

# Chemical seals for hygienic pressure applications DAXX series

All stainless steel, flush diaphragm

Rapid assembly and disassembly

Sterilization in place (SIP), cleaning in place (CIP)

Fluid temperature up to 150°C depending on pressure, measuring device or mounting.

3-A authorization (N°1118) (DANC, DAEF, DAEL, DADF, DADL, DAIL, DAVA with pressure gauges MEX, MIX, MMX, MEP and pressure switches TED, YTED)

Complies with FDA and EHEDG recommendations

Wetted surface roughness: arithmetic average surface roughness  $R_a \leq 32 \mu\text{inch}$  ( $\leq 0.8 \mu\text{m}$ )

Electropolishing option: housing and diaphragm arithmetic average surface roughness  $R_a \leq 16 \mu\text{inch}$  ( $\leq 0.4 \mu\text{m}$ ), laser weld  $R_a \leq 32 \mu\text{inch}$  ( $\leq 0.8 \mu\text{m}$ )

Diaphragm material : 1.4435 - Hastelloy option C276/2.4819

Hygienic seals are designed for systems needing contact surfaces that are rigorously clean and totally safe. The function of the chemical seal is to isolate the pressure gauge from the process fluid, preventing bacteria developing inside the pressure gauge's sensing element.

The fluid pressure being measured acts on the diaphragm and is transmitted to the pressure gauge by a neutral transmitting liquid.

The quick release coupling and flush diaphragm facilitates easy cleaning.

The following connection systems are offered :

CLAMP system to NF E 29521, ISO 2852 and DIN 32676 standards

NUT system to SMS 1145 standard

NUT system to DIN 11 851 standard

NUT system according to BS 4825 (RJT-IDF)

CLAMP system compatible with VARIVENT® model



## Specifications

Compatibility table of hygienic seals with pressure gauges (direct mounting)

Range in bar according to the temperature	Fluid temperature: -20 ... 100°C		
	Ambient temperature: -10 ... 50°C		
	MEX2 (Ø50) - MEX3 (Ø63)	MX35 (Ø100)**	MEX5 (Ø100)
DN25 (DANC/DADL/DAEL)	0 ... 4 to 0 ... 25	0 ... 4 to 0 ... 25	Not available
1"1/2 / DN32 - DN38 - DN40 + DAVA DN25	0 ... 2,5 to 0 ... 40	0 ... 2,5 to 0 ... 4	0 ... 6 to 0 ... 40
2" / DN50 - DN51 + DAVA DN40/125	0 ... 1 to 0 ... 40	0 ... 1 (*)	0 ... 1,6 to 0 ... 40
1"1/2 / DN32 - DN38 - DN40 + DAVA DN25	-1 ... 3 to -1 ... 39	-1 ... 3	-1 ... 5 to -1 ... 39
2" / DN50 - DN51 + DAVA DN40/125	-1 ... 1,5 to -1 ... 39	-1 ... 1,5	-1 ... 3 to -1 ... 39
DN25 <sup>(1)</sup>	-1 ... 3 to -1+24	-1 ... 3 to -1 ... 24	Not available
Range in bar according to the temperature	Fluid temperature: -20 ... 150°C		
	Ambient temperature: -10 ... 70°C		
	MEX2 (Ø50) - MEX3 (Ø63)	MX35 (Ø100)**	MEX5 (Ø100)
DN25 (DANC/DADL/DAEL)	0 ... 6 to 0 ... 25	0 ... 6 to 0 ... 25	Not available
1"1/2 / DN32 - DN38 - DN40 + DAVA DN25	0 ... 4 to 0 ... 40	0 ... 4 to 0 ... 6	0 ... 10 to 0 ... 40
2" / DN50 - DN51 + DAVA DN40/125	0 ... 1,6 to 0 ... 40	0 ... 1,6	0 ... 2,5 to 0 ... 40
1"1/2 / DN32 - DN38 - DN40 + DAVA DN25	-1 ... 5 to -1 ... 39	-1 ... 5	-1 ... 9 to -1 ... 39
2" / DN50 - DN51 + DAVA DN40/125	-1 ... 3 to -1 ... 39	Not available	-1 ... 3 to -1 ... 39
DN25 <sup>(2)</sup>	-1 ... 5 to -1 ... 24	-1 ... 5 to -1 ... 24	Not available

(\*) class 2.5

(1) Fluid : -10°C + 100°C

(2) Fluid : -10°C + 120°C

**Note\*\*:** The MX35 is a pressure gauge DN100 stainless steel, class 1.6 specially designed to be mounted on seals only in the range above. D type and G½ connection exclusively. This pressure gauge is not available separately.

Pressure gauge accuracy (20°C)

MEX2 (Ø50) - MEX3 (Ø63) : class 1.6

MX35 (Ø100) : class 1.6 except 0+1 bar (class 2.5)

(the MX35 has an MEX3 tube and block mounted in an MEX5 case)

MEX5 (Ø100) : class 1

Max. range

0+40 bar or -1+39 bar

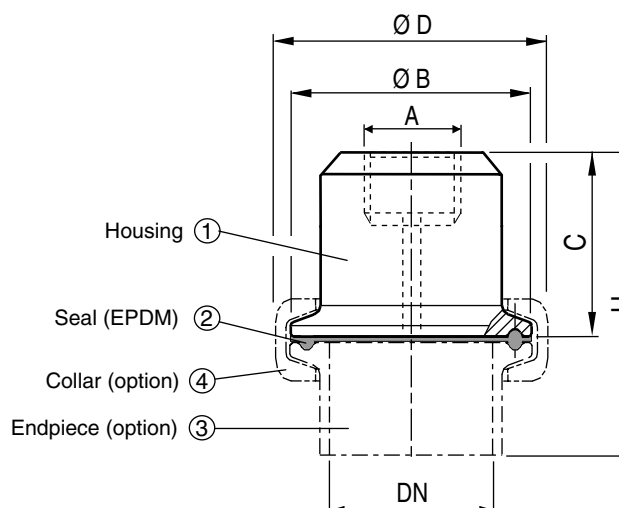


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## Range of hygienic seals, dimensions

DANC (CLAMP according to NF E 29521 / ISO 2852 / DIN 32676 standards

DAVA - VARIVENT®

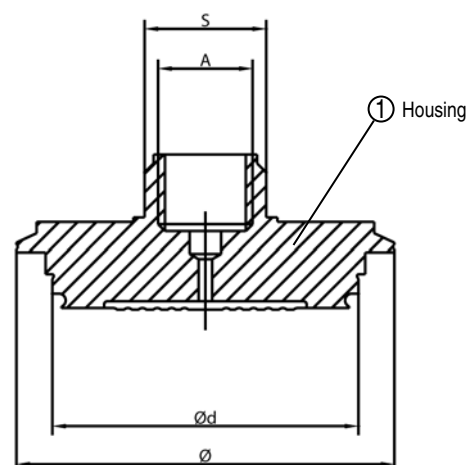


Dimensions mm

DN to NF E 29521 ISO 2852 std	DN to DIN 32676 std	A	Ø B	C	D	H	Weight Kg ①+②
DN25 & 38	DN25 & 40	G½ or G¼	50.5	32 <sup>1)</sup>	66	~60	0.200
DN51	DN50	G½ or G¼	64	32 <sup>1)</sup>	79	~65	0.320

Other nominal diameters on request

<sup>1)</sup> for G¼, C = 30

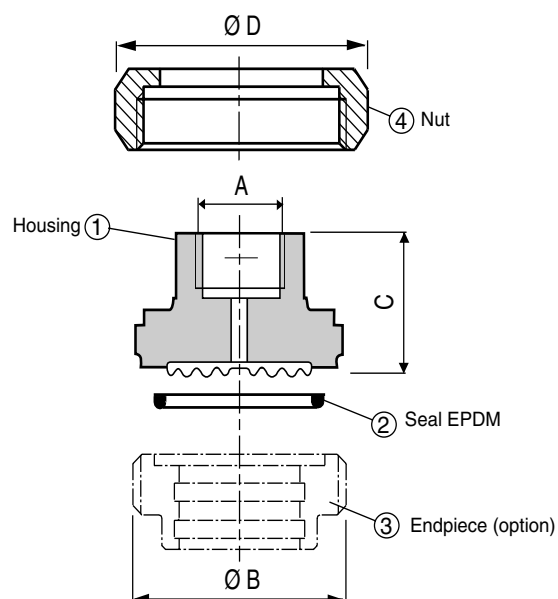
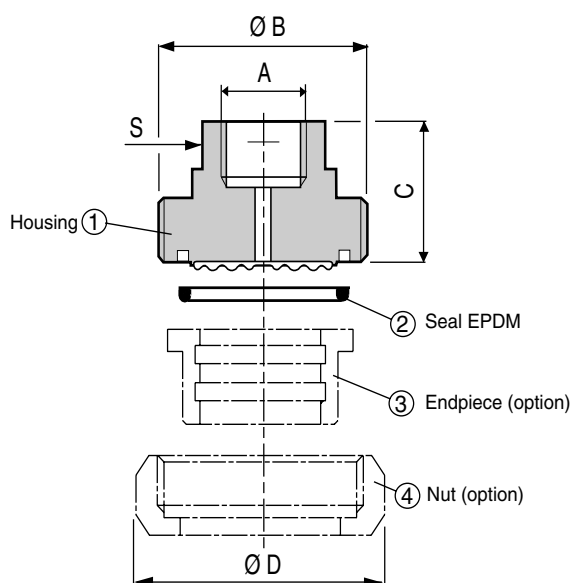


Dimensions mm

DAVA VARIVENT®	DN	A	D	S /Flats	Weight Kg ①
	25	G½ ou G¼	50	27	0.200
	40/125	G½ ou G¼	68	27	0.320

DAEF (SMS 1145 with threaded housing

DAEL (SMS 1145 with smooth housing)



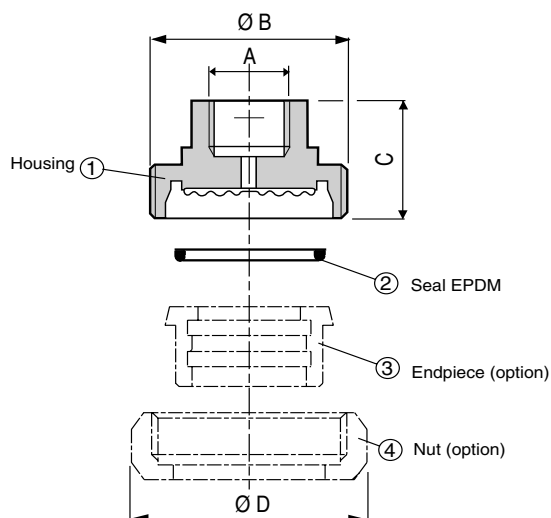
Dimensions mm

Model	DN mm or in.	A	Ø B to SMS std	C	D	dimensions ①+②+③+④	Weight Kg ①+②	Weight Kg ①+②+④	S
<b>DAEF</b> (SMS 1145)	DN38 (1½")	G½ or G¼	60 x 1/6	32	74	~55	0.400		27
	DN51 (2")	G½ or G¼	70 x 1/6	32	84	~55	0.480		27
<b>DAEL</b> (SMS 1145)	DN25 (1")	G½ or G¼	40 x 1/6	32 <sup>1)</sup>	51	~50	0.160	0.310	
	DN38 (1½")	G½ or G¼	60 x 1/6	33 <sup>1)</sup>	74	~55	0.300	0.540	
	DN51 (2")	G½ or G¼	70 x 1/6	33 <sup>1)</sup>	84	~60	0.420	0.730	

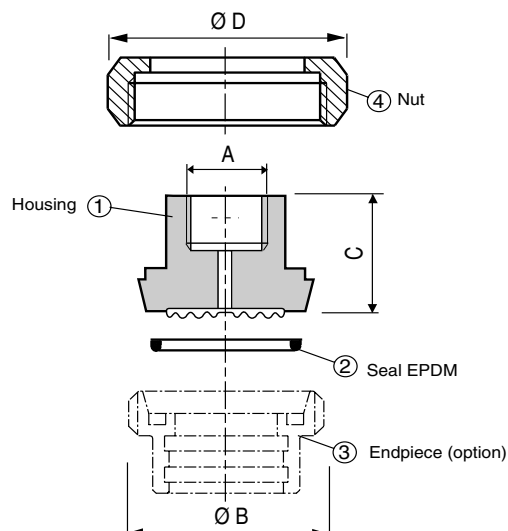
Other nominal diameters on request

<sup>1)</sup> for G¼, C = 28

### DADF (DIN 11851 with threaded housing)



### DADL (DIN 11851 with smooth housing)



Dimensions mm

Model	DN mm	A	Ø B to DIN std	C <sup>3)</sup>	D	dimensions ①+②+③+④	Weight Kg ①+②	Weight Kg ①+②+④
<b>DADF</b> (DIN 11851)	DN32	G½ or G¼	58 x 1/6	40 <sup>2)</sup>	70	~58	0.360	
	DN40	G½ or G¼	65 x 1/6	40 <sup>2)</sup>	78	~59	0.460	
	DN50	G½ or G¼	78 x 1/6	42 <sup>2)</sup>	92	~63	0.580	
<b>DADL</b> (DIN 11851)	DN25	G½ or G¼	52 x 1/6	37 <sup>1)</sup>	63	~59	0.230	0.420
	DN32	G½ or G¼	58 x 1/6	37 <sup>1)</sup>	70	~62	0.290	0.500
	DN40	G½ or G¼	65 x 1/6	37 <sup>1)</sup>	78	~63	0.360	0.610
	DN50	G½ or G¼	78 x 1/6	37 <sup>1)</sup>	92	~65	0.530	0.880

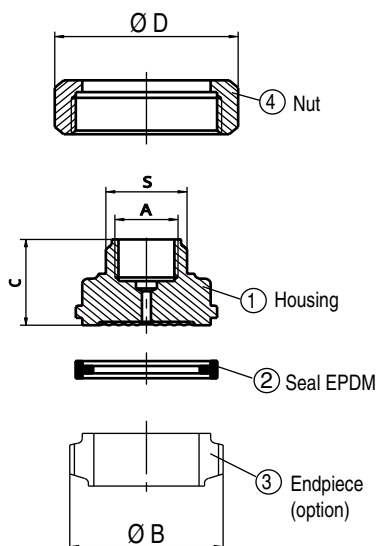
Other nominal diameters on request

<sup>1)</sup> for G¼, C = 31

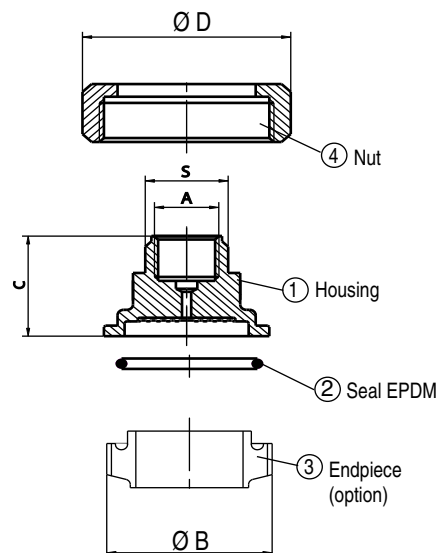
<sup>2)</sup> for G¼, C = 35

<sup>3)</sup> Reduced height option

### DAIL (IDF according to BS 4825 part 4)



### DARL (RJT according to BS 4825 part 5)



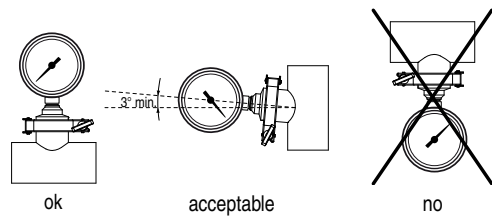
	DN	A	B	C	D Hexagonal	S /flats	Dimensions	Weight kg ① + ② + ④
<b>DAIL (IDF)</b>	1½"	G½ or G¼	50.7 8x1	35	60	27	60	540
	2"	G½ or G¼	64.2 8x1	27	75	27	52	700
<b>DARL (RTJ)</b>	1½"	G½ or G¼	58.4 8x1	38	65	27	60	440
	2"	G½ or G¼	72.7 6x1	33	79	27	55	590

## Limits of use

If the temperature of the process fluid exceeds 150°C, a type ASIP D or equivalent cooling element needs to be fitted between the diaphragm seal and the measuring device.

To keep 3-A requirements :

- gaskets must be self centering and in accordance to 3-A material requirements
- the fittings must be self draining and as short as possible (see drawings)
- the weldings of fitting shall have a roughness  $Ra \leq 0.8 \mu m (\leq 32 \mu inch)$
- the pressure gauge mounted with the hygienic seal shall not have a window in standard glass



## Ordering

Family	1' ... 2' digit	DAxxxxxxx
Chemical seal		DA
Model	3' ... 4' digit	
CLAMP		NC
SMS FF		EF
SMS FL		EL
DIN FF		DF
DIN FL		DL
IDF		IL
RJT (1)		RL
VARIVENT®		VA
Dimensions and types of top housing	5' ... 6' digit	
DN25 according to NF E 29521 ISO2852	DANC	07
DN38 according to NF E 29521 ISO2852		01
DN51 according to NF E 29521 ISO2852		02
DN25 according to DIN 32676		08
DN40 according to DIN 32676		10
DN50 according to DIN 32676		13
DN25 according to SMS 1145	DAEF/DAEL	09
DN38 according to SMS 1145		11
DN51 according to SMS 1145		14
DN25 according to DIN 11851	DADF/DADL	06
DN32 according to DIN 11851		03
DN40 according to DIN 11851		04
DN50 according to DIN 11851		05
DN 1"1/2 IDF according to BS 4825 part 4	DAIL	15
DN 2" IDF according to BS 4825 part 4		16
DN 1"1/2 RJT according to BS 4825 part 5(1)	DARL	17
DN 2" RJT according to BS 4825 part 5(1)		18
DN 25	DAVA	19
DN 40/125		20
Top housing material	7' digit	
Stainless steel 316L		2
Top housing thread	8' digit	
G1/2 female		L
G1/4 female		H
1/2 NPT female		N
1/4 NPT female		8
Diaphragm material	9' digit	
Stainless steel 316L		2
Hastelloy C276 (please call our sales office)(1)		6
Type of assembly	10' digit	
Complete assembly with collar and seal endpiece (1) (5)		1
Upper housing alone (4)		2
Upper housing with seal and nut or collar (2)		3
Electropolished upper housing (4)		5
Electropolished upper housing with seal (2) (4)		6
Upper housing with seal (2) (4)		7

Code **	Filling fluid (3)	
	Operating temperature	Application
LRS 0	No filling	
LRS 1	-15° ... 150°C	Application food and industry CODEX (FDA approved)
LRS 2	-60° ... 150°C	Other applications
LRS 3	-20° ... 300°C	
LRS 4	-15° ... 150°C	Oxygen-chlorinated products Max. P = 150 bar
LRS7	-20° ... 80°C	Paint application No vacuum scale available Filling under vacuum
LRS10	-20° ... 225°C	Food processing High temperature (FDA approved)

### 3-A Authorization

Note: The "3-A" marking is applied on the associated device:

- (1) Codes incompatible with 3-A option
- (2) As standard, the EPDM seal is not compatible with option 3-A. Gaskets according to 3-A requirements on request for DANC ISO DN38 and DN51.  
Code : DANC 01 2 x 2 x  
DANC 02 2 x 2 x
- (3) 3-A option only with filling fluids : LRS 1 and LRS 10
- (4) Except for DADL, DAEL, DAIL and DARL. Use exclusively the models fitted with nuts (codes 1 or 3).
- (5) Except DANC according to DIN 32676.

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