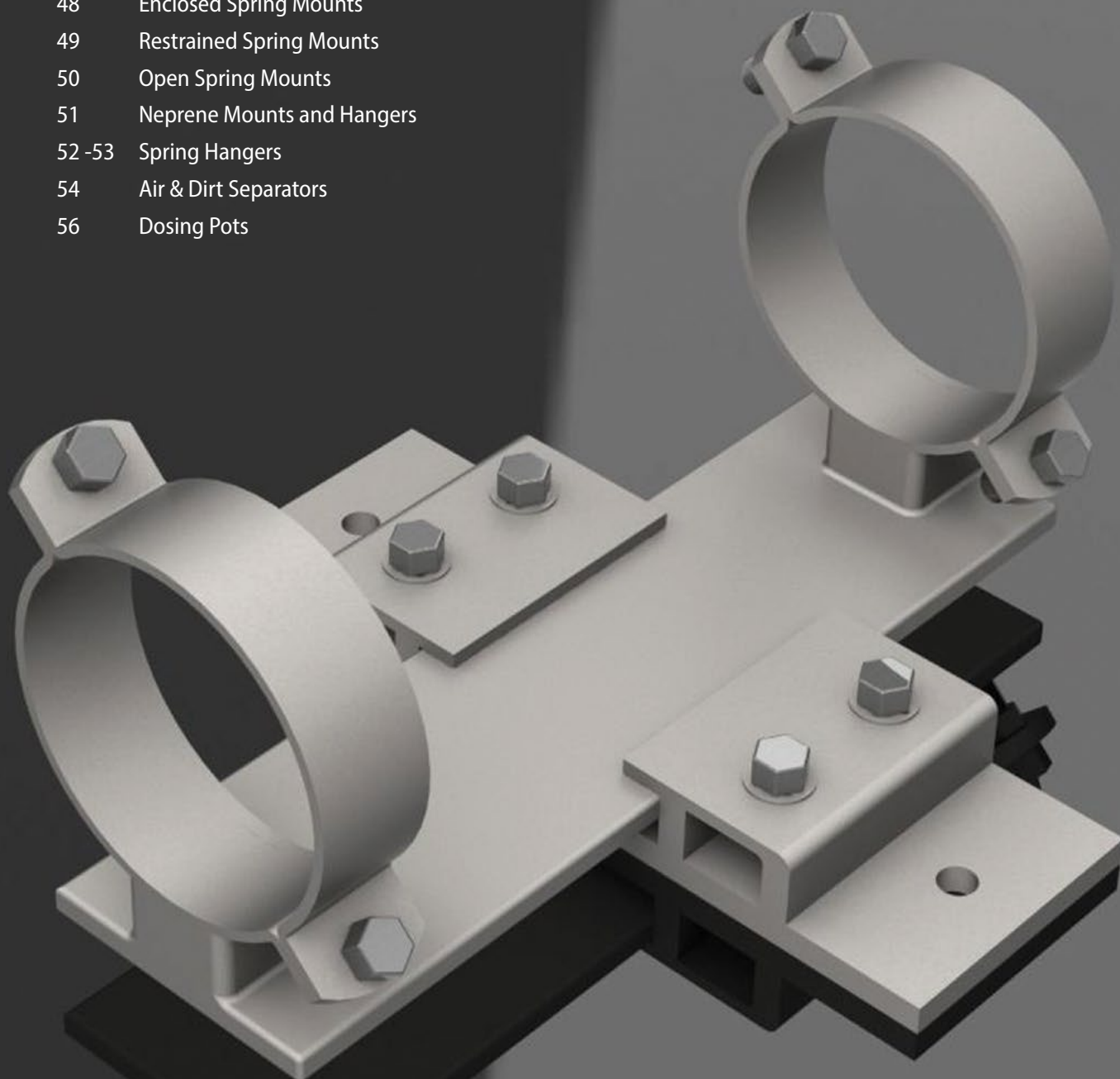


Expansion & Anti-Vibration

Expansion & Anti-Vibration



31	AX2 Axial Bellows
32	AX1 Axial Bellows
33	AX3 Screwed Axial Bellows
34	AX3(SPE) Axial Bellows c/w Stainless Pipe Ends
35	FA1 & FA2 Fully Articulated Bellows
36	AN1 & AN2 Angular Bellows
37	GI1 & GI2 Gimbal Bellows
38	Untied EPDM Pump Flexibles
39	Tied EPDM Pump Flexibles
40	Screwed EPDM Pump Flexibles
43	FA3 Stainless Steel Pump Flexibles
44	EPDM Hoses
45	Stainless Steel Hoses
47	Inertia Bases
48	Enclosed Spring Mounts
49	Restrained Spring Mounts
50	Open Spring Mounts
51	Neprene Mounts and Hangers
52 -53	Spring Hangers
54	Air & Dirt Separators
56	Dosing Pots



Key Points

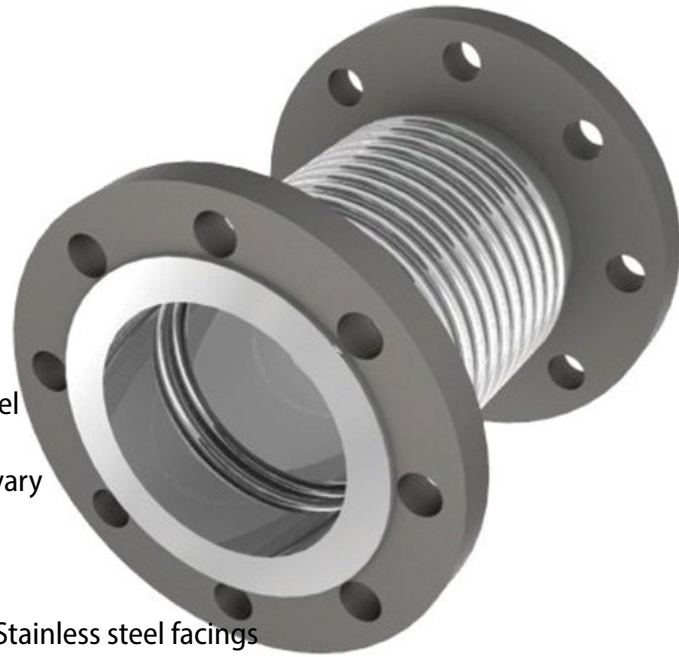
- Require Full Guiding
- Available for any Temperature or Pressure
- Supplied with CE Certs where Applicable
- Internal Flow Liner as Standard

Bellows are Pre-Cold Drawn

DST Type AX2 Axial Bellows

Designed to accept linear expansion on copper and stainless steel pipe systems.

Standard product details are shown below, although these may vary dependant upon application and PED requirements.



Material Specification

Flanges:	Carbon Steel PN16 With Stainless steel facings (Stainless steel to all wetted areas)
Convolutions:	316 Stainless Steel
Internal Sleeve:	316 Stainless Steel

Working Conditions

Pressure:	16 Bar
Temperature:	120 Degrees C
Test:	1.5x Working

PED Requirements

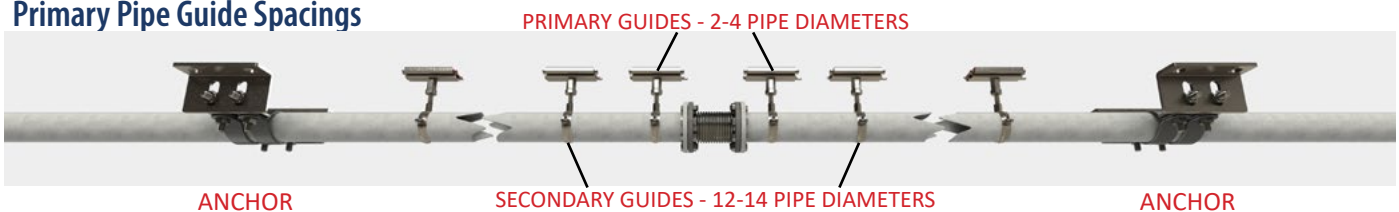
All Bellows supplied by DST Group Ltd are manufactured and certified in accordance with EU PED Legislation and as such carry the relevant CE certification where required.

Size (mm)	Axial Compression (mm)	Installed Length	Effective Area cm ²	Force to Compress N/mm	Part Number
32nb / 35cu	30	130	12.8	37	AX2/032/PN16
40nb / 42cu	30	130	19.0	37	AX2/040/PN16
50nb / 54cu	50	225	35.6	55	AX2/050/PN16
65nb / 67cu	50	225	46.5	87	AX2/065/PN16
80nb / 76cu	50	230	61.7	90	AX2/080/PN16
100nb / 108cu	50	230	103.2	116	AX2/100/PN16
125nb / 133cu	60	240	177.5	118	AX2/125/PN16
150nb / 159cu	60	240	253.6	166	AX2/150/PN16
200nb	70	275	453.5	176	AX2/200/PN16
250nb	70	280	684.6	276	AX2/250/PN16

The anchor loads generated by this type of Axial Expansion Compensator are high. A bracket guide with a low frictional resistance should be used.

Please note these units are not suitable for use on a drop rod system and need to be suitably guided (e.g. DST LF Slide Guide or DST 253 Slide Guide). Please consult the Expansion Compensator Application Guide for positioning of anchor points and subsequent support centres. (See page 116)

Primary Pipe Guide Spacings



DST Group Ltd Reserves the right to alter / amend product data without prior notification

Key Points

Require Full Guiding

Available for any Temperature or Pressure

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard

Bellows are Pre-Cold Drawn

DST Type AX1 Axial Bellows

Designed to accept linear expansion on carbon steel and stainless steel pipe systems.

Standard product details are shown below, although these may vary dependant upon application and PED requirements.

Material Specification

Flanges: Carbon Steel PN16 With Stainless steel facings (Stainless steel to all wetted areas)

Convolutions: 321 Stainless Steel (Available in 316 stainless steel for potable water)

Internal Sleeve: 321 Stainless Steel (Available in 316 or 304 stainless steel for potable water)

Working Conditions

Pressure: 16 Bar

Temperature: To suit customer requirements

Test: 1.5x Working

PED Requirements

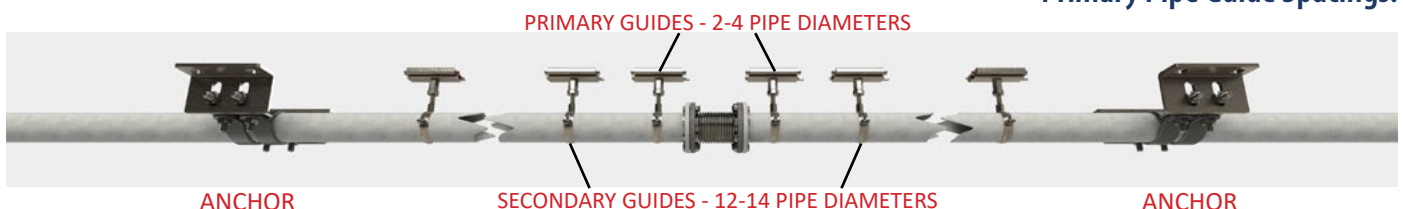
All Bellows supplied by DST are manufactured and certified in accordance with EU PED Legislation and as such carry the relevant CE certification where required.

Size (mm)	Axial Compression (mm)	Installed Length	Effective Area cm ²	Force to Compress N/mm	Part Number
32nb	30	210	15	61	AX1/032/PN16
40nb	30	215	22	78	AX1/040/PN16
50nb	50	233	40	135	AX1/050/PN16
65nb	50	233	62	107	AX1/065/PN16
80nb	50	233	81	295	AX1/080/PN16
100nb	50	233	127	379	AX1/100/PN16
125nb	60	336	196	295	AX1/125/PN16
150nb	60	336	273	355	AX1/150/PN16
200nb	70	372	470	284	AX1/200/PN16
250nb	70	372	700	354	AX1/250/PN16
300nb	70	372	958	420	AX1/300/PN16

The anchor loads generated by using this type of Axial Expansion Compensator are high. A guide bracket with a low frictional resistance should be used.

Please note these units are not suitable for use on a drop rod system and need to be suitably guided (e.g. DST 253 Slide Guide or DST 114 Roller Chair and Guide). Please consult the Expansion Compensator Application Guide for positioning of anchor points and subsequent support centres. (See Page 114)

Primary Pipe Guide Spacings.



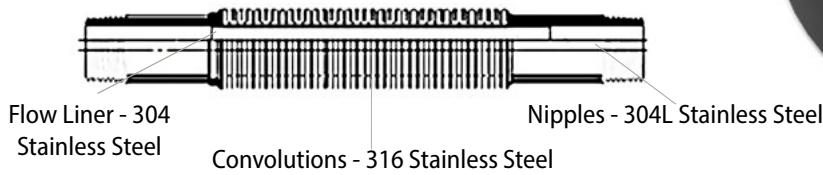
DST Group Ltd Reserves the right to alter / amend product data without prior notification

Key Points

- Require Full Guiding
- Available in any Temperature or Pressure
- Supplied with CE certs where Applicable
- Internal Flow liner as Standard
- Bellows are Pre-Cold Drawn



Material Specification



DST Type AX3 Axial Bellows

Designed to accept linear expansion on Steel & Copper pipe systems.

Working Conditions

Pressure: Standard 10 Bar (Upto 16 Bar - Dependant on PED Conditions)
 Temperature: 120 Degrees C
 Test: 1.5x Working

PED Requirements

All Bellows supplied by DST Group Ltd are manufactured and certified in accordance with EU PED Legislation and as such carry the relevant CE certification where required.

Size (mm)	Axial Compression (mm)	Installed Length	Effective Area cm ²	Force to Compress N/mm	Part Number
15	25	200	3	3.9	AX3/015/MSC(25)
20	25	200	6	7.8	AX3/020/MSC(25)
25	25	200	9	12.7	AX3/025/MSC(25)
32	25	210	13	17.2	AX3/032/MSC(25)
40	25	220	20	19.6	AX3/040/MSC(25)
50	25	250	30	19.6	AX3/050/MSC(25)
65	25	273	50	25.0	AX3/065/MSC(25)
15	50	300	3	3.9	AX3/015/MSC(50)
20	50	300	6	7.8	AX3/020/MSC(50)
25	50	300	9	12.7	AX3/025/MSC(50)
32	50	310	13	17.2	AX3/032/MSC(50)
40	50	320	20	19.6	AX3/040/MSC(50)
50	50	350	30	19.6	AX3/050/MSC(50)

The anchor loads generated by using this type of Axial Expansion Compensator are high. It is worth keeping in mind the type of pipework bracketry that will be used. A guide bracket with a low frictional resistance should be used such as DST LF Slide guides or DST Guide Clips.

Please note these units are not suitable for use on a drop rod system and need to be suitably guided. Please consult the Expansion Compensator Application Guide for positioning of anchor points and subsequent support centres. (See Page 116)

Primary Pipe Guide Spacings



DST Group Ltd Reserves the right to alter / amend product data without prior notification

Key Points

Require Full Guiding

Available for any Temperature or Pressure

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard

Bellows are Pre-Cold Drawn



DST Type AX3 (SPE) Axial Bellows

Designed to accept linear expansion on Steel & Copper pipe systems.

Working Conditions

Pressure: Standard 10 Bar (Upto 16 Bar - Dependant on PED Conditions)
Temperature: 120 Degrees C
Test: 1.5x Working

PED Requirements

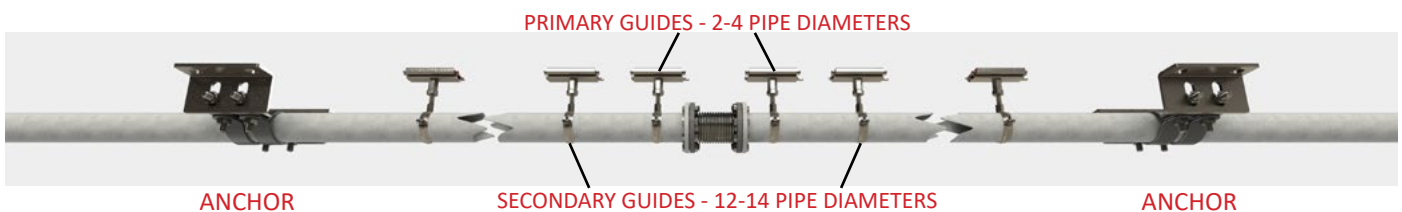
All Bellows supplied by DST Group Ltd are manufactured and certified in accordance with EU PED Legislation and as such carry the relevant CE certification where required.

Size (mm)	Axial Compression (mm)	Installed Length	Effective Area cm ²	Force to Compress N/mm	Part Number
15	25	200	3.0	3.9	AX3/015/SPE25
18	25	200	3	7.8	AX3/012/SPE(25
22	25	200	6	12.7	AX3/020/SPE25)
28	25	200	9	12.7	AX3/025/SPE(25)
35	25	210	13	17.2	AX3/032/SPE(25)
42	25	220	20	19.6	AX3/040/SPE(25)
54	25	250	30	17.6	AX3/050/SPE(25)

The anchor loads generated by using this type of Axial Expansion Compensator are high. It is worth keeping in mind the type of pipework bracketry that will be used. A guide bracket with a low frictional resistance should be used such as DST LF Slide guides or DST Guide Clips.

Please note these units are not suitable for use on a drop rod system and need to be suitably guided. Please consult the Expansion Compensator Application Guide for positioning of anchor points and subsequent support centres. (See Page 116)

Primary Pipe Guide Spacings



Key Points

FA1 for steel pipes

FA2 for copper & stainless steel

Supplied with CE certs where applicable

Internal flow liner as standard



Size	Installed Length +/- 25 (mm)	Force to Deflect +/- 25mm (N/mm)	Installed Length +/- 50 (mm)	Force to Deflect +/- 50 (mm)	Part Number
25	465	10.7	750	2.8	FA1/025/PN16
32	465	10.7	750	2.8	FA1/032/PN16
40	465	10.7	750	2.8	FA1/040/PN16
50	465	12.1	750	4	FA1/050/PN16
65	465	15.9	750	5	FA1/065/PN16
80	465	56.7	750	16	FA1/080/PN16
100	465	94.0	750	27	FA1/100/PN16
125	760	21.6	1000	11	FA1/125/PN16
150	760	38.2	1000	19	FA1/150/PN16
200	1010	29.8	1250	17	FA1/200/PN16
250	1010	55.2	1250	32	FA1/250/PN16

Size	Installed Length +/- 75 (mm)	Force to Deflect +/- 75mm (N/mm)	Installed Length +/- 100 (mm)	Force to Deflect +/- 100 (mm)	Part Number
25	1035	1.3	1320	1.3	FA1/025/PN16
32	1035	1.3	1320	1.3	FA1/032/PN16
40	1035	1.3	1320	1.3	FA1/040/PN16
50	1035	1.7	1320	1.3	FA1/050/PN16
65	1035	2.2	1320	1.3	FA1/065/PN16
80	1035	7.7	1320	2.7	FA1/080/PN16
100	1035	12.3	1320	5.4	FA1/100/PN16
125	1240	4.3	1480	5.4	FA1/125/PN16
150	1240	11.1	1480	4.5	FA1/150/PN16
200	1490	11.5	1730	4.5	FA1/200/PN16
250	1490	22.8	1730	4.5	FA1/250/PN16

Material Specification

Connections:	Carbon Steel Drilled PN1 6 (Van-stone Facings on FA2)
Convolutions:	321 Stainless Steel (316 Stainless steel on FA2)
Internal Sleeve:	321 Stainless Steel (316 Stainless steel on FA2)
Tie Rods:	Carbon Steel
Hemispherical Washers:	Carbon Steel
Connecting Spool:	Carbon Steel (316 Stainless steel on FA2)

The DST Type FA1 & FA2 Lateral Expansion compensator is suitable for use on systems up to 250°C at 16 bar pressure PED certification supplied dependant upon application.

All units are supplied at installation lengths and are pre stressed. Please note DST Group Ltd can design and supply lateral expansion compensators to accommodate higher system temperatures / pressures and other rates of lateral movement or special dimensions. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

Standard Installation

These units are often used when new mains are being connected to existing mains. They allow a lateral movement to occur. These units are also useful for connections from boilers and plant, which will compensate any stresses put onto the "Headers". Advice should always be sought when using these units to ensure the units will allow the amount of movement which will occur. Please consult the Expansion Compensator Application Guide for positioning of the anchor points and subsequent support centres. (See page 116)

Key Points

AN1 for Steel Pipes

AN2 for Copper & Stainless Steel

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard



Size (mm)	Angular Deflection	Installed Length	Effective Area cm ²	Force to Deflect Nm/deg	Part Number
25	+/- 5°	195	40	1.27	AN1/025/PN16
32	+/- 5°	195	40	3.04	AN1/032/PN16
40	+/- 5°	200	40	3.04	AN1/040/PN16
50	+/- 5°	133	40	3.34	AN1/050/PN16
65	+/- 5°	133	62	1.47	AN1/065/PN16
80	+/- 5°	133	81	1.47	AN1/080/PN16
100	+/- 5°	133	127	1.27	AN1/100/PN16
125	+/- 6.5°	199	195	3.04	AN1/125/PN16
150	+/- 6.5°	199	273	3.04	AN1/150/PN16
200	+/- 7.5°	212	469	3.34	AN1/200/PN16
250	+/- 7.5°	212	700	3.04	AN1/250/PN16

Material Specification

Connections:	Carbon Steel Drilled PN16 (Van-stone facings on AN2 Other Flanges Available If Required)
Convolutions:	321 Stainless Steel (316 Stainless steel on AN2)
Internal Sleeve:	321 Stainless Steel (316 Stainless steel on AN2)
Hinge Pins:	Carbon Steel

The DST Type AN1 & AN2 Angular Expansion compensators are suitable for use on systems up to 200°C at 16 bar pressure. All units are supplied at installation lengths and are pre stressed. Please note DST Group Ltd can design and supply angular expansion compensators to accommodate higher system temperatures / pressures or special dimensions. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

PED Requirements

CE Certificates issued if required. All units are categorised to PED standards, and we require accurate temperatures and pressures at time of order to enable correct selection and certification.

Standard Installation

These units are commonly used in pairs, although three pin systems can be designed if required. Please contact our sales office for application and design advice. These units can be used on a drop rod system. Please consult the Expansion Compensator Application Guide for positioning of anchor points. (See page 116)

Key Points

G1 for Steel Pipes

G2 for Copper & Stainless Steel

Supplied with CE Certs where Applicable

Internal Flow Liner as Standard



Size (mm)	Angular Deflection	Installed Length	Force to Deflect Nm/deg	Part Number
25	+/- 5°	195	8.3	G1/025/PN16
32	+/- 5°	195	8.3	G1/032/PN16
40	+/- 5°	195	8.3	G1/040/PN16
50	+/- 5°	180	8.3	G1/050/PN16
65	+/- 5°	180	10.1	G1/065/PN16
80	+/- 5°	180	31.4	G1/080/PN16
100	+/- 5°	180	60.8	G1/100/PN16
125	+/- 6.5°	225	36.2	G1/125/PN16
150	+/- 6.5°	225	55.3	G1/150/PN16
200	+/- 7.5°	250	107.1	G1/200/PN16
250	+/- 7.5°	250	192	G1/250/PN16

Material Specification

Connections:	Carbon Steel Drilled PN16 (Van-stone facings on G2) Other Flanges Available If Required
Convolutions:	321 Stainless Steel (316 Stainless steel on G2)
Internal Sleeve:	321 Stainless Steel (316 Stainless steel on G2)
Hinge Pins:	Carbon Steel

The DST Type G1 & G2 Gimbal Expansion compensators are suitable for use on systems up to 200°C at 16 bar pressure. All units are supplied at installation lengths and are pre stressed.

Please note DST Group Ltd can design and supply gimbal expansion compensators to accommodate higher system temperatures / pressures or special dimensions. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

PED Requirements

CE Certificates issued if required. All units are categorised to PED standards, and we require accurate temperatures and pressures at time of order to enable correct selection and certification.

Standard Installation

These units are commonly used in pairs, although three pin systems can be designed if required. Please contact our sales office for application and design advice. These units can be used on a drop rod system. (See page 116)

Key Points



Flanges: Carbon Steel - Drilled PN16 or PN6
(Other Flanges Available)

Nylon Re-inforced EPDM Rubber Body

Steel Reinforced Collars

Round flanges - No Tie Bars

Size (mm)	Installed Length	Material Type	Temperature Limits °C	Part Number
32	130	Nylon Reinforced EPDM	-10 - 90	DST/032/PN16/6
40	130	Nylon Reinforced EPDM	-10 - 90	DST/040/PN16/6
50	130	Nylon Reinforced EPDM	-10 - 90	DST/050/PN16/6
65	130	Nylon Reinforced EPDM	-10 - 90	DST/065/PN16/6
80	130	Nylon Reinforced EPDM	-10 - 90	DST/080/PN16/6
100	130	Nylon Reinforced EPDM	-10 - 90	DST/100/PN16/6
125	130	Nylon Reinforced EPDM	-10 - 90	DST/125/PN16/6
150	130	Nylon Reinforced EPDM	-10 - 90	DST/150/PN16/6

DST D-Flex Pump Flexibles are installed to absorb vibration and noise levels caused by "Plant" upon which they are fitted. These are suitable for use on systems carrying Chilled & Heating Water. Please see above for temperature & Pressure limits.

DST D Flex units are not suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

DST D Flex Untied units should not be installed on pumps located on Inertia bases

DST D-Flex units are manufactured from spherical moulded EPDM, which is a soft compound to offer a high isolation efficiency and high noise absorbing properties.

The units are a full bore thus removing pressure drop problems. The EPDM rubber is nylon re-inforced, and has a steel wire re-inforced collar.

Flanges BZP coated carbon steel PN16.

D-Flex units have up to 10 year design life* and are warranted for a period of 12 months** from supply.

DST D Flex units are stamped with Origin of Manufacture, Date Of Manufacture, Batch Number and Size.

Please note no torsion forces should be applied to these units.

DST Group Ltd also Supply DIN 4809 Approved Pump Flexibles. Please Contact our Sales Office for further information.

* Design life is guidance only. This guidance assumes the unit will not be working at the extremes of its working capacity. This in no way implies a warranty or a guarantee.

** 12 Months warranty is against manufacturing defect only and is limited to the supply only of a replacement product of the same type.

Key Points

Flanges: Carbon Steel - Drilled PN16
 (Other Flanges Available)

Nylon Re-inforced EPDM Rubber Body

Steel Reinforced Collars

Tie Bars: Anti-Tamper Carbon Steel



Size (mm)	Installed Length	Material Type	Temperature Limits °C	Part Number
32	130	Nylon Reinforced EPDM	-10 - 90	DST/032/PN16T
40	130	Nylon Reinforced EPDM	-10 - 90	DST/040/PN16T
50	130	Nylon Reinforced EPDM	-10 - 90	DST/050/PN16T
65	130	Nylon Reinforced EPDM	-10 - 90	DST/065/PN16T
80	130	Nylon Reinforced EPDM	-10 - 90	DST/080/PN16T
100	130	Nylon Reinforced EPDM	-10 - 90	DST/100/PN16T
125	130	Nylon Reinforced EPDM	-10 - 90	DST/125/PN16T
150	130	Nylon Reinforced EPDM	-10 - 90	DST/150/PN16T
200	130	Nylon Reinforced EPDM	-10 - 90	DST/200/PN16T
250	130	Nylon Reinforced EPDM	-10 - 90	DST/250/PN16T
300	On Request	Nylon Reinforced EPDM	-10 - 90	DST/300/PN16T
350	On Request	Nylon Reinforced EPDM	-10 - 90	DST/350/PN16T
400	On Request	Nylon Reinforced EPDM	-10 - 90	DST/400/PN16T

DST D-Flex Pump Flexibles are installed to reduce Vibration and noise levels caused by "Plant" upon which they are fitted. These are suitable for use on systems carrying Chilled & Heating Water. Please see above for temperature & Pressure limit. DST D-Flex units are not suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

DST D-Flex units are manufactured from spherical moulded EPDM, which is a soft compound to offer a high isolation efficiency and high noise absorbing properties.

The D-flex units tied type has specially designed anti tamper tie bars. This will only allow the units to be installed at their optimal length and avoid elongation of the unit. These units rated to Maximum 10bar working pressure, 15bar test pressure

The units are a full bore thus removing pressure drop problems. The EPDM rubber is nylon re-inforced, and has a steel wire re-inforced collar.

Flanges BZP coated carbon steel PN16.

D-Flex units have up to 10 year design life* and are warrantied for a period of 12** months from supply.

DST D Flex units are stamped with Origin of Manufacture, Date Of Manufacture, Batch Number and Size.

Please note no torsion forces should be applied to these units.

DST Group Ltd also supply DIN 4809 Approved Pump Flexibles. Please contact our sales office for further information.

* Design life is guidance only. This guidance assumes the unit will not be working at the extremes of its working capacity. This in no way implies a warranty or a guarantee.

** 12 Months warranty is against manufacturing defect only and is limited to the supply only of a replacement product of the same type.

Key Points



Unions: Carbon Steel

Nylon Re-inforced EPDM Rubber Body

Steel Reinforced Collars

Size (mm)	Installed Length	Material Type	Temperature Limits °C	Part Number
15	200	Nylon Reinforced EPDM	-10 - 90	PGS/015
20	200	Nylon Reinforced EPDM	-10 - 90	PGS/020
25	200	Nylon Reinforced EPDM	-10 - 90	PGS/025
32	200	Nylon Reinforced EPDM	-10 - 90	PGS/032
40	200	Nylon Reinforced EPDM	-10 - 90	PGS/040
50	200	Nylon Reinforced EPDM	-10 - 90	PGS/050

DST D-Flex Pump Flexibles are installed to absorb vibration and noise levels caused by "Plant" upon which they are fitted. These are suitable for use on systems carrying Chilled & Heating Water. Please see above for temperature & Pressure limits.

DST D Flex units are not suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

DST D Flex Untied units should not be installed on pumps located on Inertia bases

DST D-Flex units are manufactured from spherical moulded EPDM, which is a soft compound to offer a high isolation efficiency and high noise absorbing properties.

The units are a full bore thus removing pressure drop problems. The EPDM rubber is nylon re-inforced, and has a steel wire re-inforced collar.

Unions BZP coated carbon steel PN16.

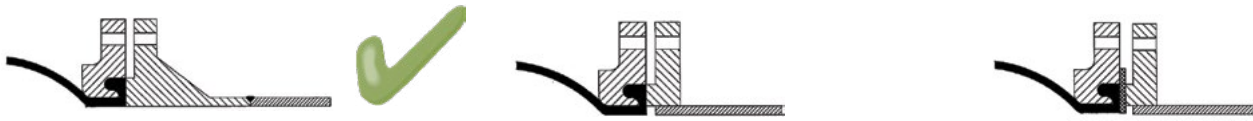
D-Flex units have up to 10 year design life and are warranted for a period of 12 months from supply.

DST D Flex units are stamped with Origin of Manufacture, Date Of Manufacture, Batch Number and Size.

Please note no torsion forces should be applied to these units.

DST Group Ltd also supply DIN 4809 approved pump flexibles. Please contact our sales office for further information.

Flange Suitability:



Pre-installation Check

1. Selection

Prior to installation, check you have the right flexibles for the particular duty. All DST D-Flex Rubber Pump Flexibles have temperature and pressure limitations. Please see the appropriate data sheets for your particular product. This is NOT a product for taking up pipework expansion.

All rubber flexibles will extend under pressure. This creates thrust forces which can be very substantial. We recommend at pressures above 2 Bar and diameters above 65mm nominal bore size, unless the pipe work can be sufficiently anchored directly after the unit, the DST D-Flex Anti-Tamper Tied pump flexibles should be used.

2. Mating Flanges

We recommend the rubber flexibles are mated up against full-bore weld neck flanges. If installed in this manner no additional gaskets are required.

We advise against using slip-on or screwed flanges as mating flanges, as these can damage the rubber bellows. Once the sealing face has been damaged, water/medium will penetrate the reinforcement layers and destroy the integrity of the flexibles.

If it is unavoidable to use this type of mating flange, a gasket must be installed (this should be a hard gasket and be at least 3mm thick). The gasket should reach the internal bore of the rubber bellows. Another option is to fill the gap of the slip-on flange with weld and grind it flush. However, the surface finish must be level and smooth to ensure that the bellow is not damaged once installed.

3. Misalignment

Check the two mating flanges are parallel and that they are in line (maximum allowed offset is 5mm in any direction). The gap between flanges should be within +/- 5mm of the flexibles neutral. Compression or extension should be avoided.

Under no circumstances must the pump flexible be used to take up misalignment. Ensure the pipework is adequately supported. The flexible must not support pipes or plant.

Taking Care of Rubber Flexibles:

1. Paint - Do not paint rubber flexibles. The paint will attack the rubber (this also applies to paint splatter).
2. Welding - Protect the rubber from weld spatter.
3. Lagging - Do not lag rubber flexibles on heating systems. The increased temperature will reduce life.
4. Tie Bar Check - Once the system is filled but not under pressure, check the tie bars are still tight (pipe work on springs may have dropped due to the weight of the water).

Note: Tied Pump Flexibles are supplied with anti-tamper tie bars, therefore the Tie bars cannot be slackened off and should not be removed, doing so could lead to, major damage to the unit thus damaging equipment.

5. Water Treatment – The pump flexible range incorporates an EPDM inner liner. EPDM is a proven material in heating and chilled water systems. It is resistant to glycol and to most chemicals used in water treatment, when used in normal concentrations. We cannot approve any specific chemical, and suggest you always check with the chemical supplier that the additives are suitable for use with EPDM rubber. For other mediums check with your local Wolseley Center for suitability.

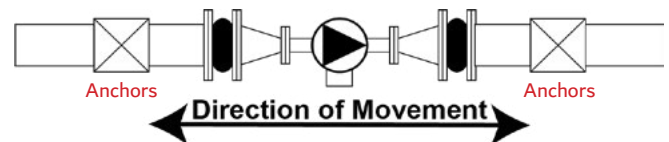
Best Practice

The following are only recommendations but if followed they will ensure proper installation and maximum service life of the rubber bellows. We recommend the use of spool pieces to align mating flanges and to ensure the correct gap.

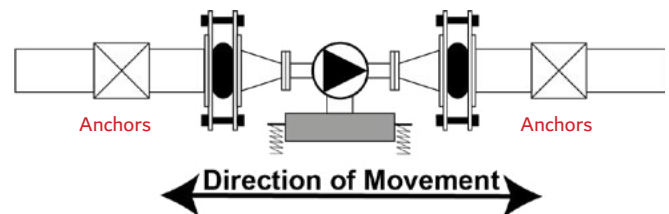
1. Pump flexibles should NEVER be used to counter mis-alignment in pipework.

2. Pump flexibles should never be used to support the pipework. Correct guiding and anchoring should be installed close to the pump flexibles.

3. PUMPS - When the pump flexibles are installed on rotating equipment such as pumps to absorb noise and vibration, the first bracket position after the flexibles should be an anchor. This allows the flexibles to absorb vibration but limits their ability to extend under pressure acting as an acoustic break. If pumps are not mounted on springs or inertia bases untied pump flexibles can be used.

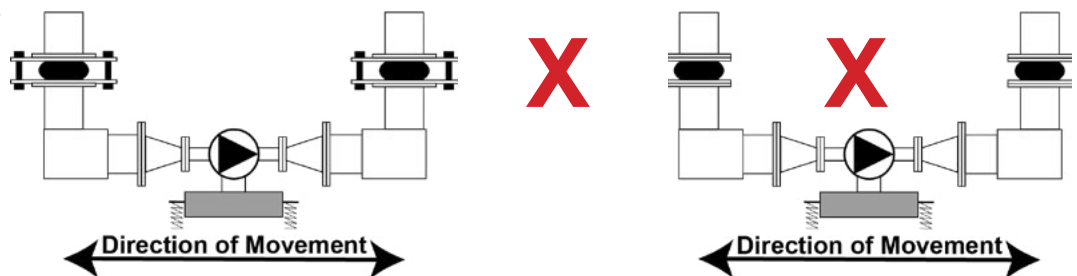


4. INERTIA BASES - Where pumps are installed on inertia bases, Tied Pump Flexibles Should be used. The flexible connection should be directly onto the pump or as near as possible, with anchor points installed after the flexible.



5. IN A RISE - Where pumps are installed on inertia bases, care should be taken NOT to install pump flexibles in vertical pipework on either the return to the pump or flow from the pump. the reasons for this are
 - i. The movement direction changes from axial to lateral.
 - ii. As a result, dependant upon where in the rise the flexibles are, a greater amount of movement can be expressed on the unit laterally, and can be a compound movement with angulation too.
 - iii. Pipe has a greater tendency to use the flexible as a support, as any rigid support would stop the inertia base from working.

In these circumstances neither tied or untied versions are suggested, although, if there is no alternative, a tied unit will offer a better degree of protection.



5. PIPE RUNS - Where pump flexibles are being installed to compensate for pipe borne vibration, the flexible still requires anchor on each side to restrict the possibility of extension under pressure. All pipework should be correctly supported between anchors with slide guides to allow movement.

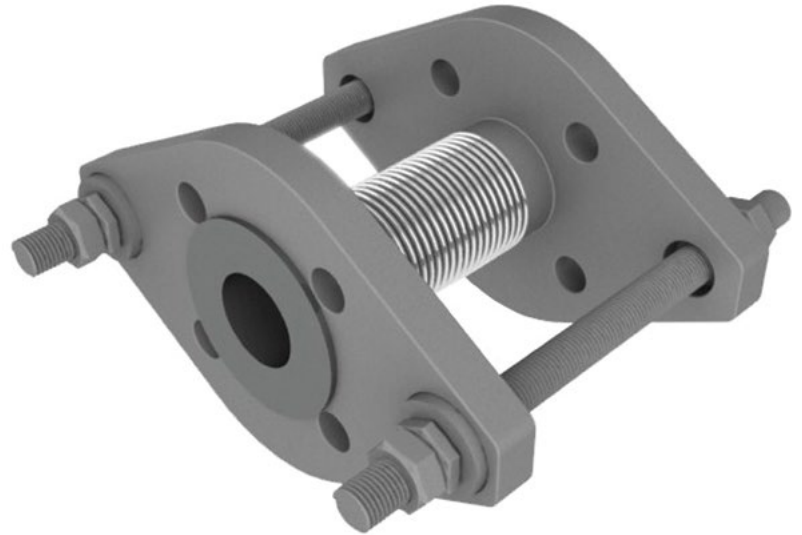
Key Points

Suitable for Potable Water

Suitable for High Temperatures

PED Certified as Required

Stainless Steel to all Wetted Areas



Size (mm)	Installed Length	Material Type	Temperature Limits °C	Part Number
32nb / 35cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/032/PN16T
40nb / 42cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/040/PN16T
50nb / 54cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/050/PN16T
65nb / 67cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/065/PN16T
80nb / 76cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/080/PN16T
100nb / 108cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/100/PN16T
125nb / 133cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/125/PN16T
150nb / 159cu	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/150/PN16T
200nb	150	316 St/Steel to all Wet Areas	-10 - 200	FA3/200/PN16T
250nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/250/PN16T
300nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/300/PN16T
350nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/350/PN16T
400nb	On Request	316 St/Steel to all Wet Areas	-10 - 200	FA3/400/PN16T

DST D-Flex Pump Flexibles are installed to reduce Vibration and noise levels caused by “Plant” upon which they are fitted. These are suitable for use on systems carrying high temperature water or potable water systems. Please see above for temperature & Pressure limits. DST FA3 units are suitable for use with Potable Water, Water with Oil additives, Compressed Air and Food Applications.

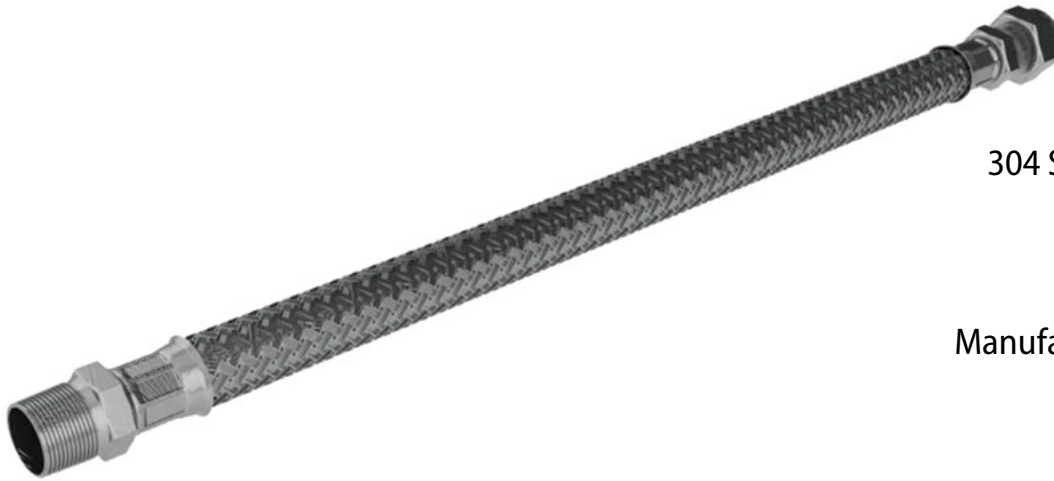
Material Specification

Connections:	Carbon Steel Drilled PN16 Van-stone Facings
Convolutions:	316 Stainless steel
Internal Sleeve:	316 Stainless steel
Tie Rods:	Carbon Steel
Hemispherical Washers:	Carbon Steel
Connecting Spool:	316 Stainless steel

The DST Type FA3 Pump Flexible is suitable for use on systems up to 200oC at 16 bar pressure. PED certification supplied dependant upon application.

All units are supplied at installation lengths and are pre stressed. Please note, DST Group Ltd can design and supply flexible connections to accommodate higher system temperatures / pressures. Please advise at time of enquiry / order the system temperature and pressure to allow correct selection of compensator.

Key Points



EPDM Rubber Core

304 Stainless Steel Overbraid

Hose WRAS Approved

Manufactured by DST in the UK

0 - 100°C @ 10 Bar

- Description - EPDM Rubber hose with 304 Stainless steel overbraid, swaged fittings to clients requirements.
- Testing - Hydrostatic batch test to minimum 20 bar cold. Test Certificate can be submitted upon request.
- Approvals - All hose is WRAS approved irrespective of application.
- Applications - Fan Coil Connections
Radiant Panel Connections
Tap Connections

Fittings

FIT001

Fixed Taper Male



FIT004

Compression



FIT002

Swivel Flat Face Female



FIT005

Brass Standpipe



FIT006

Flat Face 90° Female Elbow



Key Points

321 Stainless Steel Core

304 Stainless Steel Overbraid

Manufactured in the UK

0 - 100°C @ 10 Bar



Description - 321 Stainless steel hose with 304 Stainless steel overbraid. Welded fittings to client requirements.

Testing - Hydrostatic batch test to minimum 20 bar cold. Test Certificate can be submitted upon request.

Applications -
Fan Coil Connections
Radiant Panel Connections
Tap Connections
Final Connections to Equipment

Fittings

FIT001

Fixed Taper Male



FIT006

Flat Face 90° Female Elbow



FIT002

Swivel Flat Face Female



FIT007

Coned Face 90° Female Elbow



FIT003

Swivel Coned Seat Female



Key Points

10 Year Guarantee for EPDM. 2 Year Guarantee for Stainless Steel

25 Year Design Life

ISO9001 Quality System

Manufactured at DSTGroup Ltd in the UK

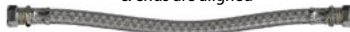


Installation

Installation conditions as below must be adhered to, to ensure longevity of the product.



Slack is present on straight lengths & ends are aligned



Avoid bending radius becoming too small by using elbows



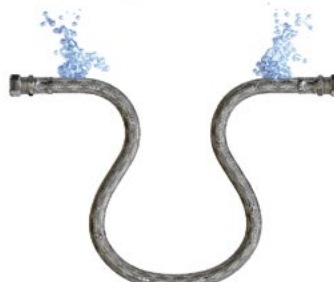
Hose is long enough to allow smooth curve



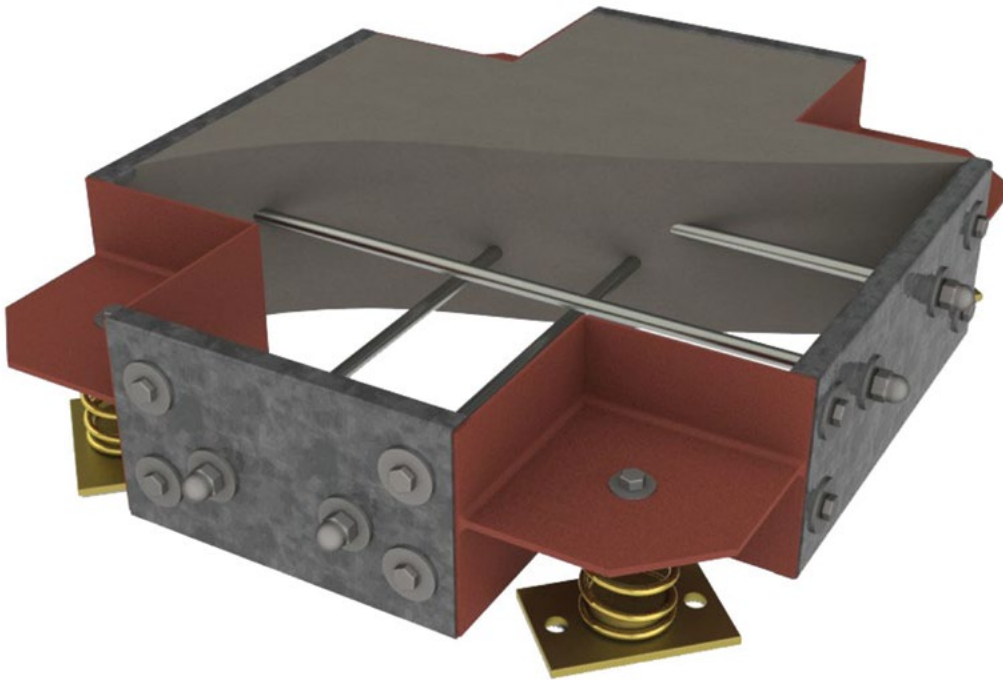
Do not bend hose too close to crimped end



Observe minimum bend radius



DST Group Ltd Reserves the right to alter / amend product data without prior notification



DST Group Ltd Inertia Bases are supplied in a flat pack form to allow ease of installation on site, but can be delivered assembled if required. These are supplied with spring mounts and all fixings required to assemble the inertia base.

DST Group Ltd can calculate the size of inertia base required. Please forward the pump details to DST Group Ltd Sales Office. As standard the DST Ltd Group Inertia Bases are supplied either 150mm or 300mm deep.

DST Group Ltd Inertia Bases are supplied to provide no less than 1.5 : 1.0 Rate of inertia. As standard these bases are supplied with Springs.

DST Group Ltd can, if required supply these bases fully assembled and cast with a 24N mix of concrete.

DST Group Ltd advise that DST/***/PN16T Tied DST D-Flex Pump Flexibles are used for isolating vibration from pump connections.

Please Note:

Spring selection should be based upon equipment weight - DST Group Ltd can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - Again DST Group Ltd can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, othercoatings can be offered for external use. Please advise if your application is external.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Key Points



Anti-Vibration Mount for Plant & Machinery

Enclosed Spring for Greater Stability.

Standard 25mm Deflection

Can be used in Conjunction with Inertia Bases

Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
DS/0-0050	130	110	M10	M12	11-23	25
DS/0-0080	130	110	M10	M12	18-37	25
DS/0-0130	130	110	M10	M12	30-60	25
DS/0-0200	130	110	M10	M12	45-91	25
DS/0-0300	130	110	M10	M12	68-137	25
DS/0-0500	130	110	M10	M12	114-228	25
DS/0-0630	130	110	M10	M12	148-296	25
DS/0-0800	130	110	M10	M12	182-364	25
DS/1-0150	173	148	M12	M12	34-69	25
DS/1-0200	173	148	M12	M12	45-91	25
DS/1-0300	173	148	M12	M12	68-137	25
DS/1-0500	173	148	M12	M12	114-228	25
DS/1-0750	173	148	M12	M12	170-341	25
DS/1-1000	173	148	M12	M12	227-455	25
DS/1-1200	173	148	M12	M12	273-546	25
DS/1-1400	173	148	M12	M12	318-637	25
DS/1-2-1700	173	148	M12	M12	386-773	25
DS/1-2-1900	173	148	M12	M12	432-864	25

Please Note

Spring selection should be based upon equipment weight - DST Group Ltd can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - DST Group Ltd can advise on selection at time of ordering.

Standard housing is powder coated, the standard spring is BZP, other coatings can be offered for external use. Please advise if your application is external.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

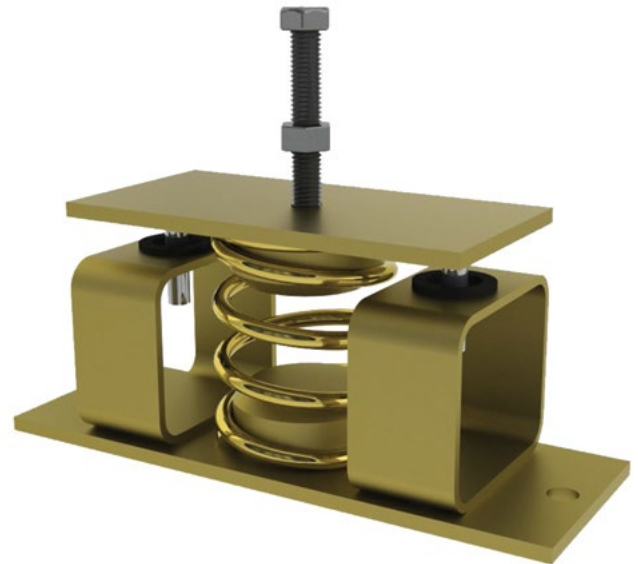
Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK



Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
RS/0-0050	230	198	M12	M12	11-23	30
RS/0-0080	230	198	M12	M12	18-37	30
RS/0-0130	230	198	M12	M12	30-60	30
RS/0-0200	230	198	M12	M12	45-91	30
RS/0-0300	230	198	M12	M12	68-137	30
RS/0-0500	230	198	M12	M12	114-228	30
RS/0-0630	230	198	M12	M12	148-287	30
RS/0-0800	230	198	M12	M12	182-364	30
RS/0-1100	230	198	M12	M12	250-500	30
RS/1-0425	230	198	M12	M12	97-194	30
RS/1-0600	230	198	M12	M12	136-273	30
RS/1-0750	230	198	M12	M12	170-341	30
RS/1-1000	230	198	M12	M12	227-455	30
RS/1-1400	230	198	M12	M12	318-637	30
RS/1-1700	230	198	M12	M12	386-773	30
RS/1-2000	230	198	M12	M12	455-910	30
RS/1-2400	230	198	M12	M12	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - DST Group Ltd can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - DST Group Ltd can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is external.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

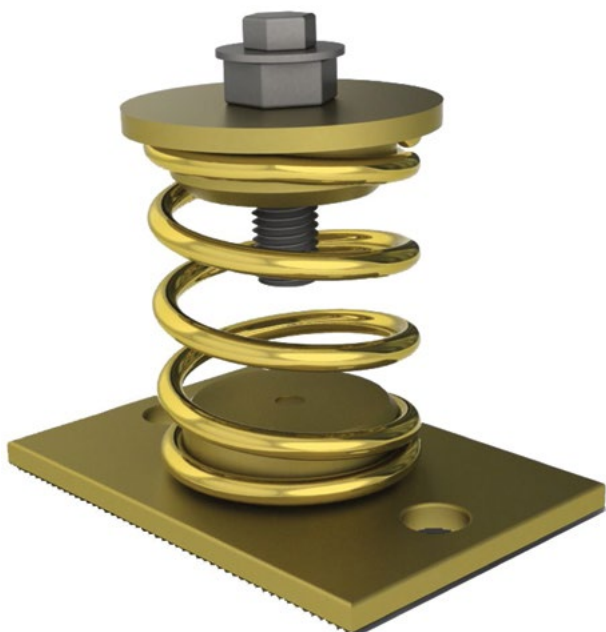
Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK



Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
OS/0-0050	130	92	M12	M10	11-23	30
OS/0-0080	130	92	M12	M10	18-37	30
OS/0-0130	130	92	M12	M10	30-60	30
OS/0-0200	130	92	M12	M10	45-91	30
OS/0-0300	130	92	M12	M10	68-137	30
OS/0-0500	130	92	M12	M10	114-228	30
OS/0-0630	130	92	M12	M10	148-287	30
OS/0-0800	130	92	M12	M10	182-364	30
OS/0-1100	130	92	M12	M10	250-500	30
OS/1-0425	165	120	M12	M12	97-194	30
OS/1-0600	165	120	M12	M12	136-273	30
OS/1-0750	165	120	M12	M12	170-341	30
OS/1-1000	165	120	M12	M12	227-455	30
OS/1-1400	165	120	M12	M12	318-637	30
OS/1-1700	165	120	M12	M12	386-773	30
OS/1-2000	165	120	M12	M12	455-910	30
OS/1-2400	165	120	M12	M12	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - DST Group Ltd can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - DST Group Ltd can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is external.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Key Points

Suitable for isolating vibration from packaged units

Pressurisation Units

Please advise the weight and plant footprint requiring isolation for mount recommendations



Weight (Kg)	Material Type	Hole Tapping Size	Dimensions (mm) Width x Height	Part Number
150	Neoprene Commercial Grade Black Rubber	M10	75 x 32	CMC/150/M
300	Neoprene Commercial Grade Black Rubber	M12	90 x 40	CMC/300/M

Key Points

Isolating vibration from Pipework

Please advise the weight of plant requiring isolation for hanger recommendations



Weight (Kg)	Material Type	Hole Tapping Size	Dimensions (mm) Width x Height	Part Number
150	Neoprene Commercial Grade Black Rubber	M10	75 x 32	CMC/150/M
300	Neoprene Commercial Grade Black Rubber	M12	90 x 40	CMC/300/M

Please Note:

Mount selection should be based upon equipment weight - DST Group Ltd can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different mount loads maybe required at different locations - Again DST Group Ltd can advise on selection at time of ordering.

Mounts when fitted should be loaded equally, installing one mount before another will lead to uneven load.

Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK



Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
SHO S/0-0050	150	180	M12	M12	11-23	30
SHO S/0-0080	150	180	M12	M12	18-37	30
SHO S/0-0130	150	180	M12	M12	30-60	30
SHO S/0-0200	150	180	M12	M12	45-91	30
SHO S/0-0300	150	180	M12	M12	68-137	30
SHO S/0-0500	150	180	M12	M12	114-228	30
SHO S/0-0630	150	180	M12	M12	148-287	30
SHO S/0-0800	150	180	M12	M12	182-364	30
SHO S/0-1100	150	180	M12	M12	250-500	30
SHO S/1-0425	250	250	M16	M16	97-194	30
SHO S/1-0600	250	250	M16	M16	136-273	30
SHO S/1-0750	250	250	M16	M16	170-341	30
SHO S/1-1000	250	250	M16	M16	227-455	30
SHO S/1-1400	250	250	M16	M16	318-637	30
SHO S/1-1700	250	250	M16	M16	386-773	30
SHO S/1-2000	250	250	M16	M16	455-910	30
SHO S/1-2400	250	250	M16	M16	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - DST Group Ltd can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - DST Group Ltd can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is external.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Key Points

2 Year Guarantee

25 Year Design Life

ISO9001 Quality System

Manufactured in the UK



Model	Overall Width (mm)	Bolt Centres (mm)	Bolt Ø	Fixing Bolt Ø	Weight Range (Kg)	Deflection (mm)
SHOS/0/P-0050	150	180	M12	M12	11-23	30
SHOS/0/P-0080	150	180	M12	M12	18-37	30
SHOS/0/P-0130	150	180	M12	M12	30-60	30
SHOS/0/P-0200	150	180	M12	M12	45-91	30
SHOS/0/P-0300	150	180	M12	M12	68-137	30
SHOS/0/P-0500	150	180	M12	M12	114-228	30
SHOS/0/P-0630	150	180	M12	M12	148-287	30
SHOS/0/P-0800	150	180	M12	M12	182-364	30
SHOS/0/P-0110	150	180	M12	M12	250-500	30
SHOS/1/P-0425	250	250	M16	M16	97-194	30
SHOS/0/P-0600	250	250	M16	M16	136-273	30
SHOS/1/P-0750	250	250	M16	M16	170-341	30
SHOS/1/P-1000	250	250	M16	M16	227-455	30
SHOS/1/P-1400	250	250	M16	M16	318-637	30
SHOS/1/P-1700	250	250	M16	M16	386-773	30
SHOS/1/P-2000	250	250	M16	M16	455-910	30
SHOS/1/P-2400	250	250	M16	M16	545-1091	30

Please Note:

Spring selection should be based upon equipment weight - DST Group Ltd can advise on selection at time of ordering.

Plant and pipework can be loaded unevenly, therefore different spring loads maybe required at different locations - DST Group Ltd can advise on selection at time of ordering.

Standard springs and housings are BZP with yellow passivate, other coatings can be offered for external use. Please advise if your application is external.

Springs when fitted should be loaded equally, installing one spring before another will lead to uneven load.

Key Points

Microbubble Type

Flanged PN16

10 Bar Working Pressure

110 Degrees C



For use in sealed heating and cooling systems. Air and Dirt Separators protect against damage caused by the deposit of dirt particles, and large amounts of dissolved and undissolved air.

Reduction in:

- Corrosion of pipe and fittings.
- Dependence on chemicals.
- Unwanted dirt build up in equipment & pipe

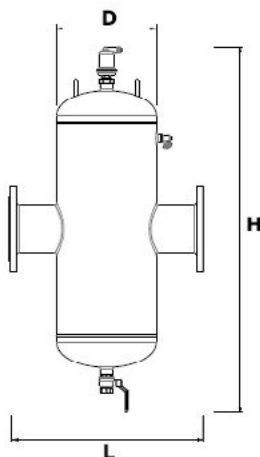
Whilst increasing efficiency of:

- Boilers & Heat Exchangers.
- Chillers
- Pumps

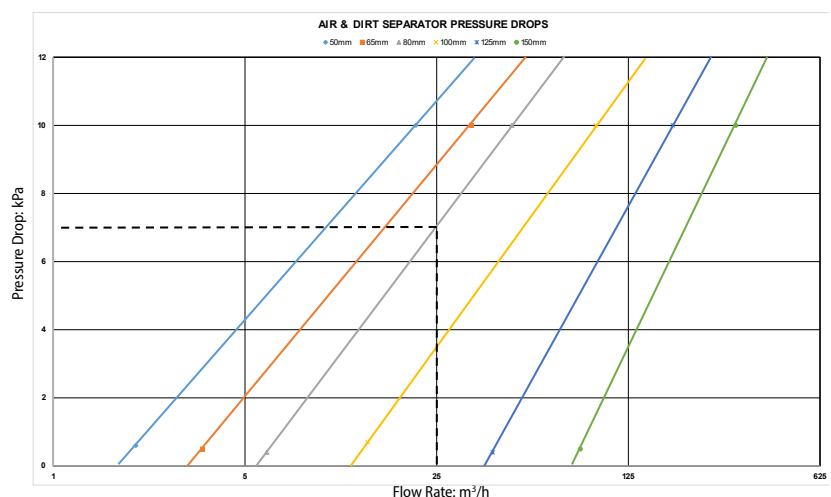
Air and dirt separators are essential when refurbishing older systems or when an open system is converted to a closed system.

- Flanged connection EN 1092-1 PN16.
- Flow Rate up to 1.5 m/s.

Pipe Size	Face to Face L	Body Diameter D	Height H	Flange	Flow Rate @ 1.5m/s
50mm	430mm	168mm	589mm	PN16	12m ³ /h
65mm	430mm	168mm	589mm	PN16	20m ³ /h
80mm	490mm	220mm	780mm	PN16	28m ³ /h
100mm	490mm	220mm	780mm	PN16	47m ³ /h
125mm	630mm	325mm	952mm	PN16	70m ³ /h
150mm	630mm	325mm	952mm	PN16	100m ³ /h
200mm	810mm	410mm	1266mm	PN16	175m ³ /h



Pressure Drop Chart



DST Group Ltd Reserves the right to alter / amend product data without prior notification

RapidVent Air & Dirt Separators

Selection & Location

1. Micro Bubbles are easily released from circulating water where the highest temperature and lowest pressure conditions occur in the system
2. The separators should normally be fitted where water is at the highest temperature and the lowest pressure available.
3. When selecting the position for the separator please be aware that pressure also has a major effect on the release of microbubbles.
5. Where lower temperatures are involved in cooling applications system pressure becomes the determining factor of the position of the separator.
7. Rapidvent air and dirt separators should be installed in horizontal pipework, the direction of flow is optional.
8. The static head must not exceed 15m for a heating system and 5m for a cooling / Chilled Water system.
9. The efficiency of the unit will be reduced if the system static head exceeds those indicated or system or flow velocity exceeds 1.5m/s.

Installation (To Be Performed by Qualified Personnel)

1. Protect the Rapidvent air & dirt separator from adverse environmental conditions, protect from frost.
2. This equipment will form part of the main system's maintenance regime, do not obstruct access.
3. The main system must be flushed before installation of the air & dirt separator.
4. Jet Air & Dirt separators are not directional.
5. The equipment must be installed vertically with isolation valves on the inlet and outlet connections to facilitate maintenance inspection and facilitate the venting of separated dirt.
6. To provide the best protection for your system typically this equipment is installed on the hottest side of the heat exchanger, on the suction side of the circulation pump. Please refer to section "Location" for more details.
7. For service purposes it is essential to have 100 mm access clearance above the air vent when installed.
8. When installing, please take into account the weight of the unit, and use the correct equipment for lifting and fitting. Lifting eyes are provided on 150mm and above.
9. Loose accessories should be fitted to unit using Loctite 577 or suitable threadlocking methods:
10. Ensure that the vent cap on the Air Vent is open when commissioning this equipment.
11. Flexible or fixed pipework should be installed to enable dirty water to be drained to a convenient safe place.

Maintenance (To Be Performed by Qualified Personnel)

1. It is recommended that the Rapidvent air & dirt separator should be inspected and drained of dirt after 3 months, then annually thereafter.
2. Should particulate debris build up within the air vent valve, and induce a leak, this can be isolated using the vent cap until such time as appropriate maintenance can take place.
3. Before draining the particulate debris first isolate the Rapidvent air & dirt separator from the main system.
4. Where temperatures are likely to cause harm, please allow the unit to cool before discharging the debris.
5. Open the drain valve to release the accumulated debris from the equipment.
7. Once complete, close the drain valve and reintroduce the Air & Dirt Separator to the main system by opening the isolation valves.
8. Never use the drain valve or air vent to reintroduce water to the system.

WARNING: Any and all maintenance must only take place with the equipment isolated from the main system and when the temperature of the unit and fluid is within safe limits.

Key Points

304 Stainless Steel Construction

Supplied With Tundish & All Valves

Polished Stainless Steel Finish

Wall Mounting Brackets Fitted



Dosing pots are generally installed in closed systems to enable water treatments and other chemicals to be added to the system without the need to shut a system down or part thereof.

The Chempot is a high quality stainless steel vessel which is fatigue resistant as a result of its design. The unit is supplied with all components loose so connections can be fitted in an orientation best suited to the system.

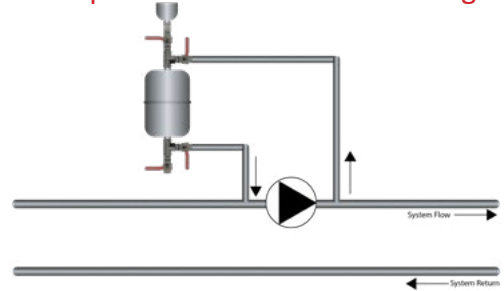
Chempot is fully compliant with the latest BSRIA BG50/2021 recommendations regarding avoiding dead legs and is compliant with Equipment Directive 2014/68/EU Cat SEP and Pressure Equipment (Safety) Regulations 2016.

Sizing:

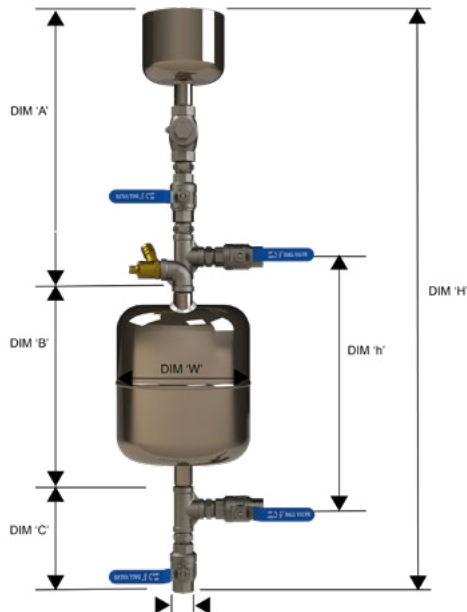
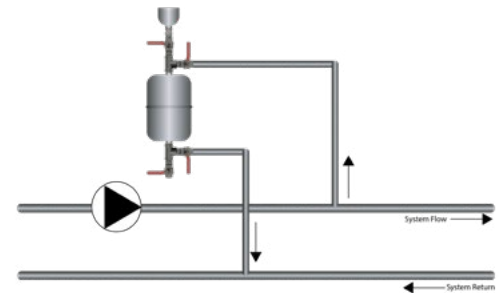
The size of dosing pot installed in a system is not critical as multiple doses of chemicals can be put in to the system to reach the correct concentration.

The benefits of using a smaller unit, is that it is easier to physically handle and also allows for more accurate dosing. However, the time on site for performing multiple doses has to be considered. This factor should influence your decision when selecting dosing pots.

BSRIA Compliant if installed in this configuration



Not BSRIA Compliant if installed in this configuration - But Acceptable



SIZE	Con Size	DIM A	DIM B	DIM C	DIM W	DIM H	DIM h	Working Pressure
3.5L	1/2"	285mm	260mm	130mm	162mm	675mm	310mm	10Bar
6L	1/2"	285mm	260mm	130mm	215mm	675mm	310mm	10Bar
11L	1/2"	285mm	410mm	130mm	215mm	825mm	460mm	10Bar
18L	1/2"	285mm	460mm	130mm	260mm	875mm	510mm	7Bar
25L	1/2"	285mm	590mm	130mm	260mm	1005mm	640mm	7Bar