeline.



PTFE Lined Six-Way

3 High performance PTFE lined pipe by compression molding

It has smooth surface and dust free; conform to FDA and pharmaceutical application.

Nominal diameter: DN25~DN600, 1"~24"

Length: ≤2000mm

Temperature range: -20~200°C

Applicable medium:

temperature range of -29°C~180°C, and full vacuum condition is applicable for any corrosive medium pipeline.



PTFE Lined Pipe

Lined Pipeline

Lined Pipeline & Fittings



4 PTFE lined pipe by tape and steel wire winding

Nominal diameter: DN25~DN600, 1"~24"

Length: ≤2000mm

Temperature range: -20~200°C

Applicable medium:

temperature range of -29°C~180°C, and full vacuum condition is applicable for any corrosive medium pipeline.



PTFE Spool

5 ETFE (F40) lined pipe and fittings by 3D rotational molding

Nominal diameter: DN25~DN600, 1"~24"

Temperature range: -20~120°C

Applicable medium:

temperature range of -20°C~120°C, and full vacuum condition is applicable for any corrosive medium pipeline.



PTFE Lined Tee

6 PO lined high performance pipe and fittings by hot rotomolding

Nominal diameter: DN25~DN3500, 1"~138"

Length: ≤6000mm

Temperature range: -15~90°C

Applicable medium:

temperature range of -15°C~90°C, and full vacuum condition is applicable for any corrosive medium pipeline.



PTFE Lined Reducer

7 PFA lined fittings by injection molding

Nominal diameter: DN25~DN300

Temperature range: -30~200°C

Applicable medium:

able to transport any concentration of acid, alkali, organic solvents, strong oxidant, toxic and volatile, flammable chemicals



PFA Lined Cross



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※Technical Specification

Nominal Diameter	DN15~DN600 1/2"~24"				
Nominal Pressure	PN10, PN16, Class150				
Design & Manufacture Standard	ASTM F1545				
Flange Standard	HG/T 20592, ASME B16.5, DIN, JIS				
Inspection & Test Standard	ASTM F1545				
Liner Inspection	Spark test 10-20Kv				
Flange Material	A105, SS304, SS316, SS316L				
Liner material	PTFE	PO	PP/PE	PFA	ETFE
Temperature Range(°C)	-20~200	-15~90	-20~80	-30~200	-20~120



Lined Equal Tee



Lined 90° Elbow



ETFE Lined Cross



PFA Lined Instrument Tee



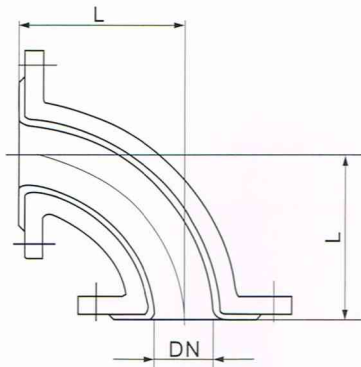
Lined Concentric Reducer



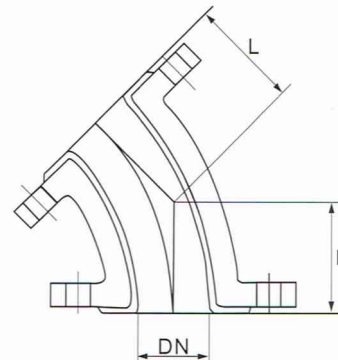
Lined Eccentric Reducer



PTFE Lined Blind Flange



90° Elbow



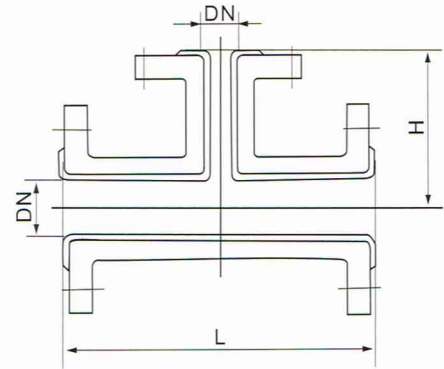
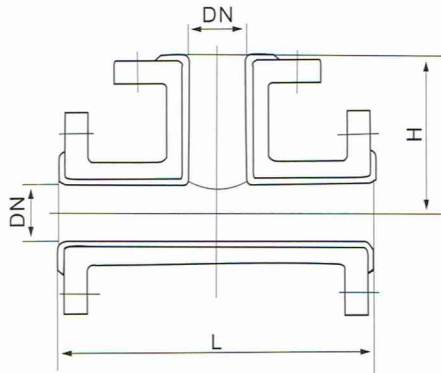
45° Elbow

Lined 90° Elbow

DN	NPS	L (mm)	WT (Kg)
25	1	89	2.7
32	1 1/4	95	3.2
40	1 1/2	102	4.3
50	2	114	5.7
65	2 1/2	127	6.8
80	3	140	7.3
100	4	165	9.1
125	5	190	12.6
150	6	203	18.5
200	8	229	26.4
250	10	279	36.2
300	12	305	46.6
350	14	356	
400	16	406	
450	18	457	
500	20	508	
600	24	610	

Lined 45° Elbow

DN	NPS	L (mm)	WT (Kg)
25	1	45	2.5
32	1 1/4	51	3.4
40	1 1/2	57	3.6
50	2	63	4.3
65	2 1/2	76	6.1
80	3	76	6.37
100	4	102	8.3
125	5	114	12.5
150	6	127	17.3
200	8	140	25.8
250	10	165	41.7
300	12	190	49.1
350	14	221	
400	16	253	
450	18	284	
500	20	316	
600	24	374	

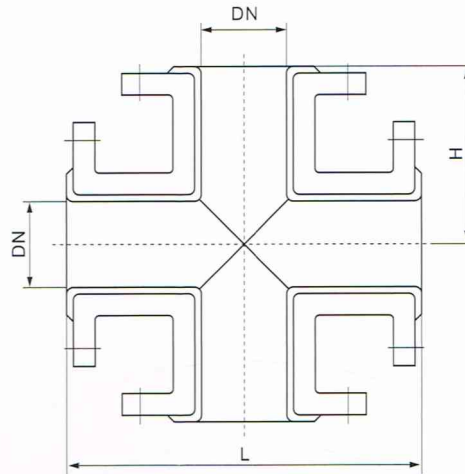


Lined Equal/Reducing Tee

DN × DN	NPS × NPS	L (mm)	H (mm)	WT (Kg)
25 × 25	1 × 1	178	89	3.6
32 × 32	1 1/4 × 1 1/4	190	95	6.3
32 × 25	1 1/4 × 1	190	95	5.2
40 × 40	1 1/2 × 1 1/2	204	102	6.9
40 × 32	1 1/2 × 1 1/4	204	102	6.2
40 × 25	1 1/2 × 1	204	102	5.7
50 × 50	2 × 2	228	114	8.1
50 × 40	2 × 1 1/2	228	114	7.3
50 × 32	2 × 1 1/4	228	114	7.1
65 × 65	2 1/2 × 2 1/2	254	127	11.4
65 × 50	2 1/2 × 2	254	127	10.6
65 × 40	2 1/2 × 1 1/2	254	127	10.1
80 × 80	3 × 3	280	140	12.6
80 × 65	3 × 2 1/2	280	140	12.1
80 × 50	3 × 2	280	140	11.3
100 × 100	4 × 4	330	165	16.2
100 × 80	4 × 3	330	165	15.1
100 × 65	4 × 2 1/2	330	165	14.6
100 × 50	4 × 2	330	165	14.1

Lined Equal/Reducing Tee

DN × DN	NPS × NPS	L (mm)	H (mm)	WT (Kg)
125 × 125	5 × 5	380	190	21.4
125 × 100	5 × 4	380	190	18.6
125 × 80	5 × 3	380	190	17.8
150 × 150	6 × 6	406	203	28.6
150 × 125	6 × 5	406	203	26.9
150 × 100	6 × 4	406	203	25.7
200 × 200	8 × 8	458	229	40.7
200 × 150	8 × 6	458	229	38.3
200 × 125	8 × 5	458	229	36.2
200 × 100	8 × 4	458	229	34.5
250 × 250	10 × 10	558	279	66.7
250 × 200	10 × 8	558	279	61.2
250 × 150	10 × 6	558	279	59.3
300 × 300	12 × 12	610	305	76.6
300 × 250	12 × 10	610	305	74.8
300 × 200	12 × 8	610	305	71.6

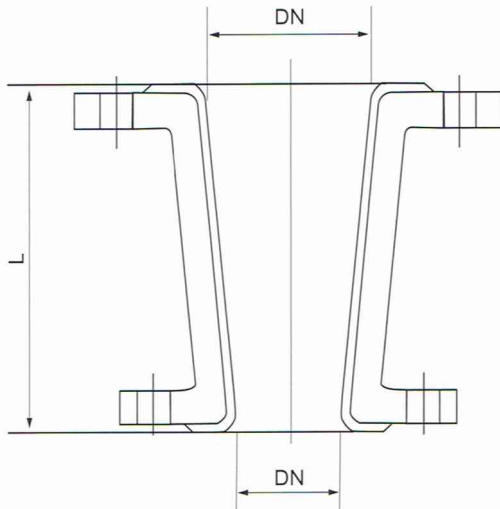


Lined Cross

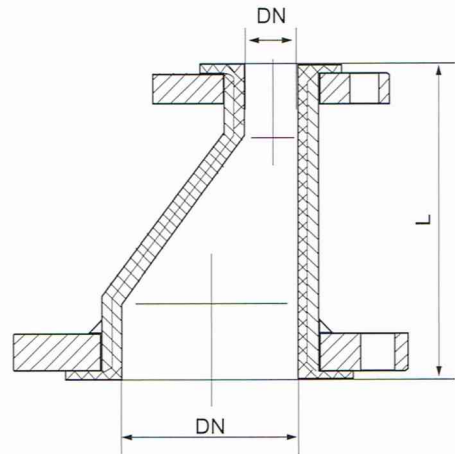
Unit:mm

DN	NPS	L (mm)	H (mm)	WT (Kg)
25	1	178	89	5.7
32	1 1/4	190	95	8.6
40	1 1/2	204	102	10.4
50	2	228	114	11.3
65	2 1/2	254	127	19
80	3	280	140	25
100	4	330	165	28
125	5	380	190	40
150	6	406	203	53
200	8	458	229	81.5
250	10	558	279	131
300	12	610	305	165
350	14	700	350	
400	16	800	400	
450	18	900	450	
500	20	1000	500	
600	24	1200	600	

© Lined Pipeline Lined Reducer



Lined Concentric Reducer

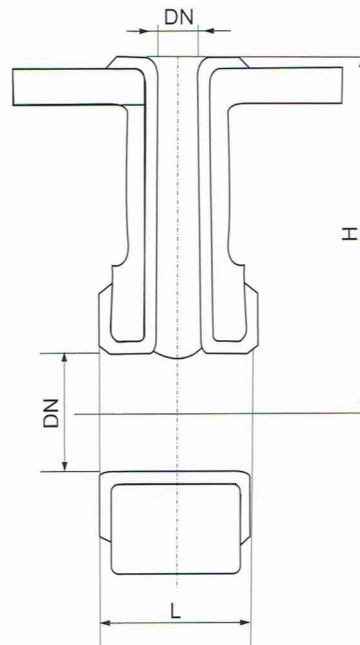


Lined Eccentric Reducer

DN × DN	NPS × NPS	L (mm)	WT (kg)
32 × 25	1 1/4 × 1	120	3
40 × 25	1 1/2 × 1	120	3.2
40 × 32	1 1/2 × 1 1/4	120	3.5
50 × 25	2 × 1	120	3.7
50 × 32	2 × 1 1/4	120	4
50 × 40	2 × 1 1/2	120	4.5
65 × 40	2 1/2 × 1 1/2	120	5
65 × 50	2 1/2 × 2	120	6
65 × 25	2 1/2 × 1	120	6.2
80 × 40	3 × 1 1/2	120	6.5
80 × 50	3 × 2	120	6.8
80 × 65	3 × 2 1/2	120	7
100 × 50	4 × 2	120	7.5
100 × 65	4 × 2 1/2	120	8

DN × DN	NPS × NPS	L (mm)	WT (kg)
100 × 80	4 × 3	120	7.5
125 × 100	5 × 4	120	9
125 × 80	5 × 3	120	9.5
150 × 80	6 × 3	150	10.5
150 × 100	6 × 4	150	11.5
150 × 125	6 × 5	150	12
200 × 100	8 × 4	150	15
200 × 125	8 × 5	150	16.5
200 × 150	8 × 6	150	20
250 × 125	10 × 5	150	18
250 × 150	10 × 6	150	21
250 × 200	10 × 8	150	25
300 × 150	12 × 6	150	28
300 × 200	12 × 8	150	30.5
300 × 250	12 × 10	150	34

© Lined Pipeline Lined Instrument Tee



Lined Instrument Tee

DNXDN	NPS × NPS	L (mm)	H (mm)	WT (kg)
50 × 25	2 × 1	50	127	2.5
65 × 25	2 1/2 × 1	50	127	3
80 × 25	3 × 1	50	140	4
100 × 25	5 × 1	50	165	6.5
125 × 25	4 × 1	50	190	9.5
150 × 25	6 × 1	50	203	13
150 × 40	6 × 1 1/2	75	203	16.5
200 × 25	8 × 1	50	229	21.5
200 × 40	8 × 1 1/2	75	229	23.7
250 × 25	10 × 1	50	279	32
250 × 40	10 × 1 1/2	75	279	36
300 × 25	12 × 1	50	305	42.5
300 × 40	12 × 1 1/2	75	305	50

※Product Description

- Youfumi lined sight glass provides reliable and safe visual indication of fluid flow on any corrosive service. Safe and shatter-proof, each window consists of two borosilicate lime glasses cemented together by a proprietary adhesive.
- Easy visual quality control and inspection. Fluid flow can be viewed from either top or bottom.
- No product retention when installed vertically.
- Youfumi lined sight glass can be widely used in corrosive services in chemical and petrochemical plants, pharmaceutical plants, and food and beverage processing.

※Technical Specifications

Nominal Diameter	DN15~DN250 1/2"~10"				
Nominal Pressure	PN10, PN16, Class150				
Design & Manufacture Standard	HG/T 3704, HG/T 21622				
Flange Standard	HG/T 20592, ASME B16.5, DIN, JIS				
Inspection & Test Standard	GB/T 13927				
Liner Inspection	Spark test 10-20KV				
Flange Material	WCB, ASTM A395, CF8, CF8M				
Glass	Stalinite/Borosilicate glass				
Liner material	PTFE	PO	PP/PE	PFA	ETFE
Temperature Range (°C)	-20~200	-15~90	-20~80	-30~200	-20~120

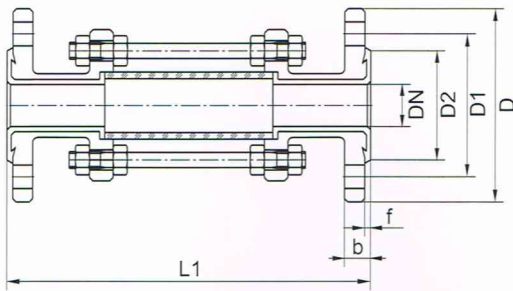


Lined Tube-type Sight Glass

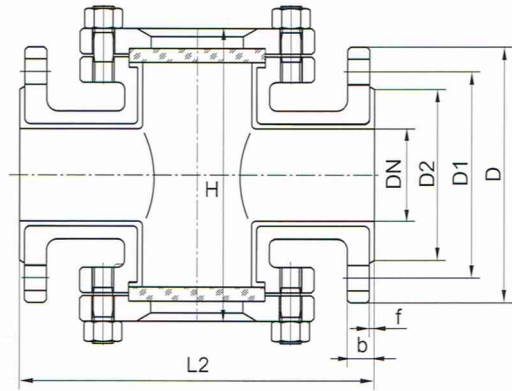


Lined Through-way Sight Glass

© Lined Pipeline Lined Sight Glass



Lined Tube-type Sight Glass



Lined Through-way Sight Glass

HG/T 20592 PN10/PN16

Unit:mm

DN	Face-to-face		PN10						PN16						H
	L1	L2	D	D1	D2	b	f	Z-d	D	D1	D2	b	f	Z-d	
15	250	200	95	65	45	14	2	4-14	95	65	45	14	2	4-14	103
20	250	200	105	75	55	14	2	4-14	105	75	55	14	2	4-14	112
25	250	200	115	85	65	14	2	4-14	115	85	65	14	2	4-14	122
32	250	200	140	100	78	16	3	4-18	140	100	78	16	3	4-18	130
40	250	250	150	110	85	16	3	4-18	150	110	85	16	3	4-18	140
50	250	250	165	125	100	16	3	4-18	165	125	100	16	3	4-18	140
65	260	250	185	145	120	18	3	4-18	185	145	120	18	3	4-18	170
80	280	280	200	160	135	20	3	8-18	200	160	135	20	3	8-18	190
100	300	280	220	180	155	20	3	8-18	220	180	155	20	3	8-18	210
125	300	320	250	210	185	22	3	8-18	250	210	185	22	3	8-18	250
150	300	320	285	240	210	24	3	8-23	285	240	210	24	3	8-23	265
200	320	380	340	295	265	26	3	8-23	340	295	265	26	3	12-23	300
250	320	500	395	350	320	28	3	12-23	405	355	320	28	3	12-26	300



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Patent No.:ZL200920142162.3

※Product Description

- Youfumi lined strainer is the corrosion resistant equipment that used in a variety of corrosive services for the removal of debris from the pipeline or solid particles from the media.
- The unique design allows the strainer to be easily removed for cleaning or replacement. Impurity substance stops at PTFE screen so that the purity flow can go through the strainer. After a period of time, take out the dismantable filter screen tub, and it can be reassembled after cleaning. Therefore it is easy maintenance.
- Youfumi has various filter structure design with replaceable filter parts, and standard flange connection.
- Screen size of Youfumi lined strainer ranges from 16 to 100 meshes, and 16 meshes as standard.
- By far the lined strainer is widely used in petroleum, chemical pharmaceutical and environmental protection industries. It can not only enlarge the lifespan of pump and other equipment, but also ensure the safety of the complete system. Lined strainer becomes the indispensable equipment for industrial production.



Lined Y-Type Strainer GL41

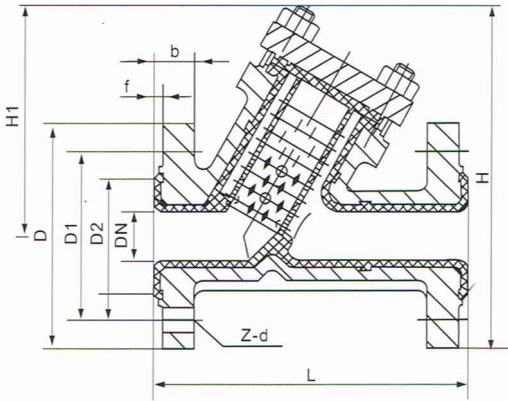
※Technical Specification

Nominal Diameter	DN15~DN350 1/2"~14"				
Nominal Pressure	PN10, PN16, Class150				
Design & Manufacture Standard	HG/T 21637				
Flange Standard	HG/T 20592, ASME B16.5, DIN, JIS				
Inspection & Test Standard	GB/T 13927, API 598				
Liner Inspection	Spark test 10-20KV				
Filter	PTFE				
Liner material	PTFE	PO	PP/PE	PFA	ETFE
Temperature Range(°C)	-30~180	-20~80	-20~80	-30~200	-20~150



Lined Basket Type Strainer DTGF

Lined Y-type Strainer

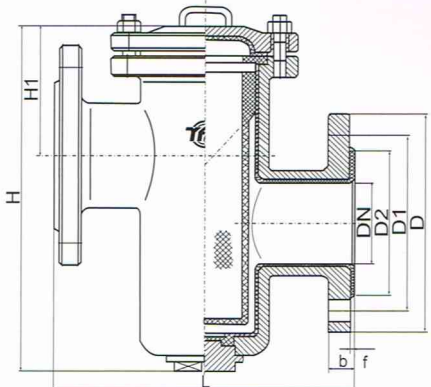
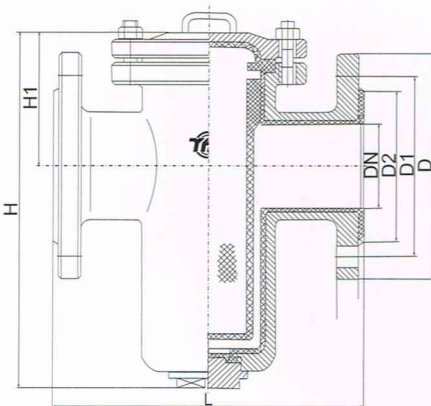


HG/T 20592 PN10

Unit:mm

DN	NPS	L	D	D1	D2	b	f	H1	H	Z-d	Wt(kg)
20	3/4	150	105	75	55	16	2	70	122	4-14	3.3
25	1	160	115	85	65	16	2	78	135	4-14	4.2
32	1 1/4	180	140	100	78	18	2	86	154	4-18	6.6
40	1 1/2	200	150	110	85	18	3	92	164	4-18	7.3
50	2	230	165	125	100	20	3	102	182	4-18	12
65	2 1/2	290	185	145	120	20	3	115	205	4-18	16
80	3	310	200	160	135	22	3	135	232	8-18	23
100	4	350	220	180	155	24	3	156	263	8-18	32
125	5	400	250	210	185	26	3	248	370	8-18	39
150	6	480	285	240	210	28	3	285	425	8-23	52
200	8	600	340	295	265	30	3	362	530	8-23	89

Lined Basket Strainer



HG/T 20592 PN10

Unit:mm

DN	NPS	L	D	D1	D2	B	F	Z-d	H	H1
15	1/2	140	95	65	45	15	3	4-14	150	70
20	3/4	145	105	75	55	16	3	4-14	160	70
25	1	160	115	85	65	16	3	4-14	160	75
32	1 1/4	160	140	100	78	16	3	4-18	160	75
40	1 1/2	195	150	110	85	17	3	4-18	170	80
50	2	215	165	125	100	18	3	4-18	170	80
65	2 1/2	235	185	145	120	20	3	4-18	210	90
80	3	255	200	160	135	20	3	8-18	250	100
100	4	290	220	180	155	22	3	8-18	300	125
125	5	335	250	210	185	24	4	8-18	350	150
150	6	380	285	240	210	26	4	8-23	400	180
200	8	430	340	295	265	28	4	8-23	450	200