

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



Application area

- Plastics processing

Features

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

Options

- Labom REconnect quick coupling device for easy and safe separation and connection of diaphragm seal systems. Available with a wide range of pressure gauges and pressure transmitters; Type series MK1000, see data sheet DB_D6-022
- Material certificate acc. to 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.

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:	<ul style="list-style-type: none">■ 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:	Up to 320 °C (short-term 350 °C), see order details system filling.
Storage:	-20...80 °C (for system filling FV3H) 0...70 °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.

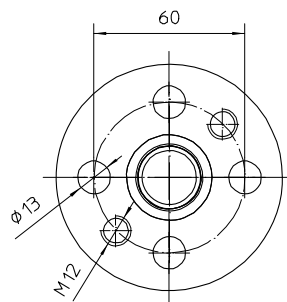
Technical drawing showing three views of a vertical assembly with dimensions in millimeters (mm).

Top View (Left): Shows a circular feature with a diameter of $\phi 6.1$ and a height of 17.

Top View (Middle): Shows a circular feature with a diameter of $\phi 12$ (labeled G1/2") and a height of 35. A dimension of 16 is shown from the bottom edge to the center of the feature. A label SW27 points to the feature.

Top View (Right): Shows a circular feature with a diameter of $\phi 12$ (labeled G1/4") and a height of 34. A dimension of 19 is shown from the bottom edge to the center of the feature.

Side View (Bottom): Shows a vertical assembly with a total height of 309.5. The assembly consists of a base with a diameter of $\phi 34$ and a height of 16. A central shaft with a diameter of $\phi 28$ passes through the assembly. The distance from the base to the top of the assembly is 196.5. The distance from the base to the center of the top feature is 113. The distance from the base to the center of the top feature is also labeled as $h = 91$. The top feature has a diameter of $\phi 90$. A label ω points to the top feature.



Technical drawing of a mechanical part, showing a front view and a top view.

Front View Dimensions:

- Overall width: $\varnothing 90$
- Distance from left edge to center of left bore: $\varnothing 60 \angle$ bores
- Distance from center of left bore to center of right bore: $\varnothing 34.1$
- Distance from center of right bore to right edge: $\varnothing 27$
- Height of the part: 91
- Height of the central slot: 20
- Height of the side slots: 76
- Angle of the top surface: 3°

Top View Dimensions:

- Overall diameter: $\varnothing 90$
- Distance from center to the edge of the central slot: $\varnothing 29.2$
- Distance from center to the edge of the side slots: $\varnothing 150$
- Overall width of the base: $\varnothing 70$
- Angle of the top surface: 35°

DB_D5-053_en_11.02 2023-02 Diaphragm seal for high temperature applications

Order details

Diaphragm seal for high temperature applications, Type series DB90..

Order details DB 90..

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 G1/4" , model E
A151			screwed G1/2" per EN 837-1
A450			welded
	system filling	<u>pressure transmission fluid</u>	<u>temperature range</u>
L25		liquid metal FMH1	10...320 °C (short-term up to 350 °C)
L34		vacuum oil FV4	-25...260 °C
L35		high temperature oil FH	-20...400 °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)