



TI-P169-03

CMGT Issue 3

Fig 14HP

Carbon Steel

Strainer

Description

The Fig 14HP is a carbon steel Y-type strainer designed to remove scale, rust and other debris from the pipeline.
The standard stainless steel screen is 0.8 mm perforations.

Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED).

Certification

The product is available with a manufacturer's Typical Test Report for the body and cap as standard and EN 10204 3.1 to special order at extra cost.

Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" and 2"
Screwed BSP or NPT
Socket weld ends to BS 3799 Class 3000 lb

Optional extras

Strainer screens

Stainless steel screen	Perforations	1.6 mm and 3.0 mm
	Mesh	40, 100 and 200
Monel screen	Perforations	0.8 mm and 3.0 mm
	Mesh	100

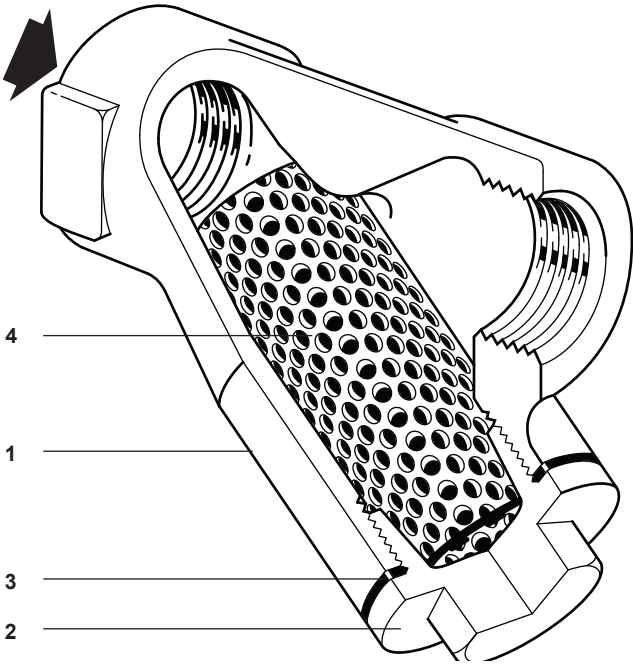
Blowdown or drain valve connections

The cap can be drilled to the following sizes to enable a blowdown or drain valve to be fitted at extra cost.

Strainer size	Blowdown valve	Drain valve
1/4", 3/8" and 1/2"	1/4"	1/4"
3/4" and 1"	1/2"	1/2"
1 1/4" and 1 1/2"	1"	3/4"
2"	1 1/4"	3/4"

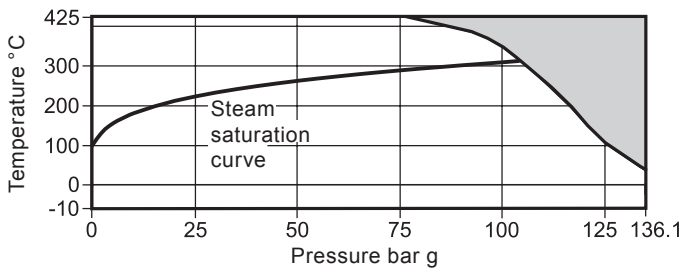
Materials

No.	Part	Material		
1	Body	1/4" and 1/2"	Carbon steel	ASTM A105N/1.0460
		3/4" to 2"	Carbon steel	ASTM A216 WCB/1.0619 + N
2	Cap		Carbon steel	ASTM A105N/1.0460
3	Cap gasket	Reinforced exfoliated graphite		
4	Strainer screen		Stainless steel	A240 316L



Pipeline ancillaries
Strainers and filters

Pressure/temperature limits



The product **must not** be used in this region.

Body design conditions		ASME Class 800
PMA	Maximum allowable pressure	136.1 bar g @ 38 °C
TMA	Maximum allowable temperature	425 °C @ 76.7 bar g
Minimum allowable temperature		-10 °C
PMO	Maximum operating pressure	136.1 bar g @ 38 °C
TMO	Maximum operating temperature	425 °C @ 76.7 bar g
Minimum operating temperature		-10 °C
Note: For lower operating temperatures consult Spirax Sarco		
Designed for a maximum cold hydraulic test pressure of		205 bar g

K_v values

Size	¼"	3/8"	½"	¾"	1"	1¼"	1½"	2"
Perforations 0.8, 1.6 and 3 mm	1	2.6	3.6	11	15.5	26	41	68
Mesh 40 and 100	1	2.6	3.6	11	15.5	26	41	68
Mesh 200	1	2.6	2.6	9	13.0	21	35	55

For conversion:
 $C_v \text{ (UK)} = K_v \times 0.963$
 $C_v \text{ (US)} = K_v \times 1.156$

Dimensions/weights (approximate) in mm and kg

Size	A	B	C	D	Screening area cm ²	Weight
¼"	70	51	80	32	27	0.43
3/8"	70	51	80	32	27	0.49
½"	73	52	81	32	27	0.56
¾"	90	64	100	36	43	0.72
1"	105	74	120	46	73	1.17
1¼"	140	102	164	60	135	2.35
1½"	152	115	184	70	164	3.30
2"	178	138	224	80	251	4.95

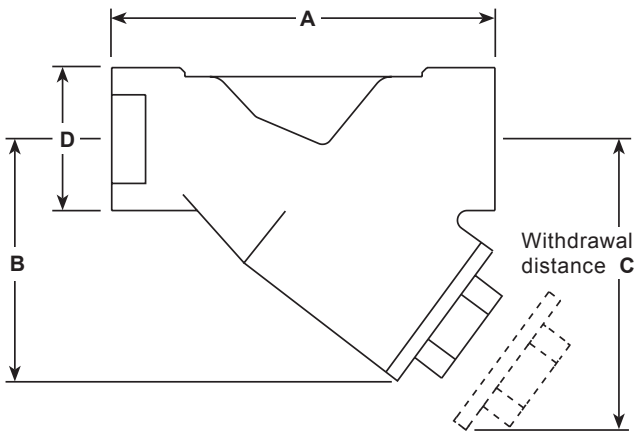


Fig 14HP Carbon Steel Strainer

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S26-01-EN-ISS1) supplied with the product.

Warning:

The strainer cap gasket contains a thin stainless steel support ring, which may cause physical injury if not handled and disposed of carefully.

Disposal

The product is recyclable. No ecological hazard is anticipated with disposal of this product, providing due care is taken.

How to order

Example: 1 off Spirax Sarco 1½" Fig 14HP strainer having screwed BSP connections with a stainless steel screen having 0.8 mm perforations.

Spare parts

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares

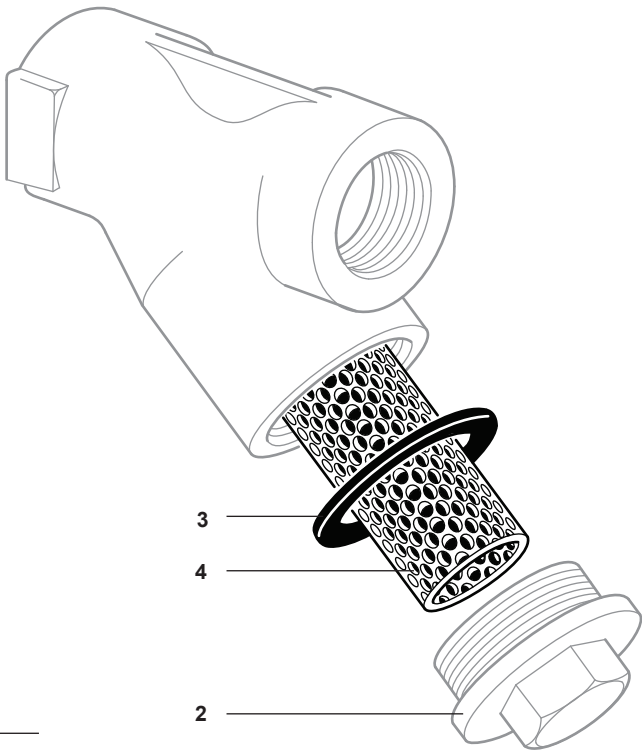
Strainer screen (state material, perforations or mesh and size of strainer)	4
Cap gasket (packet of 3)	3

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of strainer and perforation or mesh required.



Example: 1 off Stainless steel strainer screen having 0.8 mm perforations for a ¾" Spirax Sarco Fig 14HP strainer.

Note: When replacing the strainer cap coat the thread only with anti-seize compound, making sure none gets on the gasket or gasket faces.



10.6
19

Recommended tightening torques

Item	Size	 or 	N m
2	¼", 3/8" and ½"	36 A/F	50 - 55
	¾"	38 A/F	60 - 66
	1"	50 A/F	100 - 110
	1¼"	46 A/F	180 - 200
	1½"	50 A/F	230 - 250
	2"	60 A/F	330 - 360



TI-P168-07
CMGT Issue 4

Fig 34
Carbon Steel
'Y' Type Strainer - DN250 to DN400 (10" to 16")

Description

The Fig 34 is an integrally flanged Y-type strainer designed to remove rust, scale and other debris from the pipeline. The standard stainless steel screen is 3 mm perforations.

Standards

This product fully complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations.

Certification

The product is available with material certification to EN 10204 3.1 for body and cover.

Note: All certification/inspection requirements must be stated at the time of order placement.

Optional extras

	Perforations:	0.8 mm, 1.6 mm and 5 mm
Strainer screens	Mesh:	40, 100 and 200
	Monel screen:	Available on request

Blowdown or drain valve connections

The cap can be drilled to the following sizes to enable a blowdown or drain valve to be fitted.

Strainer size	Blowdown valve	Drain valve
DN250 to DN400	2"	2"

Sizes and pipe connections

DN250, DN300, DN350 and DN400

Available standard flanged connections:

- EN 1092 PN40, PN25 and PN16.
- ASME B 16.5 Class 150 and ASME B 16.5 Class 300.
- JIS/KS 10 and JIS/KS 20.

As standard all flanges are supplied with a raised face. Alternative flange facing can be supplied on request and must also be specified at the point of order placement.

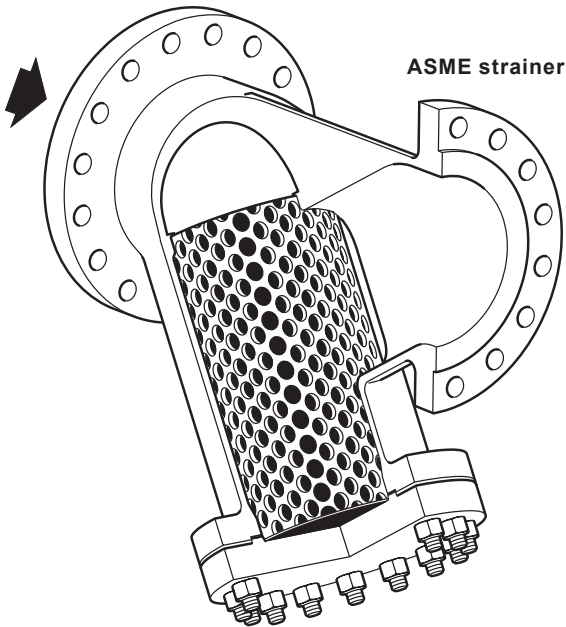
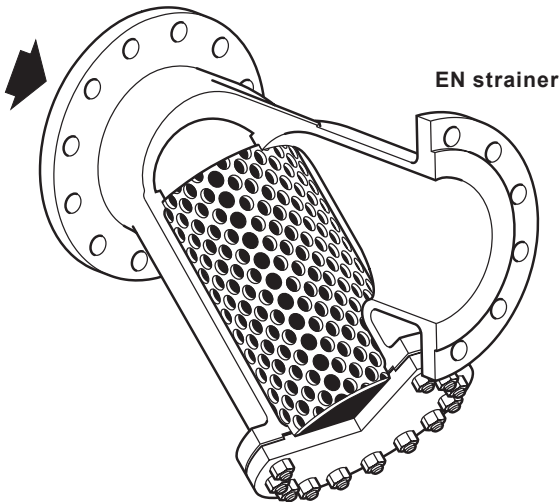
K_v values

Size	DN250	DN300	DN350	DN400
Perforated	950	1300	1800	2300
Mesh	850	1100	1500	1900

For conversion:

$C_v \text{ (UK)} = K_v \times 0.963$

$C_v \text{ (US)} = K_v \times 1.156$



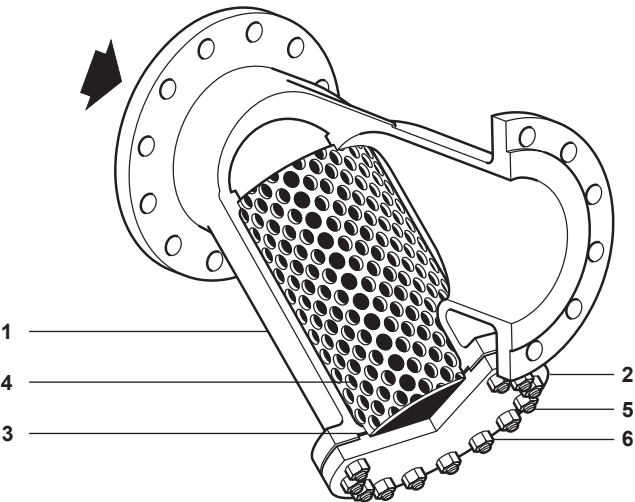
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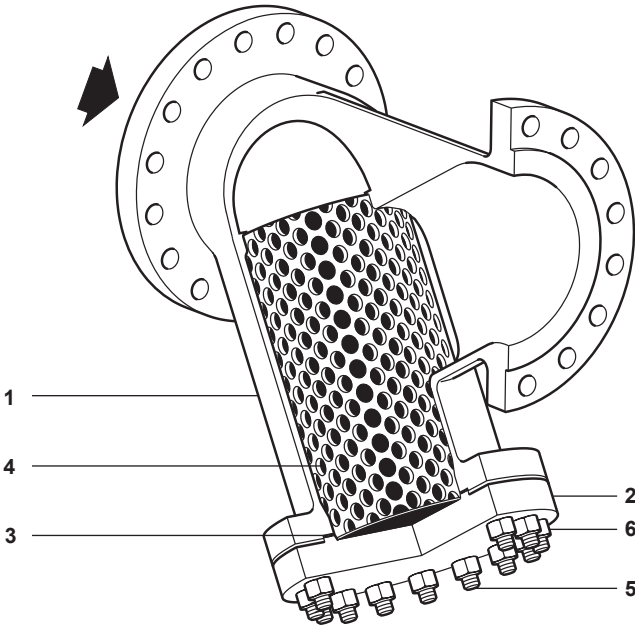
Pipeline ancillaries
Strainers and filters

Materials

EN strainer



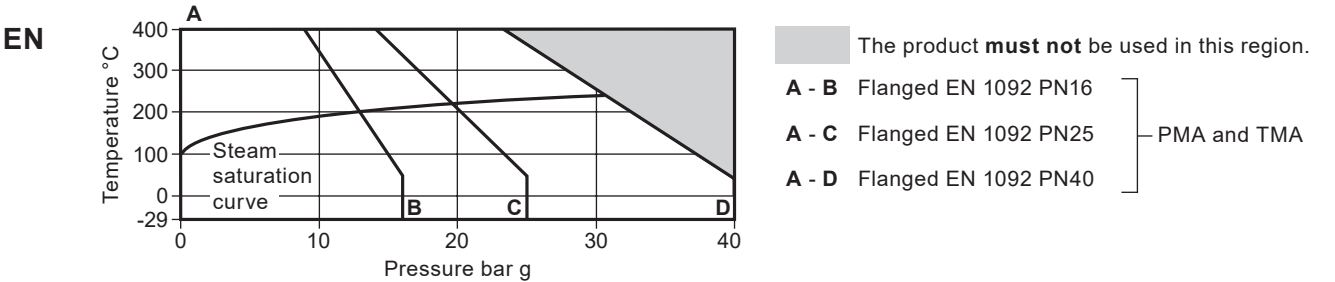
ASME strainer



No. Part		Material	
1	Body	Carbon steel	EN 10213 : 1.0619+N/ASTM A216 WCB
2	Cover	Carbon steel	EN 10213 : 1.0619+N/ASTM A216 WCB or ASTM A105N
3	Gasket	Reinforced exfoliated graphite	
4	Screen	Stainless steel	
5	Stud	Carbon steel	ASTM A193 B7
6	Nut	Carbon steel	ASTM A194 2H

Fig 34 Carbon Steel 'Y' Type Strainer - DN250 to DN400 (10" to 16")

Pressure/temperature limits



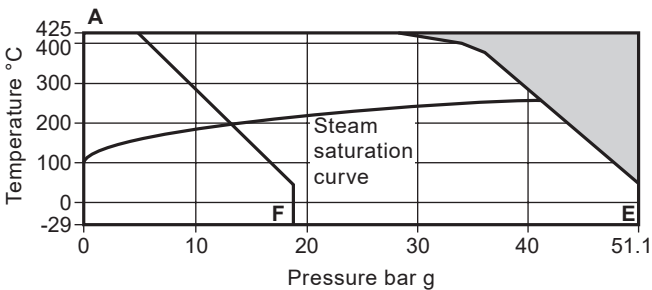
Body design conditions		PN40
PMA	Maximum allowable pressure	PN40 40 bar g @ 50 °C
		PN25 25 bar g @ 50 °C
		PN16 16 bar g @ 50 °C
TMA	Maximum allowable temperature	PN40 400 °C @ 23.8 bar g
		PN25 400 °C @ 14.8 bar g
		PN16 400 °C @ 9.5 bar g
Minimum allowable temperature		-29 °C
PMO	Maximum operating pressure for saturated steam service	PN40 30.7 bar g @ 237 °C
		PN25 20 bar g @ 215 °C
		PN16 13.2 bar g @ 196 °C
TMO	Maximum operating temperature	PN40 400 °C @ 23.8 bar g
		PN25 400 °C @ 14.8 bar g
		PN16 400 °C @ 9.5 bar g
Minimum operating temperature		-29 °C
Designed for a maximum cold hydraulic test pressure of 1.5 x PMA		

Fig 34 Carbon Steel 'Y' Type Strainer - DN250 to DN400 (10" to 16")

Pipeline ancillaries
Strainers and filters

Pressure/temperature limits

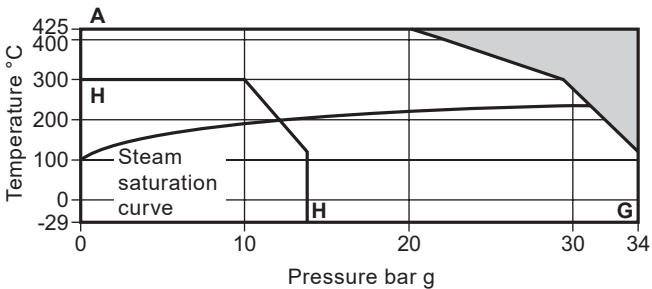
ASME



The product **must not** be used in this region.
A - E Flanged ASME Class 300
A - F Flanged ASME Class 150 } PMA and TMA

Body design conditions			ASME Class 300
PMA	Maximum allowable pressure	ASME 300	51.1 bar g @ 38 °C
		ASME 150	19.6 bar g @ 38 °C
TMA	Maximum allowable temperature	ASME 300	425 °C @ 28.8 bar g
		ASME 150	425 °C @ 5.5 bar g
Minimum allowable temperature			-29 °C
PMO	Maximum operating pressure for saturated steam service	ASME 300	41.5 bar g @ 254 °C
		ASME 150	13.6 bar g @ 197 °C
TMO	Maximum operating temperature	ASME 300	425 °C @ 28.8 bar g
		ASME 150	425 °C @ 5.5 bar g
Minimum operating temperature			-29 °C
Designed for a maximum cold hydraulic test pressure of 1.5 x PMA			

JIS/KS

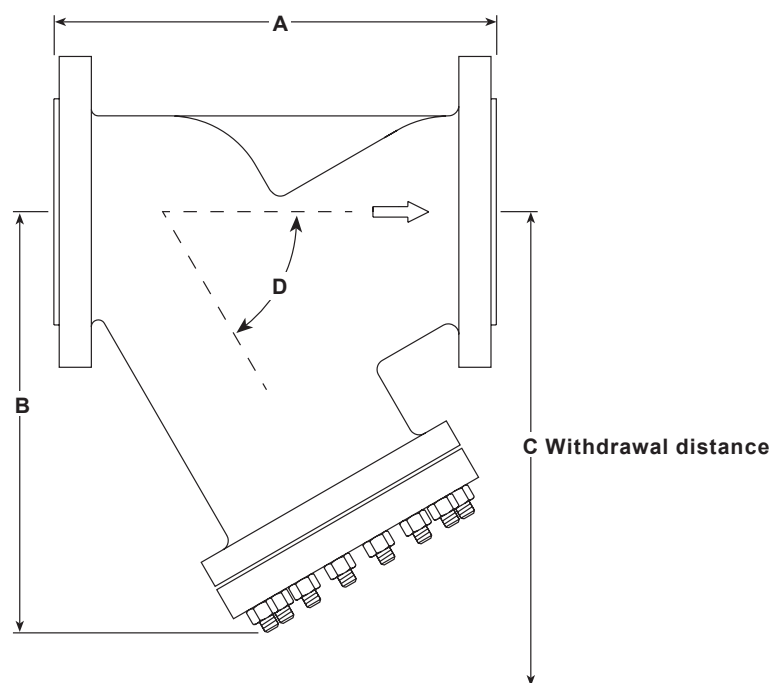


The product **must not** be used in this region.
A - G Flanged JIS/KS 20
A - H Flanged JIS/KS 10 } PMA and TMA

Body design conditions		PN40
PMA	Maximum allowable pressure	JIS/KS 20 34 bar g @ 120 °C
		JIS/KS 10 14 bar g @ 120 °C
TMA	Maximum allowable temperature	JIS/KS 20 425 °C @ 20.0 bar g
		JIS/KS 10 300 °C @ 10.0 bar g
Minimum allowable temperature		-29 °C
PMO	Maximum operating pressure for saturated steam service	JIS/KS 20 30.1 bar g @ 236 °C
		JIS/KS 10 12.4 bar g @ 193 °C
TMO	Maximum operating temperature	JIS/KS 20 425 °C @ 20.0 bar g
		JIS/KS 10 300 °C @ 10.0 bar g
Minimum operating temperature		-29 °C
Designed for a maximum cold hydraulic test pressure of 1.5 x PMA		

Fig 34 Carbon Steel 'Y' Type Strainer - DN250 to DN400 (10" to 16")

Dimensions/weights
(approximate) in mm and kg



Size		A			B	C	D	Screening area mm²	Weight (Kg)						
		EN and JIS/KS	ASME 150	ASME 300					PN40	PN25	PN16	JIS/KS 20	JIS/KS 10	ASME 150	ASME 300
DN250	EN	730	622	622	515	957	45°	371 800	212	197	187	202	185	163	218
	ASME	730	622	622	560	1 005	60°	371 800							
DN300	EN	850	699	711	570	1 020	45°	439 300	259	236	222	238	214	270	344
	ASME	850	699	711	640	1 098	60°	439 300							
DN350	EN	980	787	838	620	1 205	45°	653 400	448	419	396	414	377	380	454
	ASME	980	787	838	770	1 320	60°	593 800							
DN400	EN	1 100	914	864	710	1 340	60°	641 400	600	547	513	548	498	487	617
	ASME	1 100	914	864	730	1 360	60°	641 400							

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S60-18) supplied with the product.

Installation note

The strainer should be installed in the direction of flow, as indicated on the body. On applications involving steam or gases the pocket should be in the horizontal plane. On liquid systems the pocket should point downwards.

Warning

The strainer cover gasket contains a thin stainless steel support ring, which may cause physical injury if not handled and disposed of carefully.

Disposal

The product is recyclable. No ecological hazard is anticipated with disposal of this product, providing due care is taken.

How to order

Example:

1 off Spirax Sarco DN350 Fig 34 strainer having flanged ASME Class 300 connections with a stainless steel screen having 3 mm perforations.

Pipeline ancillaries
Strainers and filters

Spare parts

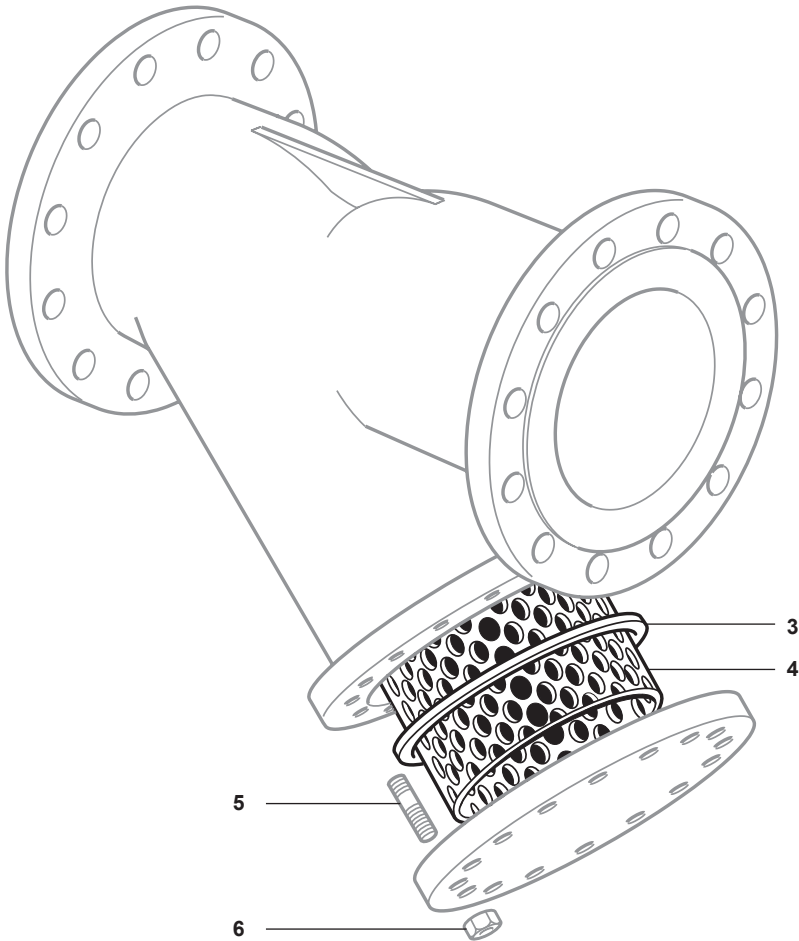
The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares

Strainer screen	(state material, perforations or mesh and size of strainer)	4
Cover gasket	(packet of 3)	3

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of strainer and perforation or mesh required.
Example: 1 off Strainer screen, stainless steel having 0.8 mm perforations for a DN250 Spirax Sarco Fig 34 strainer having ASME Class 300 connections.



Recommended tightening torques



Item	Size	Connections	Quantity		or mm		N m
5 and 6	DN250 (10")	ASME Class 150 and EN	16	1¼"		¾" - 10UNC	160 - 180
		ASME Class 300	16	1⅞"		7⁄8" - 9UNC	180 - 200
	DN300 (12")	ASME Class 150 and EN	16	1¼"		¾" - 10UNC	200 - 220
		ASME Class 300	18	1⅞"		7⁄8" - 9UNC	210 - 230
	DN350 (14")	ASME Class 150 and EN	20	1¼"		¾" - 10UNC	220 - 240
		ASME Class 300	22	1⅞"		7⁄8" - 9UNC	230 - 250
	DN400 (16")	ASME Class 150 and EN	22	1⅞"		7⁄8" - 9UNC	330 - 350
		ASME Class 300	16	1⅞"		1⅞" - 7UNC	480 - 530

Fig 34 Carbon Steel 'Y' Type Strainer - DN250 to DN400 (10" to 16")



TI-P064-02
CMGT Issue 12

Fig 34
Carbon Steel
Strainer - ASTM Material

Description

The Fig 34 is an integrally flanged Y-type strainer designed to remove rust, scale and other debris from the pipeline. It is produced from carbon steel, ASTM material.
The standard stainless steel screen in the DN15 to DN80 is 0.8 mm perforations and in the DN100 to DN200 it is 1.6 mm perforations.
NB: A low temperature carbon steel strainer is available on request.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive (PED) 2014/68/EC.

Certification

The product is available with a manufacturer's Typical Test Report as standard and certification to EN 10204 3.1 for body and cap by order.
Note: All certification/inspection requirements must be stated at the time of order placement.

Optional extras

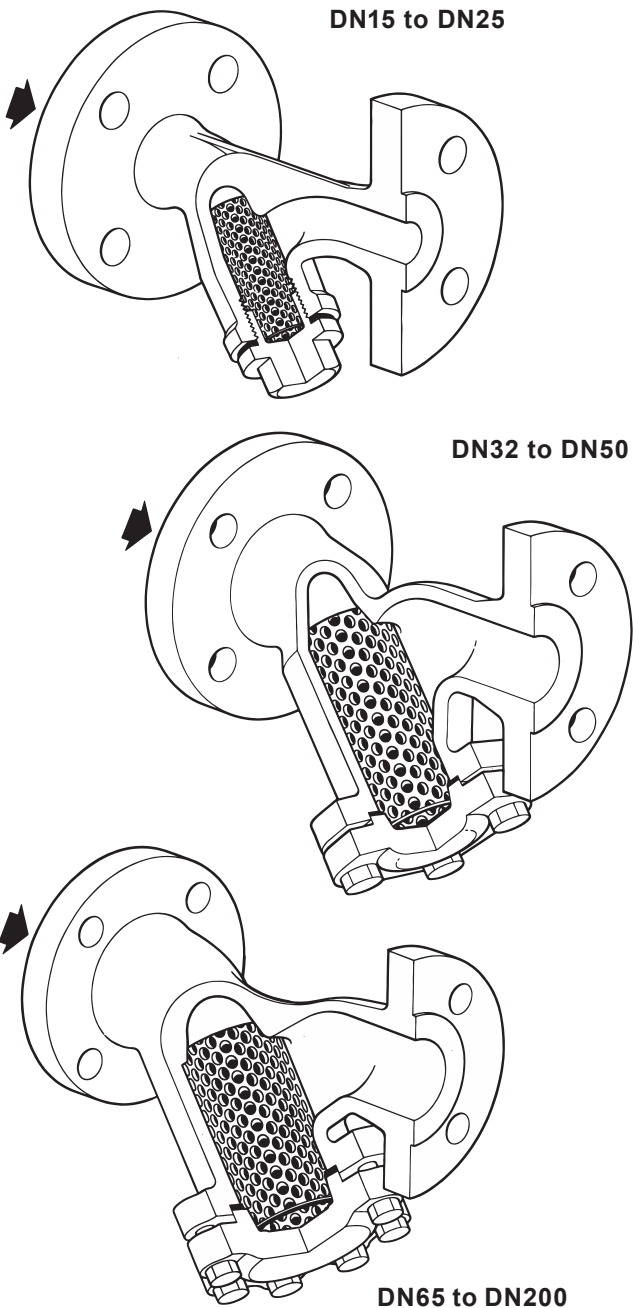
Strainer screens

Stainless steel screen	Perforations	1.6 mm	(DN15 to DN80)
		3.0 mm	(DN15 to DN200)
	Mesh	40, 100 and 200	
Monel screen	Perforations	0.8 mm	(DN15 to DN80)
		1.6 mm	(DN100 to DN200)
		3.0 mm	(DN15 to DN200)
	Mesh	100	

Blowdown or drain valve connections

The cap can be drilled to the following sizes to enable a blowdown or drain valve to be fitted.

Strainer size	Blowdown valve	Drain valve
DN15	1/4"	1/4"
DN20 and DN25	1/2"	1/2"
DN32 and DN40	1"	3/4"
DN50 to DN125	1 1/4"	3/4"
DN150 and DN200	2"	3/4"

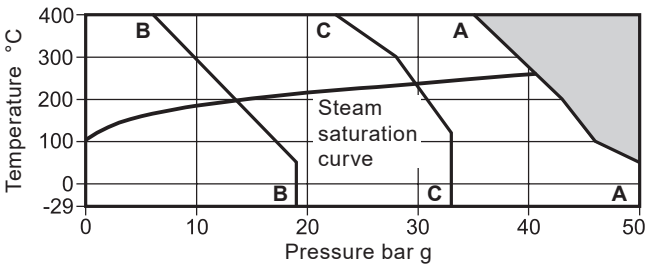


Pipeline ancillaries
Strainers and filters

Sizes and pipe connections

DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN125, DN150 and DN200
Standard flange ASME Class 150, ASME Class 300 and JIS/KS 20.

Pressure/temperature limits



The product **must not** be used in this region.

- A - A Flanged ASME 300
- B - B Flanged ASME 150
- C - C Flanged JIS/KS 20

Body design conditions		PN50/ASME 300
PMA	Maximum allowable pressure	50 bar g @ 37.7 °C
TMA	Maximum allowable temperature	398.8 °C @ 34.8 bar g
Minimum allowable temperature		-29 °C
PMO	Maximum operating pressure	50 bar g @ 37.7 °C
TMO	Maximum operating temperature	398.8 °C @ 34.8 bar g
Minimum operating temperature		-29 °C
Note: For lower operating temperatures consult Spirax Sarco.		
Designed for a maximum cold hydraulic test pressure of		78 bar g

Fig 34 Carbon Steel Strainer - ASTM Material

Materials

No. Part		Material	
1	Body	Carbon steel	ASTM A216 WCB
2	Cap	DN15 - DN50	Forged steel A105N
		DN65 - DN200	Carbon steel ASTM A216 WCB
3	Cap gasket	Reinforced exfoliated graphite	
4	Strainer screen	Stainless steel	ASTM A240 316L
5	Bolts	Carbon steel	ASTM A193 B7

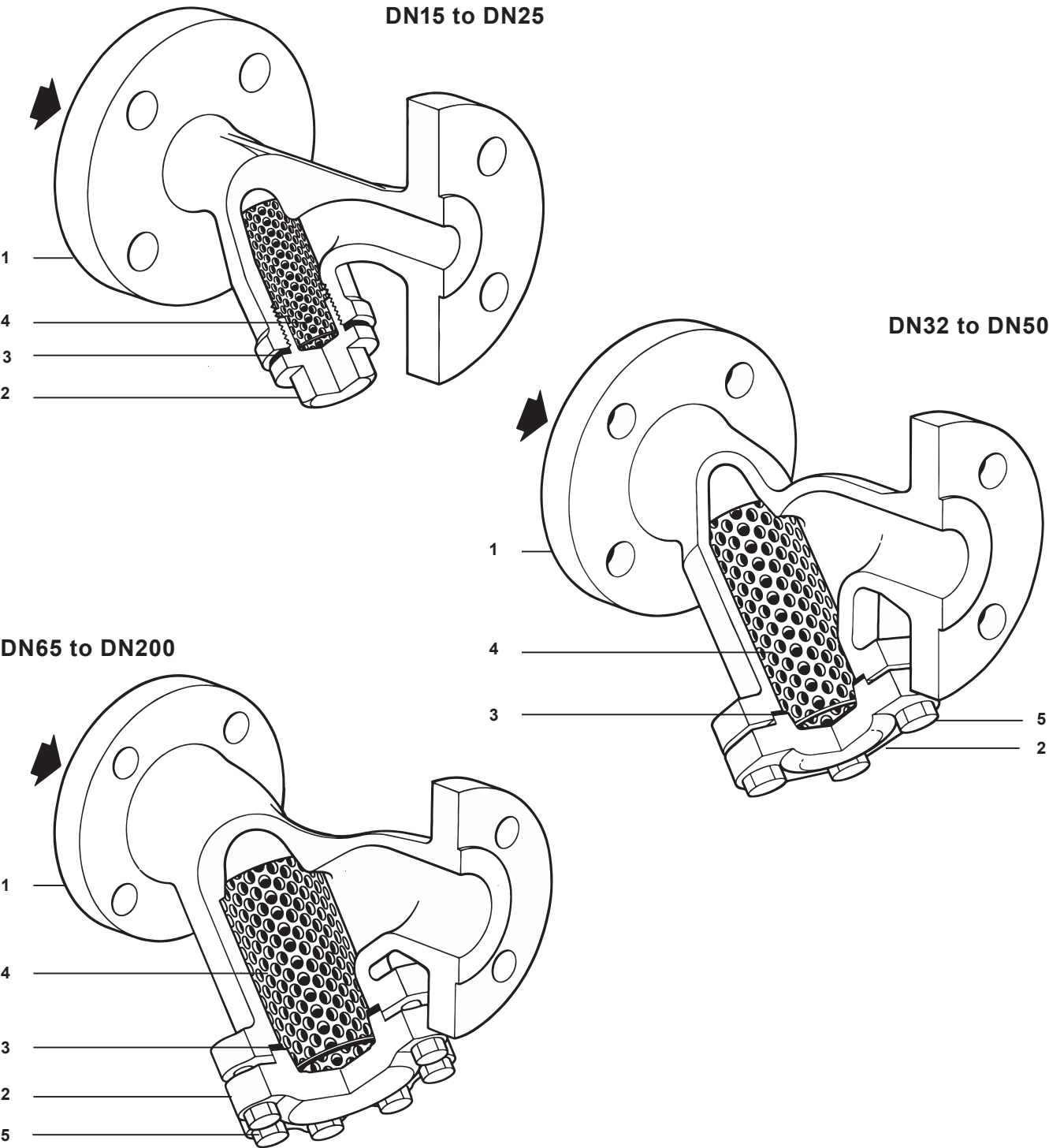


Fig 34 Carbon Steel Strainer - ASTM Material

Pipeline ancillaries
Strainers and filters

K_v values

Size	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
Perforations 0.8, 1.6 and 3 mm	5	8	13	22	29	46	72	103	155	237	340	588
Mesh 40 and 100	5	8	13	22	29	46	72	103	155	237	340	588
Mesh 200	4	6	10	17	23	37	58	83	124	186	268	464

For conversion:
C_v (UK) = K_v x 0.963
C_v (US) = K_v x 1.156

Dimensions/weights (approximate) in mm and kg

Size	ASME 150 A	ASME 300 A	JIS/KS 20 A	B	C	Screening area cm ²	Weight
DN15	120	127	126	70	110	27	2.1
DN20	144	150	150	80	130	43	2.9
DN25	154	160	159	95	150	73	3.8
DN32	180	180	178	130	235	135	6.5
DN40	200	208	202	146	260	164	9.0
DN50	230	240	232	180	320	251	10.5
DN65	290	289	278	200	325	327	17.5
DN80	310	311	297	205	330	361	24.0
DN100	351	351	333	255	405	545	30.0
DN125	401	401	383	315	510	843	49.0
DN150	473	478	461	345	560	1 117	68.0
DN200	593	600	577	440	710	1 909	128.0

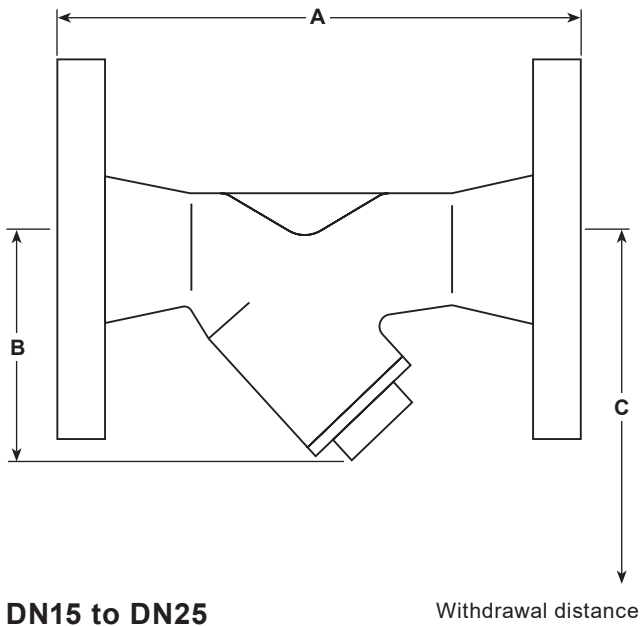


Fig 34 Carbon Steel Strainer - ASTM Material

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S60-18) supplied with the product.

Installation note: The strainer should be installed in the direction of flow, as indicated on the body. On applications involving steam or gases the pocket should be in the horizontal plane. On liquid systems the pocket should point downwards.

Warning: The strainer cap gasket contains a thin stainless steel support ring, which may cause physical injury if not handled and disposed of carefully.

Disposal

The product is recyclable. No ecological hazard is anticipated with disposal of this product, providing due care is taken.

How to order

Example: 1 off Spirax Sarco DN40 Fig 34 strainer having flanged ASME 300 connections with stainless steel screen having 0.8 mm perforations.

Spare parts

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares



Strainer screen (state material, perforations or mesh and size of strainer)	4
Cap gasket (packet of 3)	3

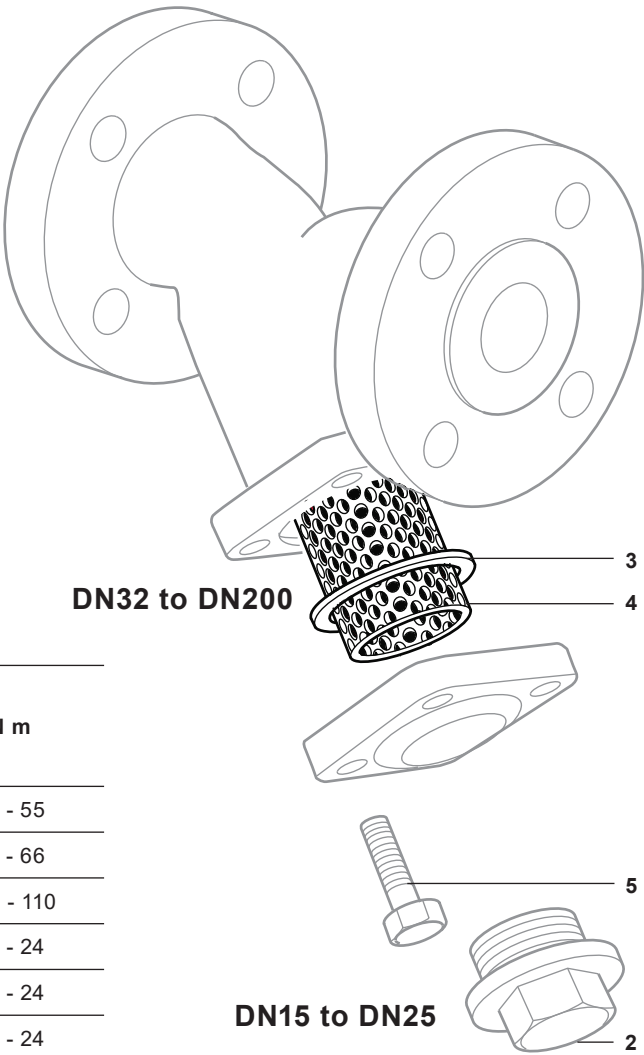
How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of strainer and perforation or mesh required.

Example: 1 off Strainer screen, stainless steel having 0.8 mm perforations for a DN50 Spirax Sarco Fig 34 strainer having ASME 300 connections.

Recommended tightening torques

Item	Size	Qty	 or 	mm	N m
2	DN15	1	22		50 - 55
	DN20	1	27		60 - 66
	DN25	1	27		100 - 110
5	DN32 to DN40	4	19	M12 x 30	20 - 24
	DN50	6	19	M12 x 35	20 - 24
	DN65	8	19	M12 x 35	20 - 24
	DN80	8	19	M12 x 35	30 - 35
	DN100	8	24	M16 x 45	50 - 55
	DN125	8	30	M20 x 50	70 - 77
	DN150	8	30	M20 x 55	80 - 88
	DN200	12	36	M24 x 65	120 - 230





TI-P064-01
CMGT Issue 13

Fig 34
Carbon Steel
Strainer - EN Material

Description

The Fig 34 is a carbon steel integrally flanged Y-type strainer in EN material.
The standard stainless steel screen in the DN15 to DN80 is 0.8 mm perforations and in the DN100 to DN200 it is 1.6 mm perforations.
As options, other perforation and mesh sizes are available as well as monel screens. The strainer cap can be drilled and tapped for blowdown and drain valves if required.
NB: A low temperature carbon steel strainer is available on request.

Standards

This product fully complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations.

Certification

The product is available with a manufacturer's Typical Test Report as standard and certification to EN 10204 3.1 for body and cap by order.
Note: All certification/inspection requirements must be stated at the time of order placement.

Optional extras

Strainer screens

Stainless steel screen	Perforations	1.6 mm	(DN15 to DN80)
		3.0 mm	(DN15 to DN200)
	Mesh	40, 100 and 200	
Monel screen	Perforations	0.8 mm	(DN15 to DN80)
		1.6 mm	(DN100 to DN200)
		3.0 mm	(DN15 to DN200)
	Mesh	100	

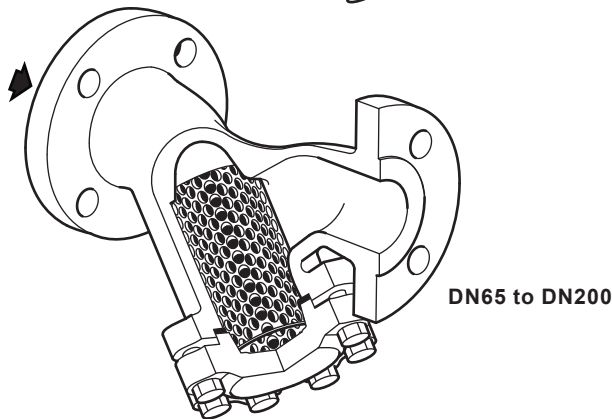
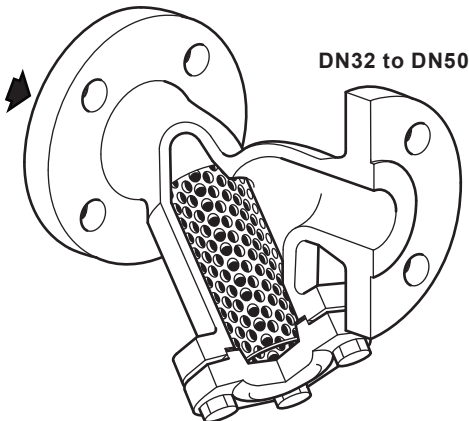
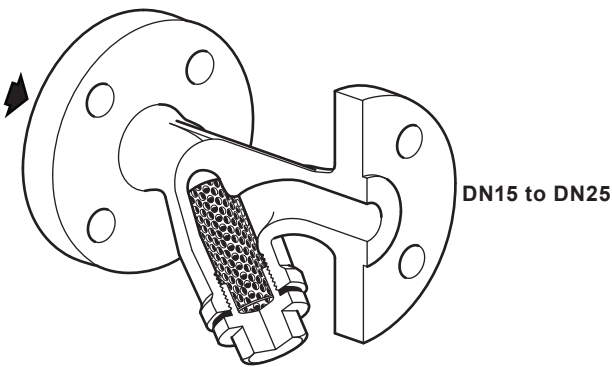
Blowdown or drain valve connections

The cap can be drilled to the following sizes to enable a blowdown or drain valve to be fitted.

Strainer size	Blowdown valve	Drain valve
DN15	1/4"	1/4"
DN20 and DN25	1/2"	1/2"
DN32 and DN40	1"	3/4"
DN50 to DN125	1 1/4"	3/4"
DN150 and DN200	2"	3/4"

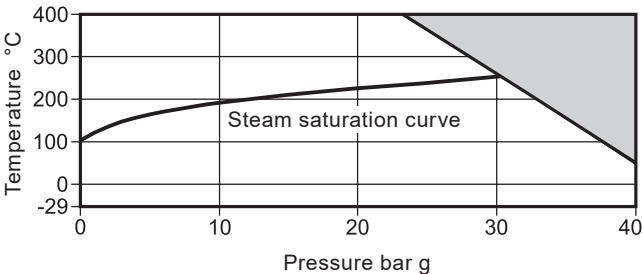
Sizes and pipe connections

DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN125, DN150 and DN200
Standard flange EN 1092 PN40.



Pipeline ancillaries
Strainers and filters

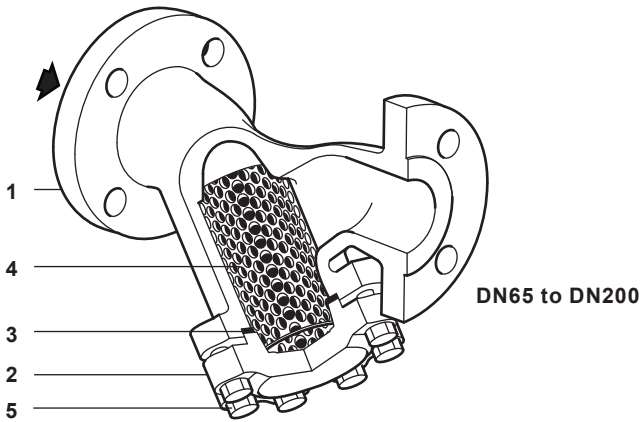
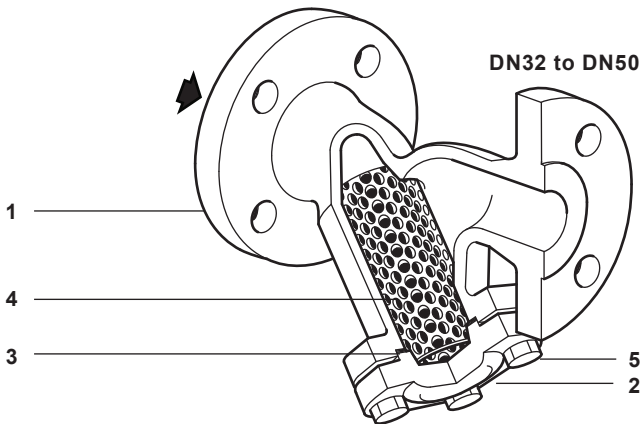
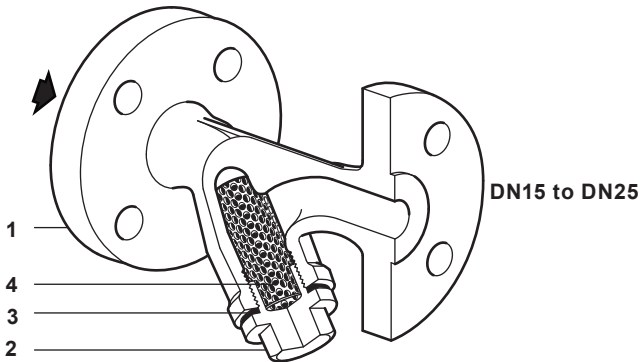
Pressure/temperature limits



The product **must not** be used in this region.

Body design conditions		PN40
PMA	Maximum allowable pressure	40 bar g @ 50 °C
TMA	Maximum allowable temperature	400 °C @ 23.8 bar g
Minimum allowable temperature		-29 °C
PMO	Maximum operating pressure	40 bar g @ 50 °C
TMO	Maximum operating temperature	400 °C @ 23.8 bar g
Minimum operating temperature		-29 °C
Designed for a maximum cold hydraulic test pressure of 69 bar g		

Materials



No.	Part	Material	
1	Body	Carbon steel	1.0619
2	Cap	DN15 - DN50 Forged steel	C22.8
		DN65 - DN200 Carbon steel	1.0619
3	Cap gasket	Reinforced exfoliated graphite	
4	Strainer screen	Stainless steel	ASTM A240 316L
5	Bolts	Stainless steel	ASTM A193 B7

Fig 34 Carbon Steel Strainer - EN Material

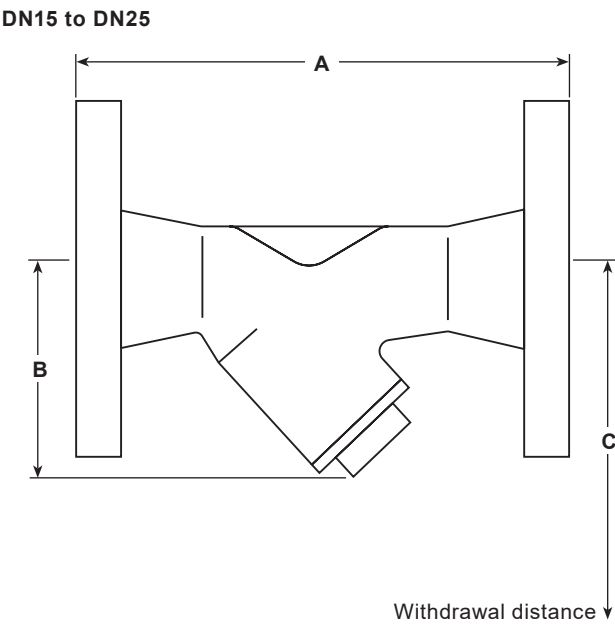
K_v values

Size	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
Perforations 0.8, 1.6 and 3.0 mm	5	8	13	22	29	46	72	103	155	237	340	588
Mesh 40 and 100	5	8	13	22	29	46	72	103	155	237	340	588
Mesh 200	4	6	10	17	23	37	58	83	124	186	268	464

For conversion:
C_v (UK) = K_v x 0.963
C_v (US) = K_v x 1.156

Dimensions/weights (approximate) in mm and kg

Size	PN40 A	B	C	Screening area cm ²	Weight
DN15	130	70	110	27	2.1
DN20	150	80	130	43	2.9
DN25	160	95	150	73	3.8
DN32	180	130	235	135	6.5
DN40	200	146	260	164	9.0
DN50	230	180	320	251	10.5
DN65	290	200	325	327	17.5
DN80	310	205	330	361	24.0
DN100	351	255	405	545	30.0
DN125	400	315	510	843	49.0
DN150	480	345	560	1117	68.0
DN200	600	440	710	1909	128.0



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S60-18) supplied with the product.

Installation note:

The strainer should be installed in the direction of flow, as indicated on the body. On applications involving steam or gases the pocket should be in the horizontal plane. On liquid systems the pocket should point downwards.

Disposal:

This product is recyclable. No ecological hazard is anticipated with disposal of this product, providing due care is taken.

How to order

Example: 1 off Spirax Sarco DN40 Fig 34 strainer flanged to EN 1092 PN40 with stainless steel screen having 0.8 mm perforations.

Pipeline ancillaries
Strainers and filters

Spare parts

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares



Strainer screen (state material, perforations or mesh and size of strainer)	4
Cap gasket (packet of 3)	3

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of strainer and perforation or mesh required.

Example: 1 - Strainer screen, stainless steel having 0.8 mm perforations for a DN50 Spirax Sarco Fig 34 strainer having EN 1092 PN40 connections.

Recommended tightening torques

Item	Size	Qty	 or 	mm	N m
2	DN15	1	22	M28	50 - 55
	DN20	1	27	M32	60 - 66
	DN25	1	27	M42	100 - 110
5	DN32 to DN40	4	19	M12 x 30	20 - 24
	DN50	6	19	M12 x 35	20 - 24
	DN65	8	19	M12 x 35	20 - 24
	DN80	8	19	M12 x 35	30 - 35
	DN100	8	24	M16 x 45	50 - 55
	DN125	8	30	M20 x 50	70- 77
	DN150	8	30	M20 x 55	80- 88
	DN200	12	36	M24 x 65	120- 130

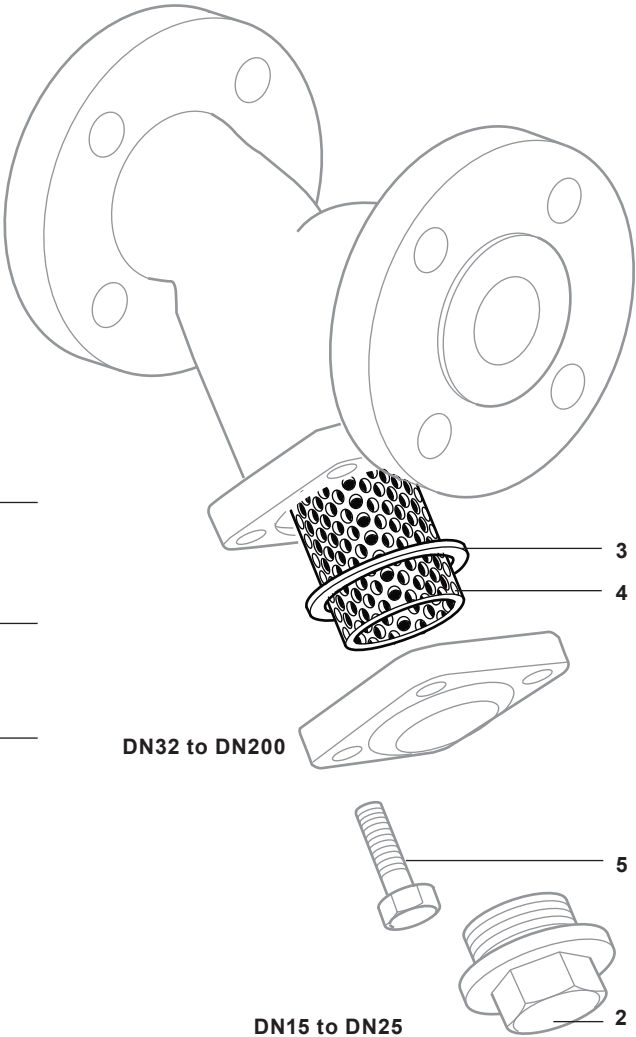


Fig 34 Carbon Steel Strainer - EN Material

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Fig 34HP

Carbon Steel

Strainer

TI-P168-01

ST Issue 1

Description

The Fig 34HP is a cast carbon steel Y-type strainer that has been designed in accordance with ASME B16.34:2004 and ASME VIII, that is readily available with integrally flanged or butt weld connections. The standard stainless steel screen in the DN15 to DN80 size range has 0.8 mm perforations, and 1.6 mm perforations in the DN100 to DN200 size range - See 'Optional extras' for alternative perforations / mesh sizes and screen materials. If required, the strainer cover can be drilled and tapped for blowdown and drain valves.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC and carries the CE mark when so required.

Certification

This product is available with certification to EN 10204 3.1 and NACE Approval.

Note: All certification / inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

Flanged:

EN 1092 PN100, EN 1092 PN63, ASME (ANSI) B16.5 Class 600 and ASME (ANSI) 600 RTJ - DN15, DN20, DN25, DN40, DN50, DN65, DN80, DN100, DN150 and DN200.

Screwed: BSP or NPT - ½", ¾", 1", 1½" and 2"

Socket weld:

ASME (ANSI) B16.11 Class 3000 - ½", ¾", 1", 1½" and 2"

Butt weld:

ASME (ANSI) B16.25 Schedule 40 and Schedule 80 - ½", ¾", 1", 1½", 2", 2½", 3", 4", 6" and 8"

Optional extras

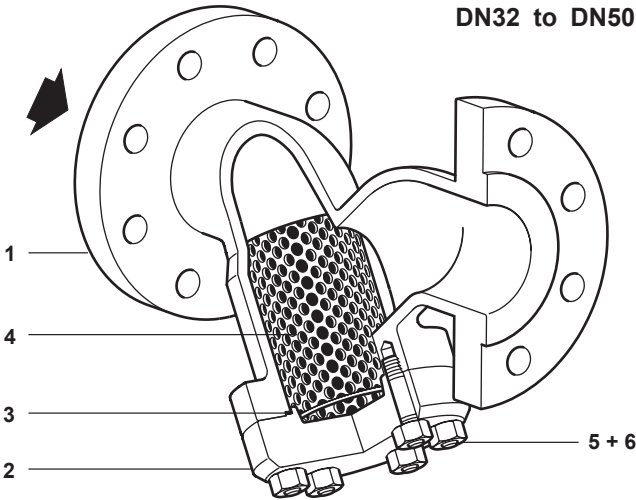
The following optional extras are available for all unit sizes at an extra cost and must be stated at the time of order placement:

Perforations:	0.8 mm (standard), 1 mm, 1.6 mm, 3 mm and 6 mm	
	Contact Spirax Sarco for availability of perforations not displayed.	
Mesh:	M20, M40, M60, M100, M200 and M400	
	Contact Spirax Sarco for availability of mesh screens not displayed.	
Screen material:	AISI 316, AISI 316L (standard), AISI 304, AISI 304L and Monel	

Blowdown / drain valve connection

The cover can be drilled to the following sizes to enable a blowdown or drain valve to be fitted. This option is available at extra cost.

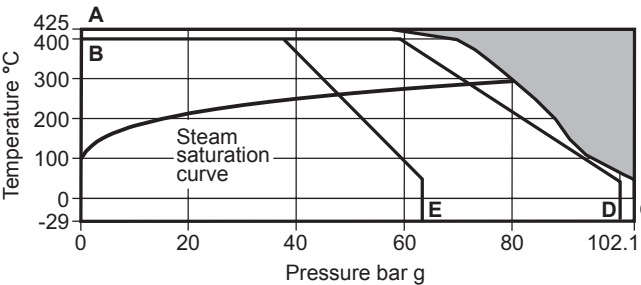
Strainer size	Blowdown valve	Drain valve
DN15	¼"	¼"
DN20 and DN25	½"	½"
DN40	1"	¾"
DN50 to DN100	1¼"	¾"
DN150 to DN200	2"	¾"



Materials

No.	Part	Material
1	Body	Carbon steel EN 10213 10619+N and ASTM A216 WCB
2	Cover	Carbon steel EN10213 1.0619+N and ASTM A216 WCB
3	Cover gasket	Stainless steel + Graphite Spiral wound
4	Strainer screen	Stainless steel AISI 316L
5	Cover stud	Carbon steel ASTM A193 Gr. B7
6	Cover nut	Carbon steel ASTM A194 Gr. 2H

Pressure / temperature limits



The product **must not** be used in this region.

- A - C** Flanged ASME (ANSI) B16.5 Class 600, ASME (ANSI) 600 RTJ, Screwed NPT, Socket weld ASME (ANSI) B16.11 Class 3000 and Butt weld ASME (ANSI) B16.25 Schedule 40 and 80.
- B - D** Flanged EN 1092 PN100 and Screwed BSP.
- B - E** Flanged EN 1092 PN63.

Pressure bar g	A - C Flanged ASME 600 and 600 RTJ Screwed NPT Socket weld and Butt weld	B - D Flanged EN 1092 PN100 and Screwed BSP	B - E Flanged EN 1092 PN63
	ASME 600	PN100	PN63
Body design conditions			
PMA Maximum allowable pressure	102.1 bar g @ 38°C	100 bar g @ 50°C	63 bar g @ 50°C
TMA Maximum allowable temperature	425°C@ 57.5 bar g	400°C@ 59.5 bar g	400°C@ 37.5 bar g
Minimum allowable temperature	-29°C	-29°C	-29°C
PMO Maximum operating pressure	102.1 bar g @ 38°C	100 bar g @ 50°C	63 bar g @ 50°C
TMO Maximum operating temperature	425°C@ 57.5 bar g	400°C@ 59.5 bar g	400°C@ 37.5 bar g
Minimum operating temperature	-29°C	-29°C	-29°C
Note: For lower operating temperatures consult Spirax Sarco.			
Designed for a maximum cold hydraulic test pressure of:	153 bar g	150 bar g	95 bar g

K_V values

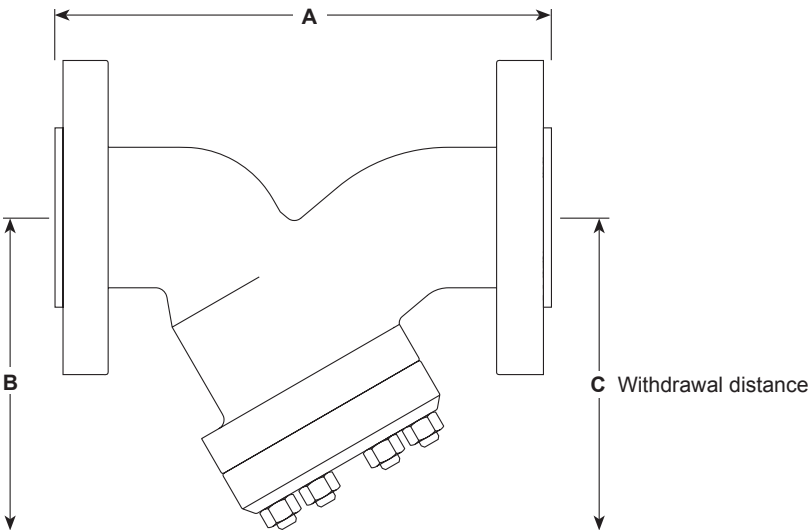
For conversion: C_V (UK) = K_V x 0.963 C_V (US) = K_V x 1.156

Size	DN15	DN20	DN25	DN40	DN50	DN65	DN80	DN100	DN150	DN200
Perforations 0.8, 1.6 and 3 mm	5	8	13	29	46	72	103	155	340	588
Mesh M40 and M100	5	8	13	29	46	72	103	155	340	588
Mesh M200	4	6	10	23	37	58	83	124	268	464

Please consult Spirax Sarco for the K_V values of the following screens: 1 mm, 6 mm, M20, M60 and M400.

Dimensions / weights (approximate) in mm and kg

Size	A			B	C	Weights		
	ASME 600	PN100	Screwed Socket weld Butt weld			ASME 600	PN100	Screwed Socket weld Butt weld
DN15	165	210	165	117	200	3.6	4.0	1.6
DN20	190	230	190	117	200	4.6	4.9	1.8
DN25	216	230	216	117	200	5.6	7.6	2.2
DN40	241	260	241	195	330	12.2	12.2	7.2
DN50	292	300	292	195	330	17.4	18.0	7.6
DN65	330	340	330	222	340	34.0	35.0	16.2
DN80	356	380	356	222	340	35.0	36.0	20.6
DN100	432	430	432	280	458	60.0	59.0	31.9
DN150	559	550	559	360	610	130.0	128.0	74.8
DN200	660	650	660	455	775	222.0	222.0	143.5



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Fig B34

Carbon Steel

'T' Type or Basket Type Strainers

TI-P168-04

ST Issue 2

Description

The **Fig B34 basket type** strainer has been designed for fitting into a horizontal pipeline and has a drain plug fitted at the bottom of the body to drain the unit. The **Fig B34 'T' type** strainer has been designed for fitting into a vertical pipeline and can has an optional drain plug fitted on the side of the body to drain the unit. These strainers are supplied as integrally flanged units and have a stainless steel strainer screen with 3 mm perforations as standard and the cover has a tapping for fitting a handling eyebolt:

- DN125 to DN150 3/8" UNC-2B tapping.
- DN200 to DN350 1/2" UNC-2B tapping.

Optional strainer screens - Available on request for all sizes:

- Stainless steel strainer screen **having 0.8 mm perforations.**
- Stainless steel strainer screen **having 1.6 mm perforations.**
- Stainless steel strainer screen **having Mesh 40.**
- Stainless steel strainer screen **having Mesh 100.**

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97 / 23 / EC and carries the **CE** mark when so required.

Certification:

This product is available with certification to EN 10204 3.1 and NACE approval. **Note:** All certification / inspection requirements must be stated at the time of order placement.

Optional extras - Available at extra cost

Pressure gauge connections - Bosses are provided on the body upstream and downstream of the screen which can be drilled and tapped to accommodate pressure gauges.

The cover can be drilled and tapped for an air vent - If you want to use the strainer on a vertical pipeline ('T' position) the body should be drain of condensate via a drain plug that is situated at the side of the body.

Sizes and pipe connections

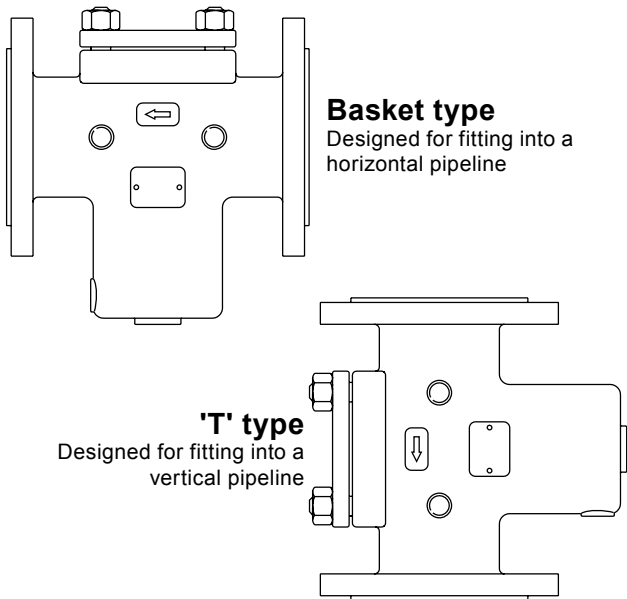
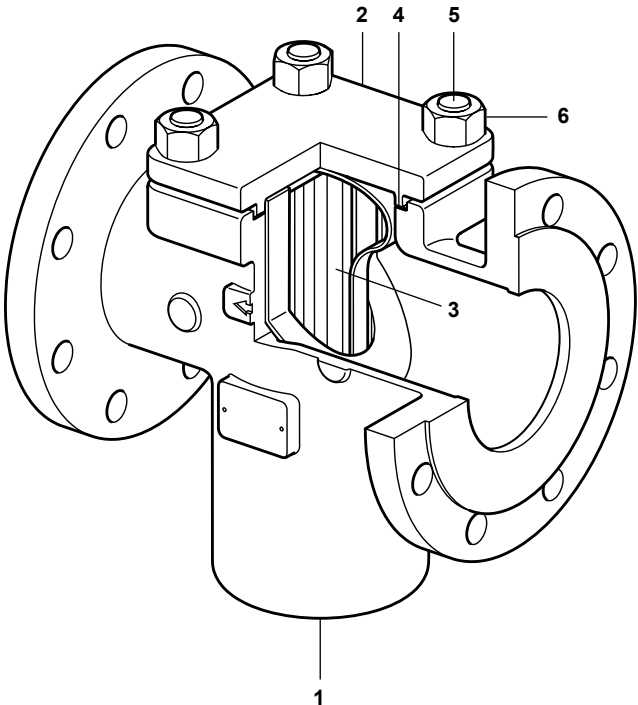
DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, DN250, DN300 and DN350.

Flanged:

- EN 1092 PN16, PN25 and PN40.
- JIS / KS 10K and JIS / KS 20K.
- ASME B 16.5 Class 150 and Class 300.

Face-to-face dimensions are in accordance with:

- EN 558 Series 1 for the PN and JIS / KS.
- ASME B16.10 Class 150 for the ASME Class 150 rated design.
- ASME B16.10 Class 300 for the ASME Class 300 rated design.

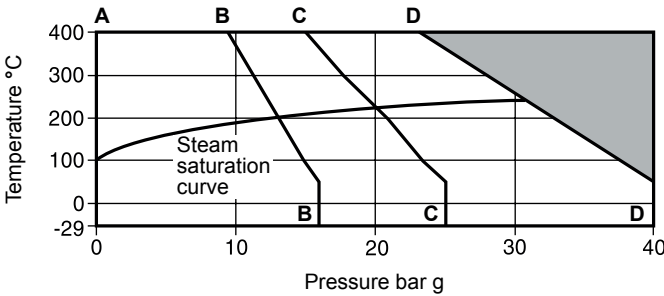


Materials

No.	Part	Material	
1	Body	Carbon steel	EN 10213 1.0619+N and ASTM A216 WCB
2	Cover	Carbon steel	EN 10213 1.0619+N and ASTM A216 WCB
3	Screen	Stainless steel	
4	Gasket	Reinforced exfoliated graphite	
5	Studs	Carbon steel	ASTM A193 Gr. B7
6	Nuts	Carbon steel	ASTM A194 Gr. 2H

Pressure / temperature limits - EN 1092

Flanged:
PN16
PN25
PN40

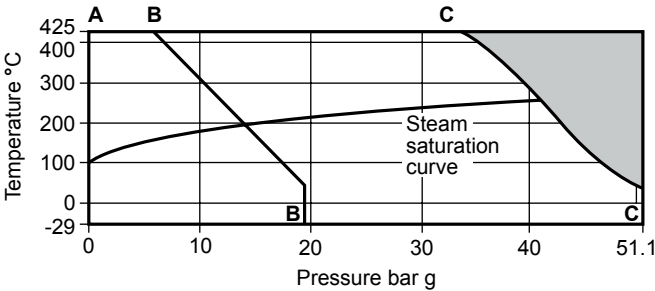


The product **must not** be used in this region or beyond the parameter of the PMA or TMA of the relative end connection.

A - B - B	PN16	Body design condition	PN16
		PMA Maximum allowable pressure	16 bar g @ 50°C
		TMA Maximum allowable temperature	400°C @ 9.5 bar g
		Minimum allowable temperature	-29°C
		PMO Maximum operating pressure for saturated steam service	13.4 bar g @ 193°C
		TMO Maximum operating temperature	400°C @ 9.5 bar g
		Minimum operating temperature	-29°C
		Designed for a maximum cold hydraulic test pressure of:	24 bar g
A - C - C	PN25	Body design condition	PN25
		PMA Maximum allowable pressure	25 bar g @ 50°C
		TMA Maximum allowable temperature	400°C @ 14.8 bar g
		Minimum allowable temperature	-29°C
		PMO Maximum operating pressure for saturated steam service	20.2 bar g @ 217°C
		TMO Maximum operating temperature	400°C @ 14.8 bar g
		Minimum operating temperature	-29°C
		Designed for a maximum cold hydraulic test pressure of:	37.5 bar g
A - D - D	PN40	Body design condition	PN40
		PMA Maximum allowable pressure	40 bar g @ 50°C
		TMA Maximum allowable temperature	400°C @ 23.8 bar g
		Minimum allowable temperature	-29°C
		PMO Maximum operating pressure for saturated steam service	31.2 bar g @ 236°C
		TMO Maximum operating temperature	400°C @ 23.8 bar g
		Minimum operating temperature	-29°C
		Designed for a maximum cold hydraulic test pressure of:	60 bar g

Pressure / temperature limits - ASME

Flanged:
ASME Class 150
ASME Class 300

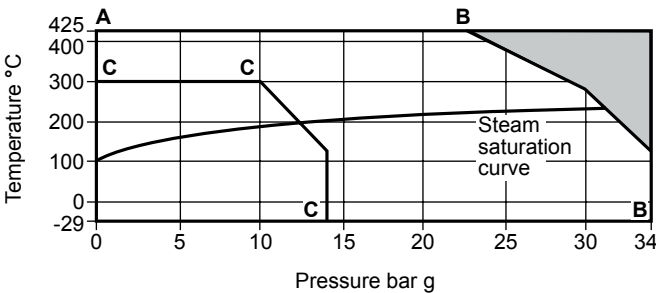


The product **must not** be used in this region or beyond the parameter of the PMA or TMA of the relative end connection.

A - B - B	ASME 150	Body design condition	ASME Class 150
		PMA Maximum allowable pressure	19.6 bar g @ 38°C
		TMA Maximum allowable temperature	425°C @ 5.5 bar g
		Minimum allowable temperature	-29°C
		PMO Maximum operating pressure for saturated steam service	13.9 bar g @ 197°C
		TMO Maximum operating temperature	425°C @ 5.5 bar g
		Minimum operating temperature	-29°C
		Designed for a maximum cold hydraulic test pressure of:	29.4 bar g
A - C - C	ASME 300	Body design condition	ASME Class 300
		PMA Maximum allowable pressure	51.1 bar g @ 38°C
		TMA Maximum allowable temperature	425°C @ 28.8 bar g
		Minimum allowable temperature	-29°C
		PMO Maximum operating pressure for saturated steam service	42 bar g @ 255°C
		TMO Maximum operating temperature	425°C @ 28.8 bar g
		Minimum operating temperature	-29°C
		Designed for a maximum cold hydraulic test pressure of:	77 bar g

Pressure / temperature limits - JIS/KS

Flanged:
JIS / KS 10K
JIS / KS 20K



The product **must not** be used in this region or beyond the parameter of the PMA or TMA of the relative end connection.

A - B - B	JIS/KS 20K	Body design condition	JIS/KS 20K
		PMA Maximum allowable pressure	34 bar g @ 120°C
		TMA Maximum allowable temperature	425°C @ 20 bar g
		Minimum allowable temperature	-29°C
		PMO Maximum operating pressure for saturated steam service	30.7 bar g @ 232°C
		TMO Maximum operating temperature	425°C @ 20 bar g
		Minimum operating temperature	-29°C
		Designed for a maximum cold hydraulic test pressure of:	51 bar g
C - C - C	JIS/KS 10K	Body design condition	JIS/KS 10K
		PMA Maximum allowable pressure	14 bar g @ 120°C
		TMA Maximum allowable temperature	300°C @ 10 bar g
		Minimum allowable temperature	-29°C
		PMO Maximum operating pressure for saturated steam service	12.6 bar g @ 193°C
		TMO Maximum operating temperature	300°C @ 10 bar g
		Minimum operating temperature	-29°C
		Designed for a maximum cold hydraulic test pressure of:	21 bar g

Typical product name-plate

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Type	FIG B34 DN250 PN40	
○	PMA: 40 bar g	3 mm
	T max : 400°C	T min : -29°C
Serial No		
CE	0038	Made in France

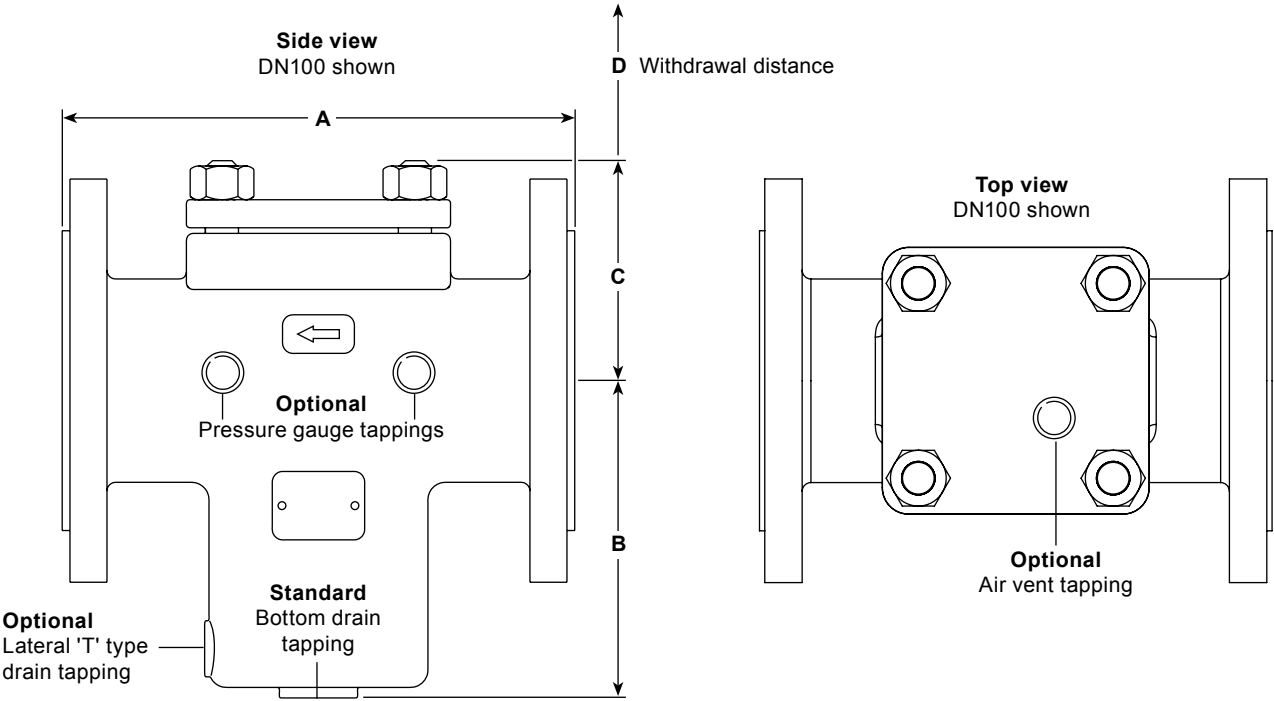
K_v values

Size	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350
K _v	25	43	84	156	353	488	748	1869	3686	5244	8100

For conversion: C_v (UK) = K_v x 0.963 C_v (US) = K_v x 1.156

Dimensions / Weights (approximate) in mm and kg

Body rating	Size	Dimensions						Tappings				Weights	
		PN JIS KS	A		B	C	D	Standard Bottom drain	Optional Lateral 'T' type drain	Optional Pressure gauge	Optional Air vent on the cover	PN JIS KS	ASME
			150	300									
PN40	DN40	200	165	229	121.5	71.5	150	1/2"	3/8"	1/4"	1/4"	14.0	15.0
	DN50	230	203	267	131.5	79.0	170	1/2"	3/8"	1/4"	1/4"	16.0	16.5
PN25	DN65	290	216	292	152.0	97.5	190	3/4"	1/2"	1/4"	1/4"	19.0	20.0
PN16	DN80	310	241	318	161.0	114.5	210	3/4"	1/2"	1/4"	1/4"	30.0	33.0
JIS/KS 20	DN100	350	292	356	181.0	125.5	250	3/4"	1/2"	1/4"	1/4"	35.5	42.5
JIS/KS 10	DN125	400	330	400	218.5	148.0	290	1 1/2"	3/4"	1/4"	1/4"	67.0	74.5
ASME 150 and ASME 300	DN150	480	356	444	238.5	174.5	330	1 1/2"	3/4"	1/4"	1/4"	76.0	86.5
	DN200	600	495	559	290.5	206.0	400	1 1/2"	3/4"	1/4"	1/4"	166.0	175.0
	DN250	730	622	622	325.5	244.0	480	1 1/2"	3/4"	1/4"	1/2"	205.0	210.5
	DN300	850	698	711	368.5	307.5	550	2"	1"	1/4"	1/2"	341.5	369.5
	DN350	980	787	838	383.5	332.0	600	2"	1"	1/4"	1/2"	459.5	426.5



Body rating	Size	Screening area (cm²)	Opening %				Opening / Inlet ratio			
			3.0	1.6	0.8	M100 M40	3.0	1.6	0.8	M100 M40
PN40	DN40	139	32%	30%	26%	23%	3.54	3.32	2.88	2.53
	DN50	216					3.52	3.30	2.86	2.51
PN25	DN65	343					3.31	3.10	2.69	2.36
PN16	DN80	590					3.76	3.52	3.05	2.68
	DN100	916					3.73	3.50	3.03	2.66
JIS/KS 20	DN125	1191					3.11	2.91	2.52	2.22
JIS/KS 10	DN150	1692					3.06	2.87	2.49	2.19
	DN200	3486					3.55	3.33	2.89	2.54
ASME 150	DN250	5223					3.40	3.19	2.77	2.43
ASME 300	DN300	7379					3.34	3.13	2.71	2.39
	DN350	9597					3.19	2.99	2.59	2.28

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S60-24) supplied with the product.

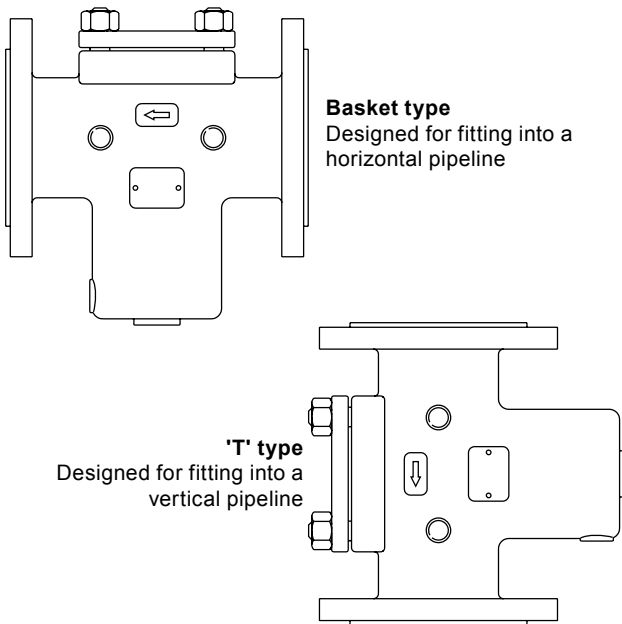
Warning:

The strainer cover gasket contains a thin stainless steel support ring, which may cause physical injury if it is not handled and disposed of carefully.

Installation note:

The **Fig B34 basket type** strainer must be fitted in a horizontal pipeline and the **Fig B34 'T' type** strainer must be fitted in a vertical pipeline. Both must be fitted with the direction of flow as shown on the body.

Suitable isolation valves must be installed to allow for safe maintenance and strainer replacement.



Maintenance note:

Maintenance can be completed with the strainer in the pipeline, once the safety procedures have been observed. It is recommended that a new gasket is used whenever maintenance is undertaken.

Recommended tightening torques

Size	Quantity	Dimensions	Torque (N m)
DN40	4	½" - 13 UNC	15
DN50			22
DN65	4	⅝" - 11 UNC	40
DN80	4	¾" - 10 UNC	70
DN100			100
DN125	6	⅞" - 11 UNC	100
DN150	6		160
DN200	8		205
DN250	12	1⅞" - 7 UNC	205
DN300	12		375
DN350	14		420

Disposal:

The product is recyclable. No ecological hazard is anticipated with disposal of this product, providing due care is taken.

How to order

Example: 1 off Spirax Sarco DN200 Fig B34 strainer flanged to EN 1092 PN16 with a stainless steel screen having 3 mm perforations.

Spare parts

The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

Available spares

Strainer screen (state material, size of perforations and size of strainer)	4
Cap gasket (packet of 3)	3
Set of cap studs and nuts	5, 6

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of strainer.

Example: 1 - Stainless steel screen having 3 mm perforations for a DN250 Spirax Sarco Fig B34 strainer.

Note: When ordering a spare screen it is advisable to order a cap gasket (packet of 3).

