

**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 <sup>3)</sup>	
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 <sup>1)</sup>	$Q_{inlet/max}$	l/min m <sup>3</sup> /h	560 33	Type CR: 560 33 840 50
Pressure dewpoint reduction <sup>1)</sup>	$\Delta t_{pd}$	°C	20	20
Purge air consumption		%	ca. 10 (Type CR only by flow rate)	
Pressure drop	$\Delta p$	bar	0.02–0.05 Type CR: 0.15	

For optimum product selection please contact our sales engineer.

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

<sup>2)</sup> See also the flow rate diagrams on the next page.

<sup>3)</sup> 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 m<sup>3</sup>/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

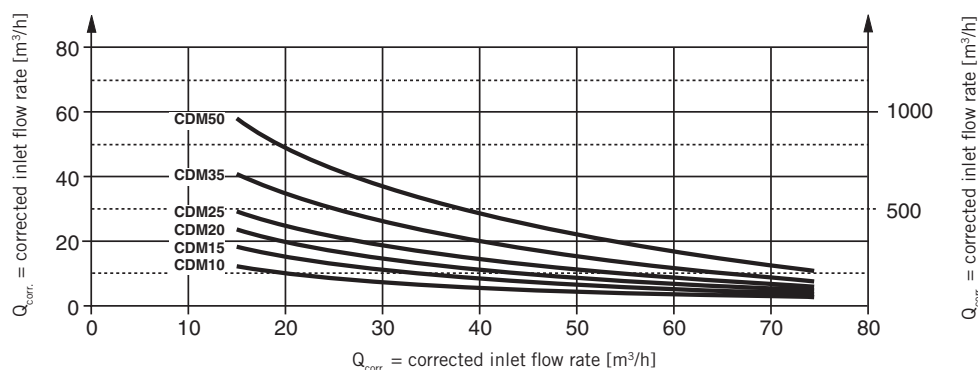
– with/without  
patented purge  
air regulation

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 <sup>3)</sup>	Filtered air <sup>3)</sup>	Filtered air <sup>3)</sup>	Filtered air <sup>3)</sup>
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.



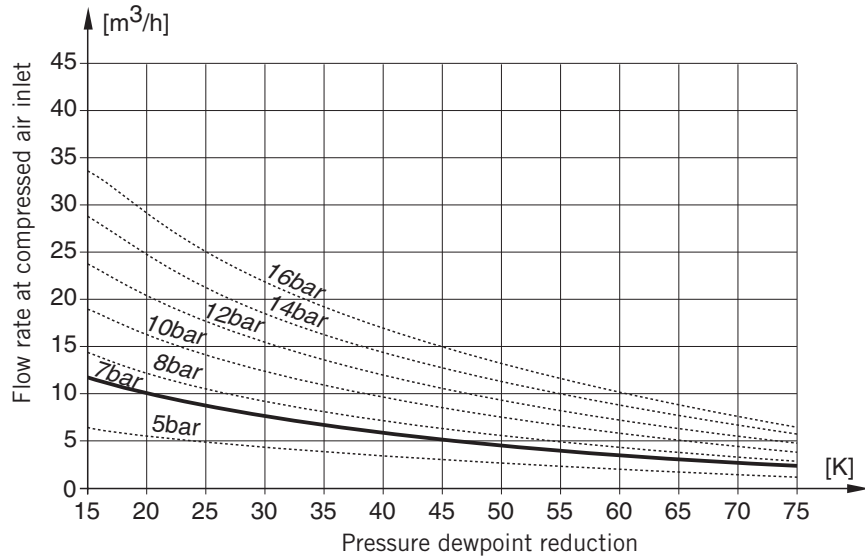
# Membrane dryers

Series airfit dry  
G1/2

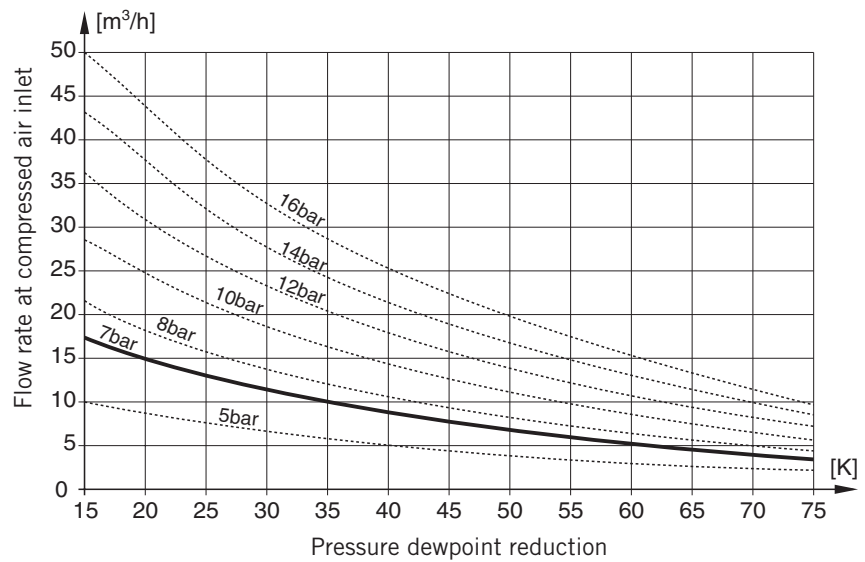
– with/without  
patented purge  
air regulation

Flow rate in relation  
to pressure dewpoint  
reduction and inlet  
pressure

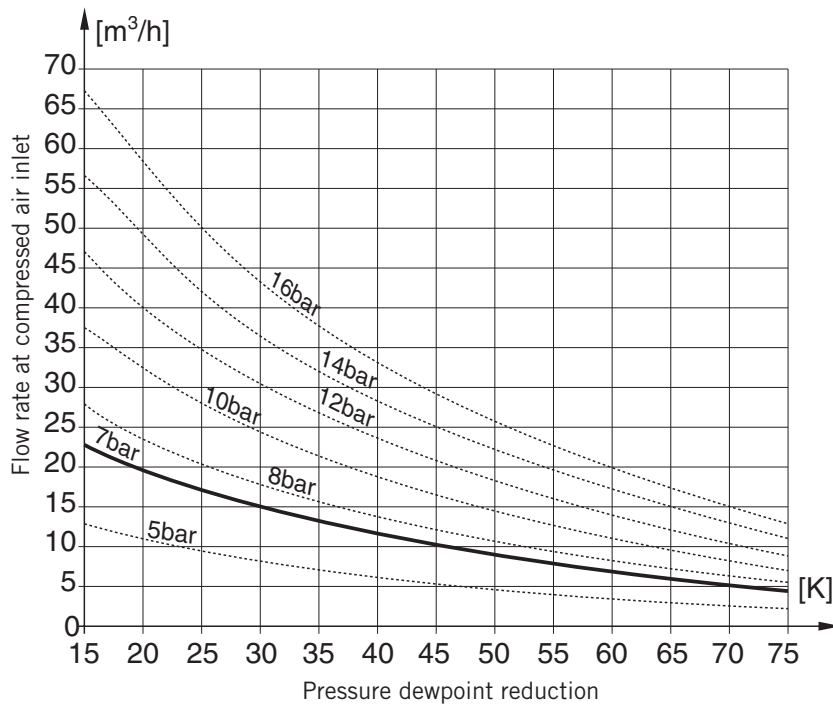
Type: CDM10-1/2-R, CDM10-1/2-CR



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



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



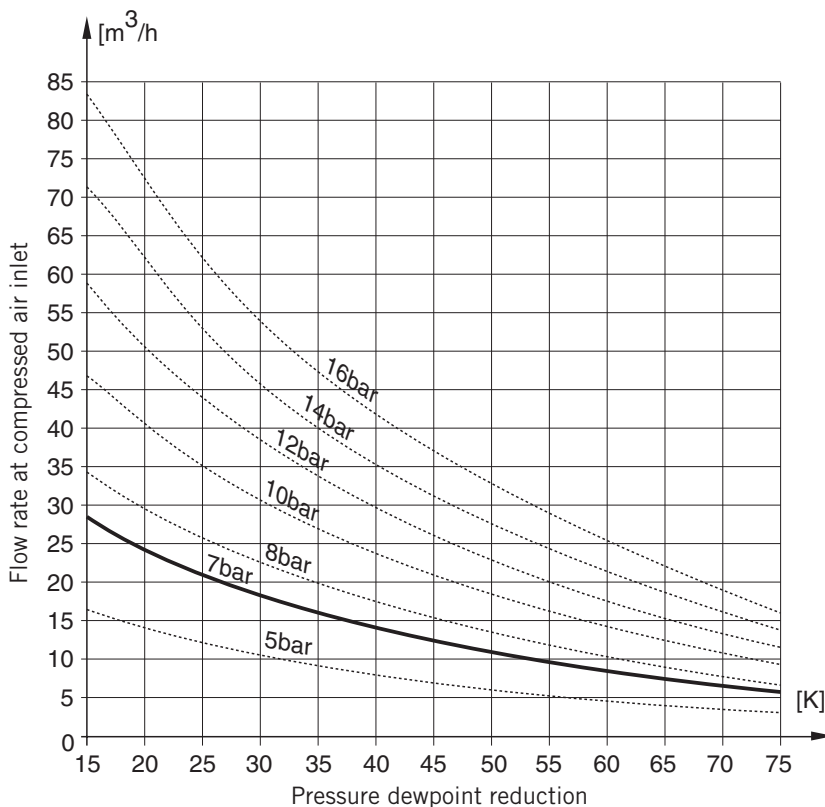
## Membrane dryers

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

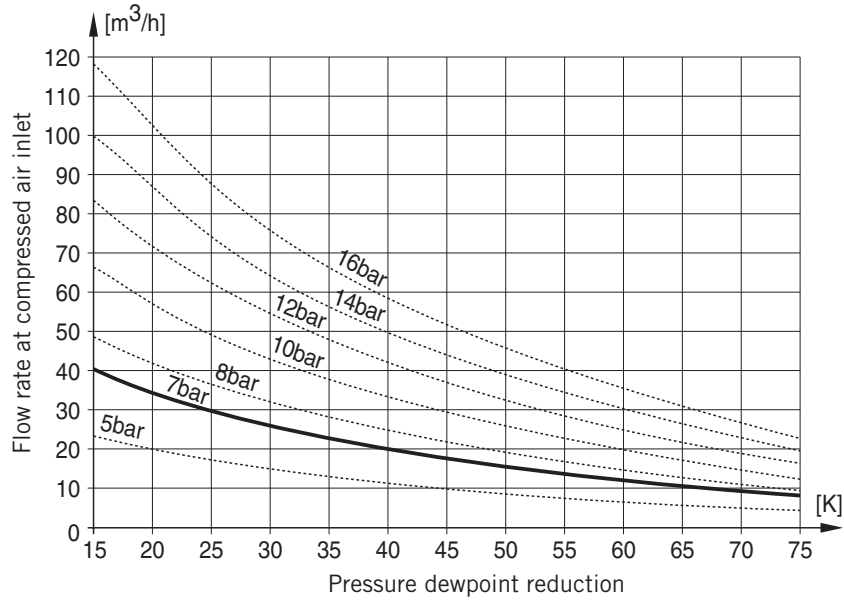
– with/without  
patented purge  
air regulation

Flow rate in relation  
to pressure dewpoint  
reduction and inlet  
pressure

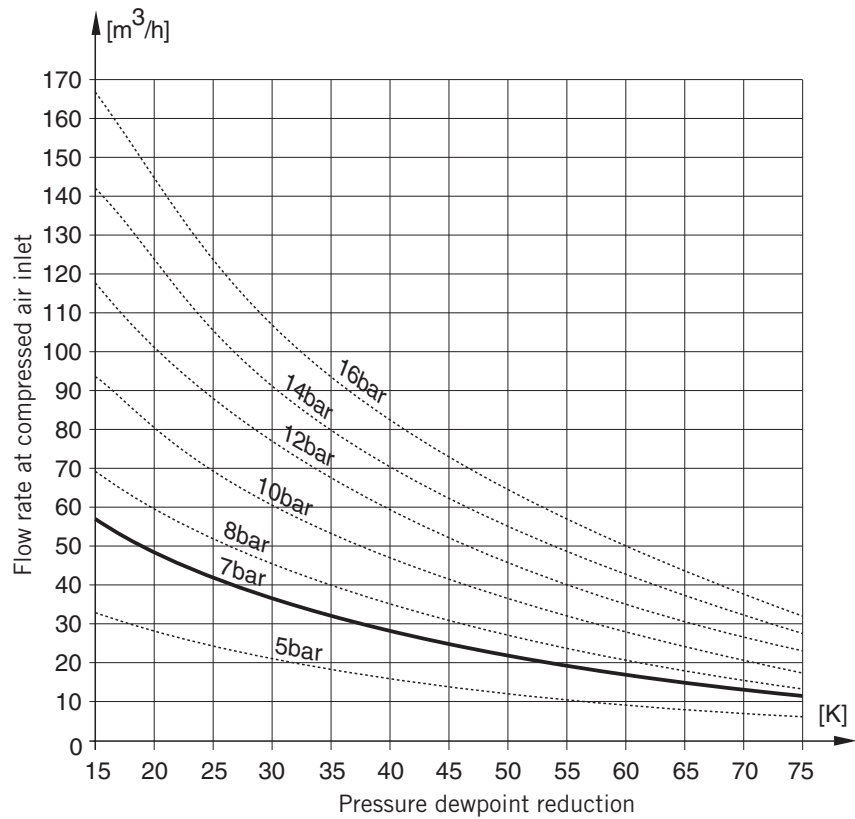
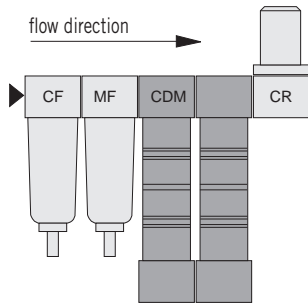
**Installation instruction**  
(recommended assembly  
order)

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

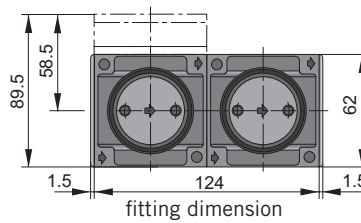
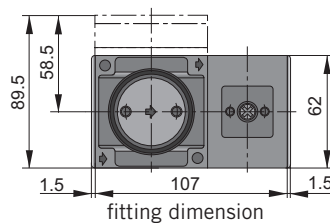
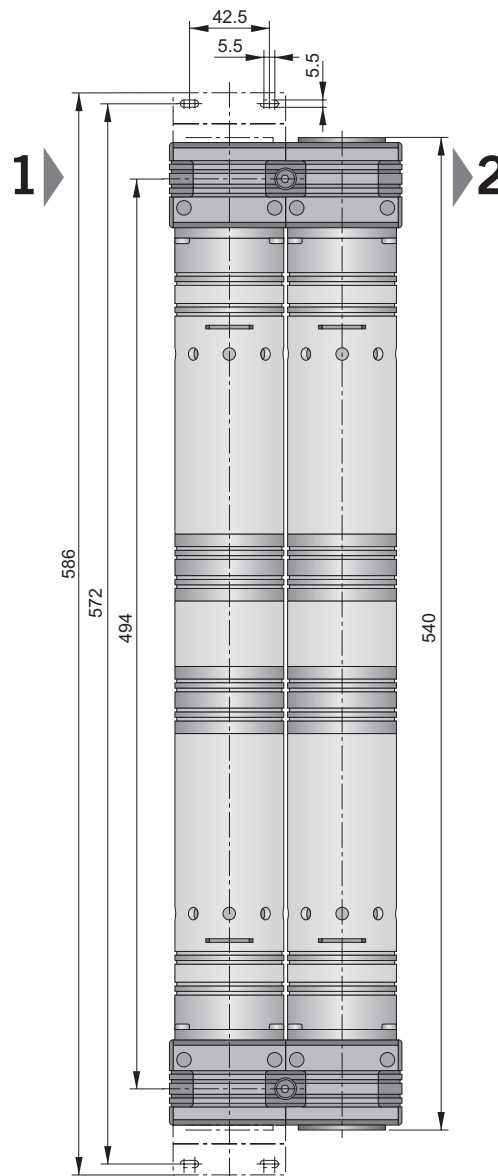
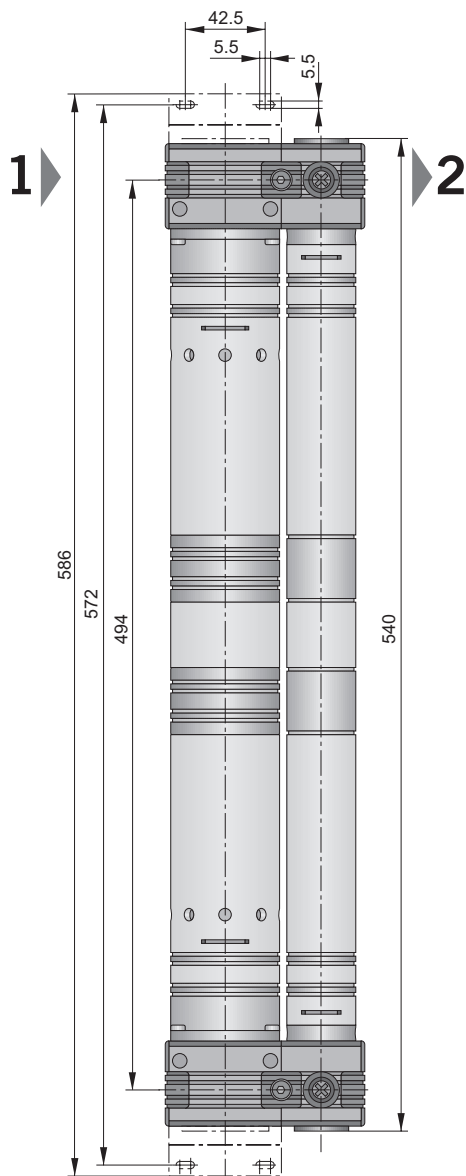
Type: CDM35/50-1/2-S

## 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

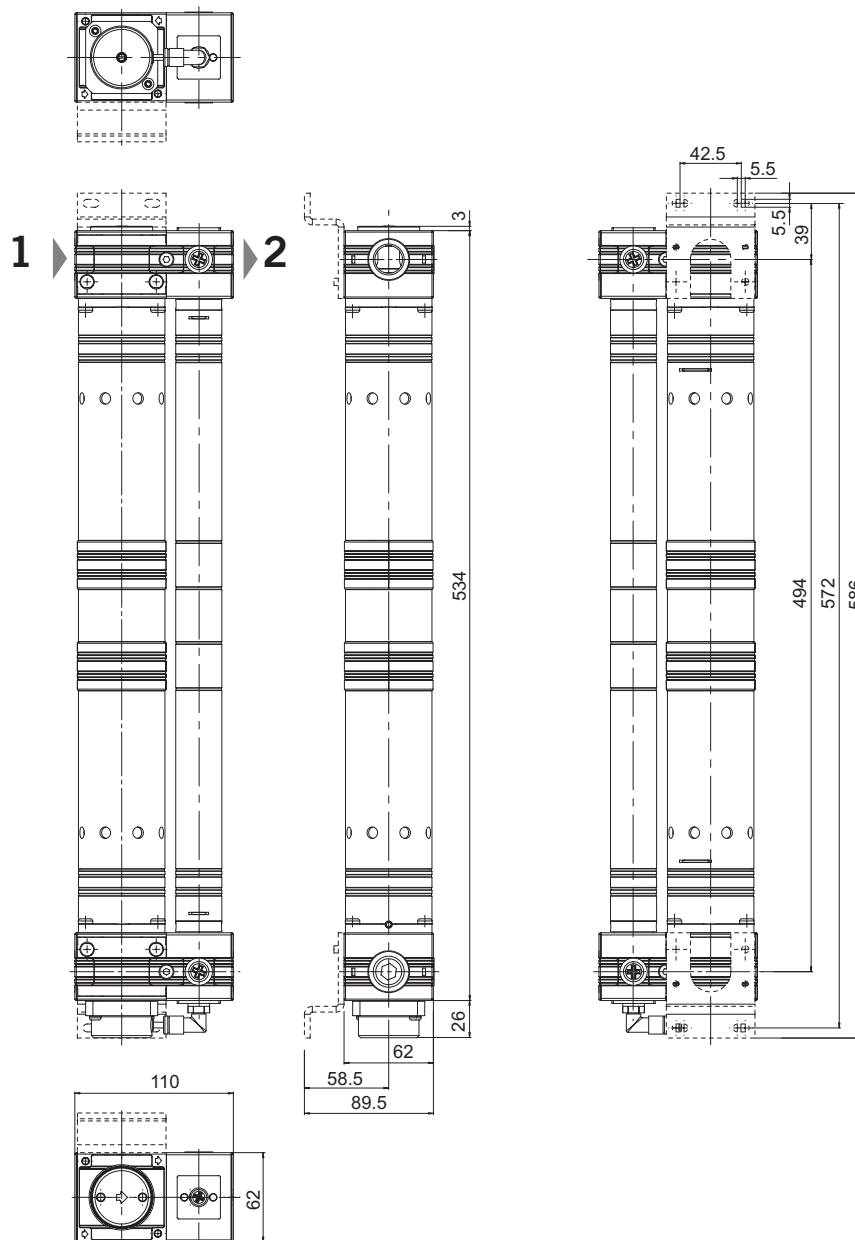
Dimensions in mm

# 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



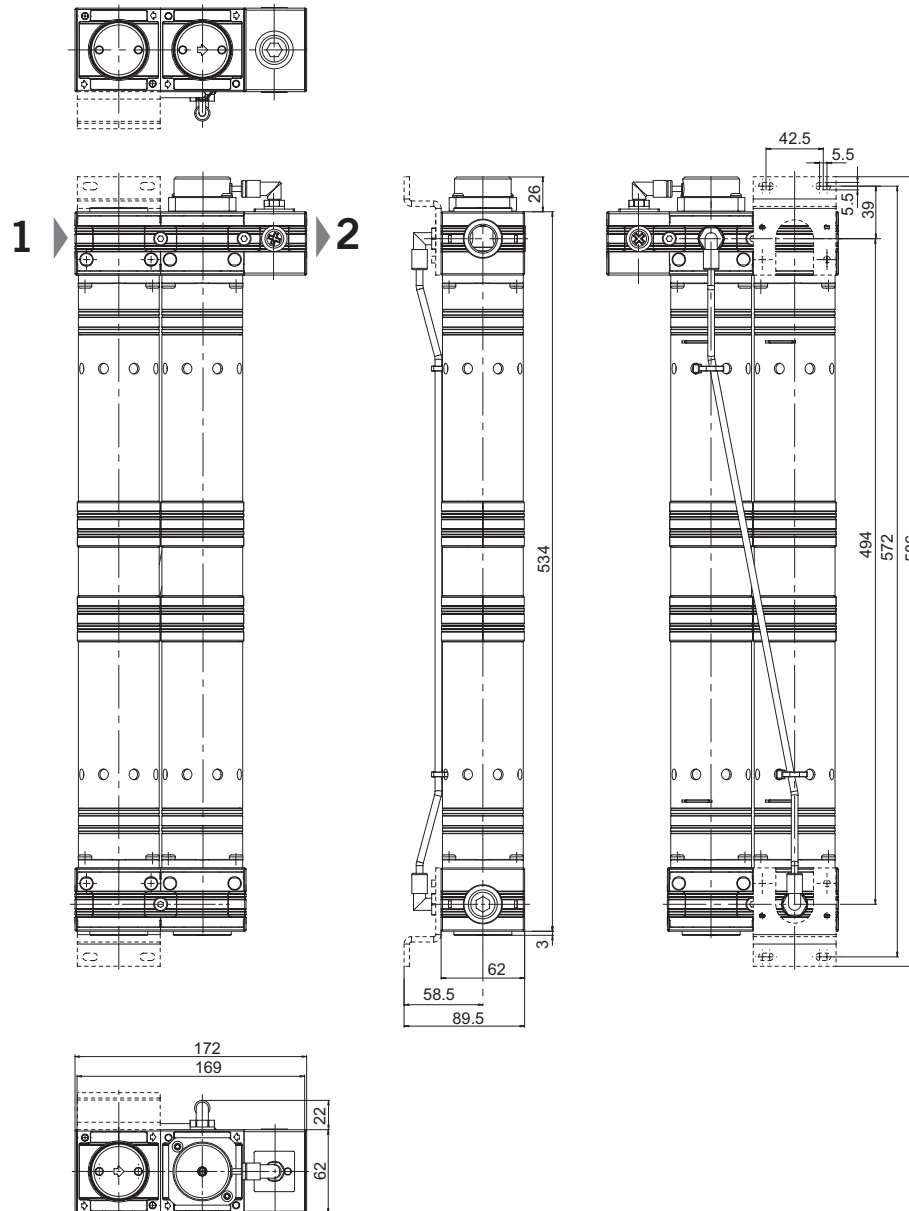


Type: CDM35/50-1/2-CS

## 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

