



Cert. No. LRQ 0963008

ISO 9001

spirax sarco

DFG300

Automatic or Manual Actuated Boiler Blowdown Valves

TI-P405-37
AB Issue 5



Description

The DFG300 is specifically designed for the removal of suspended/deposited solids and water from the bottom of steam boilers. The DFG300 is available in air/water actuated and manual versions. The air/water-actuated version is supplied with a manual hand lever. The valve is spring-to-close on power failure and the manual version can easily be upgraded to an automatic version.

When used with a Spirax Sarco blowdown controller the automatic version provides timed control of blowdown, ensuring that the recommended blowdown occurs with the minimum of heat loss and avoids duplication and omissions.

The valve can be fitted with a mechanical switchbox. This can be linked to the blowdown controller or a BMS system to indicate when the valve has not closed.

An optional 1/4" 3-way solenoid valve may be directly mounted on the side of the actuator.

Principal features:

- Engineered for the specific application of bottom blowdown.
- Easily upgraded from manual to automatic operation.
- Dedicated self-adjusting and self-cleaning spindle seals.
- Flow pressure assists closing.

Available types

DFG300A DN25, DN32, DN40 and DN50 steel bodied air/water actuated valve supplied with manual actuation lever.

DFG300AX DN25 stainless steel bodied air/water actuated valve supplied with manual actuation lever.

* **DFG300M** DN25, DN32, DN40 and DN50 steel bodied manually actuated valve complete with lever.

* **DFG300MX** DN25 stainless steel bodied manually actuated valve complete with lever.

* **Please note:** The DFG300M and DFG300MX can be automated.

Optional extras:

- Automatic bottom blowdown timer controller.
- 3-port solenoid valve.
- Mechanical switch (with mounting kit).
- Pneumatic actuator upgrade kit.

Standards

The product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

Certification

This product is available with material certification to EN 10204 3.1. **Note:** All certification/inspection requirements must be stated at the time of order placement.

Technical data

Solenoid valve	Supply voltage	24 Vdc, 24 Vac, 230 Vac or 110 Vac
	Protection rating (with connector)	IP65
Mechanical switch	Supply voltage	600 Vac and 250 Vdc max
	Protection rating (body)	IP67
Blowdown timer controller	Supply voltage	230 Vac or 115 Vac
	Protection rating (housing)	IP40

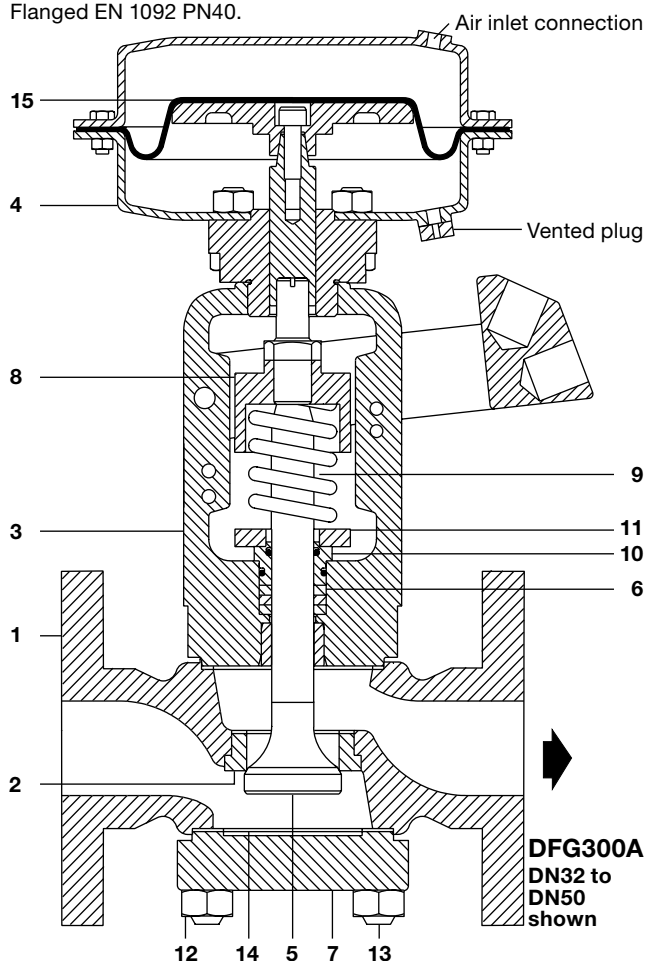
Kvs values

Valve size	DN25	DN32	DN40	DN50
Seat diameter (mm)	25	40	40	40
Kvs values	17	20	24	30

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

Sizes and pipe connections

DN25, DN32, DN40 and DN50
Flanged EN 1092 PN40.



Materials

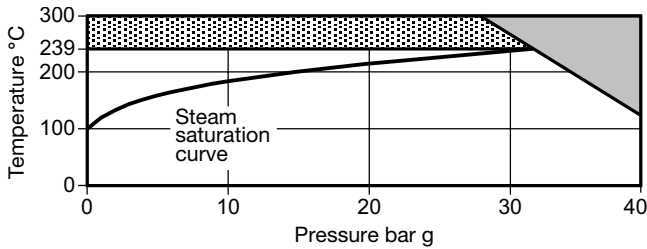
No.	Part	Material
1	Body	A or M Steel GP 240 GH
		AX or MX Stainless steel AISI 316
2	Valve seat	DN25 Stellite stainless steel ASTM A479 316
		DN32-DN50 Stainless steel BS 970 431 S29
3	Bonnet / yoke	Steel GP 240 GH
4	Actuator housing	Pressed steel
5	Valve head	Stellite stainless steel ASTM A479 316
6	Gland seals	Graphite rings
7	Bottom cover	A or M Steel GP 240 GH
		AX or MX Stainless steel AISI 316
8	Spring guide	Steel Fe 37B
9	Spring	Spring steel
10	Gland bush	Stainless steel ASTM A479 316
11	Stuffing box flange	Steel Fe 37B
12	Body nuts	Steel ASTM A194 2H
13	Body studs	Steel ASTM A193 B7
14	Body gasket	Reinforced graphite
15	Diaphragm	Fabric reinforced nitrile rubber

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 without notice.

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Pressure / temperature limits



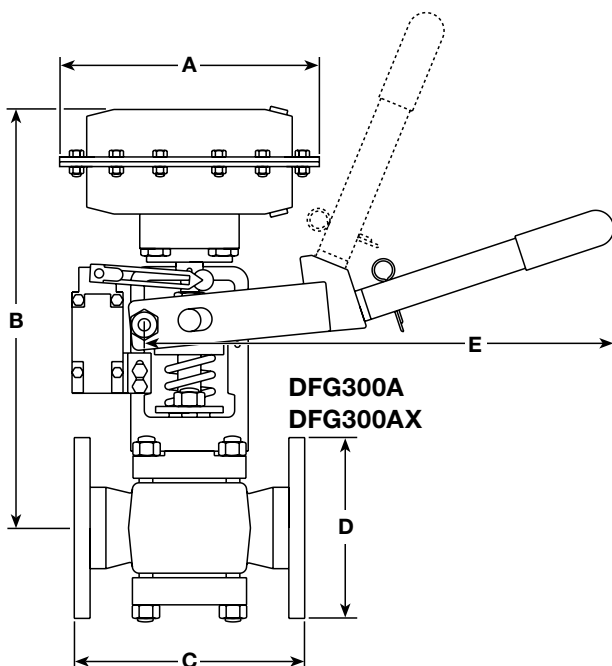
 The product **must not** be used in this region.

 The product should not be used in this region or beyond its operating range as damage to the internals may occur.

Body design conditions		PN40
PMA	Maximum allowable pressure	40 bar g @ 120°C
TMA	Maximum allowable temperature	300°C @ 27.5 bar
Minimum allowable temperature		0°C
PMO	Maximum operating pressure for saturated steam service	32 bar g @ 239°C
TMO	Maximum operating temperature	239°C @ 32 bar g
Ambient operating temperature range		-20°C to +90°C
Maximum operating air / water pressure		6 bar g
Minimum air pressure	Differential pressure (ΔP) across the valve	Minimum air pressure
	10 bar g	4.0 bar g
	15 bar g	4.5 bar g
	20 bar g	5.0 bar g
	25 bar g	5.5 bar g
	30 bar g	6.0 bar g
	32 bar g	6.0 bar g
Maximum temperature for a water actuated valve		70°C
Designed for a maximum cold hydraulic test pressure of 60 bar g		

Dimensions / weights (approximate) in mm and kg

Size	A	B	B1	C	D	E	Weight
DN25	209	340	237	160	115	700	20
DN32	209	330	229	180	140	700	23
DN40	209	330	229	200	150	700	26
DN50	209	330	229	230	165	700	28



Spare parts and accessories

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

Available spares (reference drawing overleaf)

Stuffing box packing (3 off)	6
Actuator diaphragm	15
Gaskets kit (4 sets)	14
Mechanical switch (without mounting kit)	
Manual actuation lever (see drawings below)	

How to order spares

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

Example: 1 off Actuator diaphragm for a Spirax Sarco DN40 DFG300A automatic boiler blowdown valve.

Safety information, installation and maintenance

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

Installation note: The valve should preferably be installed with the actuator vertically above the pipework and the flow direction as indicated on the valve body. It can be fitted in other positions, but not upside down.

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

How to specify

Two-port single seat valve, Spirax Sarco model DFG300A, DFG300AX, DFG300M or DFG300MX, suitable for bottom blowdown applications up to a maximum of 32 bar g.

The valve should be air and/or hand actuated. The valve is to be self-adjusting and have a self-cleaning stuffing system. The valve is to have flanged EN 1092 PN40 connections. Valve options to be mounted on site: 3-port solenoid valve 25 Vdc and mechanical switch.

How to order

Example: 1 off DN50 Spirax Sarco DFG300A automatically actuated boiler blowdown valve having flanged EN 1092 PN40 connections.

Notes:

1. The hand lever is included as standard.
2. The mechanical switch is supplied separately with a mounting kit.
3. Note options requested are not supplied fitted to the valve.

