

TI-P208-01
CTLS Issue 4



DPP17E and DPP17EE

Pilot Operated

Pressure Reducing Valves with SG Iron Bodies

Description

The DPP17E is an SG iron pilot operated pressure reducing valve fitted with an additional pressure control pilot. This allows the valve to reduce the pressure to a lower level when required. The high pressure pilot is fitted to the main valve body. The reduced pressure pilot is fitted to the side of the main valve. Change over is achieved by electrical switching of the solenoid. The DPP17EE has an additional solenoid valve fitted which allows the main valve to be opened and closed by a remote signal.

Sizes and pipe connections

DN15LC, DN15, DN20, DN25, DN32, DN40 and DN50.
Screwed BSP (BS 21 parallel) or NPT (DN15 to DN25 only).

Standard flanges:	DN15 - DN50 BS 4504 PN16 and PN25
	DN25 - DN50 BS 10 Table H and ANSI 300
Available on request:	DN15 - DN50 JIS 10/16 and ANSI 150
	DN15 - DN20 BS 10 Table F
	DN15 ANSI 300

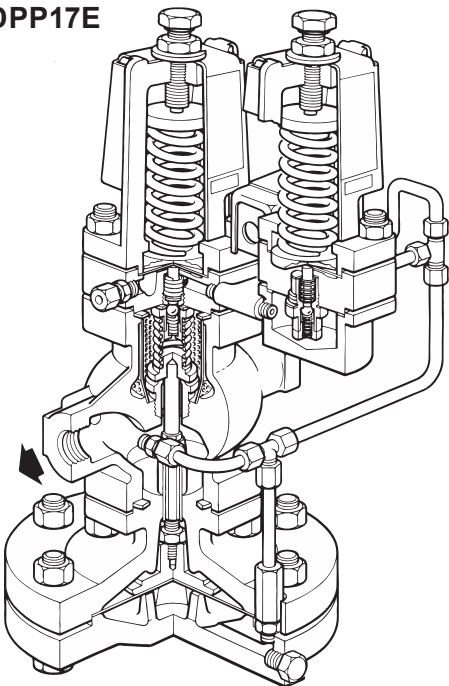
Capacities

See TI-P006-03 for steam and compressed air sizing. A low capacity version of the DN15 is available: Type DN15LC. The Kv maximum values shown below are **full** capacities and should be used for safety valve sizing purposes only.

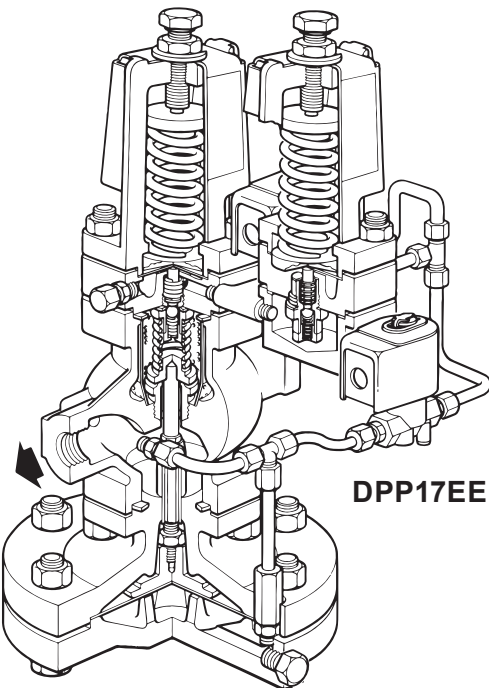
DN15LC	1
DN15	2.8
DN20	5.5
DN25	8.1
DN32	12
DN40	17
DN50	28

For conversion:
 $C_v \text{ (UK)} = K_v \times 0.963$
 $C_v \text{ (US)} = K_v \times 1.156$

DPP17E



DPP17EE



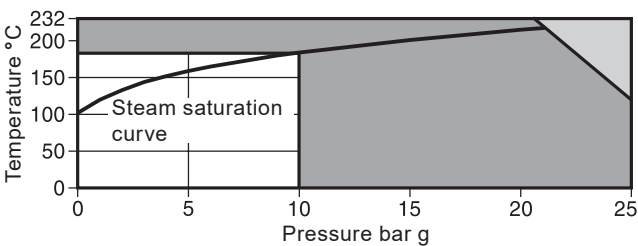
Note: Where the internal downstream pressure sensing pipe is used the valve capacity will be reduced.



Control systems
Pressure reducing/surplussing valves

Technical data (Solenoid valve)

Voltages available	230 ±10% Vac or 115 ±10% Vac (others available on request).	
Frequency	50/60 Hz	
Power consumption	Inrush	45 VA
	Holding	23 VA

Pressure/temperature limits



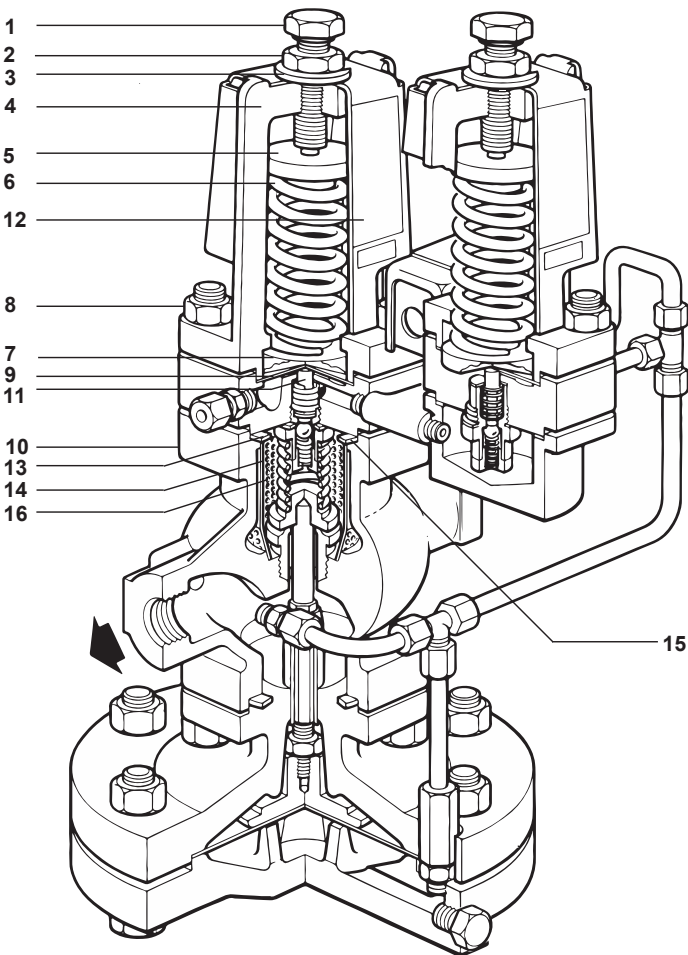
-  The product **must not** be used in this region.
-  Due to the restrictions of the solenoid, the product should not be used in this region.

Note: The pressure adjustment spring provides the required downstream pressure between 0.2 bar - 17 bar.

Body design conditions		PN25
PMA	Maximum allowable pressure @ 120 °C	25 bar g
TMA	Maximum allowable temperature	232 °C
Minimum allowable temperature		-10 °C
PMO	Maximum operating pressure for saturated steam service	10 bar g
TMO	Maximum operating temperature	190 °C
Minimum operating temperature		0 °C
Note: For lower operating temperatures consult Spirax Sarco.		
ΔPMX Maximum differential pressure is limited to the PMO		
Designed for a maximum cold hydraulic test pressure of:		38 bar g
Note: With internals fitted, test pressure must not exceed:		25 bar g

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* **Note:** This product is also available in cast steel.

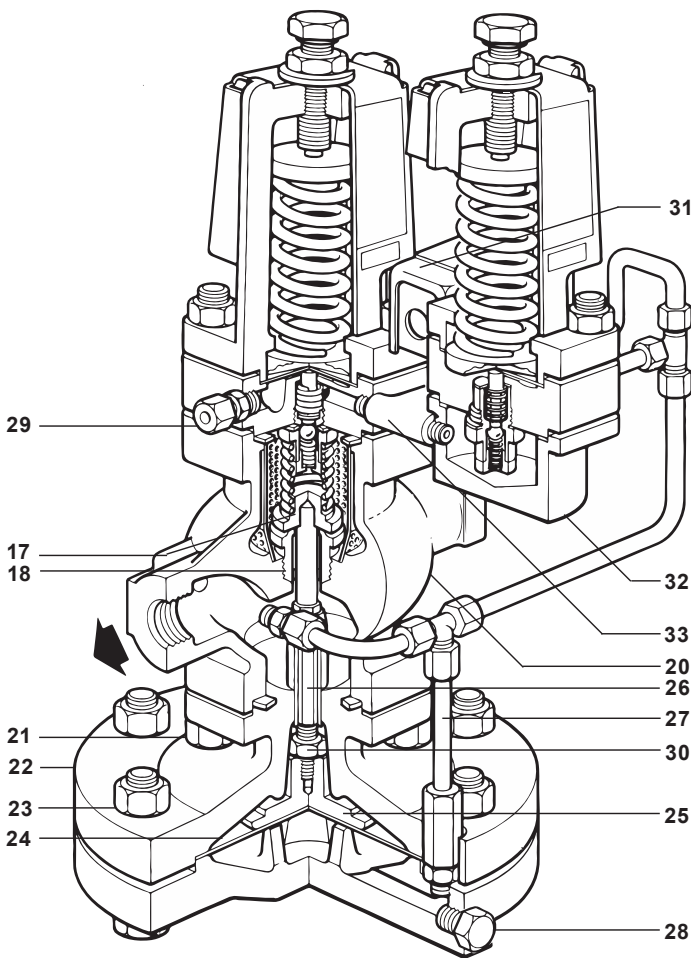
No.	Part	Material	
1	Adjustment screw	Steel	BS 3692 Gr. 8.8
2	Adjustment lock-nut	Steel	BS 3692 Gr. 8
3	Washer	Stainless steel	BS 1449 304 S 16
4 *	Spring housing	SG iron	DIN 1693 GGG 40
5	Top spring plate	Brass	BS 2872 CZ 122
6	Pressure adjustment spring	Stainless steel	BS 2056 302 S 25
7	Bottom spring plate	Brass	BS 2872 CZ 122
8	Spring housing securing studs and nuts	Steel M10 x 50 mm	BS 4439 Gr. 8.8 BS 3692 Gr. 8
9	Pilot diaphragms	Phosphor bronze	BS 2870 PB 102 1980
10 *	Pilot valve housing	SG iron	DIN 1693 GGG 40.3
11	Pilot valve plunger	Stainless steel	BS 970 431 S 29
12	Spring housing cover	Stainless steel	BS 1449 304 S 12 2A
13	Pilot valve and seat unit	Stainless steel	BS 970 431 S 29
	Filter element (not shown)	Brass	
14	Internal strainer	Stainless steel	BS 1449 304 S 16
15	Body gasket	Reinforced exfoliated graphite	
16	Main valve return spring	Stainless steel	BS 2056 302 S 25

Materials continued on next page

Control systems
Pressure reducing/surplussing valves

Materials (continued)

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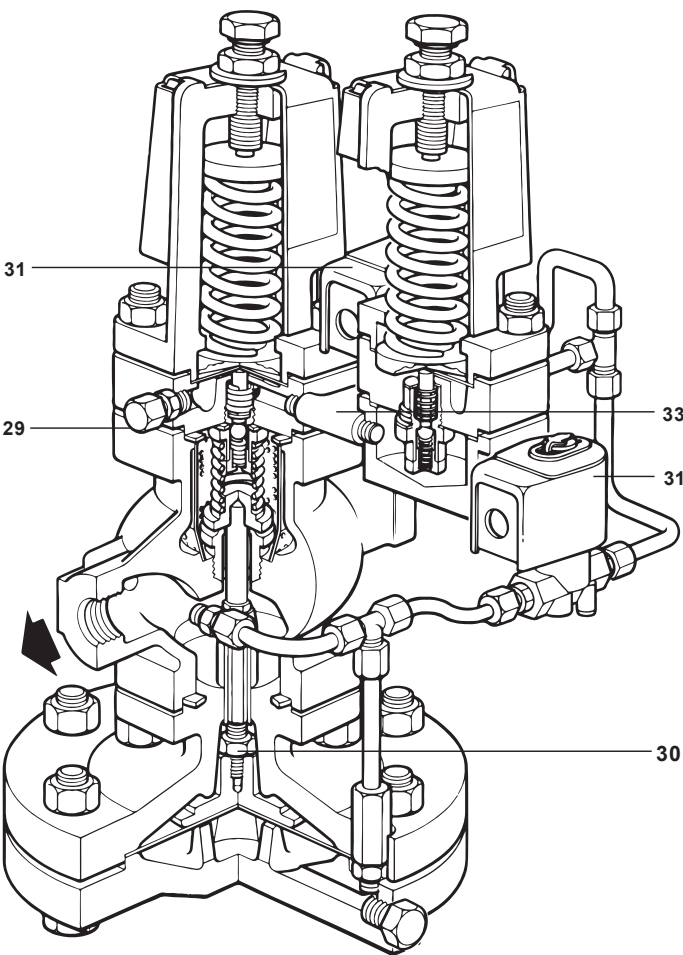


* **Note:** This product is also available in cast steel.

No.	Part	Material	
17	Main valve	Stainless steel	BS 970 431 S 29
18	Main valve seat	Stainless steel	BS 970 431 S 29
20 *	Main valve body	SG iron	DIN 1693 GGG 40.3
21	Main body securing studs and nuts	Steel M10 x 25 mm	BS 4439 Gr. 8.8 BS 3692 Gr. 8
22 *	Main diaphragm chamber	SG iron	DIN 1693 GGG 40.3
23	Main diaphragm securing bolts and nuts	Steel M12 x 50 mm	BS 3692 Gr. 8.8 BS 3692 Gr. 8
24	Main diaphragms	Phosphor bronze	BS 2870 PB 102 1980
25	Main diaphragm plate	Brass	BS 2872 CZ 122
26	Push rod	Stainless steel	BS 970 431 S 29
27	Pipe assembly	Brass and copper	
28	Plug 1/8" BSP	Steel	
29	Pressure pipe union	Brass	
30	Lock-nut	Steel	BS 3692 Gr. 8
31	Solenoid valve		
32	Lower pressure pilot bottom housing	SG iron	DIN 1693 GGG 40.3
33	Connecting nipple	Steel	

Materials

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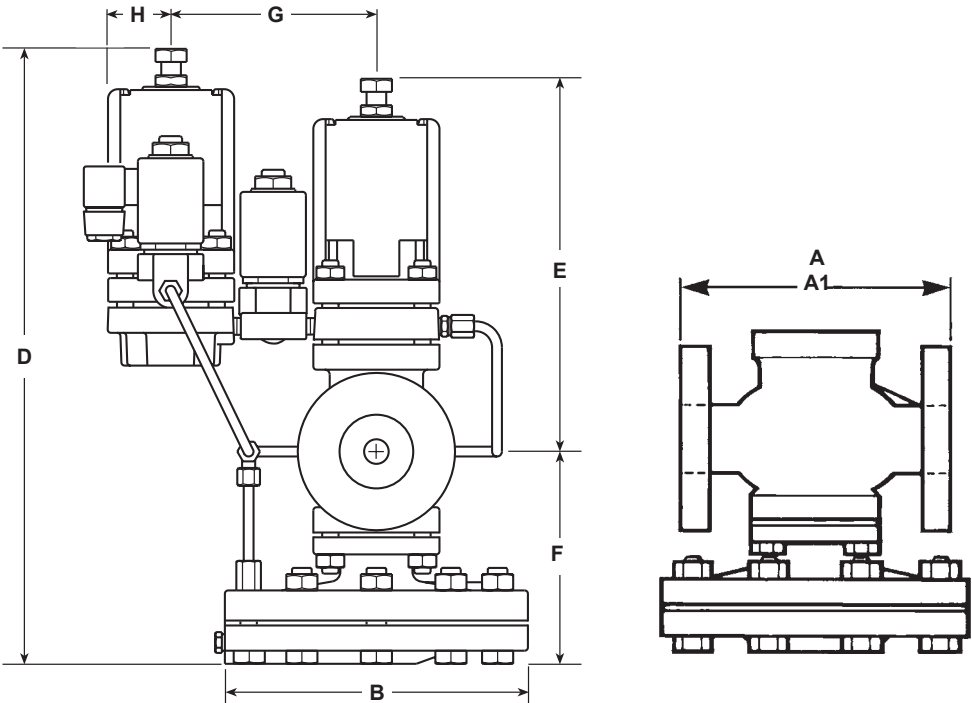
* **Note:** This product is also available in cast steel.

No.	Part	Material	
29	Pressure pipe union	Brass	
30	Lock-nut	Steel	BS 3692 Gr. 8
31	Solenoid valve		
32 *	Lower pressure pilot bottom housing	SG iron	DIN 1693 GGG 40.3
33 *	Connecting nipple	Steel	

Control systems
Pressure reducing/surplussing valves

Dimensions/weights (approximate) in mm and kg

	Screwed	BS 10 H	PN16 PN25	ANSI 300	BS 10 F	ANSI 150	JIS 10/16							Weight	
Size	A	A1	A1	A1	A1	A1	A1	B	D	E	F	G	H	Screwed	Flanged
DN15LC	160	-	130	126.6	117	120.2	122	185	404	234	130	115	40	15.5	16.0
DN15	160	-	130	126.6	117	120.2	122	185	404	234	130	115	40	15.5	16.0
DN20	160	-	150	-	133	139.4	142	185	404	234	130	115	40	15.5	17.2
DN25	180	160	160	160.0	-	160.0	152	207	428	240	148	115	40	16.5	19.5
DN32	-	180	180	180.0	-	176.0	176	207	428	240	148	115	40		20.5
DN40	-	200	200	200.0	-	199.0	196	255	473	255	178	115	40		32.5
DN50	-	230	230	230.0	-	228.0	222	255	473	255	178	115	40		35.0



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product.

Installation note:

The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body.

Optional extras

Soft seated main valves and pilot valves can be supplied at additional cost. These are recommended for compressed air and other gas duties. Maximum temperature with soft seating is 125 °C.

How to order

Example: 1 off Spirax Sarco DN32 DPP17E pilot operated pressure reducing valve flanged BS 4504 PN25. Fitted with blue and red pressure adjustment springs and 110 Vac solenoid valve.

For
'Available spares',
'How to order'
and
'How to fit'
go to page 8

Interchangeability of spares

The following table shows how in certain sizes some parts are interchangeable. For example in the line headed 'Main diaphragm' the diaphragm used in the screwed valves ½" and ¾" is common to these sizes by the letter 'a', the letter 'c' indicates that one diaphragm is common to the DN40 and DN50 valves. All spares are interchangeable with the DP17T and where marked † are interchangeable with the 37D temperature control.**

** Note: This does not apply to DP17G soft seat pilot valve or main valve assemblies.

	Screwed					Flanged						
	***				**							
Size DN	½"LC	½"	¾"	1"	15LC	15	20	25	32	40	50	
Maintenance kit	a	a	a	b	f	f	a	b	c	d	e	
Main diaphragm	a	a	a	b	a	a	a	b	b	c	c	
Pilot diaphragms	†	a	a	a	a	a	a	a	a	a	a	
Pilot valve chamber assembly	a	a	a	a	a	a	a	a	a	b	b	
PTFE seals	a	a	a	a	a	a	a	a	a	a	a	
Main valve assembly	†	a	b	c	d	a	b	c	d	e	f	g
Internal strainer	†	a	a	a	b	f	f	a	b	c	d	e
Main valve return spring	†	a	a	a	b	a	a	a	b	b	c	c
Pressure adjustment spring	a	a	a	a	a	a	a	a	a	a	a	a
Control pipe assembly	†	a	a	a	b	f	f	a	b	c	d	e
Balance pipe assembly	a	a	a	b	f	f	a	b	c	d	e	
Body gasket	†	a	a	a	a	a	a	a	a	a	b	b
Set of spring housing securing studs and nuts	a	a	a	a	a	a	a	a	a	a	b	b
Set of main body studs and nuts	†	a	a	a	a	a	a	a	a	a	b	b
Set of diaphragm securing bolts and nuts	†	a	a	a	a	a	a	a	a	a	b	b
Push rod and main diaphragm plate assembly	a	a	a	b	a	a	a	a	b	b	c	c

*** Not available for DP17G

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Control systems

Pressure reducing/surplussing valves

Spare parts

Available spares

Maintenance kit			
A stand-by set of spares for general maintenance purposes and covers all spares marked *			
Main diaphragm *	(2 off)		A
Pilot diaphragm *	(2 off)		B
Pilot valve chamber assembly*			C
PFTE seals	(packet of 6)		E
Main valve assembly			K, L
Internal strainer *			M
Main valve return spring *			N
Pressure adjustment spring (Not required for DP17R) Choice of spring to suit reduced pressure:	Yellow	0.2 to 3 bar	O
	Blue	2.5 to 7 bar	
	Red	6 to 17 bar	
Control pipe assembly			P
Balance pipe assembly *			Q
Body gasket *	(3 off)		R
Set of spring housing/actuating chamber cover securing studs and nuts *	(set of 4)		S
Set of main body studs and nuts	(set of 4)		T
Set of diaphragm securing bolts and nuts	Valve sizes	½" - DN32 (set of 10)	V
		DN40 and DN50 (set of 12)	
Push rod and main diaphragm plate assembly			Y

Type DP17E only

Solenoid valve complete			W
Replacement coil			X1
Valve seat and core assembly			X2

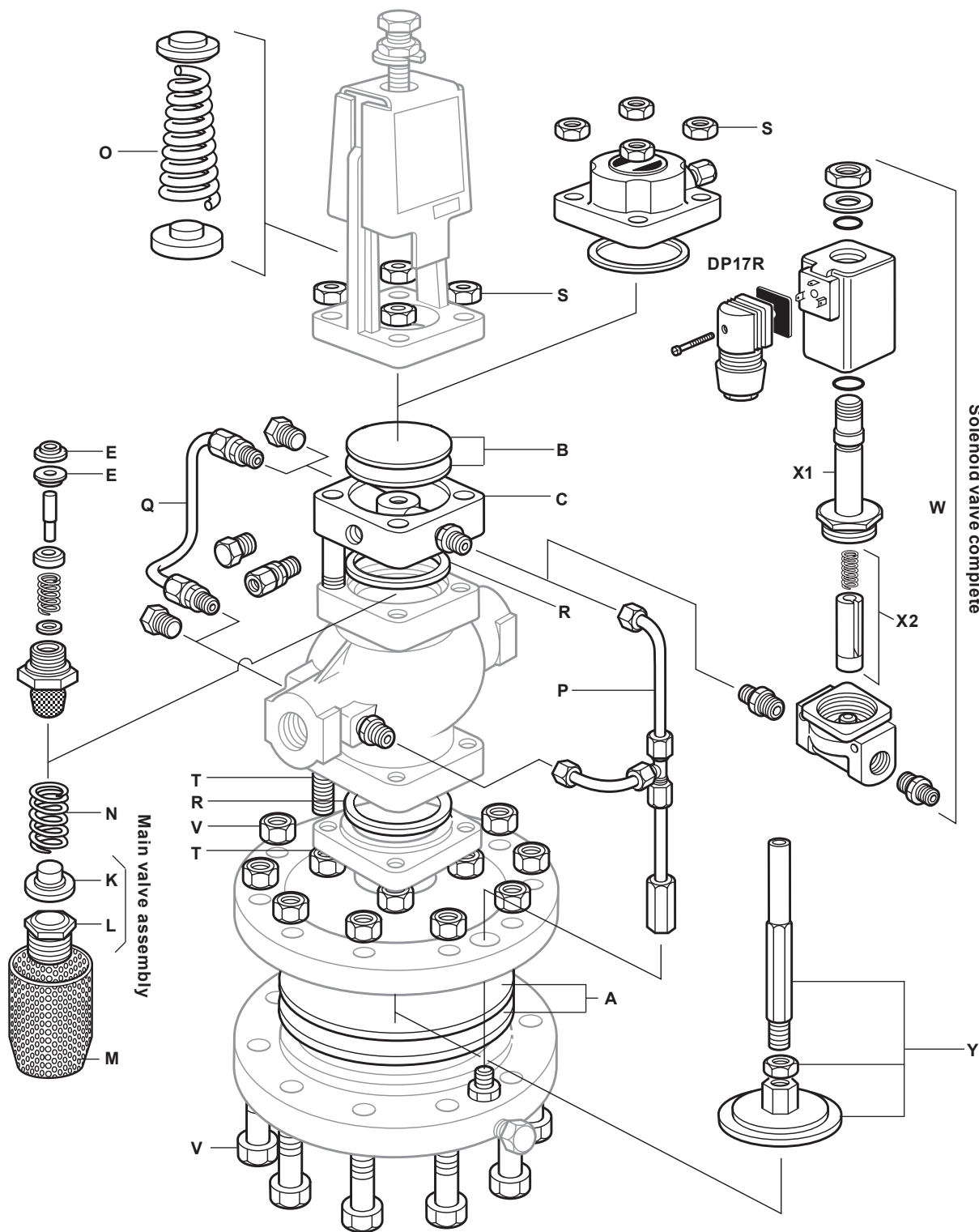
How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of pressure reducing valve.

Example: 1 - Main valve assembly for a 1" Spirax Sarco Type DP17 pressure reducing valve.

How to fit.

See Installation and Maintenance Instructions supplied with the pressure reducing valve. Further copies are available on request.



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Pressure reducing/surplussing valves

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