ULTRAFILTER
THE FILTRATION MANUFACTURER

Kronsbein ultrafilter®

ultradry UFM
Membrane Dryer

Why drying compressed air?

Compressed air is used in almost all areas of industrial manufacturing processes as a source of energy or processing. Compressed air needs to be dry, oilfree and clean in order to prevent costly production downtimes and losses in the production quality. The atmospheric air drawn in contains harmful substances, dirt particles and moisture in the form of water vapour, which condenses out in compressed air pipes and can lead to considerable costs (corrosion, freezing etc.). The performance of the compressed air installation can be ensured by using a compressed air dryer. For smaller volume flows and point of use drying, membrane dryers are the most efficient and reliable solution.

ultradry UFM membrane dryer

ultradry UFM membrane dryer are qualified for point of use applications and for small volume ows. The compressed air ows through a bundle of hol-low fibres. As the humid compressed air flows down the bore of the bre, water vapour diffuses through the walls of the fibres. At the outlet of the unit, a small volume of the dry compressed air is expanded and released into the space surrounding the outside of the fibres. The dry air sweeps the moisture away from the outside of the fibres and exhausts to the atmosphere as a humid air stream.

Easy to install

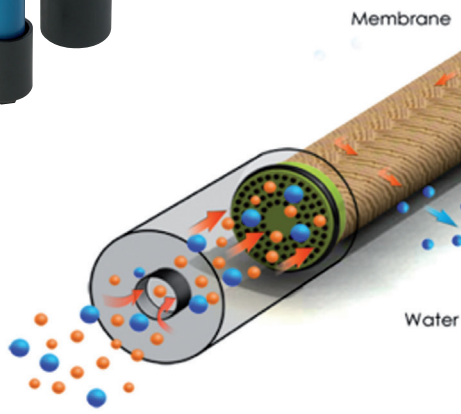
ultradry UFM membrane dryer are designed with ease-of-installation and operation in mind. Simple to connect the inlet and outlet by 1/2” BSP connection (up to type 125) or 1/4” BSP (type 150 + 180).

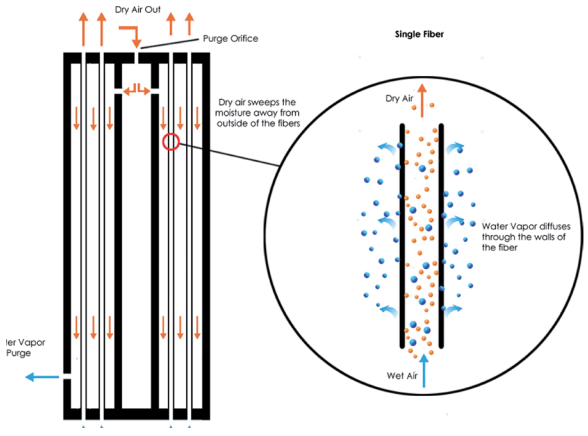
Maintenance-free operation

ultradry UFM membrane dryers are maintenance free, reliable and provide the lowest overall operating costs.

The proper addition

To ensure and extend the life-time of the membranes, we recommend the installation of an ultrafilter MF microfilter with nanofibre technology as a pre-filter.





Safe installation

ultradry UFM membrane dryers can be installed quite easy and safe. Pre- lter, either a single housing or a combination of housings, can be assembled directly with the membrane dryer by a wall mounting bracket

ultradry UFM - The membrane dryer unique features

● 12 different sizes with performances between 2 and 180 m^3/h (at a dewpoint reduction of 15°C) ensure perfect match to the required performance flow. ultradry UFM membrane dryer achieve pressure dewpoints down to - 40°C covering a wide range of applications.

● Each membrane dryer is equipped with a calibrated purge air blend. No further further adjustments are necessary.

● Due to the non fibre-releasing membrane, ultradry UFM membrane dryers are suitable for medical air applications.

● ultradry UFM membrane dryers are extemely efficient due to their new, improved hollow fibre technology. Even with low pressure dewpoints only a relatively small purge air requirements is necessary.

Advantages:

- reliable and consistent performance
- low purge air consumption
- un-attended, maintenance-free 24-hour operation possible
- compact and lightweight
- fast response time
- easy installation
- no electricity required
- silent operaton
- no consumables required
- explosion proof

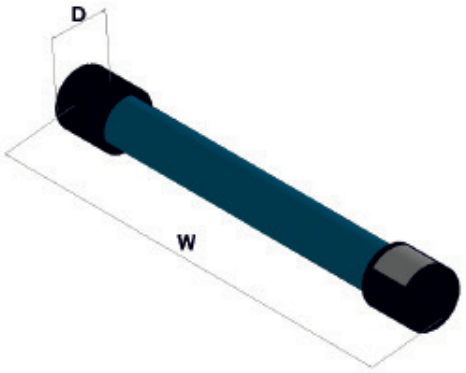
Technical data ultradry UFM membrane dryer:

Type UFM	Nom. Flow Rate[1)] V_{nom1} m³/h	V_{nom2} m³/h	V_{nom3} m³/h	V_{nom4} m³/h	Connection BSP	Width W mm	Diameter D mm
0003	3,0	2,2	1,4	1,0	G 1/4	224	58
0006	6,0	4,3	2,8	2,0	G 1/4	325	58
0009	9,0	6,4	4,3	3,1	G 1/4	427	58
0012	12,0	8,5	5,7	4,1	G 1/4	503	58
0018	18,0	12,8	8,5	6,2	G 1/2	312	81
0024	24,0	17,1	11,3	8,2	G 1/2	376	81
0036	36,0	25,6	17,1	12,4	G 1/2	465	81
0048	48,0	34,1	22,7	16,4	G 1/2	592	81
0064	64,0	44,8	29,8	21,6	G 1/2	411	109
0090	90,0	67,2	43,8	31,5	G 1/2	551	124
0125	125,0	91,8	58,8	42,6	G 1/2	627	124
0180	180,0	128,1	85,5	61,5	G 1	607	150

	Flow Rate[1)] V_{nom1}	V_{nom2}	V_{nom3}	V_{nom4}
Outlet PDP	15 °C	3 °C	-20°C	-40 °C
Purge air consumption	10 %	14 %	21 %	29 %

[1)] Flow rate (V_{nom}) related to 20 °C and 1 bar abs. Inlet conditions based on 7 barg and 35°C.

- High efficient spiral wounded membrane
- Anodized aluminium housing with nylon endcaps
- Max. operating pressure: 12,5 barg
- Max. operating temperature: +80 °C
- Required two stage prefiltration: FF - SMF
- Pressure drop: 0,2 barg - 0,4 barg



Guidance for determinating the mebrane dryer size:

Inlet volume flow V_{eff}: 20 m³/h
Operating pressure: 8 barg
Inlet temperature: 35 °C
Required PDP: -20 °C

Correction factor K1: 1,22

$V_{corr} = V_{eff}/K1 = (20\ m^3/h)/1,22$
$V_{corr} = 16,4\ m^3/h$

selected dryer size: UFM 0036

PDP reduction of 55 °C to PDP of -20 °C with a purge air consumption of 21 %

Operating Pressure in bar	4	5	6	7	8	9	10	11	12
Correction factor K1	0,40	0,60	0,80	1,0	1,20	1,50	1,70	1,90	2,20

Technical alterations reserved.

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