

NSV[®] NSV VALVE

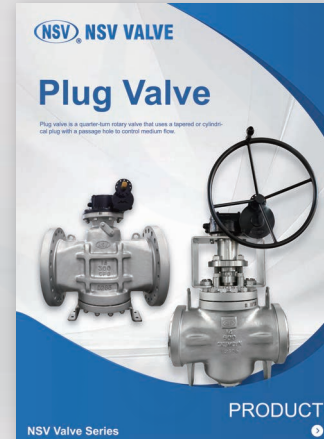
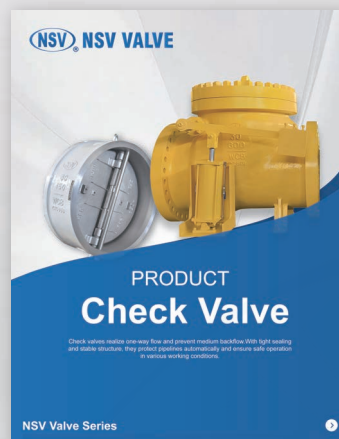
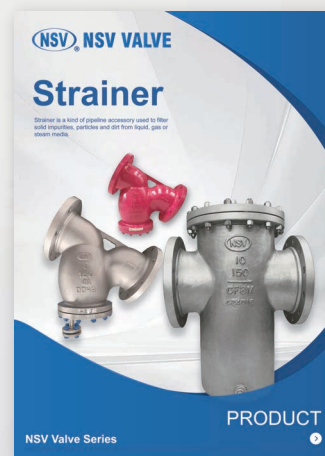
Strainer

Strainers use perforated and/or wire mesh media for straining purposes, and are used normally for the protection of pipeline and petroleum process equipment installed downstream of the strainer



NSV Valve Series

PRODUCT

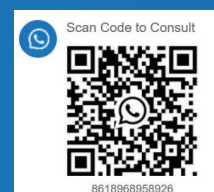


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Standards

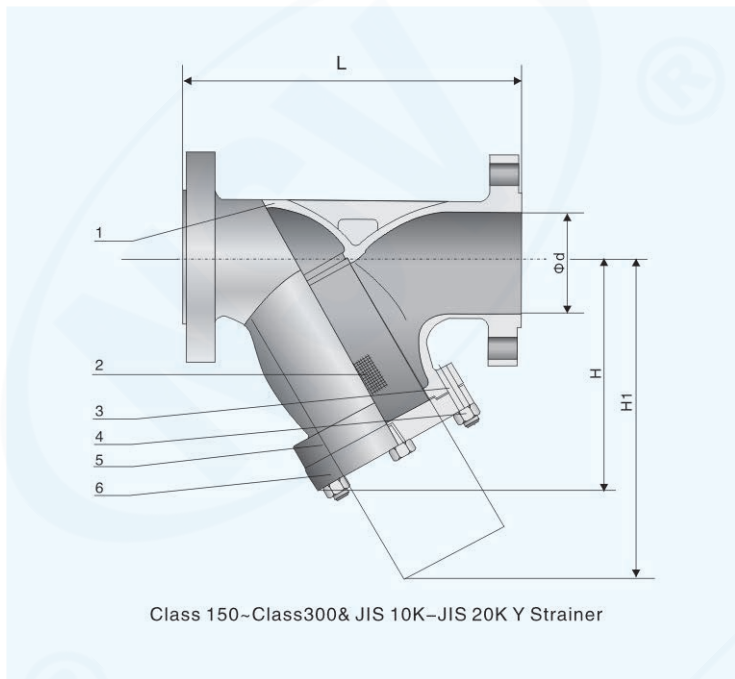
Design and Manufacture: ASME B16.34
 Face to Face Dimensions: ANSI B 16.10
 Flanged Ends Dimensions: ANSI B 16.5
 BW end dimension: ASME B16.25
 Pressure-temperature ratings: ASME B 16.34
 Test & Inspect: API 598

Percentage open area

Even the mesh is same:
 open area not always same
 due to the diameter of wire.
 The details of wire as follows:

A: Number of Wire
 B: Diameter of AWire
 C: Width of Opening
 D: Percentage of OPEN AREA

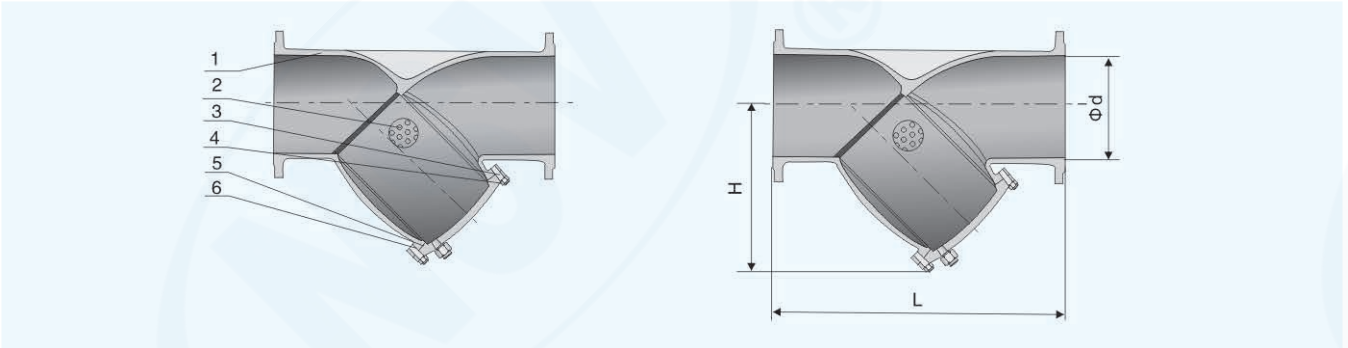
MESH	A SWG	B m/m	C m/m	D %
5	20	0.914	4.166	67.3
10	22	0.711	1.829	51.8
20	28	0.356	0.914	51.8
30	32	0.274	0.572	45.7
40	36	0.193	0.442	48.4
50	37	0.172	0.336	43.6
60	38	0.152	0.271	41.0
80	40	0.122	0.195	37.8
100	42	0.102	0.152	35.8
120	43	0.092	0.119	31.8
150	45 1/2	0.066	0.103	37.1
180	46 1/2	0.053	0.088	38.9
200	47	0.051	0.076	35.8
250	48	0.040	0.062	37.7
300	48	0.039	0.044	27.6



Parts and material list

Part Name	Material			
1 Body	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M	
2 Screen	ASTM 182 F304	ASTM 182 F304	ASTM 182 F316	
3 Bonnet Bolt	ASTM 193 B7	ASTM 193 B8	ASTM 193 B8	
4 Bonnet Nut	ASTM 194 2H	ASTM 194 8	ASTM 194 8	
5 Gasket	Graphite+SS304	Graphite+SS304	Graphite+SS316	
6 Bonnet	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M	

Size		Class 150				Class 300				Class 600			
		Dimensions(mm)			WT(kg)	Dimensions(mm)			WT(kg)	Dimensions(mm)			WT(kg)
NPS	DN	L	H	H1	W.H	L	H	H1	W.H	L	H	H1	W.H
1/2	15	108	67	92	2	152	70	95	3	-	-	-	-
3/4	20	117	73	105	2	178	80	110	4	-	-	-	-
1	25	127	87	117	3	203	115	135	5	-	-	-	-
1 1/4	32	140	100	138	4	216	105	142	7	-	-	-	-
1 1/2	40	165	120	155	5	229	128	155	9	-	-	-	-
2	50	203	145	185	13	267	152	184	16	292	210	350	19
2 1/2	65	216	170	220	15	292	185	236	20	330	-	-	-
3	80	241	190	250	18	318	204	266	24	356	260	430	40
4	100	292	245	340	22	356	265	335	30	432	310	510	51
5	125	356	290	400	42	400	280	386	50	508	-	-	-
6	150	406	325	450	50	444	335	460	70	559	385	520	161
8	200	495	370	500	91	559	420	595	115	660	455	620	243
10	250	622	455	635	205	622	500	710	270	787	505	635	463
12	300	699	525	735	297	711	575	781	380	838	660	780	765
14	350	787	610	885	394	838	650	938	520	889	720	990	998
16	400	914	800	1160	570	914	740	1055	608	991	840	1120	1230
18	450	978	965	1365	680	-	-	-	-	-	-	-	-
20	500	978	1100	1550	830	-	-	-	-	-	-	-	-



Standards

Design and Manufacture: BS1873, BS EN 13709
 Face to Face Dimensions: DIN 3202, BS EN 558-1
 Flange Ends Dimensions: DIN 2543-2551, BS EN 1092-1
 Test & Inspect: DIN 3230, BS EN 12569

Percentage open area

Even the mesh is same:
 open area not always same
 due to the diameter of wire.
 The details of wire as follows:

A: Number of Wire
 B: Diameter of Wire
 C: Width of Opening
 D: Percentage of OPEN AREA

MESH	A SWG	B m/m	C m/m	D %
5	20	0.914	4.166	67.3
10	22	0.711	1.829	51.8
20	28	0.356	0.914	51.8
30	32	0.274	0.572	45.7
40	36	0.193	0.442	48.4
50	37	0.172	0.336	43.6
60	38	0.152	0.271	41.0
80	40	0.122	0.195	37.8
100	42	0.102	0.152	35.8
120	43	0.092	0.119	31.8
150	45-1/2	0.066	0.103	37.1
180	46-1/2	0.053	0.088	38.9
200	47	0.051	0.076	35.8
250	48	0.040	0.062	37.7
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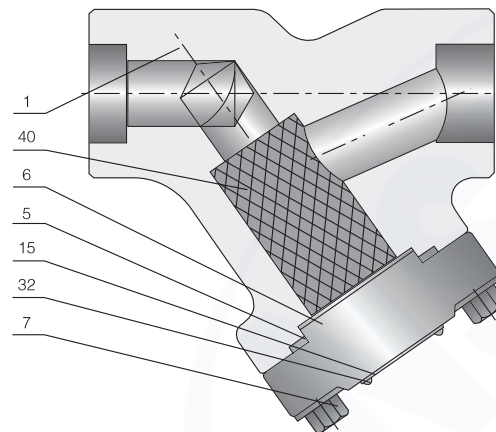
Parts and material list

Part Name	Material		
1 Body	DIN 17245 GS-C25	DIN 17445 1.4308	DIN 17445 1.4308
2 Screen	ASTM 182 F304	ASTM 182 F304	ASTM 182 F316
3 Bonnet Bolt	ASTM 193 B7	ASTM 193 B8	ASTM 193 B8
4 Bonnet Nut	ASTM 194 2H	ASTM 194 8	ASTM 194 8
5 Gasket	Graphite+SS304	Graphite+SS304	Graphite+SS316
6 Bonnet	DIN 17245 GS-C25	DIN 17445 1.4308	DIN 17445 1.4308

Dimensions

PN16(DIN 3202-F1)																			
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
H	mm	98	103	108	115	140	150	175	205	245	285	335	415	490	570	580	618	730	890
PN25(DIN 3202-F1)																			
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
H	mm	98	103	108	115	140	150	175	205	245	285	335	415	490	570	580	618	730	890
PN40(DIN 3202-F1)																			
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
H	mm	98	103	108	115	140	150	175	205	245	285	335	415	490	570	580	618	730	890

Noted: The chart above only lists out some common composition of steel strainer. We may provide other different parts material composition according to the customer's request or the actual valve working condition



Application Specification

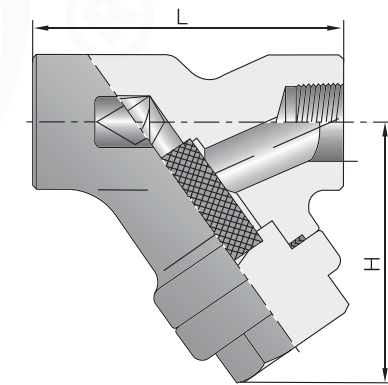
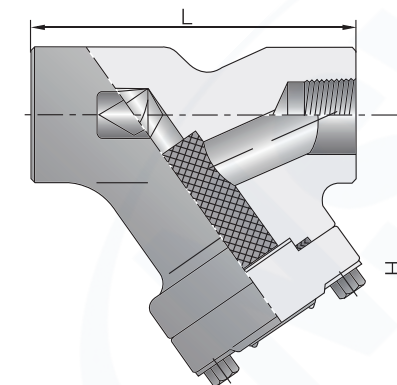
- Design and manufacture: BS5352
- End connection size:
 - Socket-weld dimension: ANSI B16.11
 - Screw thread dimension: ANSI B1.20.1
 - Butt-welding dimension: ANSI B16.25
 - Flange end dimension: ANSI B16.5
- Valve inspection and test: API598
- Structure features: Bolted bonnet (B.B), Welded bonnet (W.B)
- Material according to ANSI/ASTM
- Main material: A105, LF2, F5, F11, F22, 304(L), 316(L), F347, F321, F51, Monel, 20 Alloy etc.

Carbon Steel Pressure-temperature Ratings

CL150-285P.S.I @100° F
 CL300-740P.S.I @100° F
 CL600-1480P.S.I @100° F
 CL800-1975P.S.I @100° F
 CL1500-3705P.S.I @100° F
 CL2500-6170 P.S.I @100° F

Main Parts and Material List

No.	Part Name	A105/F6a	A105/F6aHF	LF2/304	F11 /F6aHF	F304(L) /304(L)	F316(L) /316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
5	Gasket	304+Flexible garphite					316+Flexible garphite	
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
15	Name plate	AL	AL	AL	AL	AL	AL	AL
32	Rivet	H62	H62	H62	H62	H62	H62	H62
40	Screen	304	304	304	304	304(L)	316(L)	316(L)



CL800

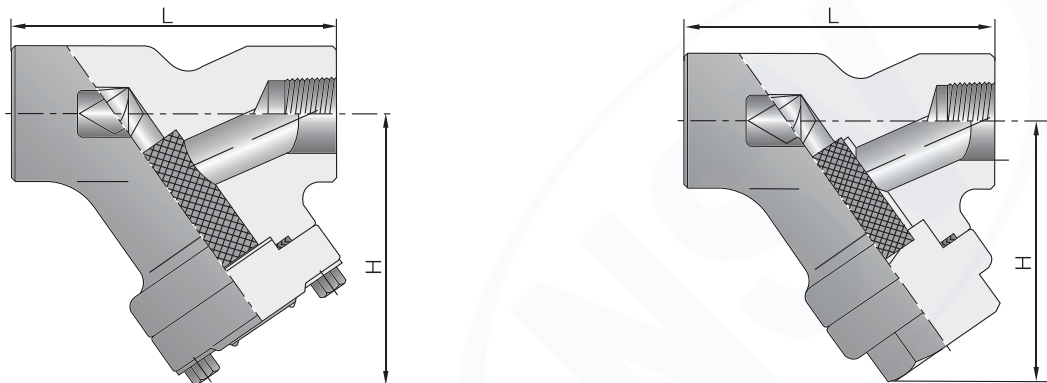
Bolted bonnet, Reduced bore and full bore
 End connection screw thread, socket-weld or butt-welding, design according to BS 5352

NPS	R.P		–	1/2	3/4	1	1¼	1½	2	2½	3
	F.P		1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face (mm)		L	98	98	98	111	140	140	155	170	–
High (mm)		H	70	70	70	100	110	120	120	150	–
Port (mm)		d	7	9	13	17.5	30	30	35	46	–
Weight (Kg)			2.2	2.2	2.1	4.2	8.9	8.9	10	18.6	–

CL800

Welded bonnet, Reduced bore and full bore
 End connection screw thread, socket-weld or butt-welding, design according to BS 5352

NPS	R.P		–	1/2	3/4	1	1¼	1½	2	2½	3
	F.P		1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face (mm)		L	79	79	92	100	140	140	155	170	–
High (mm)		H	65	65	65	95	105	110	110	140	–
Port (mm)		d	7	9	13	17.5	23	30	35	46	–
Weight (Kg)			1.8	1.8	2.0	3.5	9	8.0	12	16	–



CL900-CL1500

Bolted bonnet, Full bore
End connection screw thread, socket-weld or butt-welding, design according to BS 5352

NPS	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face (mm)	L	98	111	111	140	140	155	170	-
High (mm)	H	70	70	100	110	110	120	150	-
Port (mm)	d	9	12	15	20	28	32	40	-
Weight (Kg)		2.1	4.2	9	8.9	10	18.6	20	-

CL900-CL1500

Welded bonnet, Full bore
End connection screw thread, socket-weld or butt-welding, design according to BS 5352

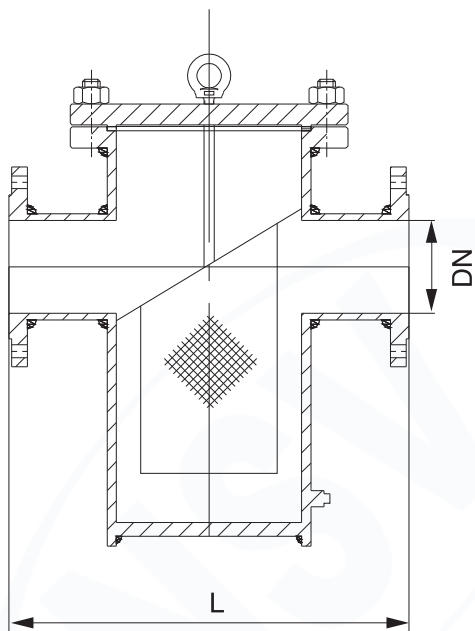
NPS	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face (mm)	L	92	100	100	140	140	155	170	-
High (mm)	H	65	65	95	105	110	110	140	-
Port (mm)	d	9	12	15	20	28	32	40	-
Weight (Kg)		2.0	3.5	8.0	8.0	12	16	18	-

Simplex Basket Strainer

Simplex Basket Strainers are used in pipeline applications where requires a strainer with an extremely large capacity. Most of these strainer have an greater open area ratios available than Y-strainer. Simplex Basket Strainer are used to protect pipelines, valves, pumps. They reduce the necessity for frequent cleaning and provides a cost and time saving benefit with less downtime. Simplex Basket Strainers are furnished with high quality stainless steel screens that are carefully fabricated to fit the strainer body perfectly. A basket strainer requires a removal of the screen for cleaning.

Features	
Size	2"-40" DN50~DN1000
Pressure Rating	Class150LB~300LB PN10~PN40
Body Material	WPB A106-B A53 B WPL6 TP304 TP316 TP316L
Screen Material	SS304, SS316, SS316L, F51, Monel, Hastelloy
Design&Manufacture Standard	MFG's Standard
Face-to-face	MFG's Standard
End Connection	Flange BW
Test and Inspection	API 598

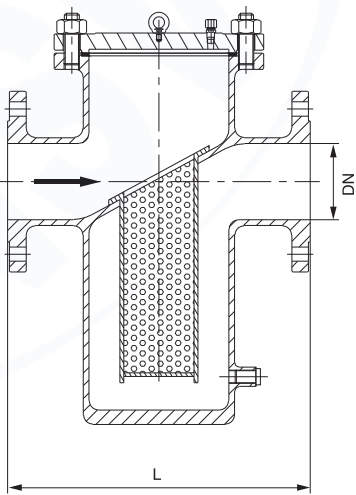
Fabricated Simplex Basket Strainer



CLASS	DN	L	CLASS	DN	L
150LB	24"	1100	300LB	24"	1100
150LB	20"	1050	300LB	20"	1050
150LB	18"	950	300LB	18"	950
150LB	16"	900	300LB	16"	900
150LB	14"	800	300LB	14"	800
150LB	12"	750	300LB	12"	750
150LB	10"	660	300LB	10"	660
150LB	8"	560	300LB	8"	560
150LB	6"	500	300LB	6"	500
150LB	5"	480	300LB	5"	480
150LB	4"	430	300LB	4"	430
150LB	3"	340	300LB	3"	340
150LB	2 1/2"	330	300LB	2 1/2"	330
150LB	2"	270	300LB	2"	270
150LB	1 1/2"	270	300LB	1 1/2"	270
150LB	1 1/4"	230	300LB	1 1/4"	230
150LB	1"	215	300LB	1"	215

● Cast Simplex Basket Strainer

Features	
Size	2"-40" DN50~DN1000
Pressure Rating	Class150LB~300LB PN10~PN40
Body Material	WCB, LCB, CF8, CF3, CF8M CF3M, C5, WC6, WC9, W12
Screen Material	SS304,SS316, SS316L, F51, Monel, Hastelloy
Design&Manufacture Standard	MFG's Standard
Face-to-face	MFG's Standard
End Connection	Flange BW
Test and Inspection	API 598

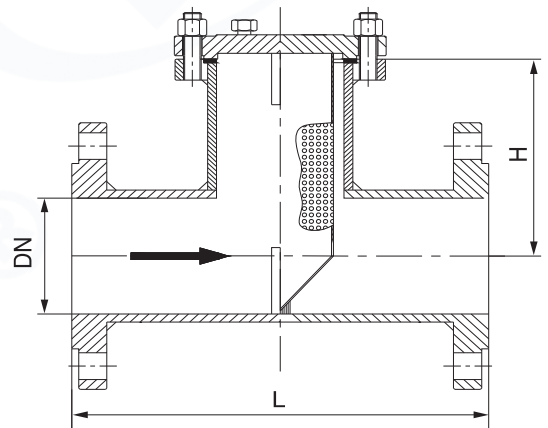
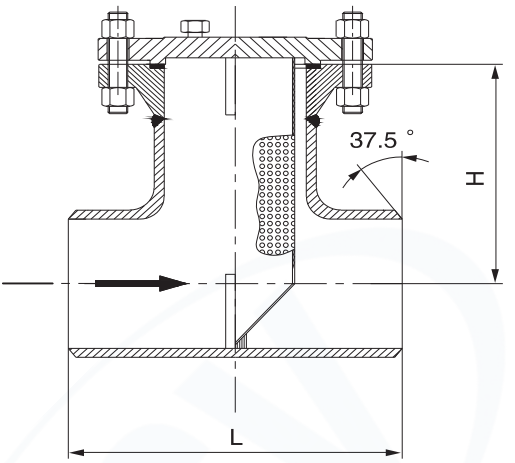


CLASS	NPS	L
150LB	8"	625
150LB	6"	500
150LB	5"	480
150LB	4"	430
150LB	3"	318
150LB	2 1/2"	310
150LB	2"	275
150LB	1 1/2"	275
150LB	1"	250

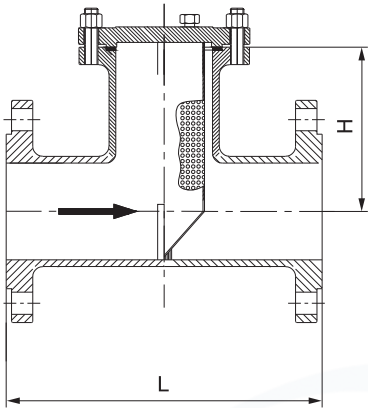
● Fabricated Tee Strainer

DN	L	H
24"	864	575
20"	762	515
18"	686	470
16"	610	420
14"	558	400
12"	508	360
10"	432	310
8"	356	275
6"	286	225
5"	248	205
4"	210	175
3"	172	150
2 1/2"	152	140
2"	128	120

CLASS	DN	L	H
150LB	20"	1050	600
150LB	18"	1000	600
150LB	16"	970	530
150LB	14"	840	460
150LB	12"	735	400
150LB	10"	635	350
150LB	8"	560	310
150LB	6"	465	270
150LB	5"	400	265
150LB	4"	360	265
150LB	3"	310	180
150LB	2 1/2"	280	160
150LB	2"	250	150



● Cast Tee Strainer

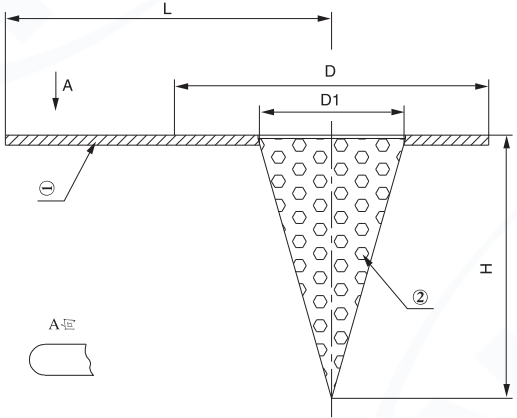


Features	
Size	2"-40" DN50~DN1000
Pressure Rating	Class150LB~300LB PN10~PN40
Body Material	WCB, LCB, CF8, CF3, CF8M, CF3M, C5, WC6, WC9, W12
Screen Material	SS304,SS316, SS316L, F51, Monel, Hastelloy
Design&Manufacture Standard	MFG's Standard
Face-to-face	MFG's Standard
End Connection	Flange BW
Test and Inspection	API 598

CLASS	DN	L	H
150LB	20"	1050	600
150LB	18"	1000	600
150LB	16"	970	530
150LB	14"	840	460
150LB	12"	735	400
150LB	10"	635	350
150LB	8"	560	310
150LB	6"	465	270
150LB	5"	400	265
150LB	4"	360	265
150LB	3"	310	180
150LB	2 1/2"	280	160
150LB	2"	250	150

● Temporary Strainer

Temporary Strainers are designed in cone ,basket,or plate shape. The temporary strainers are a effective mean for temporary straining for start-up applications.Fabricated temporary cone,basket,or plate strainers are designed for initial start-up and should not be used as a Permanent straining solution.



ITEM	SIZE	ANSI	Materials		D	D1	H	L
			①	②				
1	1"	150LB	SS304	SS304	46	20	95	115
2	1 1/2"	150LB	SS304	SS304	68	35	100	125
3	2"	150LB	SS304	SS304	87	45	115	135
4	3"	150LB	SS304	SS304	122	75	165	155
5	4"	150LB	SS304	SS304	152	95	215	175
6	6"	150LB	SS304	SS304	210	145	300	200
7	8"	150LB	SS304	SS304	265	195	400	235
8	10"	150LB	SS304	SS304	318	245	485	260
9	12"	150LB	SS304	SS304	375	295	585	300
10	14"	150LB	SS304	SS304	408	345	610	330
11	16"	150LB	SS304	SS304	464	395	670	358
12	18"	150LB	SS304	SS304	528	445	750	380

● Screen

Screen is the heart of strainer, it should be designed to be both effective and durable. We supply basket for simplex and duplex strainers and screens for Y strainers, in standard and heavy-duty design. Standard designed screens meet the needs of most applications. We also can manufacture screens according to customer's special requirements.



A. Strainer Definition and Purpose

Strainers are used normally for the protection of pipeline and petroleum process equipment installed downstream of the strainer. The equipment protected by our strainers is generally more expensive than the total installation cost of a strainer. Also this equipment is critical to the pipeline or process operation.

Strainers use perforated and/or wire mesh media for straining purposes. These materials are "two dimensional", meaning they do not have a "Depth" or "Dirt Holding" capacity. This means that when a debris particle is caught in the straining media the opening is blocked or plugged. This results in reduced available opening for flow. Strainer sizing and selection are critical to ensure your cleaning cycle time, particle size retention and pressure drop requirements are achieved.

B. Straining Media Selection for Basket

The following is a general guideline of media normally used in various applications:

Liquid Turbine Meters	1/8" dia. perforated support with 40 x 40 mesh liner
Gas Turbine Meters and Regulators	1/8" dia. perforated support with 80 x 80 mesh liner
P.D. Meters	1/8" dia. perforated
Centrifugal Pumps	
Service: Crude Oil	1/4" dia. perforated
Refined Products	1/8" dia. perforated
Coke Fines	3/4" flattened expanded metal
Water	1/8" dia. to 3/8" dia. perforated
Natural Gas Compressors	Varies by manufacturer recommendations, 1/8" dia. perforated to 50 microns

C. Strainer Design and Selection

NSV Fabricated Strainers are manufactured in several styles or types to meet various applications. Strainer type selection should be based upon your requirements. A general guideline as follows:

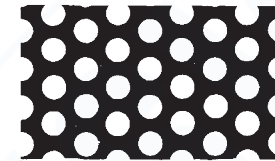
Application Description or Requirement	Style
1. Pump Suction & Gas Regulator Protection, relative clean product, very adaptable to various piping arrangements.	Tee Strainers
2. Pump Suction, HVAC, various types of Water Service, Boiler Feedwater, and industrial piping systems, relative clean product, blowdown required for basket cleaning.	Y-Strainers
3. Temporary Service for Start-up of Piping Systems and Permanent Compressor Packages, permanent service in clean natural gas applications.	Temporary Cone and Basket Strainers

Perforated and Wire Cloth

PERFORATED PATTERNS NORMALLY STOCKED

PATTERN		% OPEN AREA	# HOLES PSI	MATERIAL/GAUGE		
DIA	CENTERS			C.S.	304SS	316SS
1/16	1/8	23	74	16	22	-
1/8	3/16	40	33	14,11	14	14*
3/16	1/4	51	18	14	16	-
1/4	3/8	40	8	11	14,11	14,11
3/8	9/16	40	3,7	11	11	-
1/2	11/16	48	2,4	11	11	-

* Also in Monel



1/8" DIA. on 3/16" CTR



1/4" DIA. on 3/8" CTR



1/16" DIA. on 1/8" CTR



3/8" DIA. on 9/16" CTR

EXPANDED METAL NORMALLY STOCKED

For Straining or Fine Mesh Wire Cloth Support

SIZE	GAUGE	% OPEN AREA	MATERIAL
1/2	16 Flattened	62	C.S; 304SS
3/4	13 Flattened	72	C.S; 304SS

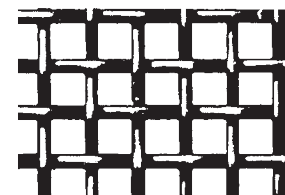


1/2" EXPANDED

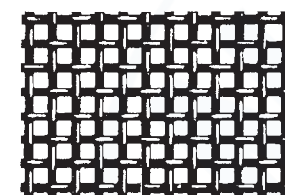
WIRE CLOTH NORMALLY STOCKED

Coarse mesh for straining or support

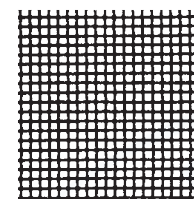
MESH*	WIRE DIA.	OPENING	% OPEN AREA
3 x 3	.080	.2533	57.6
4 x 4	.063	.1870	56.0
8 x 8	.035	.0900	51.8
8 x 8	.047	.0780	38.9
10 x 10	.035	.0650	42.3



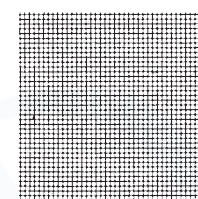
4 x 4 Mesh



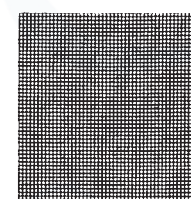
8 x 8 Mesh



20 x 20 Mesh



40 x 40 Mesh



60 x 60 Mesh

Fine mesh requiring support

MESH*	WIRE DIA.	OPENING	% OPEN AREA
20 x 20	.016	.0340	46.2
30 x 30	.013	.0203	37.1
40 x 40	.010	.0150	36.0
60 x 60	.0075	.0092	30.5
80 x 80	.0055	.0070	31.4
100 x 100	.0045	.0055	30.3

* Number of wires per linear inch. All meshes shown are available, 304 S.S. and 316 S.S. Many other meshes and materials are available. All dimensions in inches. C.S.= Carbon Steel.

**IF YOU DON'T SEE WHAT YOU ARE
LOOKING FOR, PLEASE CONTACT US**