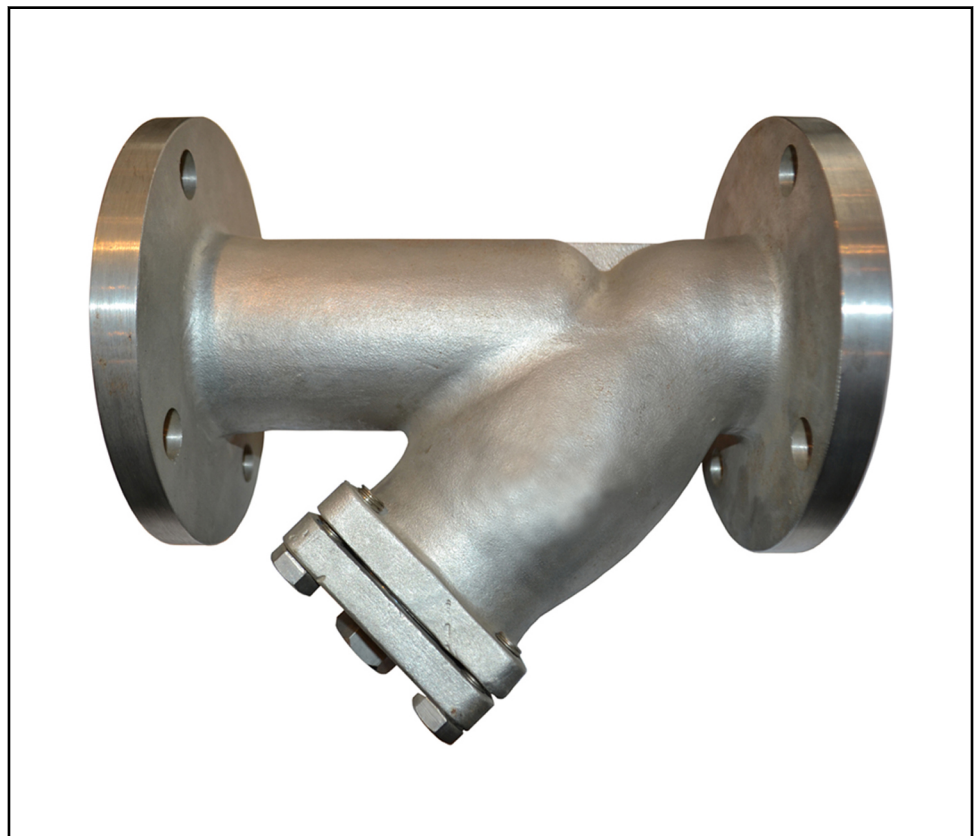


Strainer

ECOLINE FYC 150-600

Class 150-600
NPS 2"-12"
Cast Steel / Stainless Steel
Bolted Cover
Flanged Ends

Type Series Booklet



Legal information/Copyright

Type Series Booklet ECOLINE FYC 150-600

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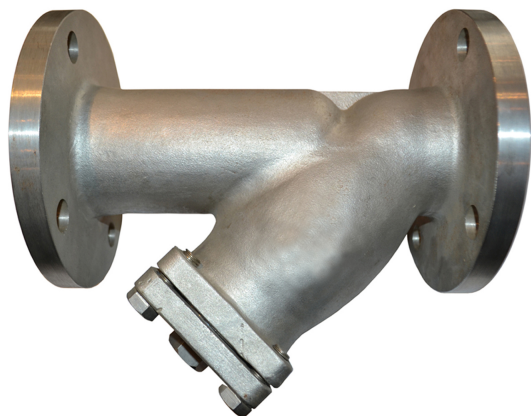
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Check Valves and Strainers

Strainers to ANSI/ASME

ECOLINE FYC 150-600



Main applications

- Fossil-fuelled power stations
- Refineries
- Process engineering

Fluids handled

- Steam
- Fluids containing gas
- Fluids containing mineral oils
- Gas
- Oil

Operating data

Operating properties

Characteristic	Value
Nominal pressure	Class 150 - 600
Nominal size	NPS 2" - 12"
Max. permissible pressure	106 bar / 1500 PSI
Min. permissible temperature	0 °C / 32 °F
Max. permissible temperature	816 °C / 1500 °F

Temperatures < 0 °C on request

Selection as per pressure/temperature ratings (⇒ Page 4)

Body materials

Overview of available materials

Material	Temperature limit
ASTM A 216 WCB	Up to 427 °C / 800 °F
ASTM A 351 CF8	Up to 816 °C / 1500 °F
ASTM A 351 CF8M	Up to 816 °C / 1500 °F

Other materials on request.

Design details

Design

- Strainer to ASME B16.34
- Tested to API 598
- Y-pattern strainer
- Body made of cast steel or stainless steel
- Bolted cover
- Fully confined cover gasket
- Cover made of wear and corrosion-resistant materials
- Stainless steel/graphite gaskets
- Cylindrical screen made of stainless steel
- Drain plug
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 97/23/EC (PED) for fluids in Groups 1 and 2.
- The valves do not have a potential internal source of ignition and can be used in potentially explosive atmospheres, Group II, category 2 (zones 1+21) and category 3 (zones 2+22) to ATEX 2014/34/EU.

Variants

- Other mesh widths on request
- Other screen materials
- Other drain plug sizes
- Butt weld ends
- Non-destructive testing, e.g. radiographic testing
- NACE standard
- Other flanged end designs or butt weld ends to ASME B16.25
- Other material variants
- Larger nominal sizes and other variants on request

Product benefits

Long service life and high functional reliability

- All-stainless steel screen and holder suitable for the majority of application conditions; no risk of corrosion in the piping.

Reliable sealing and longer service life

- Male/female joint between body and cover prevents excessive compression of fully confined gasket, resulting in longer gasket life and improved sealing performance.

Cost-efficient

- Y-pattern body with hydraulically favourable flow path: higher flow rates and lower pressure losses result in energy cost savings.

Extended maintenance-free service life

- Screen fine-machined to a smooth finish, causing foreign particles to slide smoothly down to the bottom of the screen. As a result, cleaning intervals and maintenance costs are reduced.

Versatile application

- Wide range of mesh widths and materials for handling various fluid types and properties, e.g. water, oil, gas and other process fluids.

Related documents

- Operating manual 7362.81

On all enquiries/orders please specify

- Type
- Class
- Nominal size
- Pressure rating
- Temperature rating
- Differential pressure
- Fluid handled
- Material
- Trim material (API trim number)
- Line connection
- Pipe schedule (for butt weld ends)
- Variants
- Number of type series booklet

Pressure/temperature ratings

Permissible operating pressures in bar at temperatures in °C (to ASME B16.34)

Class	Material	-29 to 38	93	149	204	260	316	343	371	399	427	454	482	510	538	566	593	621	649	677	704	732	760	788	816
150	A 216 WCB ¹⁾	19,7	17,9	15,9	13,8	11,7	9,7	8,6	7,6	6,6	5,5	4,5	3,4	2,4	1,4										
300		51,0	46,9	45,2	43,8	41,7	39,3	37,9	36,5	34,8	28,3	22,1	15,9	9,3	5,9										
600		102,0	93,8	90,3	87,2	83,1	78,3	75,8	73,1	70,0	56,9	44,1	31,7	19,0	11,7										
150	A 351 CF8 ²⁾	19,0	15,9	14,1	13,1	11,7	9,7	8,6	7,6	6,6	5,5	4,5	3,4	2,4	1,4	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,0 ³⁾
300		49,6	41,4	37,2	34,1	32,1	30,3	29,6	29,0	28,6	27,9	27,2	26,9	26,2	24,5	22,4	17,6	14,1	11,4	9,3	7,9	6,6	5,2	4,1	2,8
600		99,3	82,7	74,1	68,6	64,1	61,0	59,6	58,3	56,9	55,8	54,5	53,8	52,7	49,0	44,8	35,5	28,3	22,8	18,3	15,5	12,8	10,3	7,9	5,9
150	A 351 CF8M ²⁾	19,0	16,2	14,8	13,4	11,7	9,7	8,6	7,6	6,6	5,5	4,5	3,4	2,4	1,4	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,4 ³⁾	1,0 ³⁾
300		49,6	42,7	38,6	35,5	33,1	31,0	30,3	30,0	29,3	29,0	29,0	28,6	26,5	25,2	24,8	21,0	16,2	12,8	10,0	7,9	6,6	5,2	4,1	2,8
600		99,3	85,5	77,2	70,7	65,8	62,1	61,0	60,0	59,0	58,3	57,6	57,2	53,4	50,0	49,6	42,1	32,8	25,5	20,3	16,2	13,1	10,3	7,9	5,9

Permissible operating pressures in PSI at temperatures in °F (to ASME B16.34)

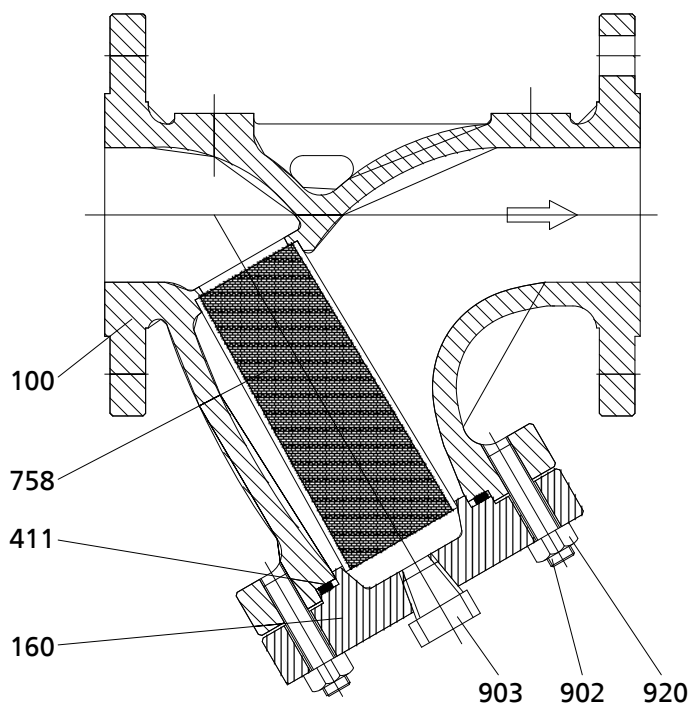
Class	Material	-20 to 100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
150	A 216 WCB ¹⁾	285	260	230	200	170	140	125	110	95	80	65	50	35	20										
300		740	680	655	635	605	570	550	530	505	410	320	230	135	85										
600		1480	1360	1310	1265	1205	1135	1100	1060	1015	825	640	460	275	170										
150	A 351 CF8 ²⁾	275	230	205	190	170	140	125	110	95	80	65	50	35	20	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20	15 ³⁾
300		720	600	540	495	465	440	430	420	415	405	395	390	380	355	325	255	205	165	135	115	95	75	60	40
600		1440	1200	1075	995	930	885	865	845	825	810	790	780	765	710	650	515	410	330	265	225	185	150	115	85
150	A 351 CF8M ²⁾	275	235	215	195	170	140	125	110	95	80	65	50	35	20	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	20 ³⁾	15 ³⁾
300		720	620	560	515	480	450	440	435	425	420	420	415	385	365	360	305	235	185	145	115	95	75	60	40
600		1440	1240	1120	1025	955	900	885	870	855	845	835	830	775	725	720	610	475	370	295	235	190	150	115	85

Test pressures

Test	Test medium	Class 150		Class 300		Class 600	
		bar	psi	bar	psi	bar	psi
Shell	Water	32	450	78	1125	153	2225

1) Permissible but not recommended for prolonged use above 427 °C (800 °F).
2) At temperatures over 538 °C (1000 °F), use only when carbon content is 0.04% or higher.
3) For butt weld end valves only. Flanged end ratings terminate at 538 °C (1000 °F).

Materials



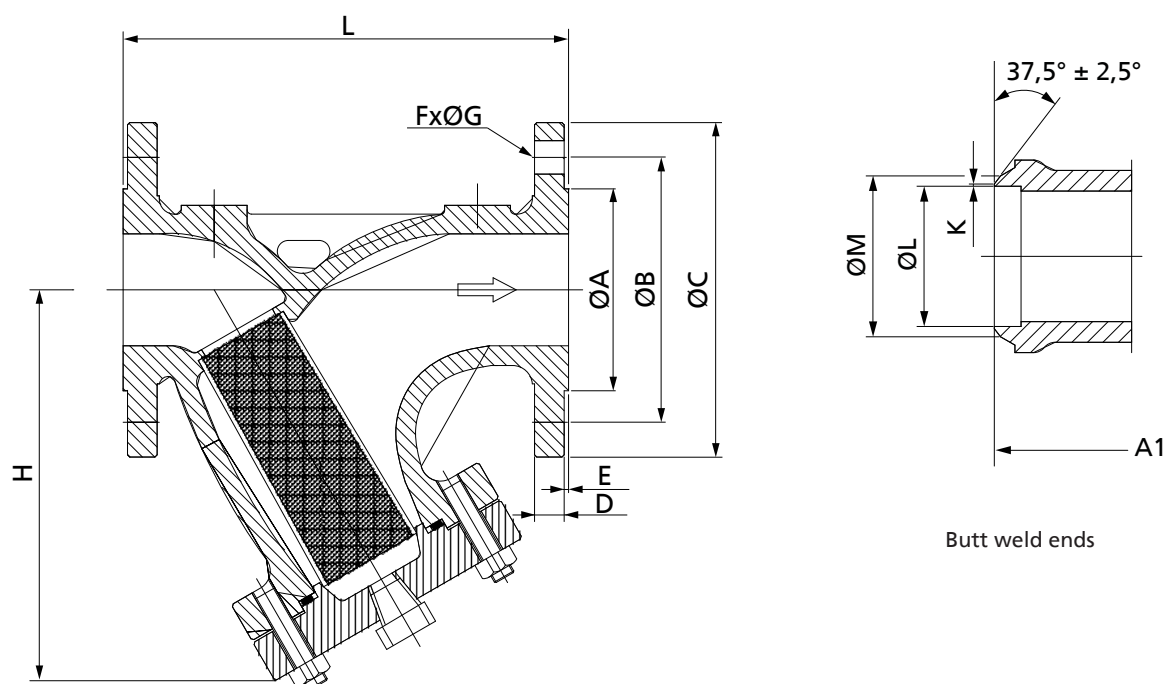
Parts list

Part No.	Description	Material		
		A 216 WCB	A 351 CF8	A 351 CF8M
100	Body	A 216 WCB	A 351 CF8	A 351 CF8M
758	Screen	See "Trim materials" table		
411	Joint ring	Graphite + stainless steel	Graphite + stainless steel	Graphite + stainless steel
160	Cover	A 216 WCB	A 351 CF8	A 351 CF8M
903	Drain plug	A 105	A 182 F304	A 182 F316
902	Stud	A 193 B7	A 193 B8	A 193 B8
920	Nut	A 194 2H	A 194 Gr. 8	A 194 Gr. 8

Trim materials

Part No.	Description	Trim	
		Trim 2	Trim 10
758	Screen	304 / 304	316 / 316
		304 stainless steel	316 stainless steel

Dimensions



Dimensions in mm

Class	NPS	L	H	D	E	ØA	ØB	ØC	F	ØG	A1	[kg]
150	2"	203	145	15,7	1,6	91,9	120,7	152	4	19,1	203	12
	2 ½"	216	183	17,5	1,6	104,6	139,7	178	4	19,1	216	18
	3"	241	206	19,1	1,6	127,0	152,4	191	4	19,1	241	21
	4"	292	228	23,9	1,6	157,2	190,5	229	8	19,1	292	32
	6"	356	329	25,4	1,6	215,9	241,3	279	8	22,4	356	48
	8"	495	440	28,4	1,6	269,7	298,5	343	8	22,4	495	105
	10"	622	507	30,2	1,6	323,9	362,0	406	12	25,4	622	169
	12"	699	594	31,8	1,6	381,0	431,8	483	12	25,4	699	215
300	2"	267	170	22,4	1,6	91,9	127,0	165	8	19,1	267	15
	2 ½"	292	185	25,4	1,6	104,6	149,4	191	8	22,4	292	18
	3"	318	235	28,4	1,6	127,0	168,1	210	8	22,4	318	35
	4"	356	290	31,8	1,6	157,2	200,2	254	8	22,4	356	51
	6"	445	375	36,6	1,6	215,9	269,7	318	12	22,4	445	92
	8"	533	450	41,1	1,6	269,7	330,2	381	12	25,4	533	182
	10"	622	575	47,8	1,6	323,9	387,4	445	16	28,4	622	285
	12"	711	665	50,8	1,6	381,0	450,9	521	16	31,8	711	307
600	2"	292	185	22,4	6,4	91,9	127,0	165	8	19,1	292	35
	2 ½"	330	200	25,4	6,4	104,6	149,4	191	8	22,4	330	40
	3"	356	250	28,4	6,4	127,0	168,1	210	8	22,4	356	48
	4"	432	300	31,8	6,4	157,2	200,2	254	8	22,4	432	90
	6"	559	415	36,6	6,4	215,9	269,7	318	12	22,4	559	220
	8"	660	490	41,1	6,4	269,7	330,2	381	12	25,4	660	360
	10"	787	595	47,8	6,4	323,9	387,4	445	16	28,4	787	781
	12"	838	680	50,8	6,4	381,0	450,9	521	16	31,8	838	1210

Butt weld end dimensions in mm

NPS	Pipe OD	K	ØM	ØL for various pipe schedules												
				10	20	30	40	60	80	100	120	140	160	STD	XS	XXS
2"	60,30	1,6 ±0,8	60,30	54,79			52,51		49,25				42,85	Sch 40	Sch 80	38,19
2 ½"	73,03	1,6 ±0,8	75,2	66,93			62,71		59,00				53,98	Sch 40	Sch 80	44,98

NPS	Pipe OD	K	ØM	ØL for various pipe schedules												
				10	20	30	40	60	80	100	120	140	160	STD	XS	XXS
3"	88,90	1,6 ±0,8	91,2	82,80			77,93		73,66				66,65	Sch 40	Sch 80	58,42
4"	114,30	1,6 ±0,8	117,3	108,20			102,26		97,18		92,05		87,07	Sch 40	Sch 80	80,06
6"	168,28	1,6 ±0,8	172,2	161,47			154,05		146,33		139,73		131,75			
8"	219,08	1,6 ±0,8	223,0	211,56	206,38		202,72	198,45	193,68	188,90	182,55	177,83	173,05	Sch 40	Sch 80	174,63
10"	273,05	1,6 ±0,8	277,9	264,67	260,35		254,51	247,65	242,87	236,52	230,17	222,25	215,90	Sch 40	Sch 60	Sch 140
12"	323,85	1,6 ±0,8	329,4	314,71	311,15		303,23	295,30	288,90	280,97	273,05	266,70	257,20	304,80	298,45	Sch 120

Mating dimensions - Standards

Face-to-face lengths: ASME B16.10
 Flanges: ASME B16.5
 Butt weld ends: ASME B16.25

Y-type strainers can be installed in horizontal or vertical pipes. The fluid must always enter through the screen inlet. Flow through Y-type strainers installed in vertical pipes must always be downwards.

Notes on installation

The valve bodies are marked with an arrow indicating the flow direction.



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