

Overview

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Membrane dryers fitting the airfit comfort series	146–150	151–153	154

Membrane dryers

Series airfit dry G1/2

– with/without patented purge air regulation



Membrane dryers

Series airfit dry
G1/2

– with/without
patented purge
air regulation

Characteristics

Special solutions
(e.g. temperature, pressure,
medium ...) on request

Pressures quoted as gauge pressure

Characteristics	Symbol	Unit	Description	
System			Drying by highly selective, water-permeable membrane (hollow fibers) based on partial pressure difference between inside and outside of membrane. With pipe for return flow; with/without patented purge air regulation	
Type			CDM10-1/2-R CDM10-1/2-CR	CDM15-1/2-R CDM15-1/2-CR
Material				
– Housing			Diecast zinc	
– Pipe for membrane bundle and return flow			Aluminum	
– Standard sealings			NBR	
Port size			G 1/2	G 1/2
Installation			In any position	In any position
Medium and ambient temperatures	T_{min} T_{max}	°C	+2 +60	+2 +60
Medium			Filtered air ³⁾	
Weight (mass)		kg	3.3 Type CR: 3.6	3.3 Type CR: 3.6
Pneumatic characteristics				
Operating pressure range	p_{min} p_{max}	bar	5 16	5 16
Max. flow rate at compressed air inlet ¹⁾	$Q_{inlet/max}$	l/min m ³ /h	560 33	Type CR: 560 33 840 50 Type CR: 840 50
Pressure dewpoint reduction ¹⁾	Δt_{pd}	°C	20	
Purge air consumption		%	ca. 10 (Type CR only by flow rate)	
Pressure drop	Δp	bar	0.02–0.05 Type CR: 0.15	

For optimum product selection please contact our sales engineer.

¹⁾ Inlet conditions according to DIN ISO 7183: $p_1 = 7$ bar, $t_1 = 35^\circ\text{C}$, $t_{pd1} = 35^\circ\text{C}$.

²⁾ See also the flow rate diagrams on the next page.

³⁾ According to ISO 8573-1, quality classes 1-1, see assembly instruction below.

Rough guide to choice of membrane dryers

Formula symbols

$Q_{corr.}$ = Corrected inlet flow rate

Q_{inlet} = Inlet flow rate

f_p = Conversion factor

Formula for calculation of corrected inlet flow rate

$$Q_{corr.} = \frac{Q_{inlet}}{f_p}$$

Conversion factor for calculation of corrected flow rate

Operating pressure range p [bar]	5	6	7	8	9	10	11	12	13	14	15	16
Conversion factor f_p	0.57	0.78	1.0	1.21	1.42	1.64	1.85	2.06	2.28	2.49	2.70	2.92

Example of calculation:

Flow rate: 60 m³/h

Pressure dewpoint reduction: 20 K

Operating pressure: 10 bar

$$Q_{corr.} = \frac{Q_{inlet}}{f_p} = \frac{60}{1.64} = 36.59 \text{ m}^3/\text{h}$$



Membrane dryers

Series airfit dry
G1/2

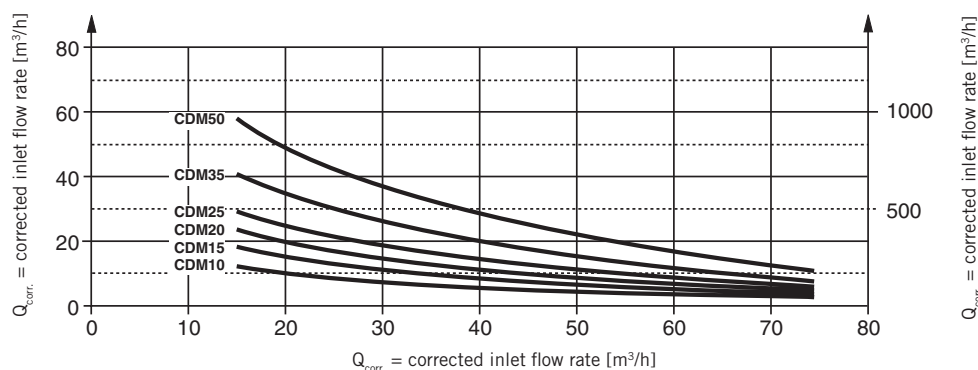
– with/without
patented purge
air regulation

Characteristics

Drying by highly selective, water-permeable membrane (hollow fibers) based on partial pressure difference between inside and outside of membrane. Without pipe for return flow (= 2nd membrane level), with/without patented purge air regulation			
CDM20-1/2-R CDM20-1/2-CR	CDM25-1/2-R CDM25-1/2-CR	CDM35-1/2-S CDM35-1/2-CS	CDM50-1/2-S CDM50-1/2-CS
Diecast zinc			
Aluminum			
NBR			
G 1/2	G 1/2	G 1/2	G 1/2
In any position	In any position	In any position	In any position
+2 +60	+2 +60	+2 +60	+2 +60
Filtered air ³⁾	Filtered air ³⁾	Filtered air ³⁾	Filtered air ³⁾
3.3 Type CR: 3.6	3.3 Type CR: 3.6	4.2 Type CS: 5.0	4.2 Type CS: 5.0
5 16	5 16	5 16	5 16
1120 Type CR: 1100 67 66	1400 Type CR: 1400 84 84	1960 Type CR: 2000 117 120	2800 Type CR: 2800 168 168
20	20	20	20
ca. 10 Type CR/CS only by flow rate			
0.02–0.05 Type CR: 0.15		0.06 Type CS: 0.30	0.12 Type CS: 0.40

The calculated values shown on the selection diagram are a rough guide to the choice of membrane dryers. The exact choice should, however, be based on the specific data sheet.

Selection diagram for ORIGA membrane dryers from HOERBIGER
– fitting airfit comfort series



Based on the calculated flow rate, the diagram shows that a CDM35 or CDM50 Type membrane dryer can be used. The exact choice should, however, be based on the specific data sheet.



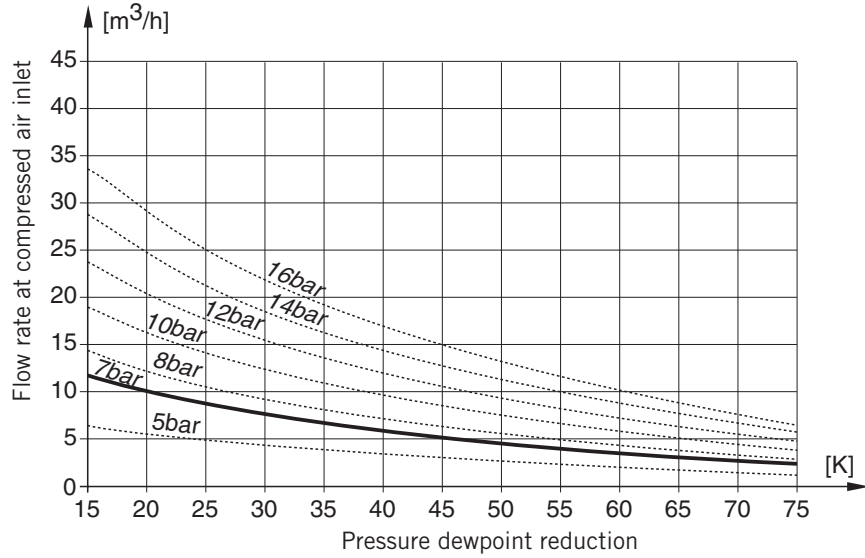
Membrane dryers

Series airfit dry
G1/2

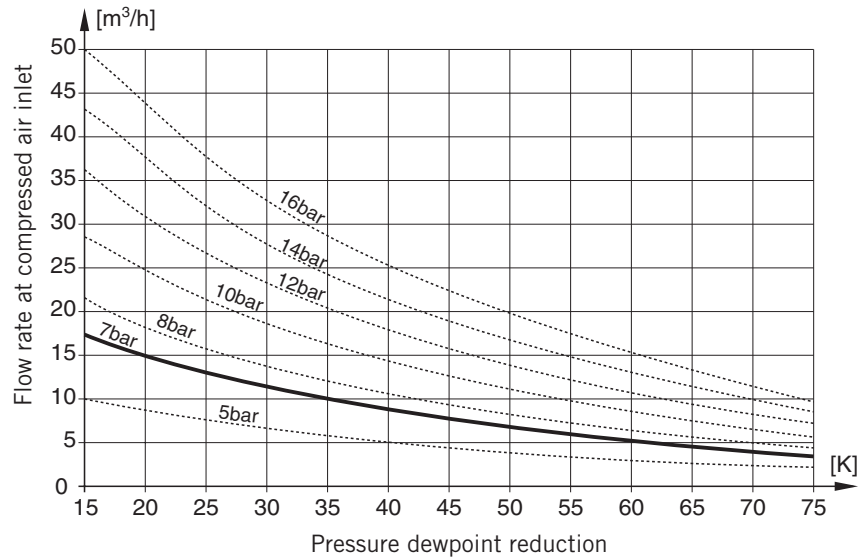
– with/without
patented purge
air regulation

Flow rate in relation
to pressure dewpoint
reduction and inlet
pressure

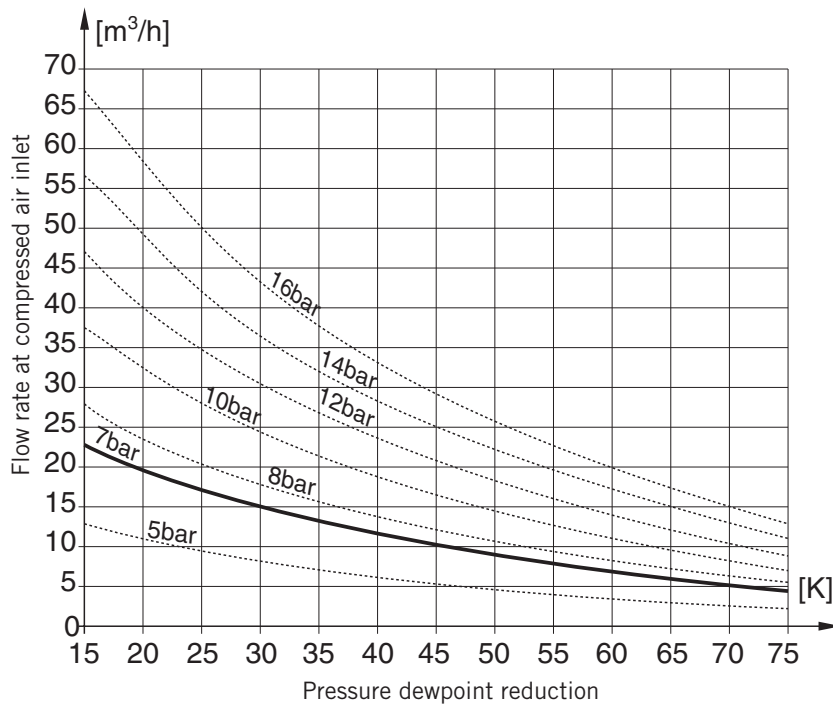
Type: CDM10-1/2-R, CDM10-1/2-CR



Type: CDM15-1/2-R, CDM15-1/2-CR



Type: CDM20-1/2-R, CDM20-1/2-CR



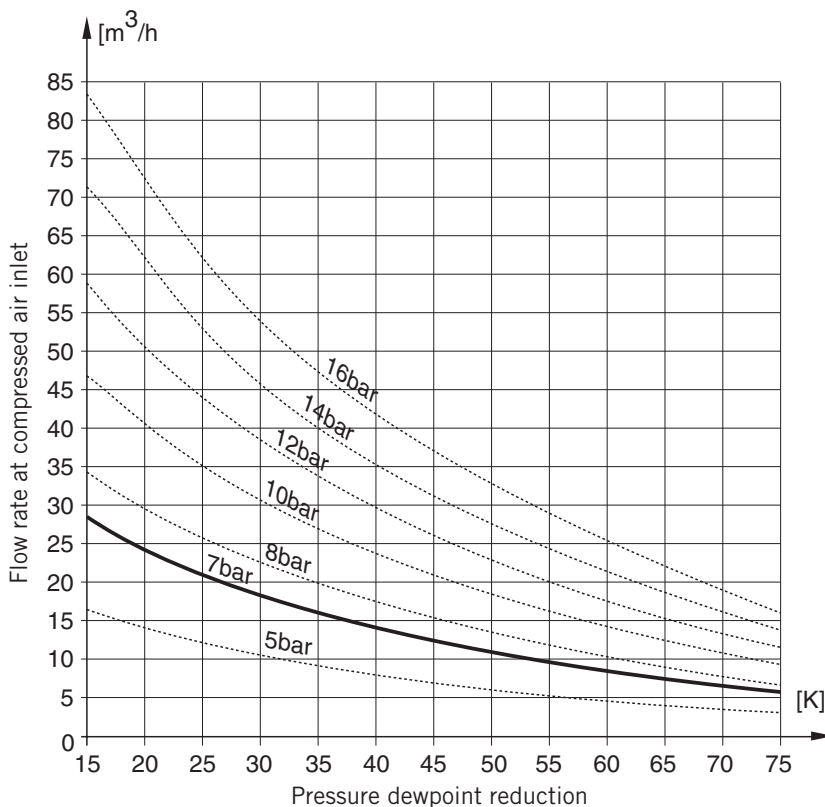
Membrane dryers

Series airfit dry
G1/2

– with/without
patented purge
air regulation

Flow rate in relation
to pressure dewpoint
reduction and inlet
pressure

Type: CDM25-1/2-R, CDM25-1/2-CR



Membrane dryers

Series airfit dry
G1/2

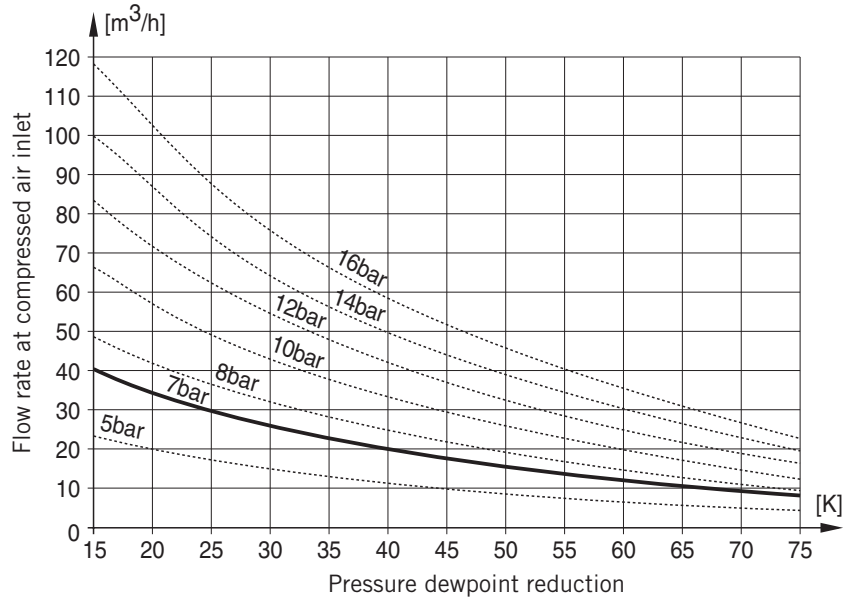
– with/without
patented purge
air regulation

Flow rate in relation
to pressure dewpoint
reduction and inlet
pressure

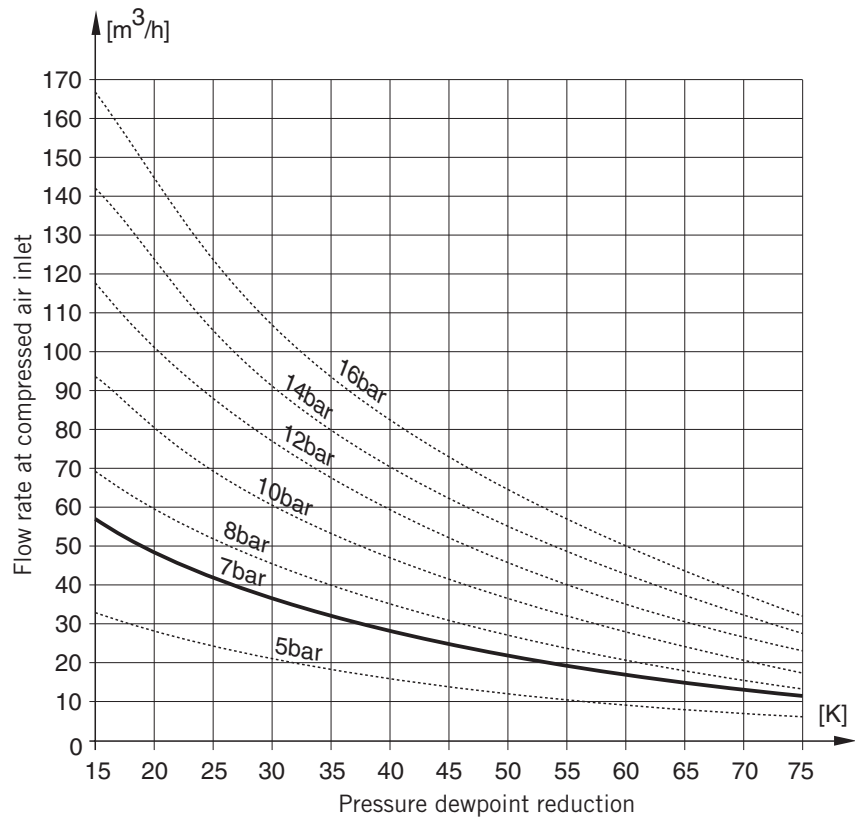
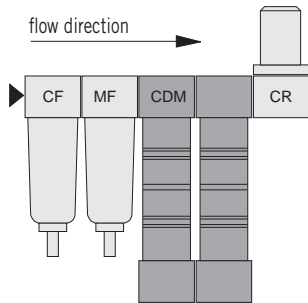
Installation instruction
(recommended assembly
order)

Type: CDM...1/2-R/CR
Type: CDM...1/2-S/CS

Type: CDM35-1/2-R, CDM35-1/2-CR



Type: CDM50-1/2-R, CDM50-1/2-CR



Type: CDM10/15/20/25-1/2-R

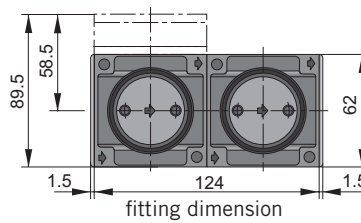
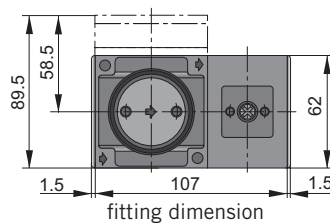
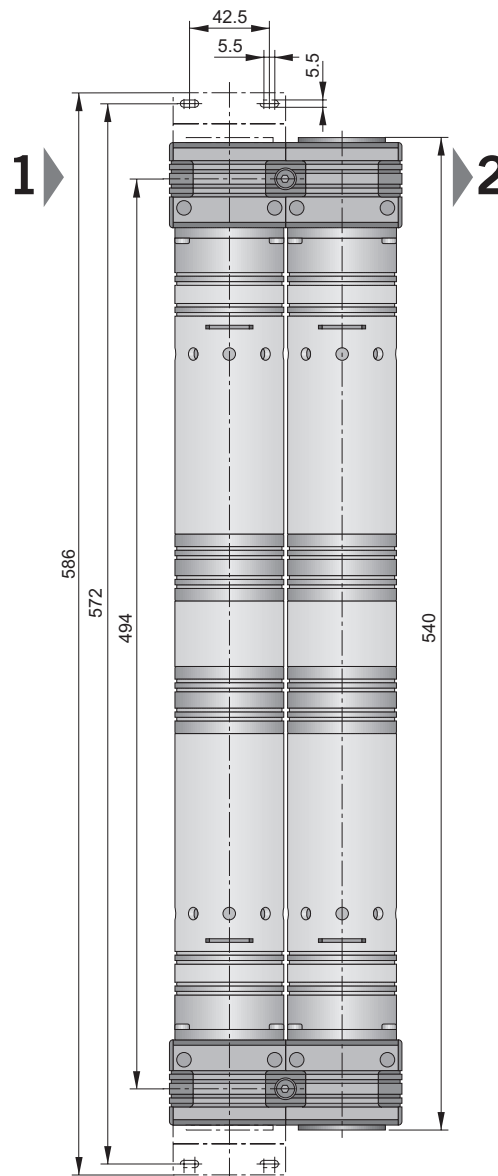
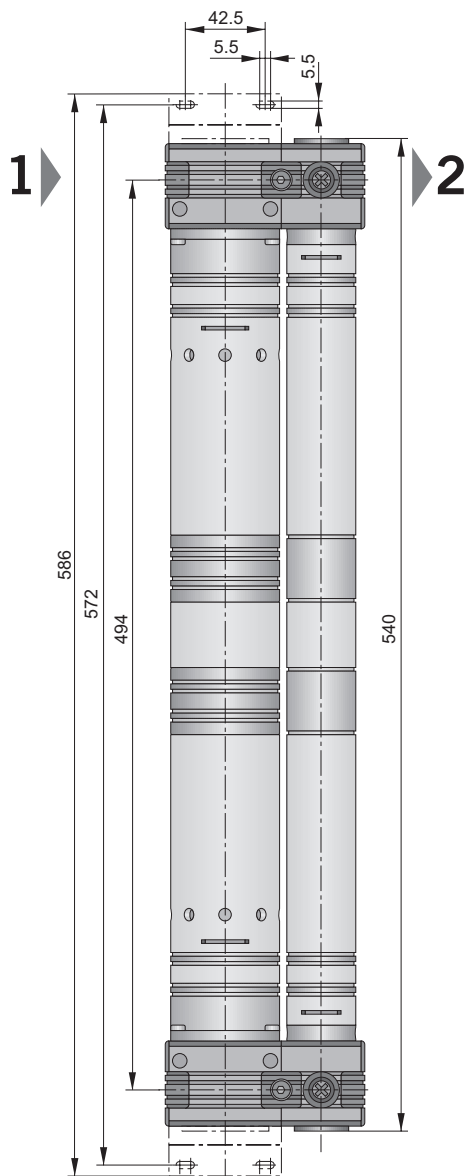
Type: CDM35/50-1/2-S

Membrane dryers

Series airfit dry
G1/2

Dimensions

- Versions:**
- Fitting the airfit comfort series
 - With/without patented purge air regulation
 - Compact
 - Immediate dry air delivery
 - No electric power supply required
 - Minimal purge air consumption
 - Low pressure drop
 - No change in air composition



1 = P-inlet
2 = P-outlet



For order instructions see page 154, for characteristics see page 146–150

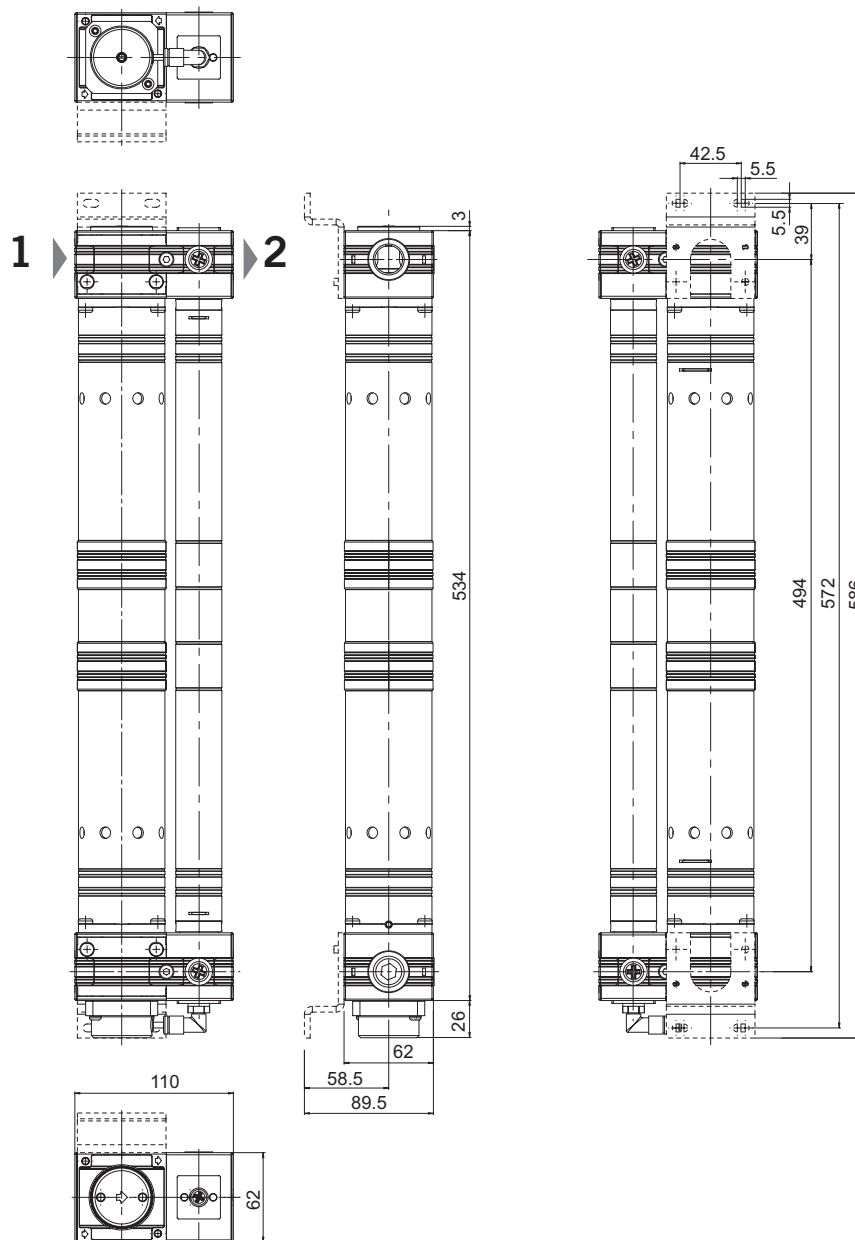
Dimensions in mm

Membrane dryers

Type: CDM10/15/20/25-1/2-CR

Series airfit dry
G1/2

Dimensions



1 = P-inlet
2 = P-outlet

For order instructions see page 154, for characteristics see page 146-150

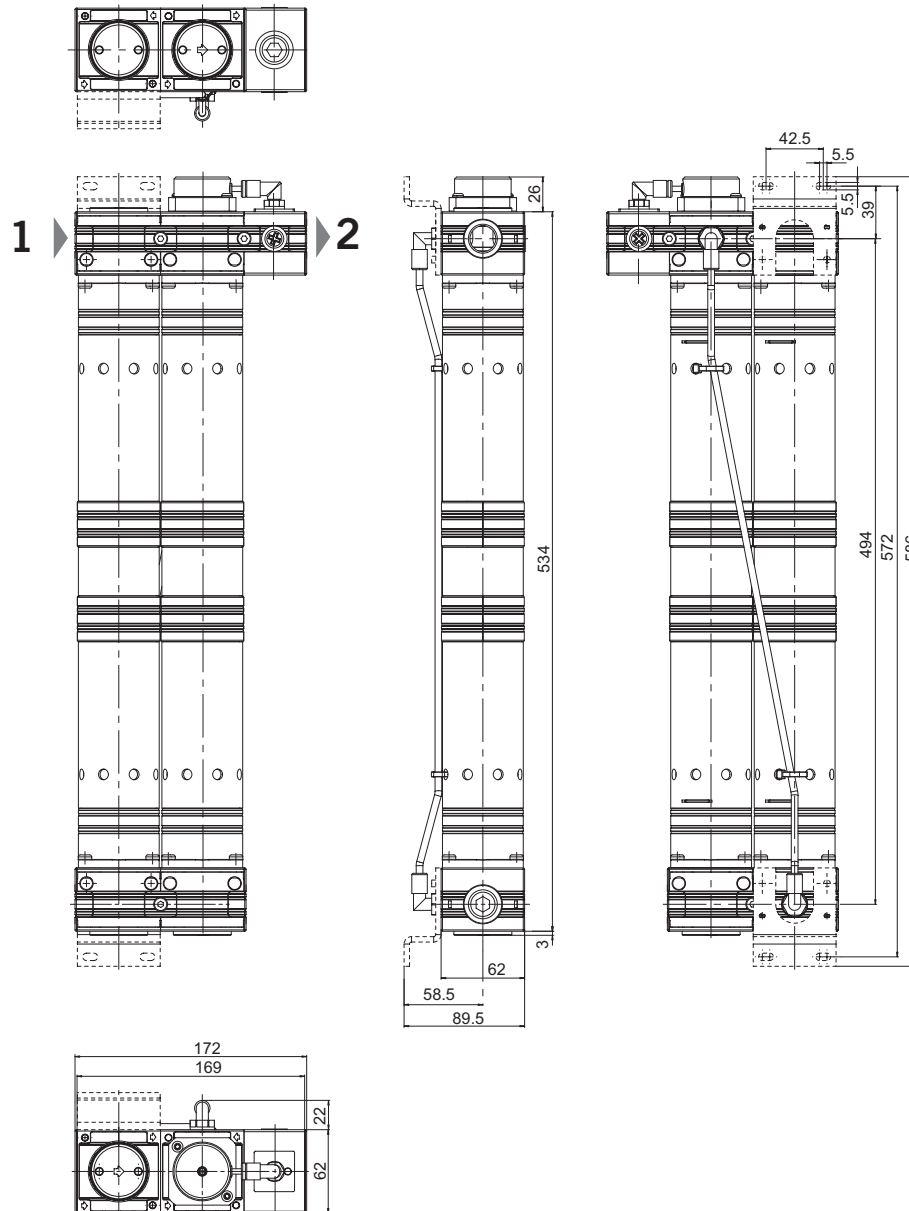
Dimensions in mm

Type: CDM35/50-1/2-CS

Membrane dryers

Series airfit dry
G1/2

Dimensions



1 = P-inlet
2 = P-outlet

For order instructions see page 154, for characteristics see page 146–150

Dimensions in mm





Membrane dryers

Series airfit dry
G1/2

Order instructions

Standard versions

Description	Symbol	Port size	Order instruction	
			Type	Order No.
Membrane dryer		G1/2	CDM10-1/2-R	PB 54349-020
		G1/2	CDM15-1/2-R	PB 54349-021
		G1/2	CDM20-1/2-R	PB 54349-022
		G1/2	CDM25-1/2-R	PB 54349-023
		G1/2	CDM35-1/2-S	PB 54349-030
		G1/2	CDM50-1/2-S	PB 54349-033
Membrane dryer with patented purge air regulation		G1/2	CDM10-1/2-CR	PB 54349-040
		G1/2	CDM15-1/2-CR	PB 54349-041
		G1/2	CDM20-1/2-CR	PB 54349-042
		G1/2	CDM25-1/2-CR	PB 54349-043
		G1/2	CDM35-1/2-CS	PB 54349-050
		G1/2	CDM50-1/2-CS	PB 54349-053

Accessories

Description	For Type	Order No.
Mounting kit *	Standard	PL17518
Coupling kit		PL17608

* 2 kits per mounting recommended

For more information see page 67

