

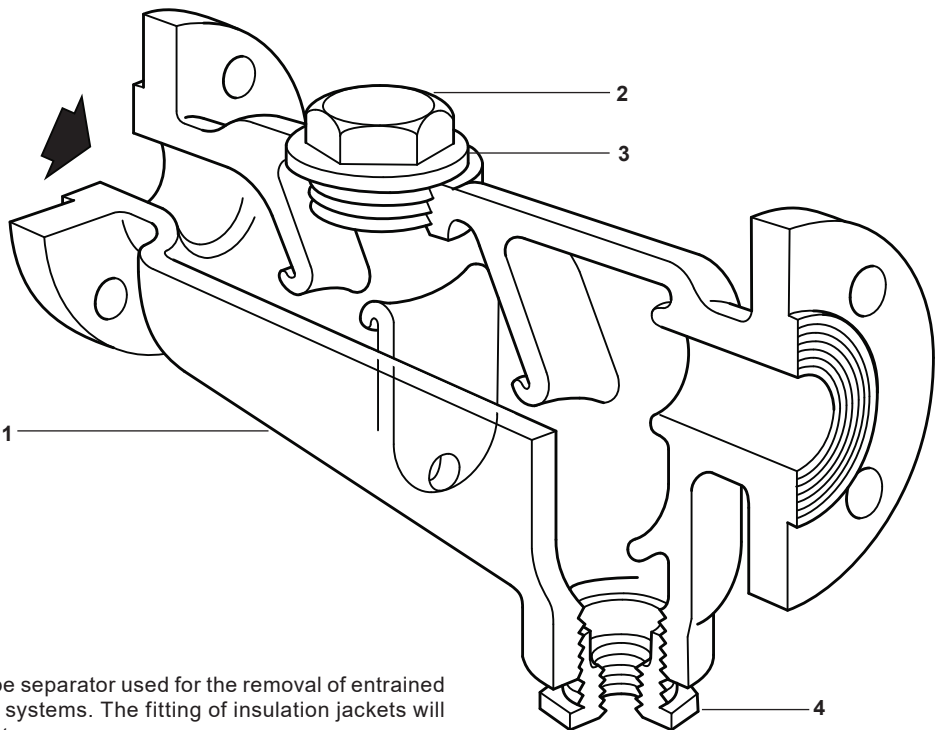


TI-P023-24
CMGT Issue 5

S3

Cast Iron

Separator (Flanged)



Description

The S3 separator is a cast iron baffle type separator used for the removal of entrained liquids in steam, compressed air or gas systems. The fitting of insulation jackets will increase the performance of the separator.

Standards

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

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

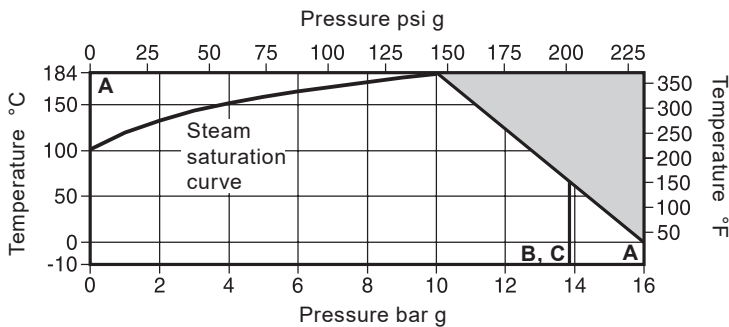
DN40, DN50, DN65, DN80, DN100, DN125, DN150 and DN200

Flanged EN 1092 PN16 with screwed BSP drain,
ASME Class 125 with screwed NPT drain,
JIS/KS 10K with screwed BSP drain, and
AS2129 Table F with screwed BSP drain (DN40 to DN100 only).

Materials

No. Part		Material	
1	Body	Cast iron	ASTM A126 CI B
2	Plug	SG iron	DIN 1693 GGG 40
3	Gasket	Reinforced exfoliated graphite	
4	Drain reducing bush (not DN200)	Steel ASTM A105	

Pipeline ancillaries
Separators and insulation jackets
Pressure/temperature limits (ISO 6552)



- The product **must not** be used in this region.
- A - A** Flanged EN 1092 PN16, Table F and screwed BSP or NPT.
- A - B** Flanged JIS/KS 10K.
- A - C** Flanged ASME Class 125.

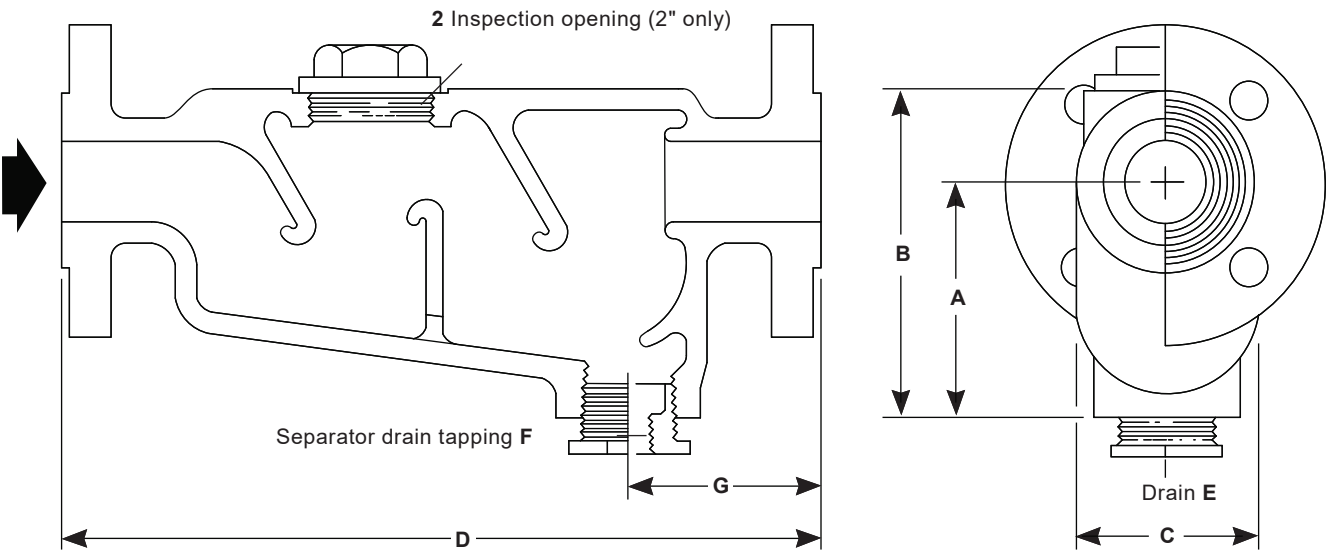
Body design conditions			PN16
PMA	Maximum allowable pressure	16 bar g @ 0 °C	(232 psi g @ 32 °F)
TMA	Maximum allowable temperature	184 °C @ 10 bar g	(363 °F @ 145 psi g)
Minimum allowable temperature		-10 °C	(14 °F)
PMO	Maximum operating pressure for saturated steam service	10 bar g	(145 psi g)
TMO	Maximum operating temperature	184 °C @ 10 bar g	(363 °F @ 145 psi g)
Minimum operating temperature		-10 °C	(14 °F)
Note: For lower operating temperatures consult Spirax Sarco.			
Designed for a maximum cold hydraulic test pressure of:		24 bar g	(348 psi g)

Note: Flanged separators (S3) may be supplied with a lower pressure rating than that cast into the body. Reference should be made to the appropriate operating chart to determine the actual product limitations.



Dimensions/weights and volumes (approximate)

mm, kg and litres	Size	A	B	C	D	E	F	G	Weight	Volume
	DN40	111	156	89	365	12.7	38.1	94	14.0	1.6
	DN50	146	206	117	456	12.7	38.1	98	25.4	3.2
	DN65	184	232	146	406	19.0	38.1	98	36.7	4.6
	DN80	187	264	152	483	25.4	38.1	98	44.9	6.5
	DN100	238	337	197	692	25.4	38.1	118	74.8	13.5
	DN125	232	409	381	706	25.4	38.1	121	177.8	38.5
	DN150	232	409	381	706	25.4	38.1	121	181.4	42.5
	DN200	305	505	426	762	38.1	38.1	140	254.0	68.0

inches, lbs and gallons	Size	A	B	C	D	E	F	G	Weight	Volume
	DN40	4.37	6.14	3.50	14.3	½"	1½"	3.70	30.8	0.42
	DN50	5.74	8.11	4.60	17.9	½"	1½"	3.85	55.9	0.80
	DN65	7.24	9.13	5.74	15.9	¾"	1½"	3.85	80.9	1.21
	DN80	7.36	10.3	5.98	19.0	1"	1½"	3.85	98.9	1.71
	DN100	9.37	13.2	7.75	27.2	1"	1½"	4.64	164.9	3.56
	DN125	9.13	16.1	15.0	27.7	1"	1½"	4.76	391.9	10.1
	DN150	9.13	16.1	15.0	27.7	1"	1½"	4.76	400.0	11.2
	DN200	12.00	19.8	16.7	30.0	1½"	1½"	5.51	560.0	17.9



Recommended tightening torques

Item	Size		or mm 	N m	(lbf ft)
2	DN40	46 A/F	M56	150 - 165	(110 - 121)
	DN50	60 A/F	M72	190 - 210	(140 - 155)
	DN65	46 A/F	M56	150 - 165	(110 - 121)
	DN80	60 A/F	M72	190 - 210	(140 - 155)
	DN100	60 A/F	M72	190 - 210	(140 - 155)
	DN125	60 A/F	M72	190 - 210	(140 - 155)
	DN150	60 A/F	M72	190 - 210	(140 - 155)
	DN200	60 A/F	M72	190 - 210	(140 - 155)

Pipeline ancillaries

Separators and insulation jackets

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P023-55) supplied with the product.

Installation note:

Install in a horizontal pipeline with the drain directly below. Note: To ensure that any separated liquid is drained away quickly, a suitable liquid drainer or steam trap must be connected to the drain connection 'E' - consult Spirax Sarco for further details.

Disposal

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

How to order

Example: 1 off DN50 Spirax Sarco S3 separator with cast iron body having flanged EN 1092 PN16 connections.

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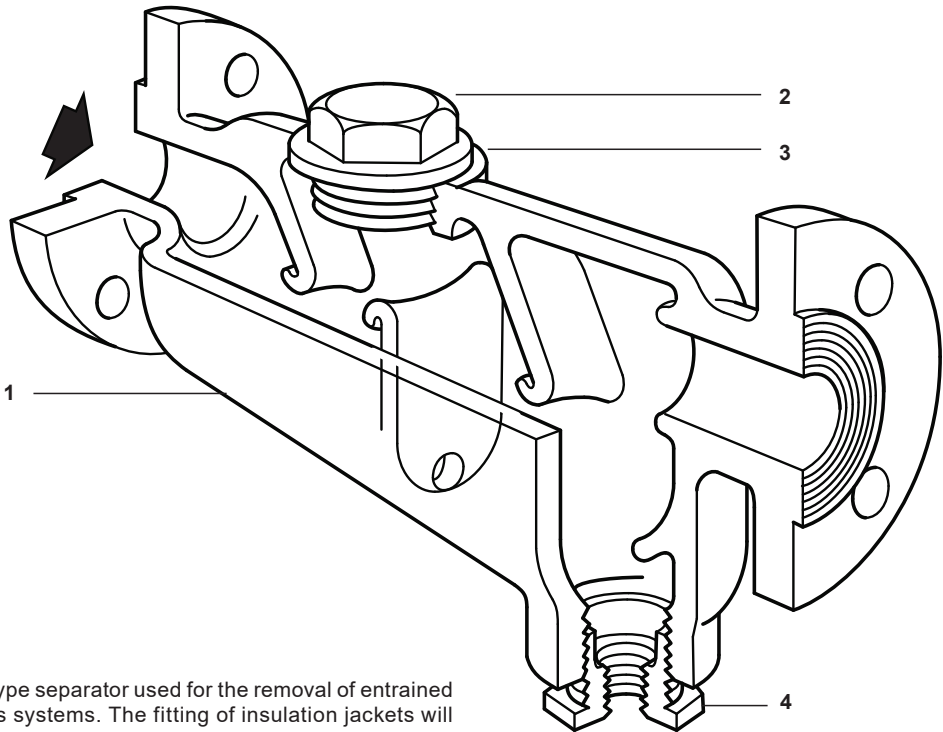
spirax

sarco

S13

SG Iron

Separator (Flanged)



Description

The S13 separator is an SG iron baffle type separator used for the removal of entrained liquids in steam, compressed air or gas systems. The fitting of insulation jackets will increase the performance of the separator.

Standards

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

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

DN40, DN50, DN65, DN80, DN100, DN125, DN150 and DN200.

Flanged EN 1092 PN16 and PN25 with screwed BSP drain.

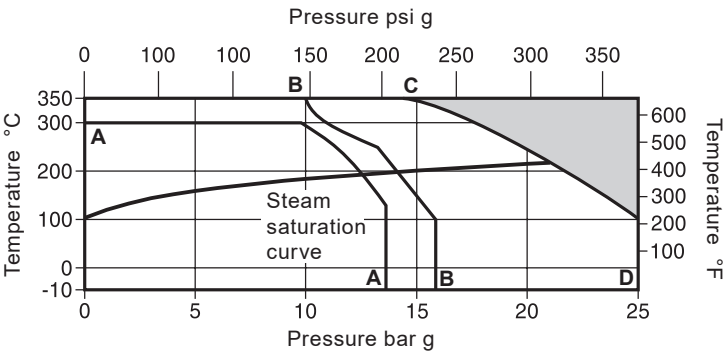
Flanged JIS/KS 10K with screwed BSP drain.

Flanged JIS/KS 20K with screwed BSP drain - DN40, DN50, DN65 and DN200 only.

Materials

No.	Part	Material	
1	Body	SG iron	BS EN 1563/EN-JS1030
2	Plug	Carbon steel	1.0460 (C22.8)
3	Gasket	Reinforced exfoliated graphite	
4	Drain reducing bush	Forged carbon steel	ASTM A105

Pipeline ancillaries
Separators and insulation jackets
Pressure/temperature limits (ISO 6552)



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

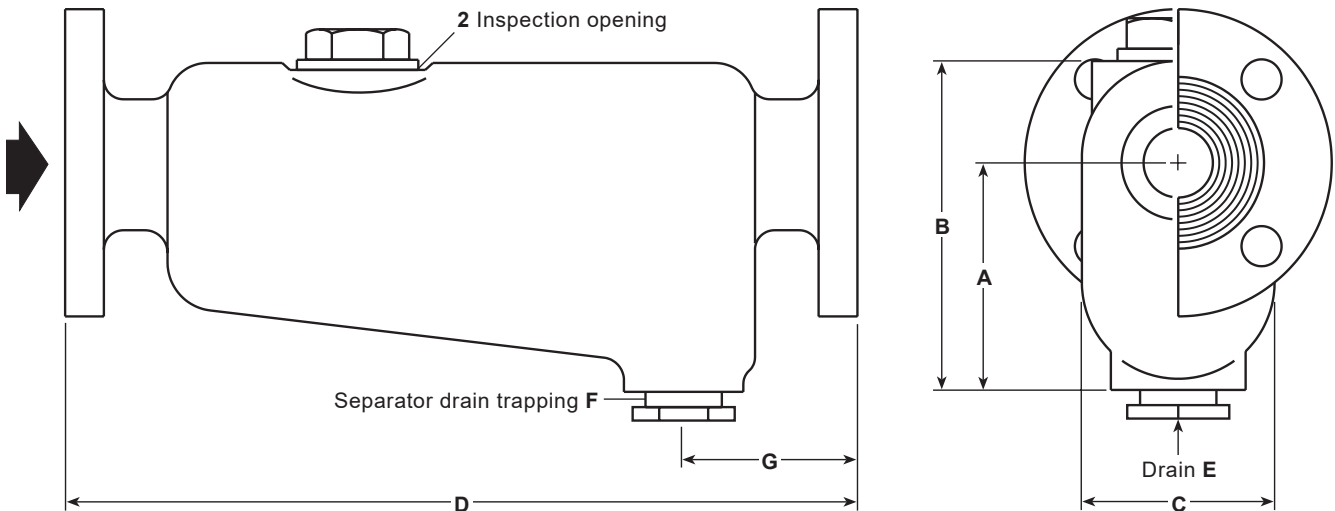
- A - A Flanged JIS / KS 10K.
- B - B Flanged EN 1092 PN16.
- B - C - D Flanged EN 1092 PN25 and JIS 20K.

Body design conditions		PN25	
PMA	Maximum allowable pressure	25 bar g @ 100 °C	(632 psi g @ 212 °F)
TMA	Maximum allowable temperature	350 °C @ 14 bar g	(662 °F @ 203 psi g)
Minimum allowable temperature		-10 °C	(14 °F)
PMO	Maximum operating pressure for saturated steam service	JIS / KS 10K	12.3 bar g (178 psi g)
		PN16	13.7 bar g (198 psi g)
		JIS / KS 20K	21.3 bar g (309 psi g)
		PN25	21.3 bar g (309 psi g)
TMO	Maximum operating temperature	350 °C @ 14 bar g	(662 °F @ 203 psi g)
Minimum operating temperature		-10 °C	(14 °F)
Note: For lower operating temperatures consult Spirax Sarco.			
Designed for a maximum cold hydraulic test pressure of:		JIS / KS 10K	20.4 bar g (296 psi g)
		PN16	24.0 bar g (348 psi g)
		PN25	37.5 bar g (544 psi g)
		JIS / KS 20K	37.5 bar g (544 psi g)



Note: Flanged separators (S13) may be supplied with a lower pressure rating than that cast into the body. Reference should be made to the appropriate operating chart to determine the actual product limitations.

Dimensions, weight and volumes (approximate)

mm, kg and litres	Size	A	B	C	D	E	F	G	Weight	Volume
	DN40	111	156	89	365	12.7	25.4	94	14	1.6
	DN50	146	205	117	456	12.7	25.4	98	25	3.2
	DN65	178	249	146	406	19.0	38.1	98	28	4.6
	DN80	178	252	152	483	25.4	38.1	98	36	6.5
	DN100	223	315	197	692	25.4	38.1	118	60	13.5
	DN125	226	397	381	706	25.4	38.1	121	128	38.5
	DN150	226	397	381	706	25.4	38.1	121	130	42.5
	DN200	308	502	426	762	38.1	38.1	140	190	68.0
inches, lbs and gallons	Size	A	B	C	D	E	F	G	Weight	Volume
	DN40	4.37	6.14	3.50	14.3	½"	1"	3.70	30.8	0.42
	DN50	5.74	8.07	4.60	17.9	½"	1"	3.85	55.1	0.84
	DN65	7.00	9.80	5.74	15.9	¾"	1½"	3.85	61.7	1.21
	DN80	7.00	9.92	5.98	19.0	1"	1½"	3.85	79.3	1.71
	DN100	8.77	12.4	7.75	27.2	1"	1½"	4.64	132.2	3.56
	DN125	8.89	15.6	15.0	27.7	1"	1½"	4.76	282.1	10.1
	DN150	8.89	15.6	15.0	27.7	1"	1½"	4.76	286.6	11.2
	DN200	12.1	19.7	16.7	30.0	1½"	1½"	5.51	418.8	17.9



Recommended tightening torques

Item	Size		or mm 	N m	(lbf ft)
2	DN40	46 A/F	M56	150 - 165	(110 - 121)
	DN50	46 A/F	M56	150 - 165	(110 - 121)
	DN65	46 A/F	M56	150 - 165	(110 - 121)
	DN80	60 A/F	M72	190 - 210	(140 - 155)
	DN100	60 A/F	M72	190 - 210	(140 - 155)
	DN125	60 A/F	M72	190 - 210	(140 - 155)
	DN150	60 A/F	M72	190 - 210	(140 - 155)
	DN200	60 A/F	M72	190 - 210	(140 - 155)

Pipeline ancillaries

Separators and insulation jackets

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P023-55) supplied with the product.

Installation note:

Install in a horizontal pipeline with the drain directly below.

Note: To ensure that any separated liquid is drained away quickly, a suitable liquid drainer or steam trap must be connected to the drain connection 'E' - consult Spirax Sarco for further details.

Disposal

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

How to order

Example: 1 off DN50 Spirax Sarco S13 separator with SG iron body having flanged EN 1092 PN16 connections.



TI-P023-39
CMGT Issue 4

IJ-S3 and IJ-S13

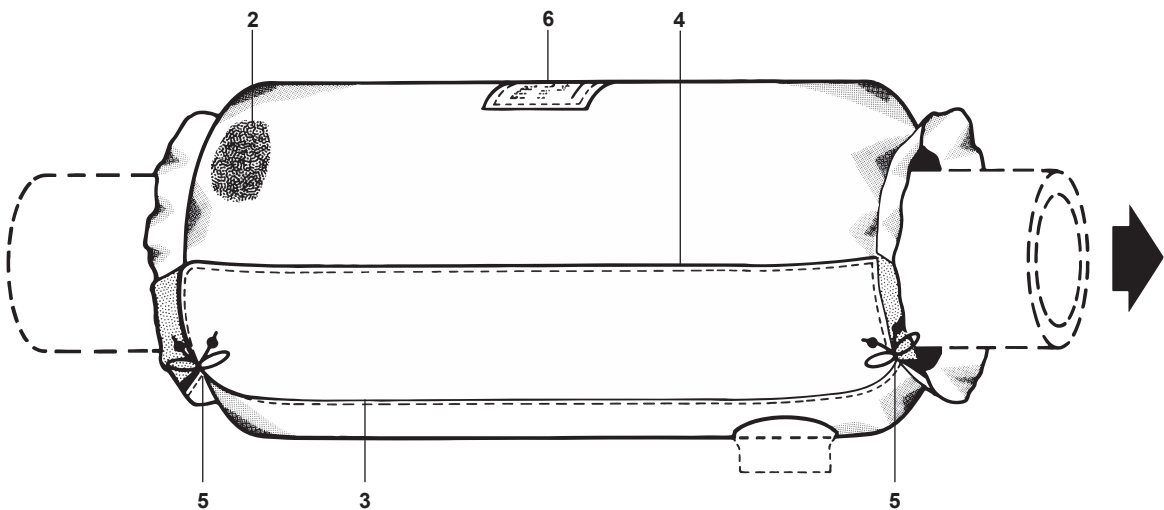
Insulation Jackets for S3 and S13 Separators

Description

A range of one piece insulation jackets having velcro fastenings, for fitting to flanged S3 and S13 separators.

Available types

IJ-S3 and IJ-S13 for insulating DN40 to DN200, S3 and S13 separators



IJ-S3 and IJ-S13 shown fitted to a separator

Limiting conditions

Maximum metal surface temperature	220 °C
Thermal conductivity	0.044 W/m K at 100 °C

Materials

No.	Part	Material
1	Inner and outer face	Silicone rubber coated glass fibre
2	Insulation	Mineral fibre
3	Stitching	Polyester cotton
4	Sealing	Velcro
5	Drawcords	Nylon
6	Label	Nylon

Pipeline ancillaries
Separators and insulation jackets

Installation

Once the separator has been installed, the insulation jacket can be fitted as follows:

IJ-S3 and IJ-S13

Place the jacket onto the top of the separator, wrap around and secure jacket into position by using the velcro flap. The label should be on top and the large flap on the underside of the separator to prevent the ingress of water. The jacket shall be positioned so that the drain connection passes through the circular opening. Finally, pull and tie the drawcords to minimise any gaps that would allow air to flow through or allow ingress of water.

Important note:

Both the inner/outer face and insulation are made with a bonded aluminium foil. At a temperature of 120 °C the adhesive bonding the aluminium will start to degrade and delamination of the foil will occur at 150 °C to 170 °C. Scorching of the internal fabric may occur at 150 °C. Neither of these reactions will impair the performance.

Removal

Before removing the jacket, check if the separator is in service. If it is then the metal surface will be hot enough to burn and suitable protective clothing (e.g. gloves) should be worn. Removal is the reverse procedure to the above.

Handling

When the jacket is new the insulation material is fully enclosed within the inner and outer face and retained by the stitching. In this condition for handling no special protective clothing is required. However, if the inner and outer face becomes unstitched or damaged, so as to expose the insulation material then suitable protective clothing (e.g. gloves, safety glasses, face mask and overalls) should be worn when handling.

Disposal

This product is **not** recyclable and is non-combustible. For disposal purposes consider the product to be mineral fibre and dispose of in accordance with local regulations.

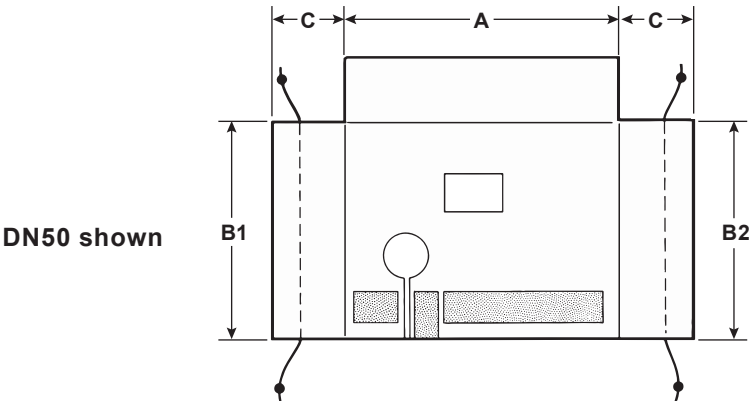
How to order

Example: 1 off IJ-S3 insulation jacket to fit a DN50, S13 separator.

Dimensions/mass
(approximate) in mm and kg

Size	A	B1	B2	C	Insulation thickness	Mass
DN40	525	590	575	53	50	1.30
DN50	650	640	640	53	50	1.58
DN65	640	890	690	53	50	2.29
DN80	700	910	760	53	50	2.80
DN100	810	1 270	910	53	50	5.10
DN125	845	1 510	1 374	53	50	5.32
DN150	845	1 510	1 374	53	50	5.32
DN200	950	1 884	1 500	53	50	5.80

The diagram below shows the unfolded dimensions of the jacket



0234050/4