



**ULTRAFILTER COMPACT ADSORPTION DRYER**





**WWW.ULTRA-FILTER.COM**

# COMPACT ADSORPTION DRYER

UDD



## Technical Data

-  4-10 bar
-  Max. 50°C
-  7 - 162 m³/h
-  Dewpoint: -40°C

## Ultrafilter UDD – Quality and reliability

Compressed air is a commonly used power source. Over the years it became a crucial part of a wide range in industrial processes. However, compressed air after compression is not clean and contains impurities like water, oil, dirt, wear particles and so on. This mixture creates a form of condensate which damages downstream equipment like air tools, pneumatic cylinders and other pneumatic equipments. It also causes high product rejects, high maintenance and costly air leaks in compressed air systems. The use of highly efficient compressed air filters and condensate drains will remove a lot of these impurities and can eliminate most of the problems downstream.

For many applications this is not enough. These applications need an even higher level of compressed air quality. AFE's UDD desiccant dryers will provide this level of air quality at the point where the quality is needed without investing a large amount in centralized purification systems which are often not needed because only certain areas of the production process need that high quality air.

The UDD series of compact desiccant air dryers offers users the air quality at the point where it is needed. Utilizing a reliable technology, the UDD dryers provide the security to run the process without interruption and to have safe and reliable operations of downstream machines and air tools.

This series comes with installed pre- and afterfilter, desiccant fill and a reliable PCB controller with indication lights to monitor the operation. The PCB controller is ready build in and only has to be connected to an electrical power source and compressed air inlet/outlet. Optionally available is a dryer run/stop dry contact as well as a load control system for energy savings.

This series of compact desiccant air dryers will meet the requirements of ISO 8573.1 Class 1.2.1 as a standard. Higher quality classes based on request are available.

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UDD

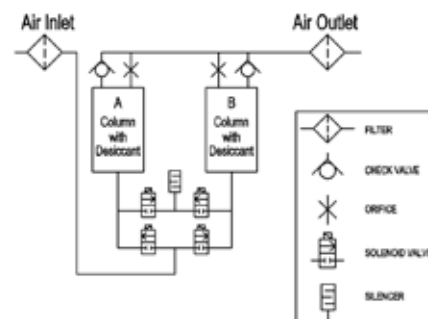


## How does the UDD work?

Two vessels connected in parallel are required for the continuous operation of drying via the adsorption process. Each vessel is filled with desiccants which act as the drying medium. AFE desiccant dryers use high performance molecular sieve which have a long service life at high input temperatures, resulting in very low pressure dew points.

### Stage 1:

The drying of compressed air takes place in vessel A and simultaneously, desorption (re-generation of the desiccant) occurs in vessel B. The desorption process in vessel B occurs in a counter flow direction by using a small flow of dry compressed air channeled from the outlet of vessel A. The mode of operation of pressure change desorption corresponds to almost isothermal desorption through partial pressure drop in the adsorbing component by means of pure purge gas.



### Stage 2:

Upon completion of the re-generation cycle, re-pressurization takes place in vessel B until both vessels equalize in pressure. At this stage, the vessels are ready to switch over.

### Stage 3:

The air from vessel A will purge out and the drying cycle switches to vessel B. Vessel A will now undergo the desorption cycle to re-generate the desiccants.

The entire process will repeat itself to continuously dry the compressed air.

All Ultrafilter UDD dryers are installed with coalescing pre-filters and particle after-filters to provide clean and dry compressed air.

# COMPACT ADSORPTION DRYER

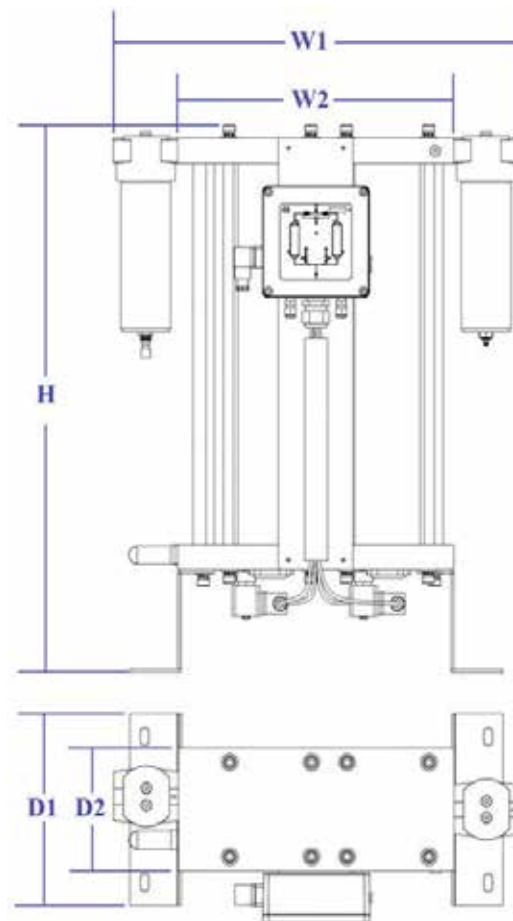
Ultra-Dry UDC



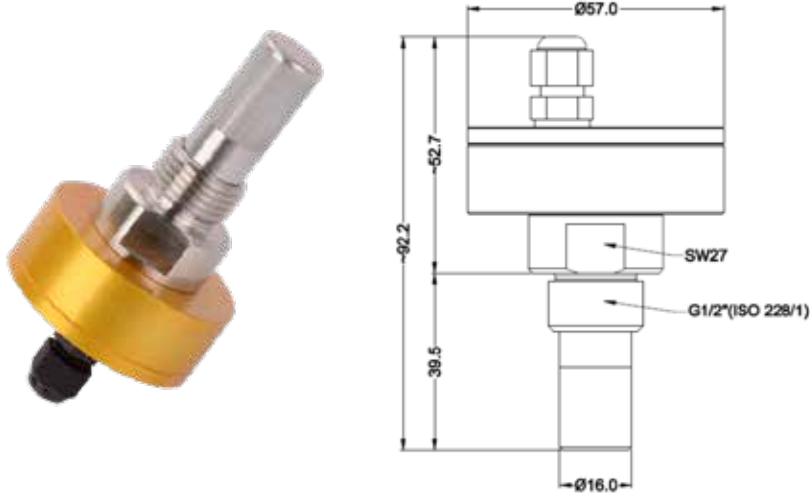
Model	Flow m <sup>3</sup> /h	Connection in/out	Dimensions (mm)					Filter Element Size	Weight
			H	W1	W2	D1	D2		
UDD 002	8,2	¼"	420	435	245	226	106	02/05	14
UDD 004	15,5	¼"	670	435	245	226	106	02/05	18
UDD 007	25,4	⅜"	920	435	245	226	106	03/10	24
UDD 010	35,1	⅜"	1120	435	245	226	106	03/10	28
UDD 015	56,3	⅜"	992	565	375	273	160	03/10	51
UDD 020	72,0	½"	1242	565	375	273	160	04/10	51
UDD 030	108	1"	1036	745	495	338	220	05/25	93
UDD 045	162	1"	1386	745	495	338	220	05/25	114

Correction factor:





Operating pressure (bar)	Inlet Temperature °C					
	25	30	35	40	45	50
4	0,66	0,64	0,62	0,59	0,55	0,50
5	0,80	0,77	0,75	0,71	0,67	0,63
6	0,94	0,90	0,87	0,84	0,79	0,76
7	1,07	1,03	1,00	0,96	0,92	0,87
8	1,16	1,14	1,11	1,08	1,04	1,00
9	1,23	1,21	1,18	1,14	1,10	1,07
10	1,32	1,30	1,27	1,24	1,20	1,16



# DEW POINT SENSOR LCS 217



## Technical Data

-  Stainless steel / casing: al alloy
-  -0,1...5,0 MPa
-  -30° to +70 °C Operating temp.
-  G1/2" thread (ISO 228/1)

The LCS 217 dew point sensor provides reliable and long term stable dew point monitoring in industrial applications. The newly developed sensor features improved signal and stability in demanding industrial applications.

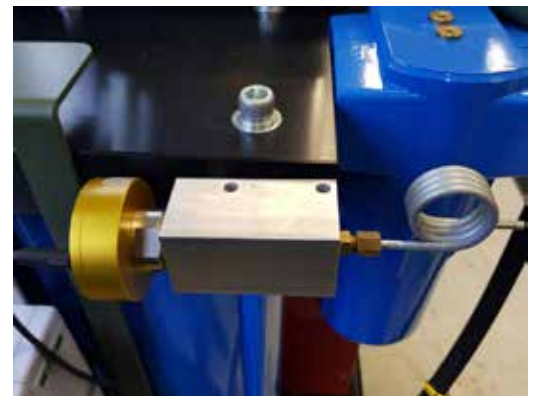
The sensor is specially designed for heatless dryer application. Common sensors are usually designed to measure dew point's up to -70 degC or better. In order to be accurate this makes the sensor relative expensive.

## Features

- small size - ideal for dryer installation
- measure dew points down to -50°C
- 2-wire loop powered sensor
- IP65 casing provides robust protection
- very fast response time
- high accuracy of 1..2°C dew point
- withstand condensation
- wire connection through terminal blocks
- cable gland

## Technical Information

Measuring range	-50 ... +20°C
Accuracy	1°C (-50 ... +20°C) / 2°C (remaining range)
Pressure range	12 ... 30 VDC / loop powered
Power supply	12 ... 30 VDC / loop powered
Measured gas	non-corrosive gases
Ambient conditions	-10 ... 50°C
Transport temperature	-30 ... 70°C
Response time $t_{90}$	<30 sec (descending) / <10 sec (ascending)
Output signal	4 ... 20 mA, 2-wire
Cable gland	supports cable outer diameter from 2,5 ... 4,5mm
Wire sizes	0,14 ... 1,5mm <sup>2</sup>
Casing	Process connection: stainless steel / casing: al alloy
Classification	IP65
Process connection	G 1/2" thread (ISO228/1)
Sensor protection	Stainless steel sinter filter pore size <30µm
EMC	According to IEC 61326-1





## SHOP ONLINE

At [www.ultra-filter.com](http://www.ultra-filter.com) you will find a wide selection of filtration products ready for you to order.



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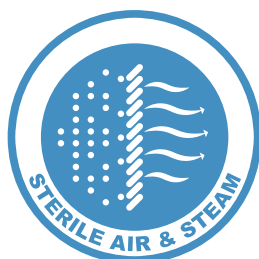
## ABOUT US

Ultrafilter Scandinavia offers a wide selection of filtration products for compressed air, liquids and gas. We have stock in Denmark and from here we distribute all of our products to Scandinavia and the Baltic countries.

Ultrafilter Scandinavia is a part of the Ultrafilter group. Our production facility is in Germany and we have several subsidiaries in Europe and the United States.

You can buy our products on local websites. Information about our products as well as brochures and manuals can be found on our website ([www.ultra-filter.com](http://www.ultra-filter.com)).

We can adapt all of our filtration products to your needs, and we offer visits from our consultants in order to find the right solution for you. We also offer on going service on our products once they are installed.



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