



**Patented refrigeration dryer
UDP ULTRAPULSE**

Refrigeration dryer UDP

ultra.pulse Technology

Ultrafilter UDP dryers offer accurate dew point control in an easy-to-use package with very wide operating parameters and a strong focus on reducing overall global impacts.

Unique features and patented technologies ensure the requirements of individual industrial applications are fully catered for.

Optimum operation in all conditions

Ultrafilter UDP dryer offers high operating limits: 70°C air inlet (UDP 0540-2075 = 65 °C), 50 °C ambient (UDP 1440 = 48°C, UPD 2075 = 46 °C) and 16 barg maximum pressure (UDP 1050-1720 = 14 barg). The unit automatically and continuously adjusts operation to all conditions.

A robust construction with field-proven technologies, premium quality components, a full specification and extensive factory testing ensures high reliability and guaranteed operation.

Easy to install - Easy to use

Ultrafilter UDP dryers are supplied pre-programmed with no need for adjustments. A single cabled electrical connection is provided, with a Schuko plug on UDP 0020-0840. A compressed air by-pass kit is available on request.

Ultrafilter UDP dryers are compact, with easily removable panels and simple frontal access to all components. Automatic restart is standard on all models. Only minimum maintenance is required, with the LLF function simplifying seasonal adjustment needs.

Easy Connectivity

Ultrafilter UDP dryers features a volt-free general alarm signal, a user alarm connection and either remote dryer on-off control or RS485 serial Modbus interfacing (via an optional Gateway); the dryer is Industry 4.0 ready.

Ecological refrigerant

Ultrafilter UDP 0020-0540 feature refrigerant R513A, with a GWP of 573 which is 70% lower than typically applied refrigerants. This offers a future proof solution with reduced carbon footprints.

Quality specifications

Reciprocating (UDP 0020-0540), rotary (UDP 0720-0840) and scroll (UDP 1050-2075) compressors are applied, with phase monitors from UDP 1050. UDP 1050-2075 feature a thermostatic expansion valve, an HP switch is mounted from UDP 0110. A corrosion resistant condenser coating is standard on UDP 0020-0165 and optional from UDP 0190, with an easily cleanable condenser pre-filter mounted from UDP 1050. Water-cooled versions are available from UDP 0090.

Condensate drains

Three differing configurations are available: CDE electronic zero-loss drains with a visual alarm (UDP 1050-2075 also feature a remote alarm contact and digital condensate level indication); CDS Smart electronic zero-loss drains (available on UDP 0020-0360); iDRAIN, a timed drain which automatically, and without programming, adapts its operation at low loads, notably improving its energy efficiency. All drain configurations offer a protective filter, shut-off valve and test button. iDRAIN is programmed via the microprocessor.

Accurate dewpoint control

Ultrafilter UDP dryers of gas by-pass valve continuously and rapidly maintains stable dewpoints in all conditions. Cycling dryers without a thermal mass, and variable speed dryers which cannot accurately adjust operation at low loads, risk dewpoint instabilities.

Low Load Function (LLF)

LLF automatically cycles operation at zero load, protecting against dryer freezing and simplifying seasonal adjustment needs. LLF also offers stand-by energy savings when ambient temperatures are low enough.



Kronsbein ultrafilter®

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Advantages and Benefits

- Reduced energy consumptions
- Market leading pressure drops (average < 0,12 bar)
- Environmentally friendly
- Refrigerant R513A on UDP 0020-0540, offering a 70% GWP reduction
- Always operates
- Air inlet up to 70°C, ambient up to 50°C
- High reliability
- Field proven technology, premium components
- Unique X-MODULE exchanger
- Patented 3-in-1 exchanger
- Easy to use
- Intuitive controller, avoids field adjustments, low maintenance

The innovative heat exchanger

- Market leading pressure drops (average < 0,12 bar)
- Compact and robust all-aluminium 3-in-1 configuration
- Optimum dew point control with large separation section
- Generous air-to-air exchanger reduces energy consumptions



Advanced iDRY microprocessor

The multi-icon microprocessor features a digital dew point reading, text messages, multiple alarms including a user alarm, maintenance scheduling and extensive programming via multi-level menus.



Ultrafilter UDP

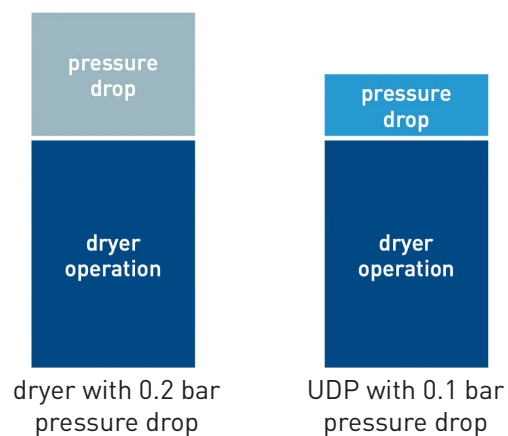
1. Microprocessor control
2. Electrical panel
3. Condenser
4. Compressor
5. 3-in-1 exchanger
6. Condensate drain



Significant energy savings

Nearly 30% of a dryer's total lifecycle costs are due to the energy required to overcome its pressure drop. Ultrafilter UDP market leading pressure drops are on average less than 0,12 bar, typical dryers can be double this.

For a UDP 0720, a 0,1bar pressure drop reduction results in a 1.819 kWh/year energy decrease, equivalent to an annual saving of €434 (at energy cost €0,24 per kWh).



Technical Data

Model type	Volume flow	Nominal absorption power	Air connections	Overall dimensions			Weight kg
	ISO 8573-1 (Class 4)			mm			
	PDP+3°C m³/h	kW	Rp	A (width)	B (depth)	C (height)	
UDP 0020	20	0,11	1/2"	390	407	400	21
UDP 0030	30	0,15	1/2"	390	407	400	21
UDP 0040	40	0,18	1/2"	390	407	400	21
UDP 0060	60	0,23	1/2"	390	407	400	23
UDP 0075	75	0,30	1/2"	390	407	400	24
UDP 0090	90	0,35	1/2"	380	497	661	36
UDP 0110	110	0,41	3/4"	380	497	661	41
UDP 0135	135	0,46	3/4"	380	497	661	42
UDP 0165	165	0,58	3/4"	380	497	661	45
UDP 0190	190	0,81	1"	720	536	856	54
UDP 0240	240	0,82	1"	720	518	856	56
UDP 0270	270	1,01	1"	720	518	856	68
UDP 0360	360	1,10	1 1/2"	720	518	856	71
UDP 0420	420	1,13	1 1/2"	720	518	856	75
UDP 0540	540	1,35	1 1/2"	885	703	1086	110
UDP 0720	720	1,21	2"	885	710	1086	115
UDP 0840	840	1,67	2"	885	710	1086	115
UDP 1050	1050	1,69	2 1/2"	1000	963	1200	192
UDP 1200	1200	2,07	2 1/2"	1000	963	1200	194
UDP 1440	1440	2,56	2 1/2"	1000	963	1200	205
UDP 1720	1720	3,02	3"	1000	963	1200	220
UDP 2075	2075	4,15	3"	1000	963	1200	224

Data refers to the following working conditions: air FAD 20 °C / 1bar A, pressure 7 bar(g), ambient temperature 25 °C, air inlet temperature 35 °C, according to ISO 8573.1 standard. Weights are net (without packing and for timed drain configuration). Refrigerant fluids: R513A (UDP 0020-0540), R410A (UPD 0720-2075). Protection class IP22. Maximum working pressure 16 bar(g) (UDP 0020-0840), 14 bar(g) (UDP 1050-2075). Maximum ambient temperature 50 °C (UDP 0020-1440), 48 °C (UDP 1720), 46 °C (UDP 2075). Maximum inlet temperature 70 °C (UDP 0020-0420), 65 °C (UDP 0540-2075). Power supply: 230V ±10% / 1Ph / 50Hz (UDP 0020-0840); 400V ±10% / 3Ph / 50Hz (UDP 1050-2075); special voltages available on request.

A pre-filter (minimum filtration grade P - 3 µm) must be installed to protect the dryer and improve air quality.

Timed drains are mounted internally; electronic zero-loss drains are mounted internally on UDP 0090-2075, while on UDP 0020-0075 they are packaged separately to be mounted externally using the supplied couplings.

The correction factors in the following table should be used as a guide only; for accurate selection at conditions differing from the above please contact Ultrafilter GmbH. Capacity Correction Factors (indicative values): CAPACITY = RATED VALUE CLASS 4 at 7 bar(g) x K1 x K2 x K3 x K4.

Not all correction factors are applicable for all UDP models, according to their maximum operating limits; refer to above details accordingly.

Operating pressure bar (g)	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor K1	0,68	0,79	0,88	0,95	1	1,04	1,07	1,10	1,13	1,15	1,17	1,18	1,20	1,21

Compressed air inlet temperature °C	30	35	40	45	50	55	60	65	70
Correction factor K2		1,19	1,00	0,82	0,66	0,55	0,48	0,48	0,48

ambient temperature °C	20	25	30	35	40	45	50	Dewpoint °C	3	5	7	9
Correction factor K3	1,05	1,00	0,95	0,89	0,84	0,78	0,72	Correction factor K4	1,00	1,10	1,20	1,30

Technical alterations reserved.



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