TI-P163-01
CMGT Issue 9

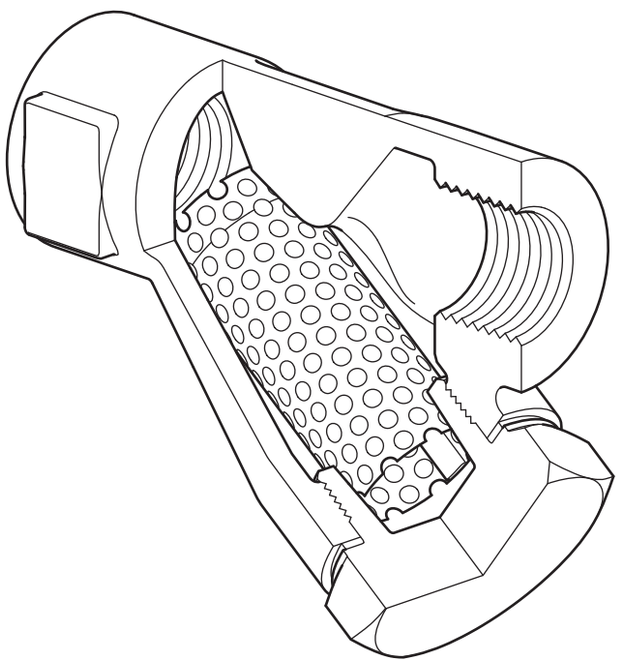
Fig 12 SG Iron Strainer

Description
The Fig 12 is an SG iron screwed Y-type strainer. The standard stainless steel screen is 0.8 mm perforations. As options, other perforations 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.

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

Certification
This product is available with a manufacturers' Typical Test Report.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections
½", ¾", 1", 1¼", 1½" and 2" screwed BSP or NPT.



Optional extras

Strainer screens

Stainless steel screen	Perforations	1.6, 3 mm
	Mesh	40, 100, 200
Monel	Perforations	0.8, 3 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.

Strainer size	Blowdown valve	Drain valve
½"	¼"	¼"
¾" and 1"	½"	½"
1¼" and 1½"	1"	¾"
2"	1¼"	¾"

10.6
11

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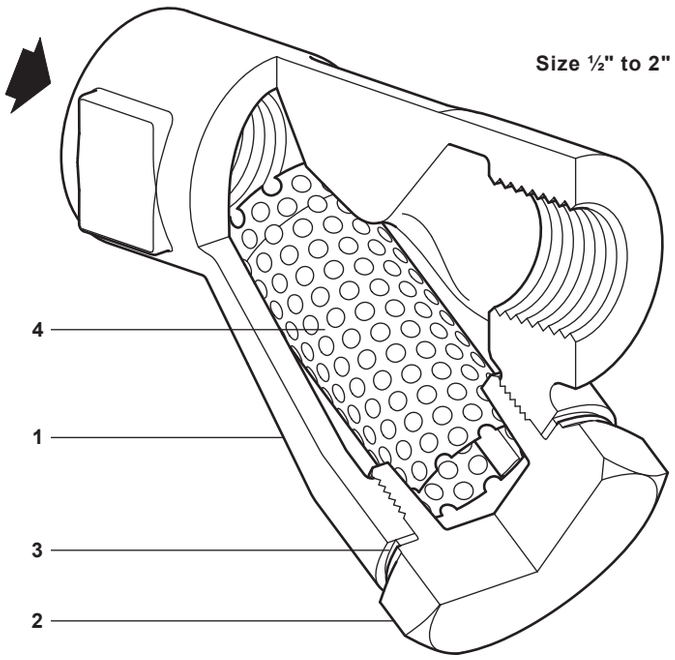
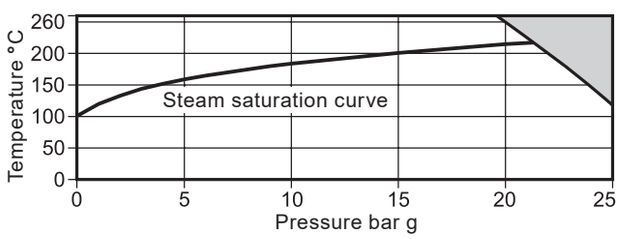
Materials



No.	Part	Material	
1	Body	SG iron	DIN 1693 GGG 40
2	Cap	Carbon steel	1.0460 and ASTM A105N
3	Cap gasket	Reinforced exfoliated graphite	
4	Strainer screen	Stainless steel	316L

Pressure/temperature limits



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

Body design conditions		PN25
PMA	Maximum allowable pressure	25 bar g @ 120 °C
TMA	Maximum allowable temperature	260 °C @ 19.5 bar g
Minimum allowable temperature		-10 °C
PMO	Maximum operating pressure for saturated steam service	21 bar g
TMO	Maximum operating temperature	260 °C @ 19.5 bar g
Minimum operating temperature **Note:** For lower operating temperatures consult Spirax Sarco		-10 °C
Designed for a maximum cold hydraulic test pressure of:		38 bar g

Fig 12 SG Iron Strainer

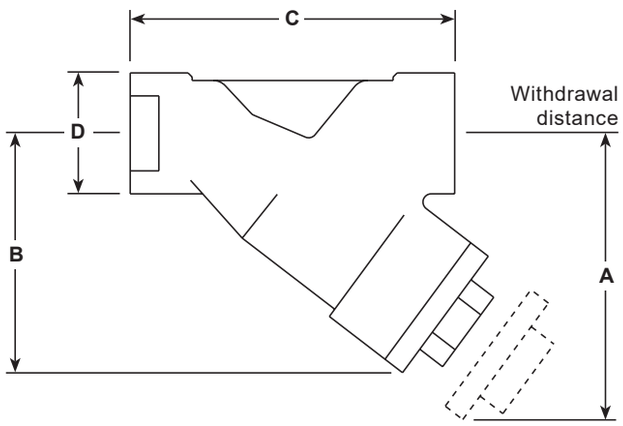
K_v values

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

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	A	B	C	D	Screening area cm²	Weight
½"	87	55	79	32	25	0.47
¾"	110	65	93	36	42	0.77
1"	125	78	110	48	71	1.40
1¼"	155	103	140	60	135	2.15
1½"	190	115	153	65	161	3.30
2"	230	140	177	76	251	5.10



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S60-17) supplied with the product.

Warning:

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

Maintenance note:

Maintenance can be completed with the strainer in the pipeline.

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 2" Fig 12 SG iron strainer, screwed BSP, 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 dotted line are not supplied as spares.

Available spares

Strainer screen (state material, size of 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 1½" Spirax Sarco Fig 12 strainer.

Recommended tightening torques

Item	Qty	Size	or mm		N m
2	1	½"	36	M28	38 - 40
	1	¾"	38	M32	42 - 48
	1	1"	50	M42	70 - 80
	1	1¼"	46	M56	124 - 144
	1	1½"	50	M60	164 - 184
	1	2"	60	M72	234 - 264

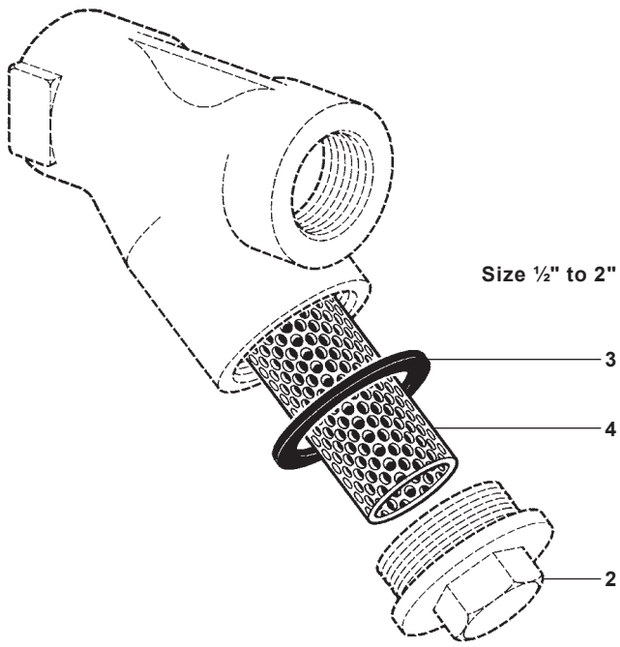


Fig 12 SG Iron Strainer

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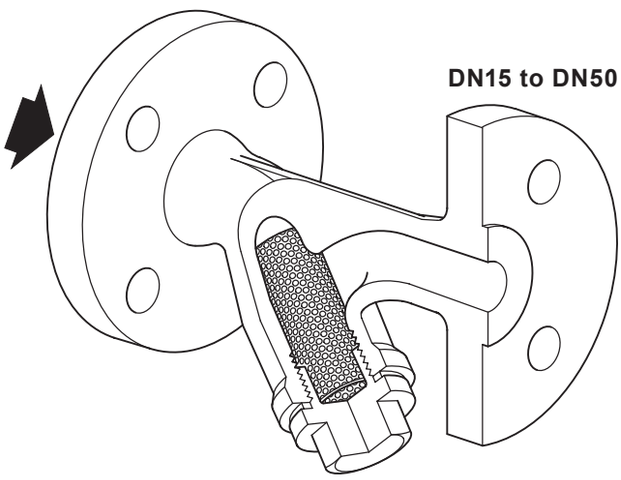
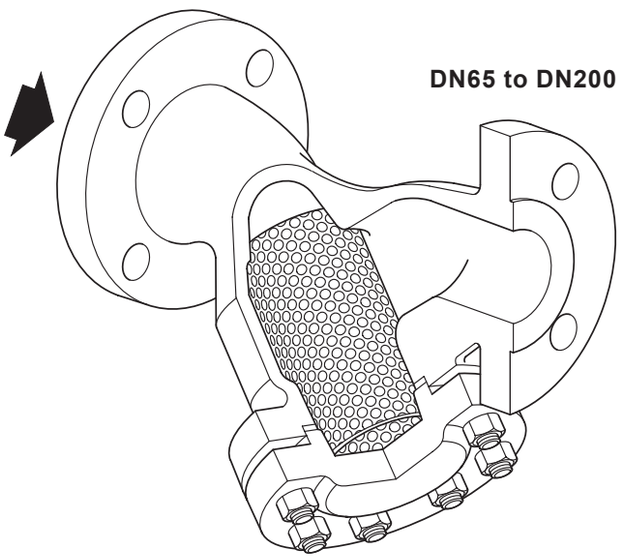
CMGT Issue 12

Fig 37
SG Iron
Strainer

Description

The Fig 37 is an SG iron integrally flanged Y-type strainer.
The standard stainless steel screen in the DN15 to DN80 size range is 0.8 mm perforations, in the DN100 to DN200 it is 1.6 mm perforations.
As options other perforations 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.





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)
		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 at extra cost.

Strainer size	Blowdown valve	Drain valve
DN15	¼"	¼"
DN20 and DN25	½"	½"
DN32, DN40 and DN50	1"	¾"
DN65 to DN125	1¼"	¾"
DN150 and DN200	2"	¾"

Standards

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

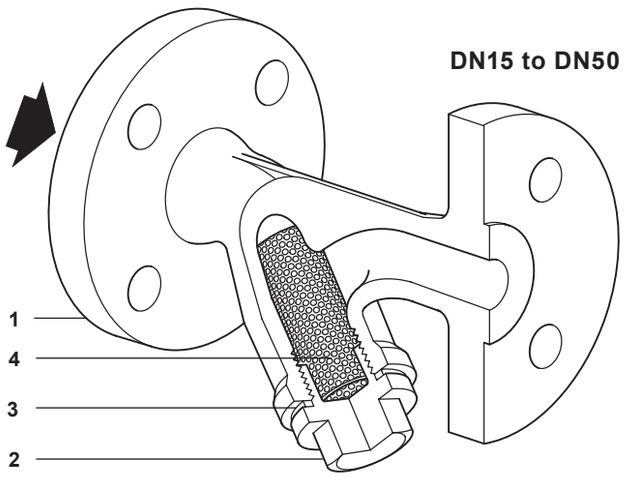
Certification

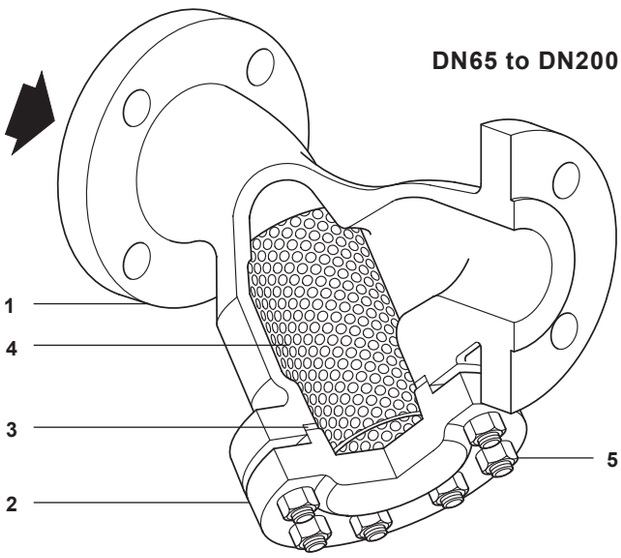
The product is available a manufacturers' Typical Test Report for the body and cap as standard and EN 10204 3.1 to special order at extra cost.
Note: All certification/inspection requirements must be stated at the time of order placement.

Pipeline ancillaries
Strainers and filters

Sizes and pipe connections
DN15 to DN150 standard flange EN 1092 PN40 and ANSI 150.
DN200 standard flange EN 1092 PN25 and ANSI 150.
JIS/KS 10K and 20K.
DN50 to DN200 sizes are also available with ASME (ANSI) 150 (except DN100) and JIS 10K connections on request.

Materials

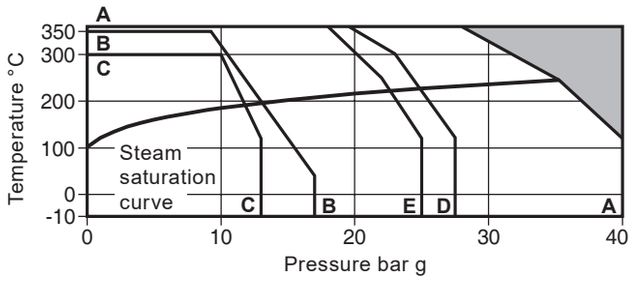




No.	Part		Materials	
1	Body		SG iron	DIN 1693 GGG 40
2	Cap	DN15 to DN50	Carbon steel	DIN 17245 C22.8
		DN65 to DN100	SG iron	EN-GJS-400-15
		DN125 to DN200	Carbon steel	DIN 17245 GS C25N
3	Cap gasket		Reinforced exfoliated graphite	
4	Strainer screen		Stainless steel	ASTM A240 316L
	Cap stud	DN65 to DN200	Carbon steel	BS 4439 Gr. 8.8
5	Cap nut	DN65 to DN200	Carbon steel	BS 3692 Gr.

Fig 37 SG Iron Strainer

Pressure/temperature limits



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

A - A Flanged EN 1092 PN40.

B - B Flanged ANSI 150.

C - C Flanged JIS/KS 10K.

A - D Flanged JIS/KS 20K.

A - E Flanged EN 1092 PN25.

Body design conditions	DN15 - DN150	PN40
	DN200	PN25
PMA Maximum allowable pressure	DN15 - DN150	40 bar g @ 120 °C
	DN200	25 bar g @ 120 °C
TMA Maximum allowable temperature		350 °C
Minimum allowable temperature		-10 °C
PMO Maximum operating pressure	DN15 - DN150	40 bar g @ 120 °C
	DN200	25 bar g @ 120 °C
TMO Maximum operating temperature	DN15 - DN150	350 °C @ 28.5 bar g
	DN200	350 °C @ 17.5 bar g
Minimum operating temperature		-10 °C
Designed for a maximum cold hydraulic test pressure of:	PN25	38 bar g
	PN40	60 bar g
	ANSI 150	30 bar g
	JIS/KS 20K	49 bar g
	JIS/KS 10K	28 bar g

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

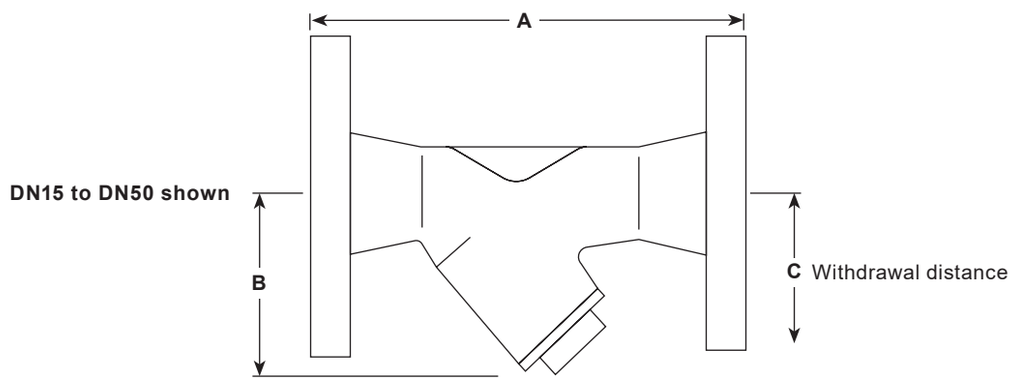
For conversion:
C_V (UK) = K_V x 0.963
C_V (US) = K_V x 1.156

Fig 37 SG Iron Strainer

Pipeline ancillaries
Strainers and filters

Dimensions/weights (approximate) in mm and kg

Size	PN40 A	PN25 A	ANSI 150 A	JIS 10K A	JIS 20K	B	C	Screening area cm²	Weight
DN15	130	-	122	123	127	70	110	25	1.85
DN20	150	-	142	143	147	80	130	42	2.80
DN25	160	-	156	153	156	95	150	71	3.50
DN32	180	-	176	177	180	135	225	135	6.20
DN40	200	-	200	197	200	145	240	161	7.40
DN50	230	-	230	223	227	175	300	251	11.20
DN65	290	-	291	282	286	200	335	352	20.00
DN80	310	-	311	298	306	210	340	360	24.00
DN100	350	-	-	337	349	255	415	540	36.00
DN125	400	-	398	389	401	300	510	840	60.00
DN150	480	-	482	469	481	345	575	1 115	83.00
DN200	-	600	600	585	601	435	730	1 905	148.00



Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-S60-18) 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 DN80 Fig 37 strainer having flanged EN 1092 PN40 connections with a stainless steel screen having 0.8 mm perforations.

Fig 37 SG Iron Strainer

Spare parts

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

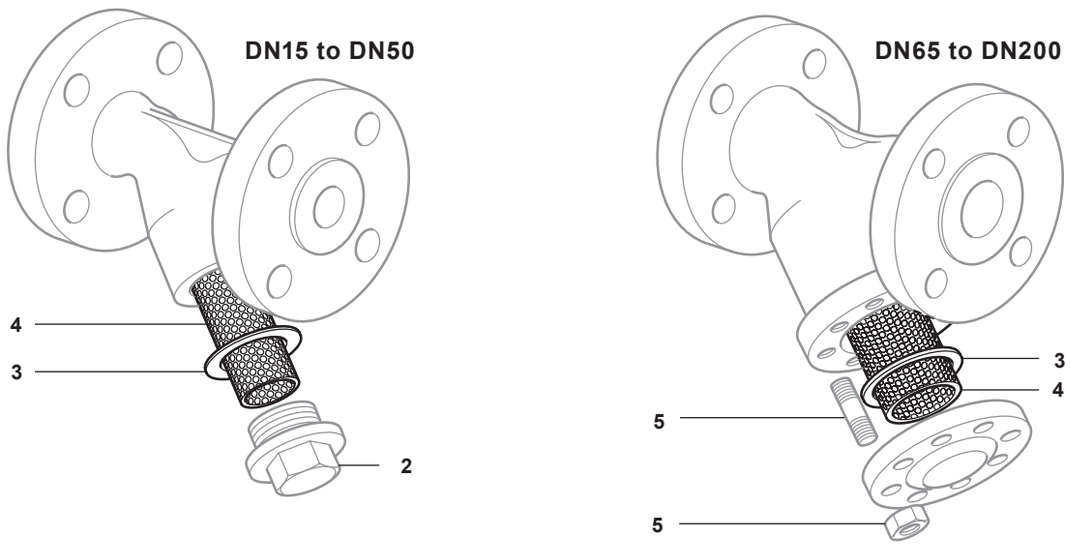
Available spares

Strainer screen (state material, size of perforation 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 DN50 Spirax Sarco Fig 37 strainer having EN 1092 PN25 connections.



Recommended tightening torques

Item	Qty	Size	or mm		N m
2	1	DN15	22	M28	50 - 55
	1	DN20	27	M32	60 - 66
	1	DN25	27	M42	100 - 110
	1	DN32	46	M56	250 - 275
	1	DN40	50	M60	250 - 275
	1	DN50	60	M72	310 - 340
5	8	DN65	19	M12 x 35	20 - 24
	8	DN80	19	M12 x 35	30 - 35
	8	DN100	24	M16 x 45	70 - 77
	8	DN125	30	M20 x 50	80 - 88
	8	DN150	30	M20 x 55	100 - 110
	12	DN200	36	M24 x 65	90 - 100

10 Pipeline ancillaries
Strainers and filters

spirax sarco

TI-P081-03
ST Issue 7

Fig 3716
SG Iron
Strainer - DIN Material

Description

The Fig 3716 is an SG iron integrally flanged Y-type strainer with flanged screen cover in DIN material.
The standard stainless steel screen in the DN15 to DN80 has 0.8 mm perforations and in the DN100 to DN200 it has 1.6 mm perforations. As options, other perforation and mesh sizes are available. The strainer cap can be drilled and tapped for blowdown and drain valves if required. The body can also be drilled and tapped for pressure tappings if required.

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

Optional extras

Strainer screens

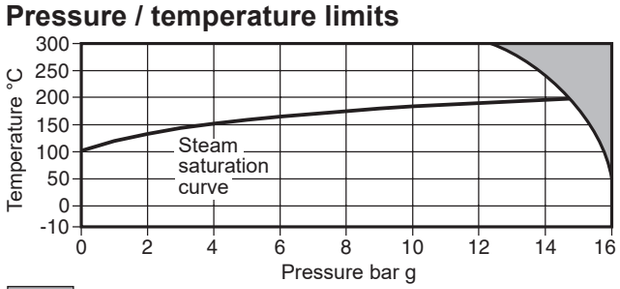
Stainless steel screen	Perforations	1.6 mm (DN15 to DN80) 3.0 mm (DN15 to DN200)
	Mesh	40, 100, 200
Monel screen	Perforations	0.8 mm (½" to 3") 1.6 mm (4" to 8") 3.0 mm (½" to 8")
	Mesh	100

Blowdown, drain valve and pressure connections

The cap can be tapped to enable a blowdown or drain valve to be fitted. The body can be drilled for pressure tappings. These options are available at extra cost. **Connection sizes are as shown below:**

Strainer size	Blowdown valve	Drain valve	Pressure tapping
DN15 to DN20	⅜"	⅜"	¼"
DN25 to DN32	½"	½"	¼"
DN40 and DN80	¾"	¾"	¼"
DN100 to DN200	1"	1"	¼"

Pressure / temperature limits



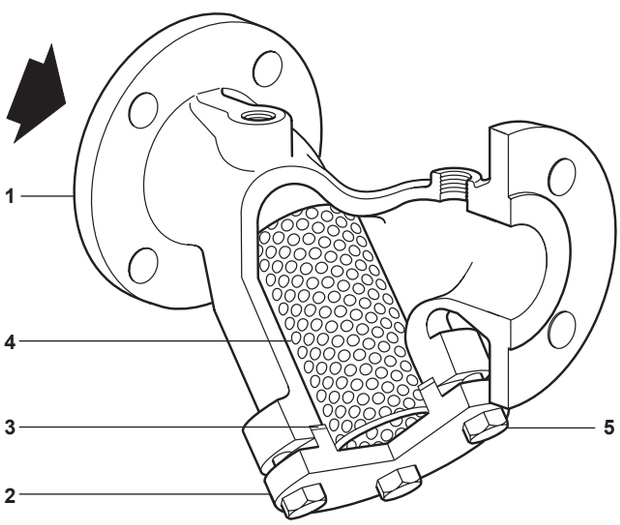
The product **must not** be used in this region.

Note: Special testing to allow lower temperature operation can be provided at extra cost. Consult Spirax Sarco.

Body design conditions		PN16
TMA	Maximum allowable temperature	300°C @ 12.3 bar g
PMA	Maximum allowable pressure	16 bar g @ 100°C
Minimum allowable temperature		-10°C
TMO	Maximum operating temperature	300°C @ 12.3 bar g
PMO	Maximum operating pressure	16 bar g @ 100°C (15 bar g for saturated steam service @ 201°C)
Minimum operating temperature		-10°C
Designed for a maximum cold hydraulic test pressure of 24 bar g		

Sizes and pipe connections

DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN125, DN150 and DN200.
Standard flange EN 1092 PN16.
DN50 to DN200 sizes are also available with ASME (ANSI) 150 and JIS 10K connections on request.



Materials

No.	Part	Material	
1	Body	SG iron	DIN 1693 GGG40
2	Cap	SG iron	DIN 1693 GGG40
3	Cap gasket	Reinforced exfoliated graphite	
4	Strainer screen	Austenitic stainless steel	ASTM A240 316L
5	Bolts	Carbon steel	BS 3692 Gr 8.8

Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

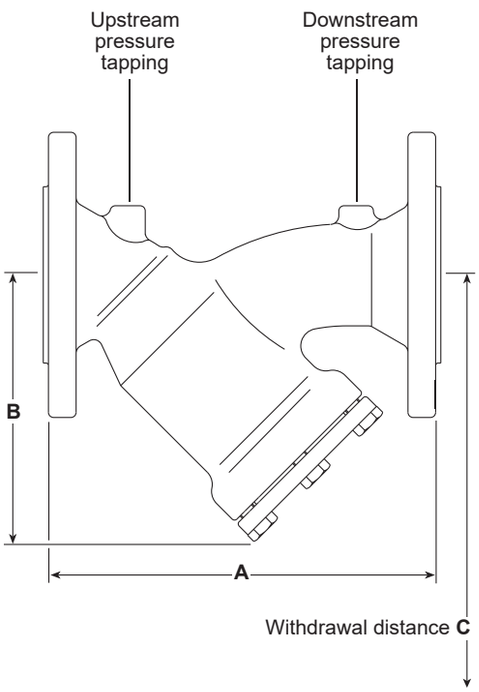
K_V values

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

Size	DN15	DN20	DN25	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

Dimensions / weights (approximate) in mm and kg

Size	PN16 A	ASME 150	B	C	Screening area cm²	Weight
DN15	130	-	69	101	28	2.1
DN20	150	-	82	125	46	2.9
DN25	160	-	90	140	79	3.8
DN32	180	-	114	198	135	6.6
DN40	200	-	127	210	161	9.0
DN50	230	233	150	248	251	10.5
DN65	290	288	162	263	325	17.5
DN80	310	311	178	272	360	20.0
DN100	350	345	210	323	540	24.0
DN125	400	396	253	393	840	38.0
DN150	480	482	293	454	1115	50.5
DN200	600	610	375	584	1905	88.0



Spare parts

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

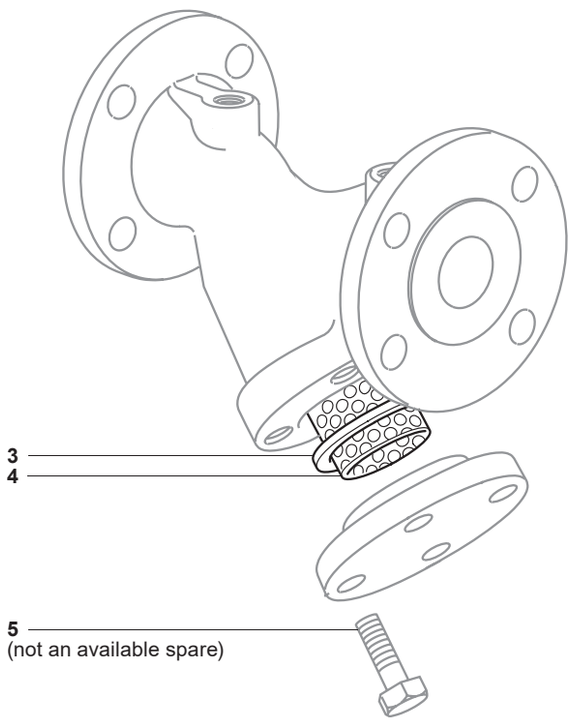
Available spares

Strainer screen (state: perforations or mesh and size of strainer)		**4**
Cap gasket	DN15 to DN100 (packet of 3)	**3**
	DN125 to DN200 (1 off)	**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 3716 strainer PN16.



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

Maintenance note:

Maintenance can be completed with the strainer in the pipeline.

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 3716 strainer, flanged EN 1092 PN16 with austenitic stainless steel screen having 0.8 mm perforations and flanged screen cap.

Recommended tightening torques

Item	Size	Qty	or mm		N m
5	DN15 and DN20	4	13	M8 x 20	15 - 20
	DN25	4	13	M8 x 20	15 - 20
	DN32 and DN40	4	13	M8 x 20	15 - 20
	DN50	4	17	M10 x 25	22 - 25
	DN65	4	17	M10 x 30	22 - 25
	DN80	6	17	M10 x 30	22 - 25
	DN100	6	19	M12 x 35	50 - 60
	DN125	8	19	M12 x 40	50 - 60
	DN150	8	19	M12 x 40	50 - 60
	DN200	8	24	M16 x 50	100 - 110

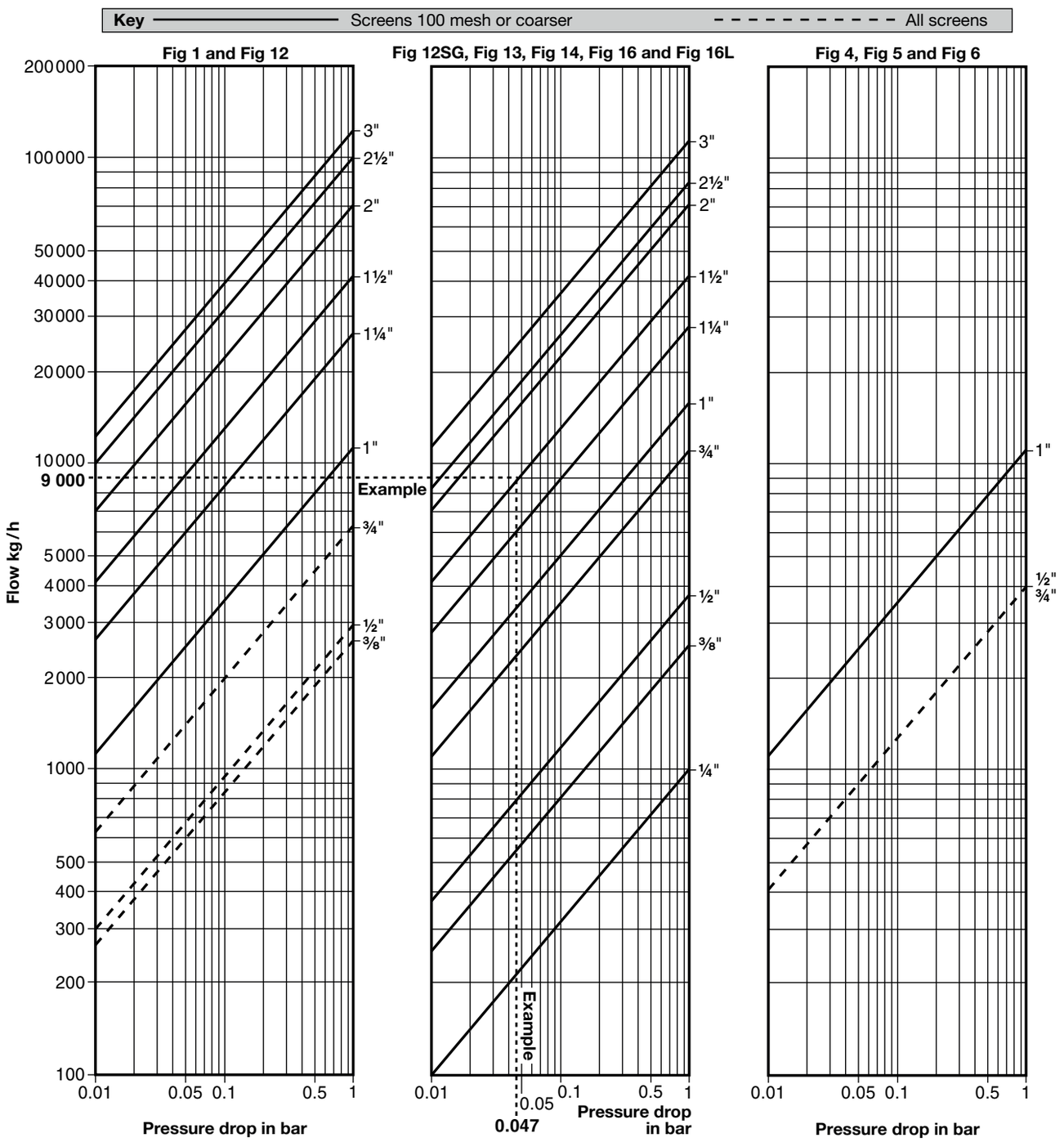
TI-S60-21
ST Issue 2

Pressure Drop Information (Resistance to Flow of Water) for Strainers

Note: Some strainers are not available in all the sizes shown. **Please refer** to the relevant Technical Information (TI) sheet for the particular product to ensure that the connection size required is available.

Screwed strainers

How to use: For a given flowrate extend a horizontal line until it intersects with the diagonal that represents the strainer size and material. Drop a vertical line from this point until it reaches the pressure drop axis. This figure indicates the pressure drop in bar, e.g. 9 000 kg/h of water passing through a 1½" Fig 14 with standard screen would have a pressure drop of 0.047 bar.



Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

Flanged strainers

How to use: For a given flowrate extend a horizontal line until it intersects with the diagonal that represents the strainer size and material. Drop a vertical line from this point until it reaches the pressure drop axis. This figure indicates the pressure drop in bar, e.g. 50 000 kg/h of water passing through a DN100 Fig 34 with standard screen would have a pressure drop of 0.1 bar.