



## A3S, A3SW, A3SS and A3SSW Bellows Sealed Stop Valve

### Description

A screwed and socket weld bellows sealed, in-line stop valve for use on steam, gas, liquid, condensate and water systems.

### Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED). The valve bellows fatigue life conforms to ISO 15761.

### Seat leakage

Disc to seat shut-off conforms to API 598 and DIN 3230 leakage rate B01.

### 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.

### Sizes and pipe connections

½", ¾", 1", 1¼", 1½" and 2"

Screwed BSP (BS 21 parallel), NPT

Socket weld to BS 3799/ANSI B 16.11

Model	Bonnet type	Disc material
A3S	Bolted Bonnet	Stainless Steel - ASTM A276 Type 410
A3SS	Bolted Bonnet	Stainless Steel - ASTM A276 Type 410 + stellite Gr. 6
A3SW	Welded Bonnet	Stainless Steel - ASTM A276 Type 410
A3SSW	Welded Bonnet	Stainless Steel - ASTM A276 Type 410 + stellite Gr. 6

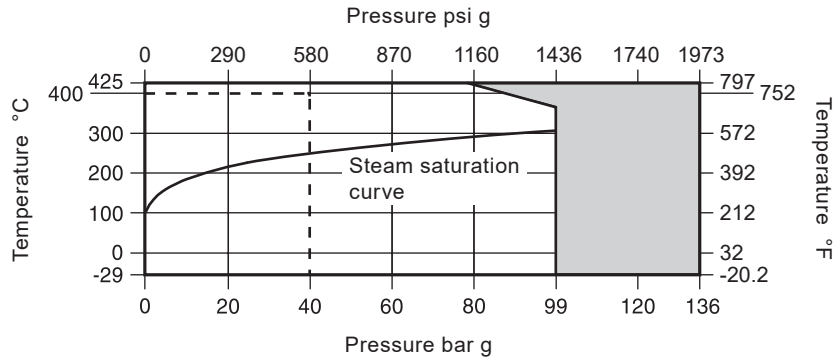



A3S  
A3SS  
Bolted version



A3SW  
A3SSW  
Welded version

## Pressure/temperature limits (Class 800)



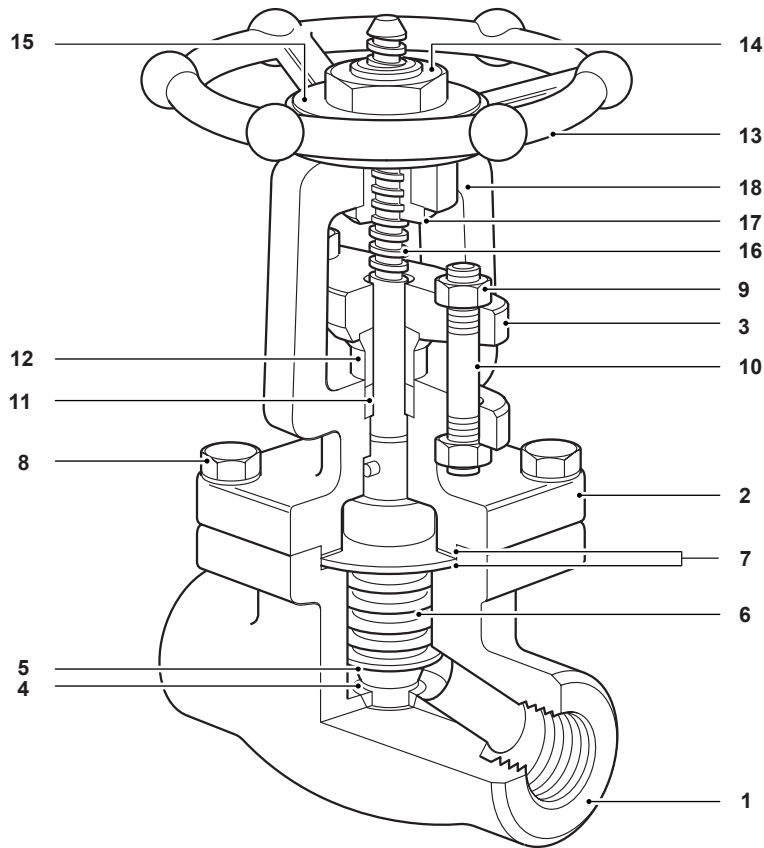
 The product **must not** be used in this region.

----- Operating restrictions to conform to ISO 15761.

Body design conditions		Class 800
PMA Maximum allowable pressure	136 bar g	1973 psi g
TMA Maximum allowable temperature	425 °C	797 °F
Minimum allowable temperature	-29 °C	-20.2 °F
Maximum operating pressure	99 bar g @ 360 °C	1436 psi g @ 680 °F
PMO Maximum operating pressure for extended bellows life	40 bar g @ 400 °C	580 psi g @ 752 °F
Maximum operating temperature	425 °C	797 °F
TMO Maximum operating temperature for extended bellows life	400 °C @ 40 bar g	752 °F @ 580 psi g
Minimum operating temperature	-29 °C	-20.2 °F
Without the bellows fitted the unit is designed for a maximum cold hydraulic test pressure of:	212 bar g	3075 psi g

## Materials

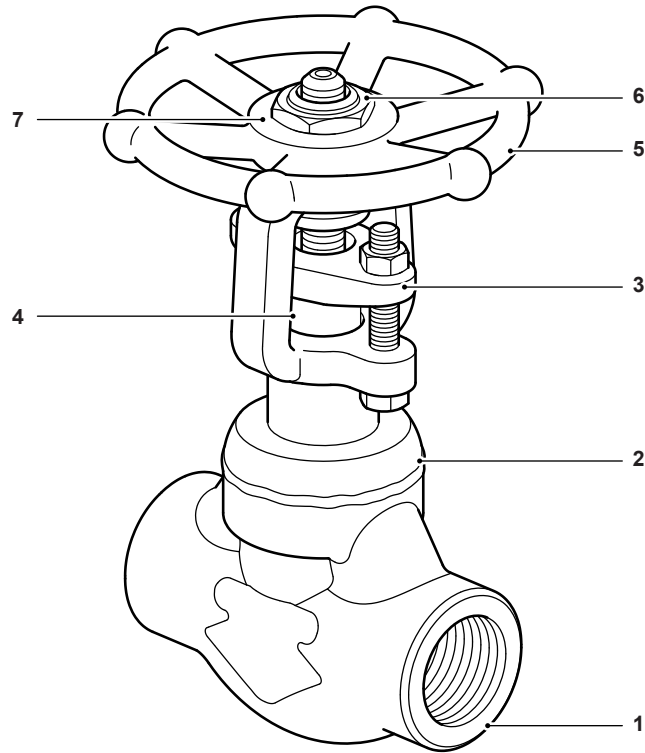
**A3S**  
**A3SS**  
**Bolted version**



No.	Part	Material	
1	Body	Forged steel	ASTM A105N
2	Bonnet	Forged steel	ASTM A105N
3	Gland flange	Forged steel	ASTM A105
4	Integral seat	Stellite	Gr. 6
5	Disc	<b>A3S</b> Stainless steel	ASTM A276 Type 410
		<b>A3SS</b> Stainless steel	ASTM A276 Type 410 + stellite Gr. 6
6	Bellows	Stainless steel	ASTM A479 Type 321
7	Gaskets	Spirally wound stainless steel and graphite filler/graphite laminate with stainless steel insert.	
8	Body bolts	Carbon steel	ASTM A193 B7
9	Gland nuts	Carbon steel	ASTM A194 2H
10	Gland studs	Stainless steel	AISI 410
11	Stem packing	Graphite	
12	Gland follower	Stainless steel	ASTM A276 Type 410
13	Handwheel	Carbon steel	
14	Wheel nut	Carbon steel	
15	Name-plate	Stainless steel	
16	Stem	Stainless steel	ASTM A276 Type 410
17	Yoke nut	Stainless steel	ASTM A582 Type 410
18	Grease nipple	Carbon steel	

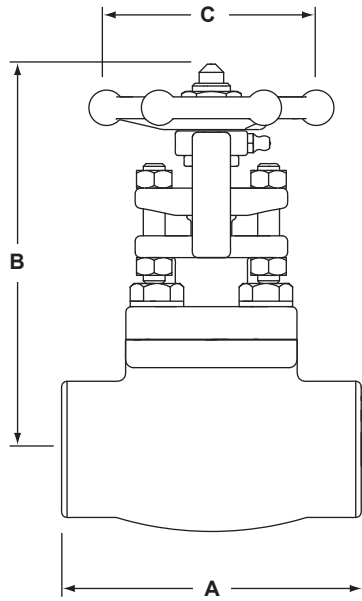
## Materials

A3SW  
A3SSW  
Welded version

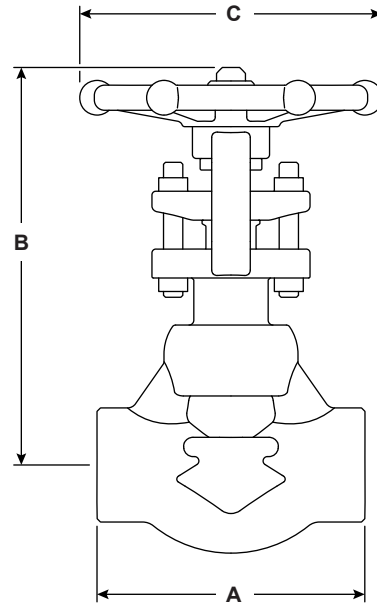


No.	Part	Material	
1	Body	Forged steel	ASTM A105N
2	Bonnet	Forged steel	ASTM A105N
3	Gland flange	Forged steel	ASTM A105
4	Gland follower	Stainless steel	ASTM A276 Type 410
5	Handwheel	Carbon steel	
6	Wheel nut	Carbon steel	
7	Name-plate	Stainless steel	

**Dimensions/weights (approximate) in mm (inches) and kg (lbs)**



**A3S  
A3SS  
Bolted version**



**A3SW  
A3SSW  
Welded version**

Size	A	B (valve open)	C		Weight	
			A3S A3SS	A3SW A3SSW	A3S A3SS	A3SW A3SSW
½"	80 (3.15)	136 (5.35)	70 (2.76)	80 (3.15)	1.7 (3.75)	
¾"	90 (3.54)	144 (5.67)	90 (3.54)	80 (3.15)	2.3 (5.07)	
1"	110 (4.33)	167 (6.57)	110 (4.33)		3.6 (7.94)	
1¼"	127 (5.00)	194 (7.64)	110 (4.33)		5.9 (13.0)	
1½"	155 (6.10)	220 (8.66)	130 (5.12)		8.5 (18.7)	7.5 (16.5)
2"	170 (6.69)	230 (9.06)	180 (7.09)		11.6 (25.6)	

**Kv values**

Size	½"	¾"	1"	1¼"	1½"	2"	For conversion: Cv (UK) = Kv x 0.963 Cv (US) = Kv x 1.156
<b>Kv</b>	1.3	3.2	5.8	9.0	17.0	19.2	

**Safety information, installation and maintenance**

For full details see the Installation and Maintenance Instructions (IM-P132-11) supplied with the product.

**Installation note:**

Install in the direction of flow given by the arrow on the body with the handwheel in a suitable position. The preferred position is with the spindle vertical.

**Disposal**

The 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 Spirax Sarco A3S bellows sealed stop valve having screwed BSP connections.

### Spare parts - A3S and A3SS

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

### Spare parts - A3SW and A3SSW

No Spare parts available for Welded Bonnet options

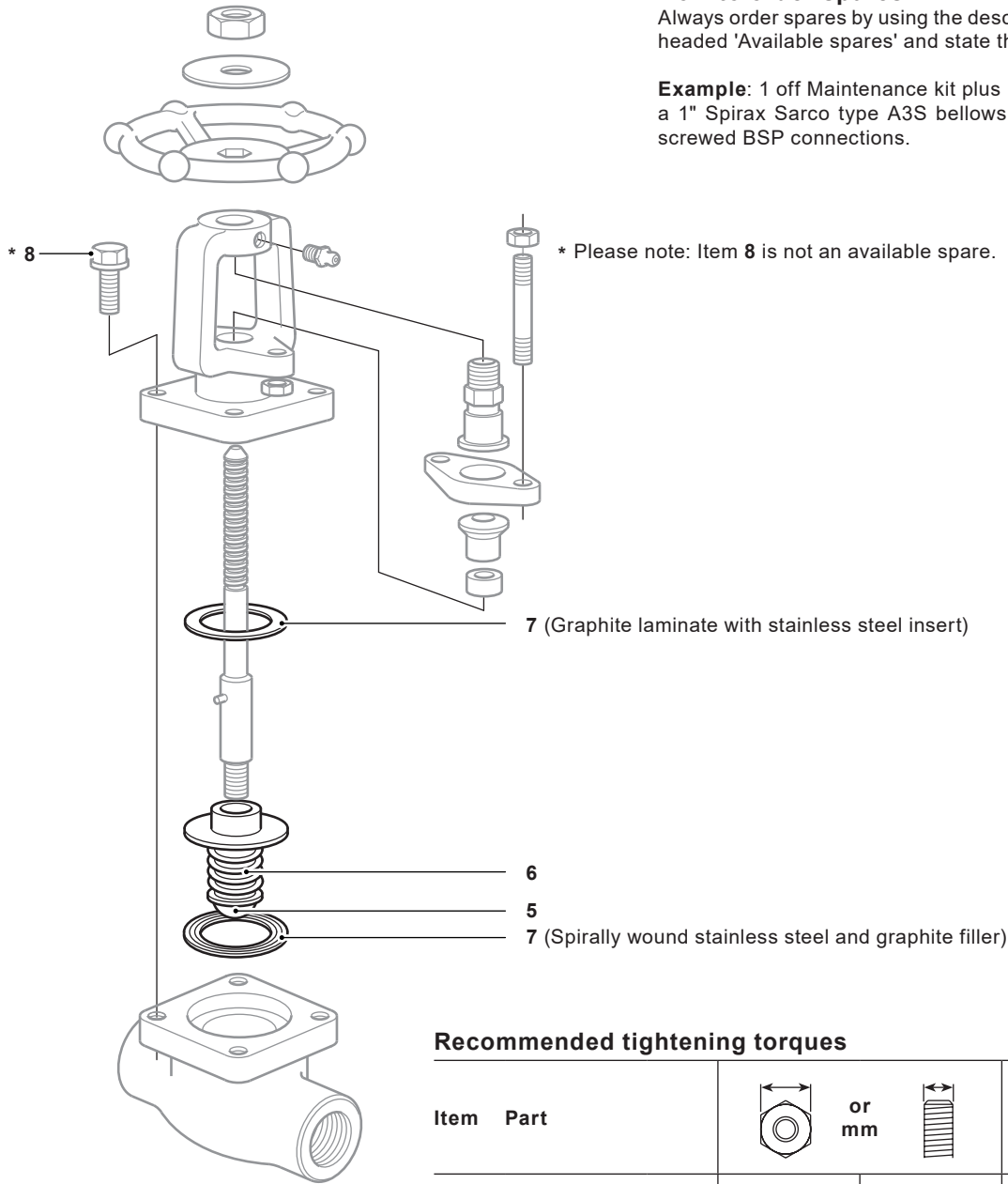
#### Available spares

Set of body gaskets	7
Maintenance kit (Disc and bellows assembly + body gaskets)	5, 6, 7



#### 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 valve.

**Example:** 1 off Maintenance kit plus 1 - Set of body gaskets for a 1" Spirax Sarco type A3S bellows sealed stop valve having screwed BSP connections.



#### Recommended tightening torques

Item	Part	 or mm		N m	(lbf ft)
8	Body bolt	1/2"	M10	40 - 50	(30 - 37)
		3/4"	M10	40 - 50	(30 - 37)
		1"	M12	70 - 90	(52 - 66)
		1 1/4"	M12	70 - 90	(52 - 66)
		1 1/2"	M14	110 - 130	(82 - 96)
		2"	M16	160 - 190	(118 - 140)