

Diaphragm seal for high temperature applications flange-type with diaphragm extension Type series DB90..



Features

- Recessed diaphragm of stainless steel, laser welded
- Extension length: 91 mm
- Measuring device connection:
 - screwed with temperature decoupler
 - welded with temperature decoupler

Options

- Material certificate per EN 10204-3.1
- Negative pressure and vacuum service

Application

Suitable for mounting to bourdon tube pressure gauges and pressure transmitters. The diaphragm seal in flange-type design with diaphragm extension is suited for the special applications in plastics processing.

Application area

- Plastics processing

Technical data

Constructional design

Design:	Flange-type design, extension length: 91 mm, Special lengths upon request, connection flange Ø 90 mm, with 4 bore holes d= 13 mm and 2 disassembly threads M12
Material basic body:	stainless steel mat.-no. 1.4404 (316L)
Material clamping flange:	stainless steel mat.-no. 1.4404 (316L)
Material diaphragm:	stainless steel mat.-no. 1.4435 (316L)

Measuring device connection

Design:	■ With temperature decoupler screwed ■ With temperature decoupler welded
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System filling

See order details; further upon request.

Further details about pressure transmission fluids see general technical information TA_038.

Negative pressure and vacuum service

Labom pressure transmission fluids can be used in vacuum conditions at room temperature if the diaphragm seal is installed correctly. Special treatment during manufacturing is necessary, if the system will be exposed to higher temperatures later during operation.

A differentiation is made between negative pressure service and vacuum service. Which treatment is required (standard, negative pressure service or vacuum service) depends on the critical process condition, when the system is exposed to min. pressure at max. temperature.

Upon request, we provide an optimised design of the system.

For further details on pressure transmission fluids and negative pressure and vacuum service, see general technical information TA_038.

Temperature ranges

Medium:	Depending on the pressure measurement system, the pressure transmission fluid and the installation, but no more than 350 °C.
Storage:	-10...80 °C (for system filling FH) 10...80 °C (for system filling FMH1)

Temperature error

In order to optimise the system we provide a detailed error calculation upon request.

Installation position

Mounting position vertical

Weight

Weight:	With measuring device connection G1/2: approx. 1.8 kg, further weights upon request.
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Accessories

- 2 socket head screws M12 x 55 DIN 912, quality A 2-70 (for disassembly)
- 2 gaskets DIN 7603 A 27 x 32 Al
- 4 socket head screws M12 x 35 DIN 912, quality A2-70 (for mounting)

Further information about diaphragm seals see general technical information TA_031.

Flame arrester MF21xx for connection of measuring devices to zone 0 see data sheet D6-025.

Technical drawing of a mechanical part, showing a cross-section and a top view.

Cross-section (Top View):

- Overall width: $\varnothing 90$
- Bore length: $\varnothing 60$ 4 bores
- Inner bore diameter: $\varnothing 34.1$
- Shaft diameter: $\varnothing 27$
- Shaft length: 20
- Housing thickness: 26
- Material: M12
- Overall height: 91

Top View (Bottom View):

- Overall diameter: $\varnothing 70$
- Central hole diameter: $\varnothing 29.2$
- Outer hole diameter: $\varnothing 80$
- Inner hole diameter: $\varnothing 60$
- Angle: 30°

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Order details

Diaphragm seal for high temperature applications

DB9001	design	diaphragm seal with connection flange Ø 90 mm, with 4 bore holes d= 13 mm and 2 disassembly threads M12	
G7	material diaphragm	stainless steel mat.-no. 1.4435 (316L)	
K1	material sealing surface/extension	stainless steel mat.-no. 1.4404 (316L)	
F1	extension length	h = 91 mm	
A150	measuring device connection	with temperature decoupler (for temperatures up to 350 °C)	screwed G1/2"
A151			screwed G1/4"
A450			welded
	system filling	<u>pressure transmission fluid</u>	<u>temperature range</u>
L25		liquid metal FMH1	10...350 °C
L35		high temperature oil FH	-10...350 °C

Accessories

MX1005-A1-B1	2 gaskets DIN 7603 A 27 x 32 Al 2 socket head screws M12 x 55 DIN 912, quality A 2-70 (for disassembly)
MZ8100-A21	4 socket head screws M12 x 35 DIN 912, quality A2-70 (for mounting)
W1020	material certificate per EN 10204-3.1, wetted parts
X1	negative pressure service ¹
X2	vacuum service ¹

Order code (example): **DB9001 - G7 - K1 - F1 - A150 -**

¹ Temperature limits see Technical Information TA_038 (Pressure transmission fluids)