



Cert. No. LRQ 0963008

ISO 9001

spirax sarco

TI-P100-01
CH Issue 6



CHRYSsafidis

DP17, DP17G and DP17Y Pilot Operated

Pressure Reducing Valves with SG Iron Bodies

Description

The DP17, DP17G and DP17Y pilot operated pressure reducing valve bodies are manufactured using SG iron.

Available types

DP17 Suitable for steam or compressed air applications.

DP17G Suitable for compressed air and industrial gas applications. **Note: it is not suitable for oxygen services.**

DP17Y Having a lower rate control spring is suitable for sterilised/autoclave applications.

Sizes and pipe connections

DN15LC (not available for DP17G), 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

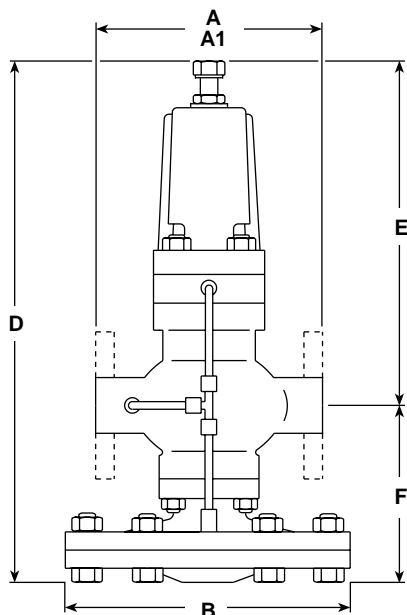
See TI-P006-03 for steam sizing and TI-P007-02 for compressed air. A low capacity version of the DN15 is available: Type DN15LC. The K_V maximum values shown below are **full** capacities and should be used for safety valve sizing purposes only.

DN15LC	DN15	DN20	DN25	DN32	DN40	DN50
1.0	2.8	5.5	8.1	12.0	17.0	28.0

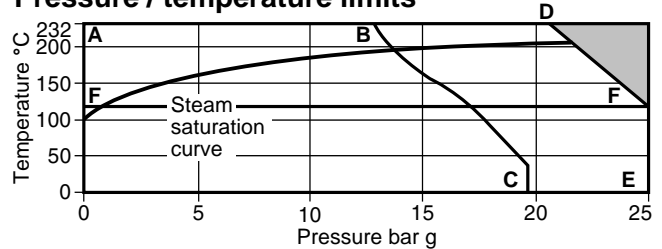
For conversion: C_V (UK) = $K_V \times 0.97$ C_V (US) = $K_V \times 1.17$

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

Dimensions / weights (approximate) in mm and kg



Pressure / temperature limits



A-D-E The product **must not** be used in this region.

A-D-E Screwed and flanged BS 4504 PN25, ANSI 300, and BS 10 Table H.

A-B-C Flanged ANSI 150.

F-F The DP17G is limited to 120°C.

Note: **DP17** and **DP17G** have a variable rate conical pressure adjustment spring fitted providing a downstream pressure range of 0.2 - 17 bar g.

DP17Y has a pressure adjustment spring with a range of 0.2 - 3 bar g.

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	DP17, DP17G	17 bar g
		DP17Y	3 bar g
TMO	Maximum operating temperature	DP17, DP17Y	232°C
		DP17G	120°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

Size	Screwed A	BS 10 H A1	PN16/25 A1	ANSI 300 A1	BS 10 F A1	ANSI 150 A1	JIS 10/16 A1	B	D	E	F	Weight	
												Screwed	Flanged
DN15LC	160	-	130	126.6	117	120.2	122	185	364	234	130	12.0	12.8
DN15	160	-	130	126.6	117	120.2	122	185	364	234	130	12.0	12.8
DN20	160	-	150	-	133	139.4	142	185	364	234	130	12.0	13.7
DN25	180	160	160	160.0	-	160.0	152	207	388	240	148	13.0	16.0
DN32	-	180	180	180.0	-	176.0	176	207	388	240	148	-	17.0
DN40	-	200	200	200.0	-	199.0	196	255	433	255	178	-	29.0
DN50	-	230	230	230.0	-	228.0	222	255	433	255	178	-	31.5

Local regulations may restrict the use of this product to below the conditions quoted.

In the interests of development and improvement of the product, we reserve the right to change the specification.

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Materials

No. Part	Material		
1	Adjustment screw	Steel	BS 3692 Gr. 8.8
2	Adjustment lock-nut	Steel	BS 3692 Gr. 8.8
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/PTFE	BS 970 431 S 29
	Filter element (not shown)	Brass	
14	Internal strainer	Stainless steel	ASTM A240 TP 304
15	Body gasket	Stainless steel reinforced exfoliated graphite	
16	Main valve return spring	Stainless steel	BS 2056 302 S 25
* 17	Main valve	Stainless steel	BS 970 431 S 29
18	Main valve seat	Stainless steel	BS 970 431 S 29
19	Pressure sensing pipe	Copper	BS 2871 C 106 ½H
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 ¼" BSP	Steel	
29	Pressure pipe union	Brass	
30	Lock-nut	Steel	BS 3692 Gr. 8

* **Note:** The material used for the DP17G is stainless steel/nitrile.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P100-05) 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.

How to order

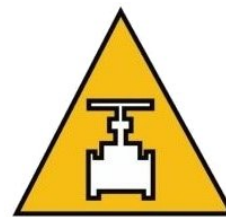
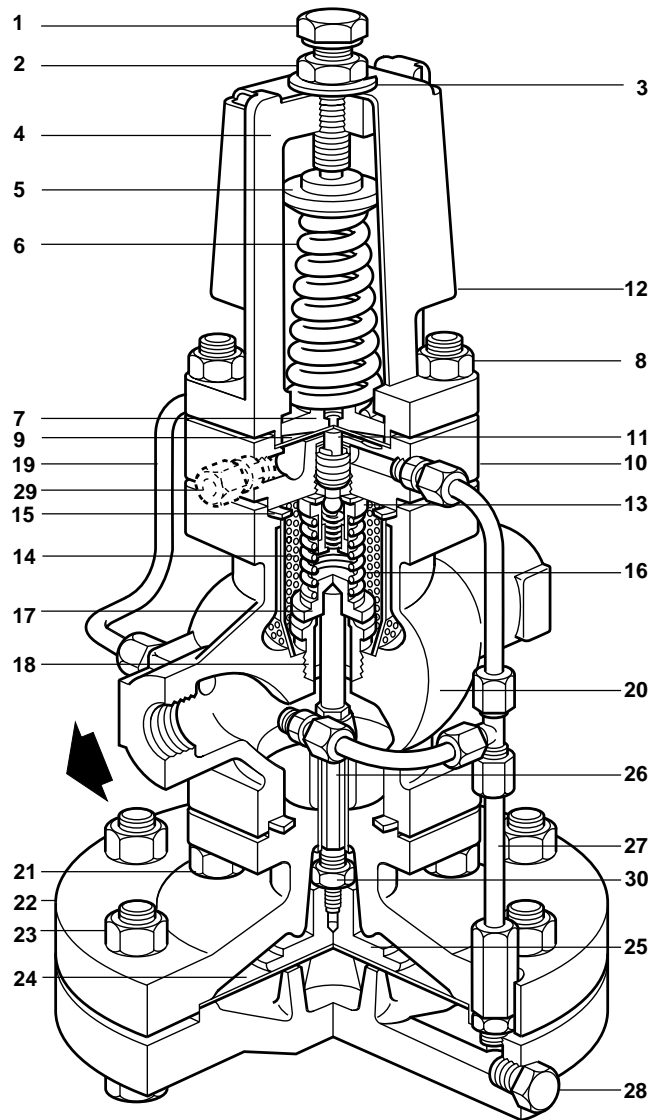
Example: 1 off Spirax Sarco DN32 DP17 pilot operated pressure reducing valve having flanged BS 4504 PN25 connections.

Optional extra

Conversion kit - Enabling the conversion of a DP17 into a DP17E valve. This would limit its operation to 10 bar g @ 190°C.

Spare parts

See TI-P100-03



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DP17, DP17E, DP17G, DP17R and DP17Y

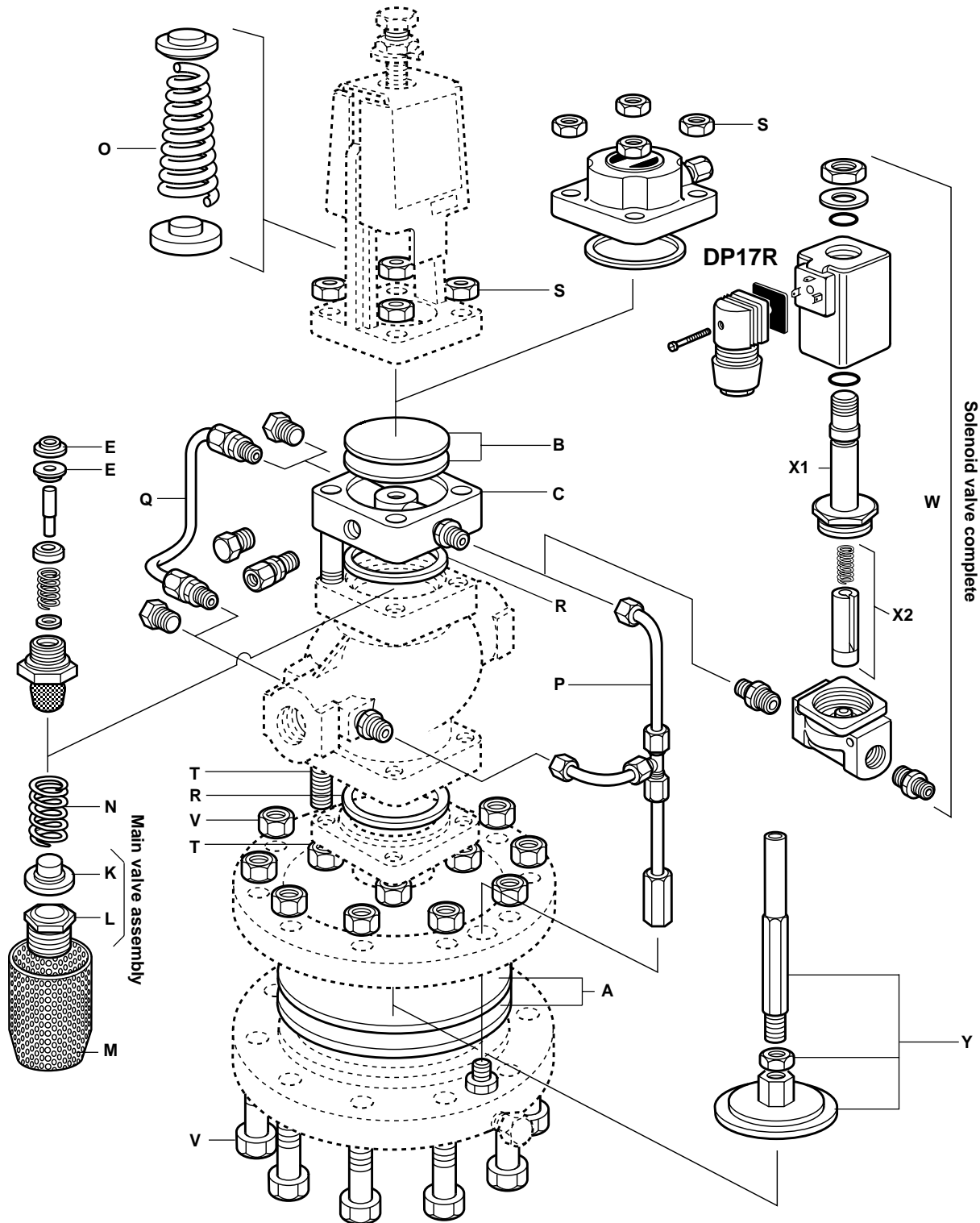
Spares for SG Iron Products

TI-P100-03

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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
PTFE 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)	DP17, DP17E, DP17G	0.2 to 17 bar	O
	DP17Y	0.2 to 3 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	1/2" - 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.

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 1/2" and 3/4" 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.

Size DN	*** Screwed				*** Flanged						
	1/2"LC	1/2"	3/4"	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	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
† 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	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	b	b	c	c

*** Not available for DP17G