

Plug valve & strainer





Inverted pressure balance lubricated plug valve

■ Product structural features

Inverted pressure balance lubricated plug valve acc. to ANSI is applicable to the cutting and connection of pipelines medium that are used in various industries such as petroleum, chemical industry, pharmacy, chemical fertilizer, electric power industry etc under nominal pressure of CLASS150–1500LBS and working temperature from –29 to 180℃.

■ Main structural features

- 1、It has logical structure, reliable seal, excellent performance and nice design.
- 2、It has the structure of flip–chip balance pressure and light on/off operation.
- 3、An oil groove is set between valve body and seal surface, which may infuse the seal grease to increase the seal capability.
- 4、The part material and flange dimension may be selected according to current operating condition and users requirement, so that meet the Requirements of various engineering.

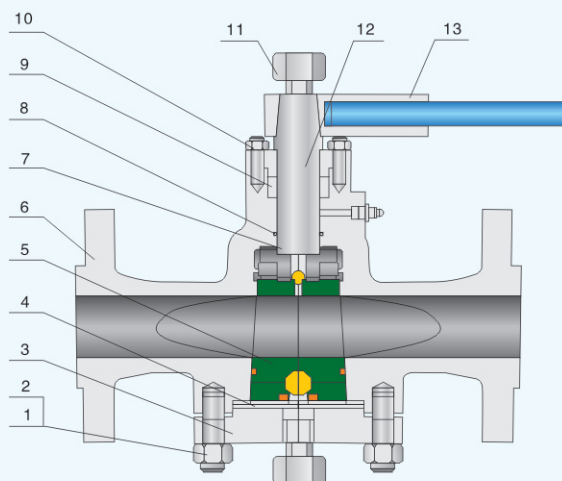
■ Technical specification

Structural formation	BC
Driving maner	Hand–operated
	Electric–actuated
Design standard	API 599, API 6D
Face to face	ASME B 16.10
Flange ends	ASME B 16.5
Test & inspection	API 598, API 6D

■ Products performance specification

Nominal pressure (LB)	Shell test(MPa)	Sealing test(MPa)	Suitable temp.(℃)	Suitable medium
150	3.0	2.2	≤ 180℃	Water oil & gas
300	7.5	5.5		
600	15.0	11.0		
900	22.5	16.5		

Inverted pressure balance lubricated Plug valve

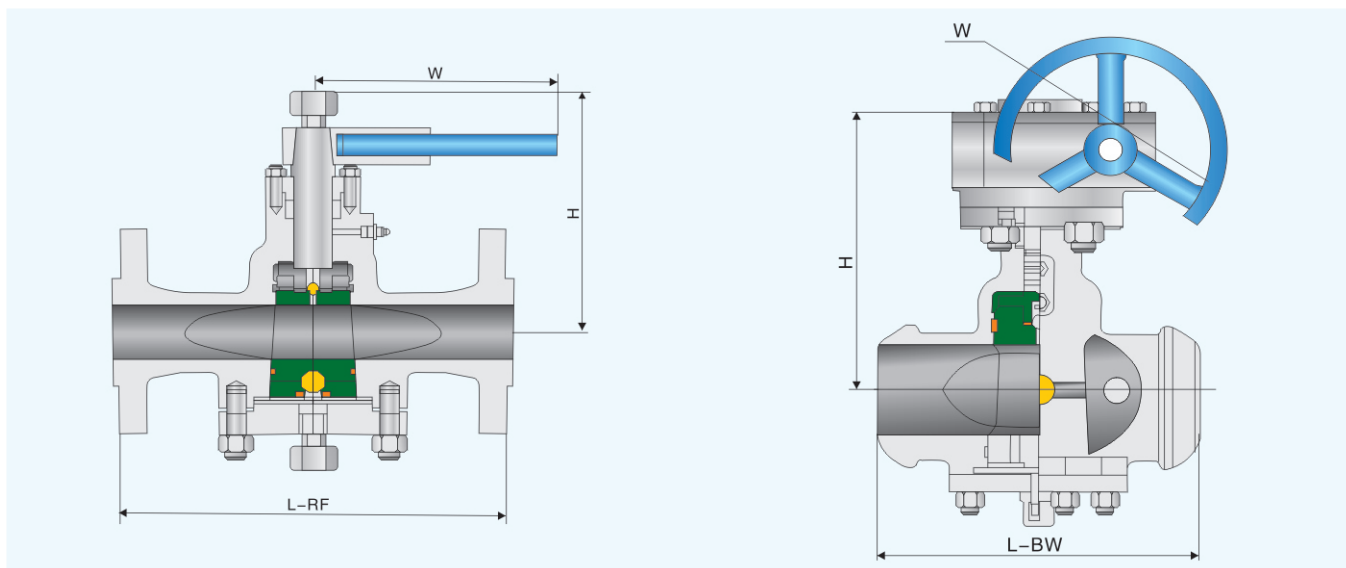


■ Main parts materials

NO	Part name	Material
1	Bolt	ASTM A193-B7、A193-B8、A193-B8M
2	Nut	ASTM A194-2H、A194-8、A194-8M
3	Cover	ASTM A216-WCB ASTM A351-CF8、CF8M、CF3、CF3M
4	Gasket	Flexible graphite+stainless steel、PTFE
5	Plug	ASTM A182-Gr.F6a、ASTM A182-F22 ASTM A351-CF8、CF8M、CF3、CF3M
6	Body	ASTM A216-WCB ASTM A351-CF8、CF8M、CF3、CF3M
7	Stem	ASTM A182-Gr.F6a、ASTM A182-F22 ASTM A182-F304、F316、F312、F304L、F316L
8	O-ring	NBR, PTFE, Viton
9	Packing	Flexible graphite、PTFE
10	Gland	ASTM A216-WCB ASTM A351-CF8、CF8M、CF3、CF3M
11	Oil nozzle	B62
12	Check valve	F6a、F304、F304L、F316、F316L
13	Wrench	DI, CS



Inverted pressure balance lubricated Plug valve



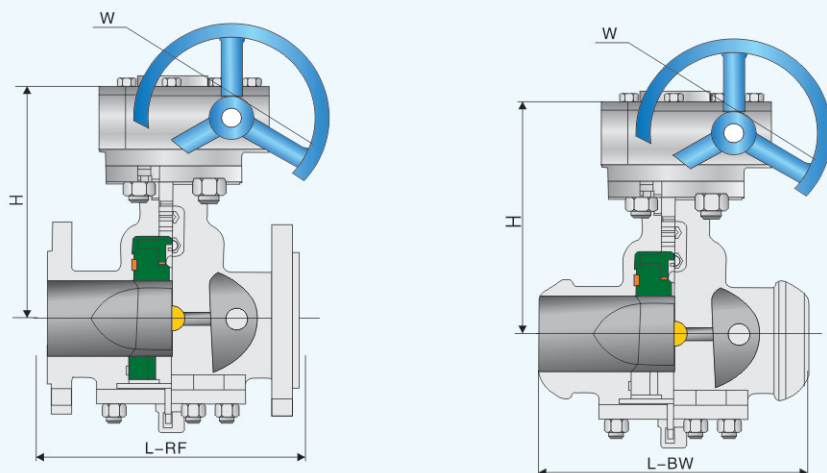
Model		X47F-150Lb														
Pressure		150Lb														
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF		108	117	127	140	165	178	190	203	229	245	267	292	330	356	686
L-BW		152	178	203	216	229	267	305	330	356	381	457	521	559	635	686
H		180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W		400	400	500	500	600	600	820	820	300	300	320	320	350	380	380
Weight(Kg)		10	12	14	17	19	21	29	33	48	75	98	125	171	230	370

4" or above with worm gear

Model		X47F-300Lb														
Pressure		300Lb														
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF		140	152	165	178	190	216	241	283	305	381	403	419	457	502	762
L-BW		152	178	203	216	229	267	305	330	356	381	457	521	559	635	762
H		180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W		400	400	500	600	600	820	1000	1000	300	300	320	320	350	380	380
Weight(Kg)		12	14	16	19	21	24	31	36	61	86	130	190	255	380	560

4" or above with worm gear

Inverted pressure balance lubricated plug valve



Model		X47F-600Lb														
Pressure		600Lb														
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF • BW		165	190	216	229	241	292	330	356	432	508	559	660	787	838	889
H		180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W		400	400	500	500	600	820	1000	1000	300	300	320	320	350	380	380
Weight(Kg)		14	16	18	20	24	29	35	47	91	129	210	320	660	920	1250

4" or above with worm gear

Model		X47F-900Lb														
Pressure		900Lb														
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF • BW		229	229	254	279	305	368	419	381	457	559	610	737	838	965	1029
H		180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W		400	400	500	600	600	820	1000	1000	300	300	320	320	350	380	380
Weight(Kg)		17	29	21	24	30	37	44	65	110	160	255	380	810	1050	1460

4" or above with worm gear



Sleeve type soft sealing plug valve

■ Product structural features

Sleeve type soft sealing plug valve acc.to ANSL is applicable to the cutting and connection of pipelines medium that are used in various industries such as petroleum, chemical industry, pharmacy, chemical fertilizer, power industry etc under nominal pressure of CLASS 150~900Lbs, and working temperature of -29~180°C.

■ Main structural features

- 1、The product has reasonable structure, reliable sealing, excellent performance and beautiful appearance.
- 2、The sealing is realized by the sealing face around the sleeve. It has unique 360 degree metal edge for protection and fixing of the sleeve.
- 3、There is no cavity in the valve for accumulation of medium.
- 4、Metal edge provides the function of self-cleaning when the plug is rotated, applicable to the operation condition that is glutinous and apt to smudge.
- 5、The characteristic double-direction flow makes installation and use more convenient.
- 6、The materials of the parts and sizes of flanges can be reasonably configured according the actual operation condition of the requirements of the Customers, so as to meet hte various needs of engineering.

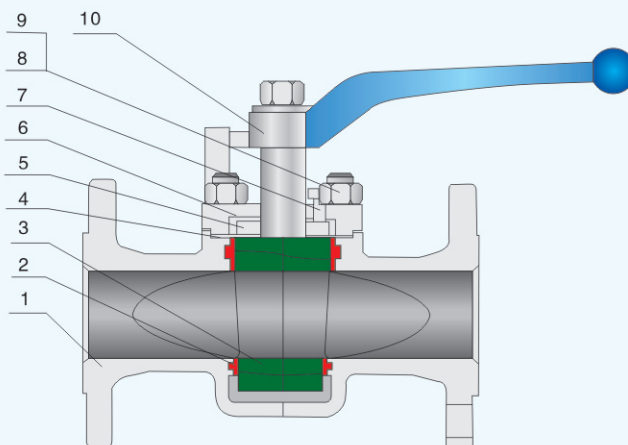
■ Technical specification

Structural formation	BC
Driving maner	Wrench wheel, worm & worm gear, pneumatic, electric-actuated
Desgn standard	API 599, API 6D
Face to face	ASME B16.10
Flange ends	ASME B16.5
Test & inspection	API 598, API 6D

■ Products performance specification

Nominal pressure	Shell test(MPa)	Sealing test(MPa)	Suitable temp.	Suitable medium
150	3.0	2.2	≤180°C	Water oil & gas
300	7.5	5.5		
600	15.0	11.0		
900	22.5	16.5		

Sleeve type soft sealing plug valve

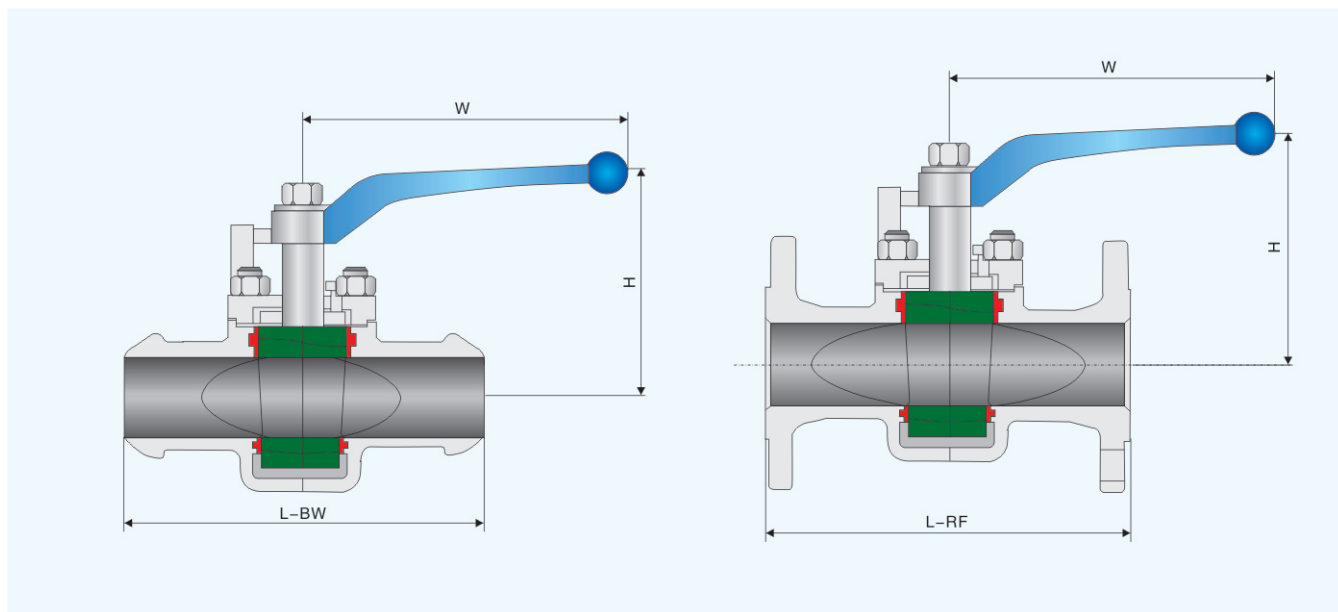


■ Main parts materials

NO.	Part Name	Material
1	Body	ASTM A216 WCB ASTM A351-CF8, CF8M, CF3M
2	Sleeve	PTFE
3	Plug	ASTM A217-WC1, WC6, WC9, C5 ASTM A351-CF8, CF8M, CF3, CF3M
4	Gasket	Flexible graphite+Stainless steel、PTFE
5	Adjusting gasket	ASTM A182-Gr.F6a ASTM A182-F22 ASTM A182-F304, F316, F321, F304L, F316
6	Cover	ASTM A216-WCB ASTM A351-CF8, CF8M, CF3,CF3M
7	Adjusting bolt	ASTM A193-B7, A193-B8, A193-B8M
8	Nut	ASTM A194-2H, A194-8, A194-8M
9	Bolt	ASTM A193-B7, A193-B8, A193-B8M
10	Wrench	ASTM A216-WCB



Sleeve type soft sealing plug valve



Model		X43F-150Lb														
Pressure		150Lb														
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
	in	1/2	3/4	1	1 1/4	1 1/2	2	1 1/2	3	4	5	6	8	10	12	14
L-RF		108	117	127	140	165	178	190	203	229	254	267	292	330	356	381
L-BW		152	178	203	216	229	267	305	330	356	381	394	457	559	635	686
H		110	115	115	135	140	150	165	180	380	460	520	580	620	680	760
W		175	175	175	220	280	305	350	405	300	300	320	320	350	380	450
Weight(kg)		8.5	9.5	10.5	12	14	18	22	26	40	60	70	130	219	381	570

4" or above with worm gear

Model		X43F-300Lb														
Pressure		300Lb														
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
	in	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF		140	152	165	178	190	216	241	282	305	381	403	419	457	502	762
L-BW		152	178	203	216	229	267	305	330	356	381	457	521	559	635	762
H		110	115	115	135	140	150	165	180	380	460	520	580	620	680	760
W		175	175	175	220	280	305	350	405	300	300	320	320	350	380	450
Weight(kg)		9.5	10.5	12	14	16	20	24	29	53	75	85	185	230	390	550

4" or above with worm gear

3-way、4-way plug valve



■ Product structural features

3-way、4-way plug valve is applicable to change the media flowing direction or to distribute the media, that are used in various industries such as petroleum chemical industry, pharmacy, chemical fertilizer, power industry etc under nominal pressure class 150–900LBS, PN1.6–16MPa, working temperature of –29–550℃.

■ Main structural features

- 1、The product has reasonable structure, reliable sealing, excellent performance and beautiful appearance.
- 2、According to different conditions, the 3-way、4-way plug valve can be designed into diverse media flowing forms(eg."L" type or "T" type) or all kinds of materials (eg.Iron、cast steel、stainless steel) or unlike sealing forms (eg.Metal to metal, sleeve Type, lubricated, etc)
- 3、The materials of the parts and sizes of flanges can be reasonably configured according to the actual operation condition of the requirements of the customers, so as to meet the various needs of engineering.

■ Technical specification

Structural formation	BB-BC
Driving manner	Wrench wheel, worm & worm gear, pneumatic, electric-actuated
Design standard	API 599, API 6D
Face to face	ASME B16.10、GB12221、DIN3202
Flange ends	ASME B16.5、JB79、GB9113、DIN2543–2545
Test & inspection	API 598、API 6D、GB13927、DIN3230

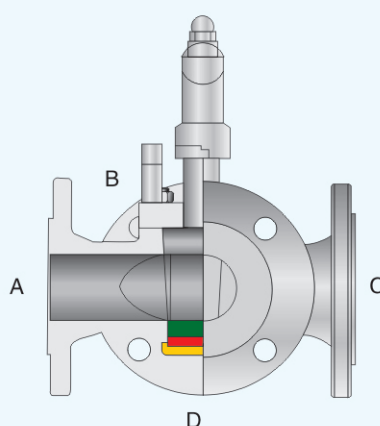
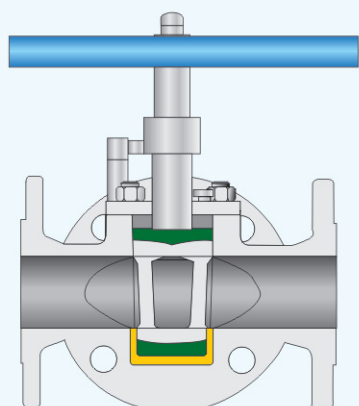
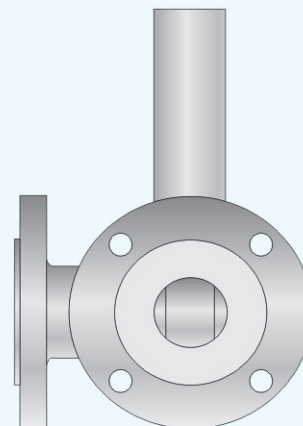
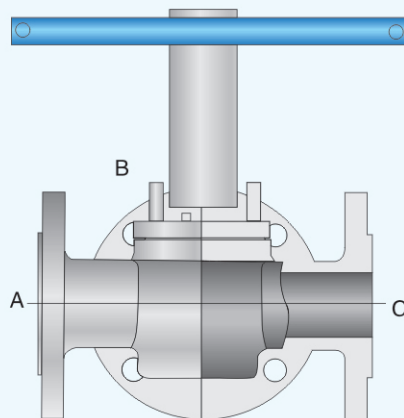
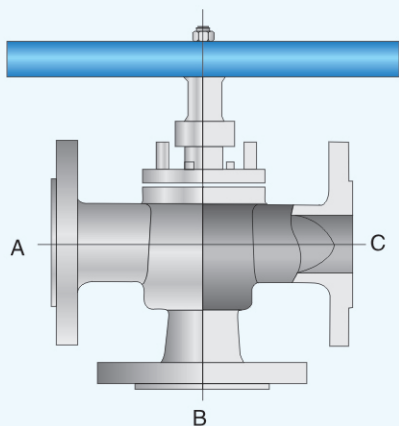
■ Products performance specification

Nominal pressure	Shell test(MPa)	Sealing test(MPa)	Nominal pressure	Shell test(MPa)	Sealing test(MPa)
150	3.0	2.2	1.6	2.4	1.76
300	7.5	5.5	2.5	3.75	2.75
600	15.0	11.0	4.0	6.0	4.4
900	22.5	16.5	6.4	9.6	7.04
			10.0	15.0	11.0
			16.0	24.0	17.6

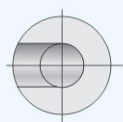


3-way、4-way plug valve

Bore forms & media flowing forms for 3-way, 4-way plug valve

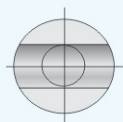


Plug struture(1)



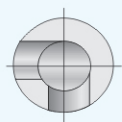
Media flowing forms
① a→b ② b→c
③ Fully closed

Plug struture(2)



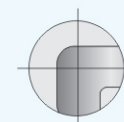
Media flowing forms
① A→B→C
② Fully closed

Plug struture(3)



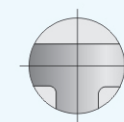
Media flowing forms
① A→B ② B→C
③ Fully closed

Plug struture(4)



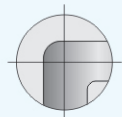
Media flowing forms
① A→B ② B→C
③ Fully closed

Plug struture(5)



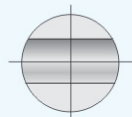
Media flowing forms
① A→B→C ② A→B
③ B→C A→C

Plug struture(6)



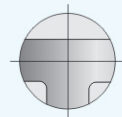
Media flowing forms
① A→B ② B→C
③ C→D ④ D→A

Plug struture(7)



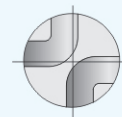
Media flowing forms
① A→B ② B→D

Plug struture(8)



Media flowing forms
① A→B→C ② B→C→D
③ A→C→D ④ A→B→D

Plug struture(9)



Media flowing forms
① A→B C→D
② A→D B→C
③ Fully closed

ANSI Y type strainer



Standards

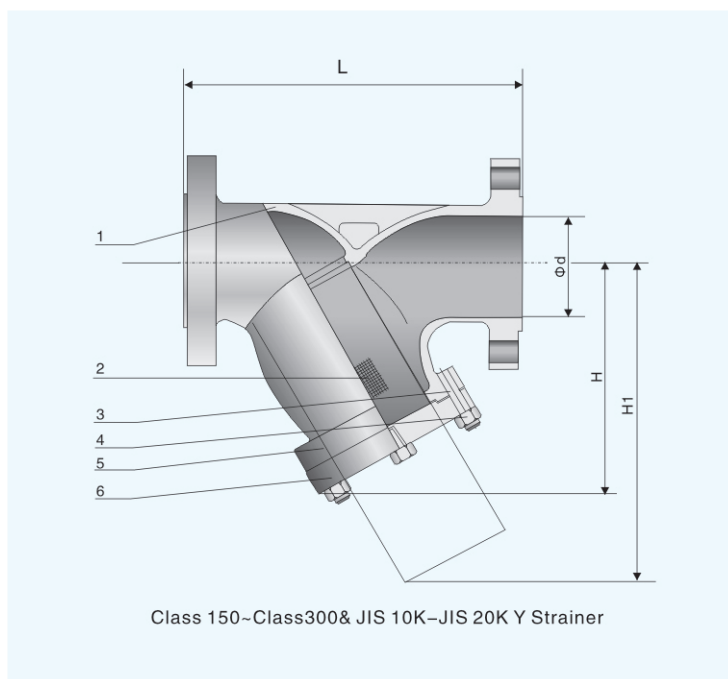
Design and Manufacture: ASME B16.34
Face to Face Dimensions: ANSI B 16.10
Flanged Ends Dimensions: ANSI B 16.5
BW end dimension: ASME B16.25
Pressure-temperature ratings: ASME B 16.34
Test & Inspect: API 598

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 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
300	48	0.039	0.044	27.6



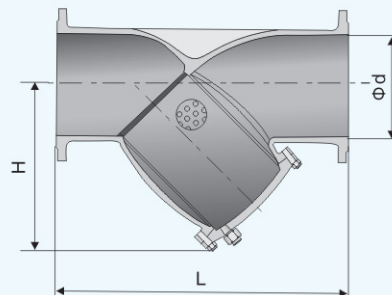
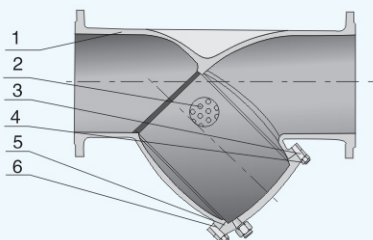
Parts and material list

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	-	-	-	-	-	-	-	-



DIN Y type strainer



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
300	48	0.039	0.044	27.6

Parts and material liast

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