Donaldson
FILTRATION SOLUTIONS

Heatless Regenerated Adsorption Dryers Ultrapac 2000

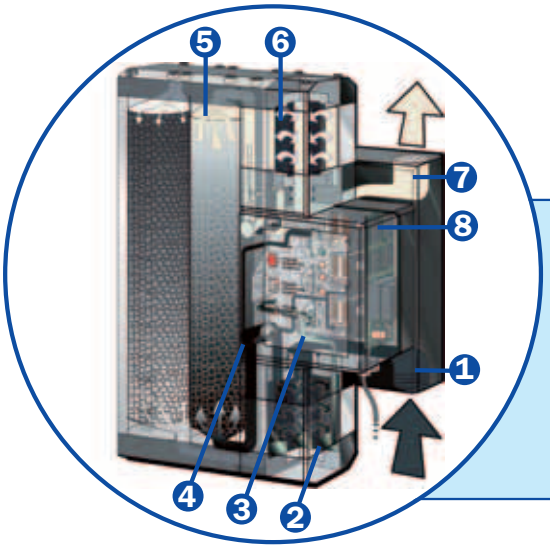
Ultrapac 2000: Quality and Security in

Adsorption drying – why?

Compressed air is an important process and energy medium applied in almost all areas of industrial production. The atmospheric air taken in contains contaminants, dirt particles and humidity, i.e. water vapour which condensates in compressed air pipes. This condensation can lead to considerable costs (corrosion, freezing etc.). These costs can be avoided by the application of an Ultrapac 2000 dryer. This complete Ultrapac purification system includes a pre-filter with automatic condensate drain, adsorption dryer and after filter.

The pre-filter retains solids and condensate (oil/water mixture) up to a residual oil content of 0,03 mg/m³.
The adsorption dryer next in line adsorbs the moisture in the compressed air up to a pressure dew point of - 40°C. Finally, in the after filter, remaining particles from the drying agent are retained.

*Two **Ultrapac 2000** dryers installed in a bottling plant*



Ultrapac 2000: The all-round talent with versatile applications

- in laser-cutting systems
- in bottling plants
- in dental laboratories
- in packaging machines
- in rail vehicles
- in optical measuring systems
- in sprinkler systems

Adsorption dryer Ultrapac 2000

1 dryer inlet	5 drying agent cartridge
2 pre-filter	6 after filter
3 condensate drain	7 dryer outlet
4 multifunction unit	8 processor control

every Detail

Ultrapac 2000
Ultrapac 2000 Superplus – Quality and Safety

▶ Complete purification system including pre-filter, after filter and electronic condensate drain, all components factory-assembled, minimum installation requirements.

*Control system – **Ultrapac 2000 Superplus.** Clear text display of the current operational status. Indication of the optimum and most efficient time for exchanging the drying agent cartridge. Output signal for remote monitoring.*

▶ Drying agent in cartridges, easier service conditions, no complicated snow filling of the drying agent.

▶ Unique multifunction block including all mechanical and electronic components.

▶ Exceptionally compact, space saving design, minimum space requirements for installation.

▶ In case of central application, the system can be connected to a compressor in order to save regeneration air.

Ultrapac 2000 Superplus: The intelligent system solution

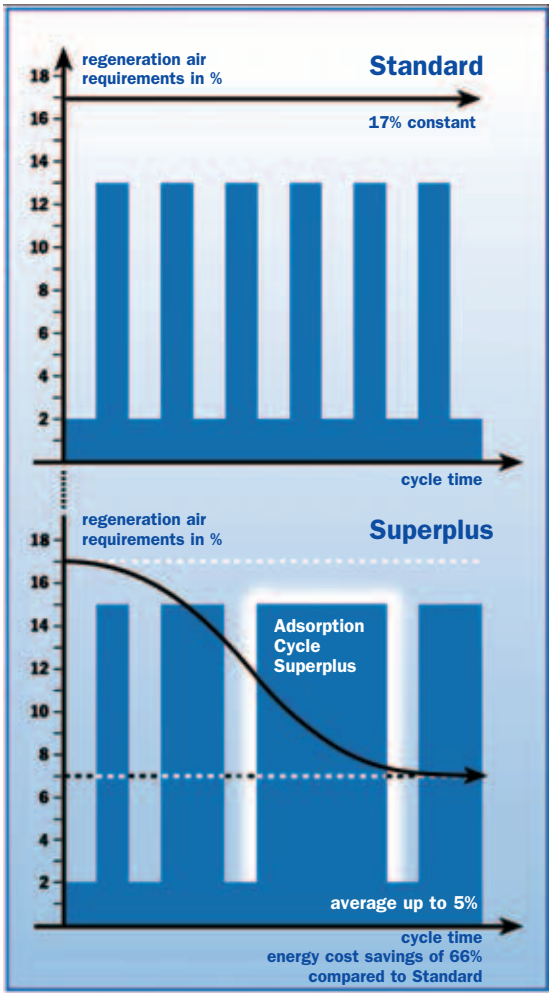
▶ Load dependant control for adsorption of cycle times to the actual water load with varying inlet conditions; regeneration air can thus be saved.

▶ Unique self-monitoring system: the regeneration air flow rate is continuously measured and all deviations from set-points are detected at an early stage.

▶ Text display indicating malfunctions, service conditions and status. Available in more than 10 languages.

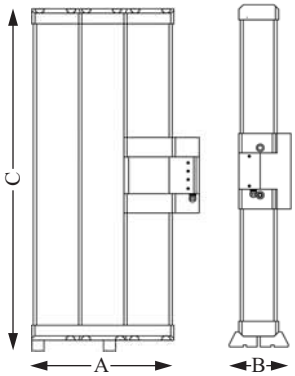
▶ Communication port for programming. Communication port for transmitting service and alarm messages.

▶ Economizer for determination of the optimum time for a filter element exchange.



Technical Data Ultrapac 2000

Type		Volume flow* Inlet m³/h	Compressed air consumption* m³/h	Connection G	Condensate connection mm	Dimensions Width (A) mm	Height (C) mm	Depth (B) mm
Mini	0005	5	0,85	1/2	6	300	343	121
	0010	10	1,70	1/2	6	300	591	121
	0015	15	2,55	1/2	6	300	853	121
	0025	25	4,25	1/2	6	300	1377	121
Midi	0035	35	5,95	1	6	531	665	195
	0050	50	8,50	1	6	531	917	195
	0065	65	11,05	1	6	531	1169	195
	0080	80	13,60	1	6	531	1421	195
	0100	100	17,00	1	6	531	1673	195



Explanation: *related to the intake of the compressor +20°C, 1 bar abs., at a compressed air inlet temperature of +35°C and 7 bar g operating pressure. Pressure dewpoint: - 40°C
Minimum pressure: 4 bar g. Maximum pressure: 16 bar g. Inlet temperature: min. +5°C, max. +50°C (dimensioning see below)

Sizing:

f	4 bar(g)	5 bar(g)	6 bar(g)	7 bar(g)	8 bar(g)	9 bar(g)	10 bar(g)	11 bar(g)	12 bar(g)	13 bar(g)	14 bar(g)	15 bar(g)	16 bar(g)
25°C	0.69	0.82	0.96	1.10	1,24	1,38	1,50	1,50	1,50	1,50	1,50	1,50	1,50
30°C	0.69	0.82	0.96	1.10	1,24	1,38	1,50	1.50	1,50	1,50	1,50	1,50	1,50
35°C	0.63	0.75	0.88	1.00	1,13	1,26	1,38	1.50	1,50	1,50	1,50	1,50	1,50
40°C	0.48	0.58	0.68	0,77	0,87	0,96	1,06	1,16	1,25	1,35	1,45	1,50	1,50
45°C	0.38	0.45	0.53	0,60	0,68	0,75	0,83	0,90	0,98	1,05	1,13	1,20	1,28
50°C	0.30	0.36	0.42	0,48	0,54	0,60	0,66	0,72	0,78	0,84	0,90	0,96	1,02

$$\dot{V}_{korr} = \frac{\dot{V}_{nom}}{f}$$

Example: $\dot{V}_{nom}$ = 22 m³/h, Inlet temperature = 30°C, Opterating pressure = 10 bar (g)

$$\dot{V}_{korr} = \frac{22\ Nm^3/h}{1{,}50} = 14{,}66\ Nm^3/h.$$

Calculated dryer size: Ultrapac 2000, Type 0015

Technical alterations reserved (1/2005)