



## BSA3HP Bellows Sealed High Pressure Stop Valve


### Description

The BSA3HP is a carbon steel bodied, high pressure in-line non-throttling stop valve with multi-ply bellows. Balanced and unbalanced options are available. These valves are rated to EN 1092 PN100 or ASME class 600 for use with both saturated and superheated steam applications and a range of other industrial gases and fluids.

### Range and options

Size	Unbalanced		Balanced	
	PN100	Class 600	PN100	Class 600
DN15 - DN50	•	•		
DN65 - DN100	•	•	•	•

### Standards

The product fully complies with the requirements of the European Pressure Equipment Directive and carries the  mark when so required.

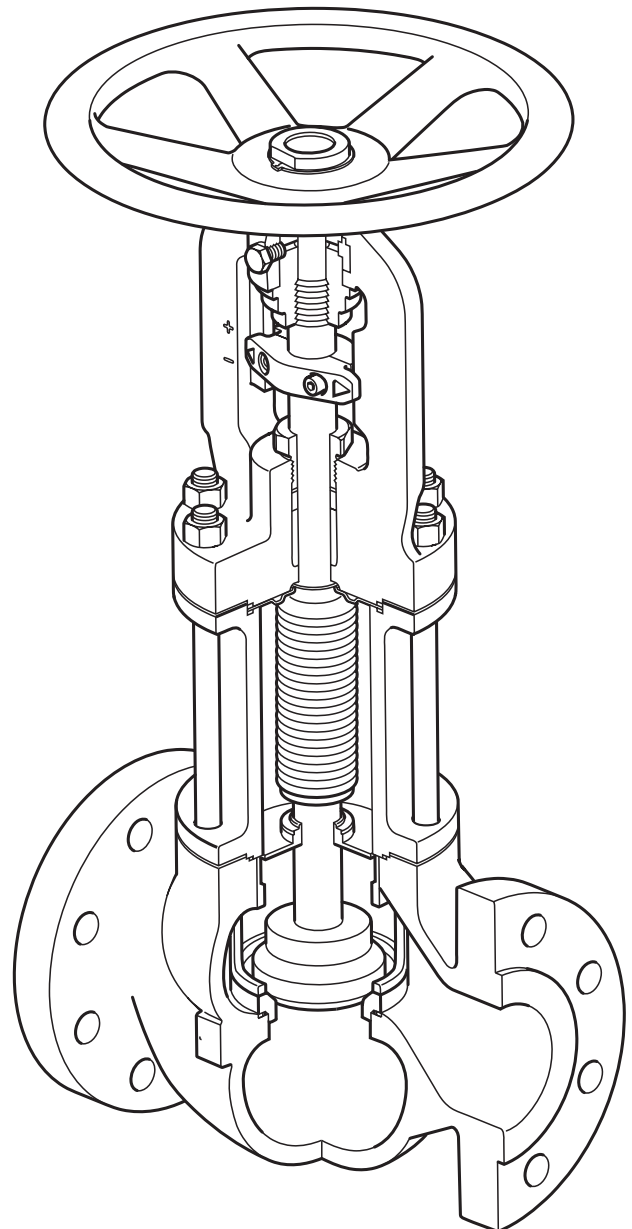
### Certification

The BSA3HP is available with certification to EN 10204 3.1.

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

### Size and pipe connection

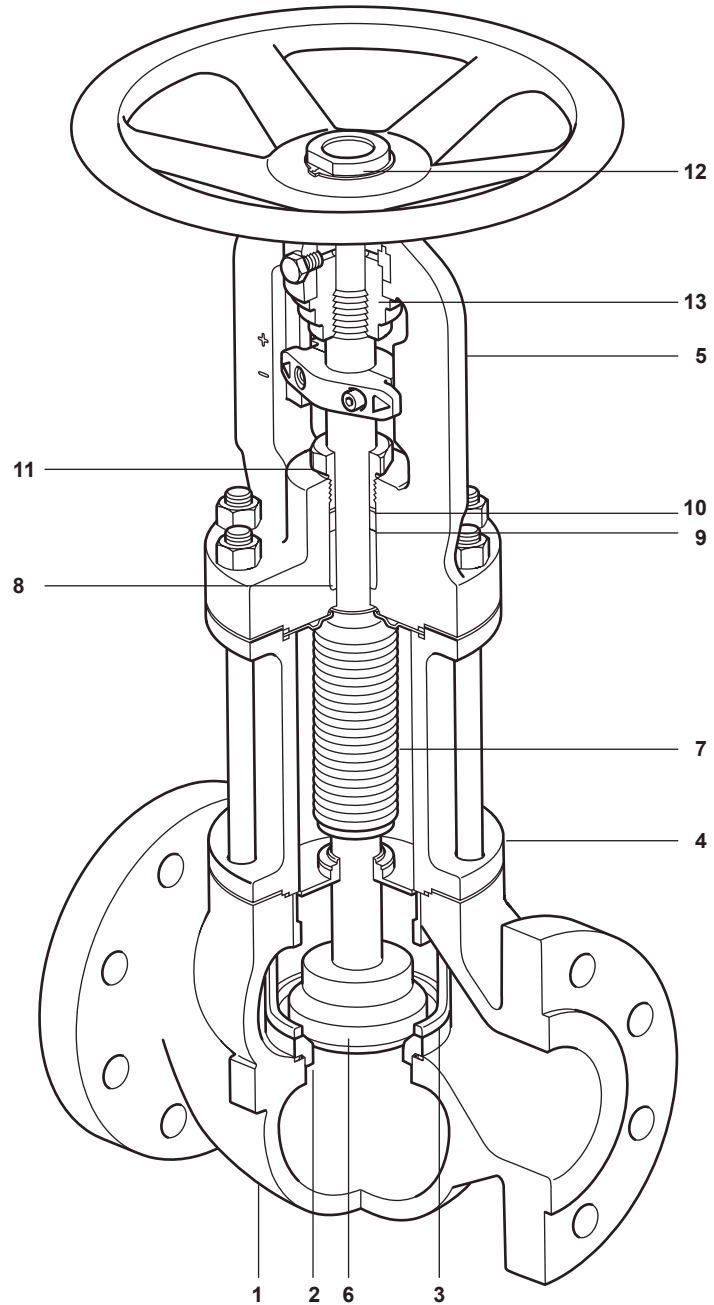
DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80 and DN100.  
Flanged EN 1092 PN100 and ½", ¾", 1", 1¼", 1½", 2", 2½", 3" and 4".  
Flanged ASME class 600



DN100  
ASME Class 600  
BSA3HP shown

DN25  
PN100 BSA3HP shown

Items 1 - 13

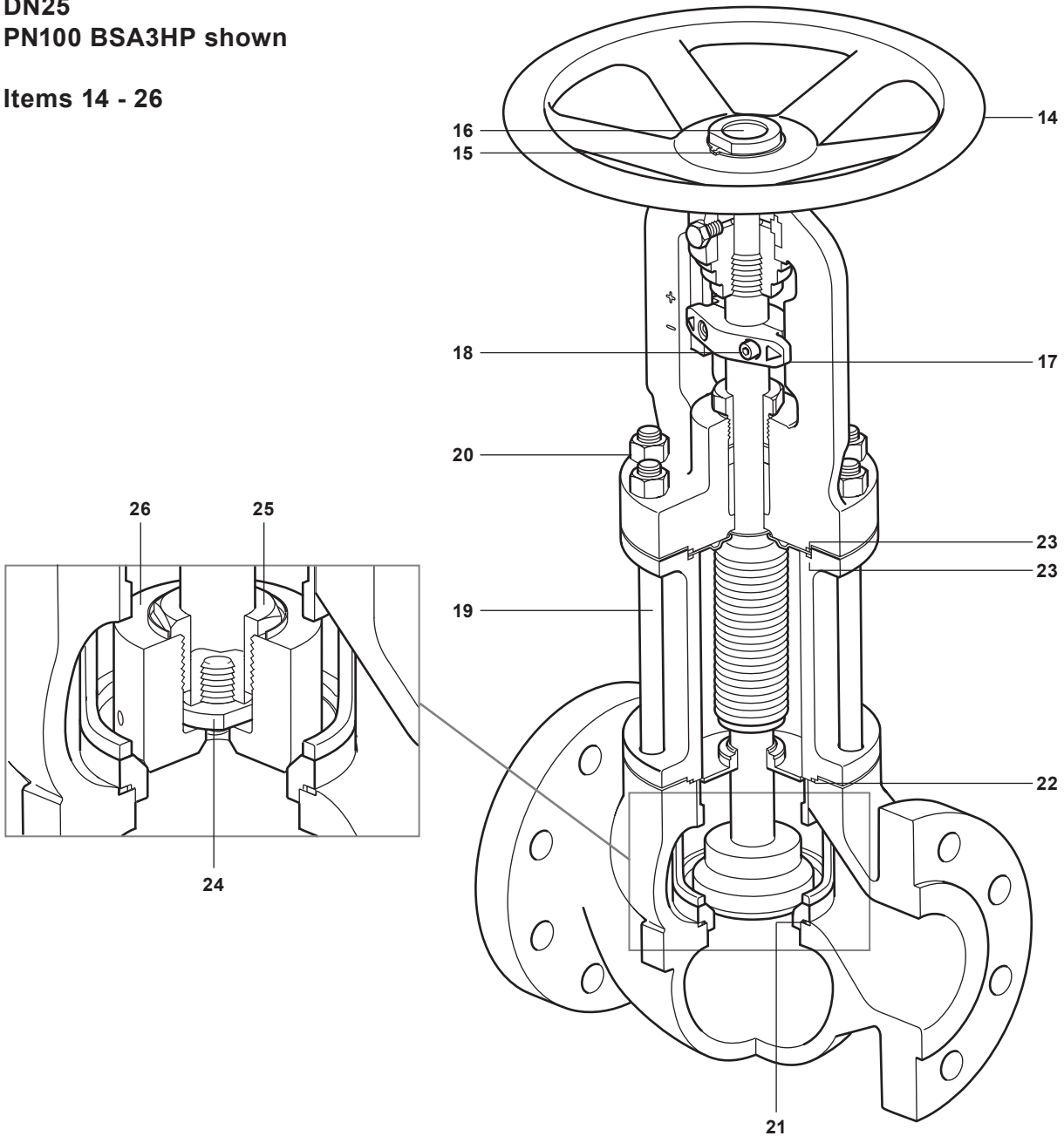


### Materials

No.	Part	Material	
1	Body	Carbon steel	1.0619+N / SA-216 WCB
2	Seat	Stainless steel	1.4057
3	Support cage	Stainless steel	1.4408 / A351CF8M
4	Bellows housing	Carbon steel	1.0619+N / SA-216 WCB
5	Bonnet	Carbon steel	1.0619+N / SA-216 WCB
6	Plug	Stainless steel	1.4021
7	Stem and bellows assembly	Stainless steel	1.4571 / 1.4301 / 1.4307 / ASTM A276 316L
8	Stem guide	Stainless steel alloy	UNS S21800
9	Graphite ring	Graphite	
10	Gland ring	Stainless steel	1.4301 / ASTM 304
11	Gland nut	Steel	1.0715 / 230M07
12	Bonnet bush	Steel	1.0715 / 230M07
13	Thrust washer	Steel	1.1231 / C67S

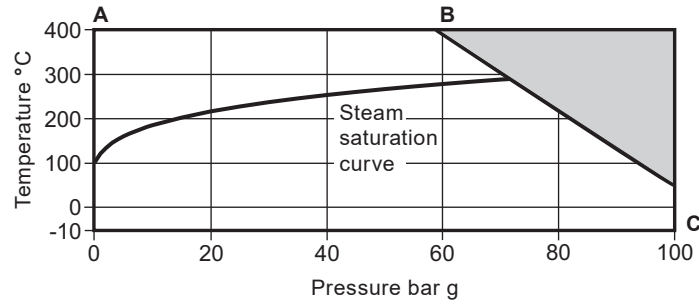
**DN25  
PN100 BSA3HP shown**

**Items 14 - 26**



No.	Part	Material	
14	Hand wheel	Steel	1.0111 / P245NB
15	Circlip	Carbon steel	1.1231 / C67S
16	Core plug	Mild steel	1.0330/CR4
17	Stem coupling	Stainless steel	ASTM A351 CF8
18	Socket head screw	Stainless steel	ASTM 304/A2-70
19	Studs	Alloy steel	ASTM A193 B7
20	Nuts	Alloy steel	ASTM A194 2H
21	Gaskets	Graphite and stainless steel	1.4401 / 316L
22			
23			
24	Stem plug	Stainless steel	1.4057 / ASTM A276 431
25	Nut retainer	Stainless steel	1.4305 / ASTM A582 303
26	Balanced plug	Stainless steel	1.4021

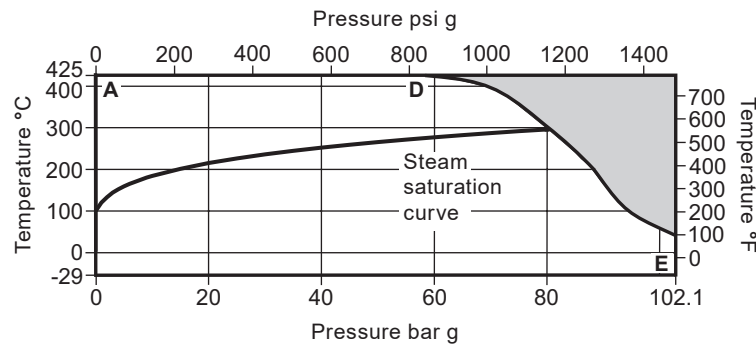
## Pressure / temperature limits (ISO 6552)



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

### A - B - C PN100

Body design condition	PN100
PMA Maximum allowable pressure	100 bar g @ 50°C
TMA Maximum allowable temperature	400°C @ 59.5 bar g
Minimum allowable temperature	-10°C
PMO Maximum operating pressure for saturated steam service	70.5 bar g @ 287.3°C
TMO Maximum operating temperature	400°C @ 59.5 bar g
Minimum operating temperature	-10°C
Designed for a maximum cold hydraulic test pressure of:	150 bar g



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

### A - D - E Class 600

Body design condition	Class 600	
PMA Maximum allowable pressure	102.1 bar g @ 38°C	1481psi g @ 100°F
TMA Maximum allowable temperature	425°C @ 57.5 bar g	797°F @ 834 psi g
Minimum allowable temperature	-29°C	-20°F
PMO Maximum operating pressure for saturated steam service	79.8 bar g @ 295.8°C	1156 psi g @ 564.4°F
TMO Maximum operating temperature	425°C @ 57.5 bar g	797°F @ 834 psi g
Minimum operating temperature	-29°C	-20°F
Designed for a maximum cold hydraulic test pressure of:	154 bar g	2233 psi g

## Seat leakage

Plug to seat shut-off conforms to EN 12266-1 Rate A leakage.

## K<sub>V</sub> values

Size	DN15 (½")	DN20 (¾")	DN25 (1")	DN32 (1¼")	DN40 (1½")	DN50 (2")	DN65 (2½")	DN80 (3")	DN100 (4")
K <sub>V</sub>	3.1	7.6	8.6	24	28	36.8	80	86	134

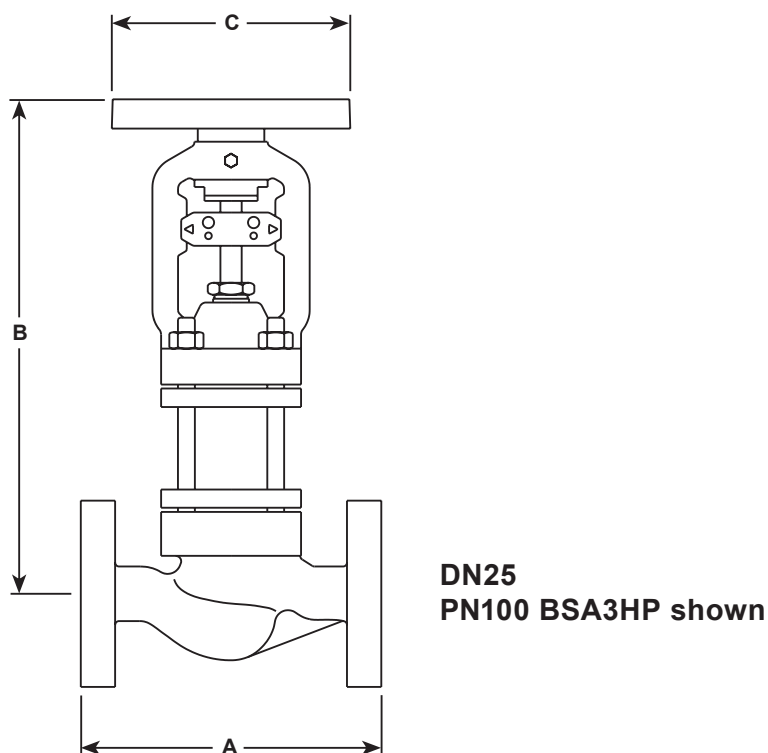
For conversion:

C<sub>V</sub> (UK) = K<sub>V</sub> x 0.963

C<sub>V</sub> (US) = K<sub>V</sub> x 1.156

## Dimensions/weights (approximate) in mm and kg

Size	A		B	C Ø	Weight			
	PN100	Class 600			PN100		Class 600	
					Unbalanced	Balanced	Unbalanced	Balanced
DN15	210	203	382	150	12.0		12.5	
DN20	230	206	384	150	14.5		15.0	
DN25	230	210	380	150	16.5		17.0	
DN32	260	251	485	250	31.0		31.0	
DN40	260	251	485	250	32.0		32.0	
DN50	300	286	480	250	38.0		37.0	
DN65	340	311	670	300	90.0	90.0	88.0	88.0
DN80	380	337	670	300	92.0	92.0	90.0	90.0
DN100	430	394	734	400	129.0	129.0	127.0	129.0



### Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P184-17) supplied with the product.

**Disposal:** These products are recyclable. No ecological hazard is anticipated with the disposal of these products, providing due care is taken

### How to order

**Example:** 1 off DN25 Spirax Sarco type BSA3HP bellows sealed high pressure stop valve, flanged ASME class 600 or EN 1092 PN100.

## Spare parts

The spare parts available are detailed below. No other parts are supplied as spares.

### Available spares

Seat/body/bonnet gaskets and graphite ring	9, 21, 22 and 23 (2 off)
Seat, plug, stem and bellows assembly (Gaskets not included)	2, 6 and 7
Hand wheel and circlip	14 and 15

### How to order spares

Always order spares by using the description given in 'Available spares' and state the size and type of stop valve (balanced or unbalanced).

**Example: 1** - Seat, plug, stem and bellows assembly for an unbalanced DN15 Spirax Sarco BSA3HP bellows sealed high pressure stop valve having EN1092 PN100 connections.

