



# COMPRESSED AIR SOLUTIONS FOR INDUSTRIAL DUST COLLECTORS:

## ULTRAPAC™ SMART HEATLESS ADSORPTION DRYER



# MANAGING COMPRESSED AIR FOR INDUSTRIAL DUST COLLECTORS

In industrial operations, maintaining efficiency is critical. One of the most overlooked factors is moisture in dust extraction systems. Excess moisture, often caused by environmental conditions like high humidity or cold temperatures, can lead to higher maintenance costs, reduced filter effectiveness, and unplanned downtime.

At Donaldson, we understand the importance of pure and dry air for industrial applications, particularly in dust, fume and mist collection systems. Our solutions are designed to address these challenges, helping to ensure reliability, efficiency, and cost savings for your operations. The Ultrapac™ Smart Heatless Adsorption Dryer can help protect your equipment and improve overall system performance, especially for hygroscopic dusts.

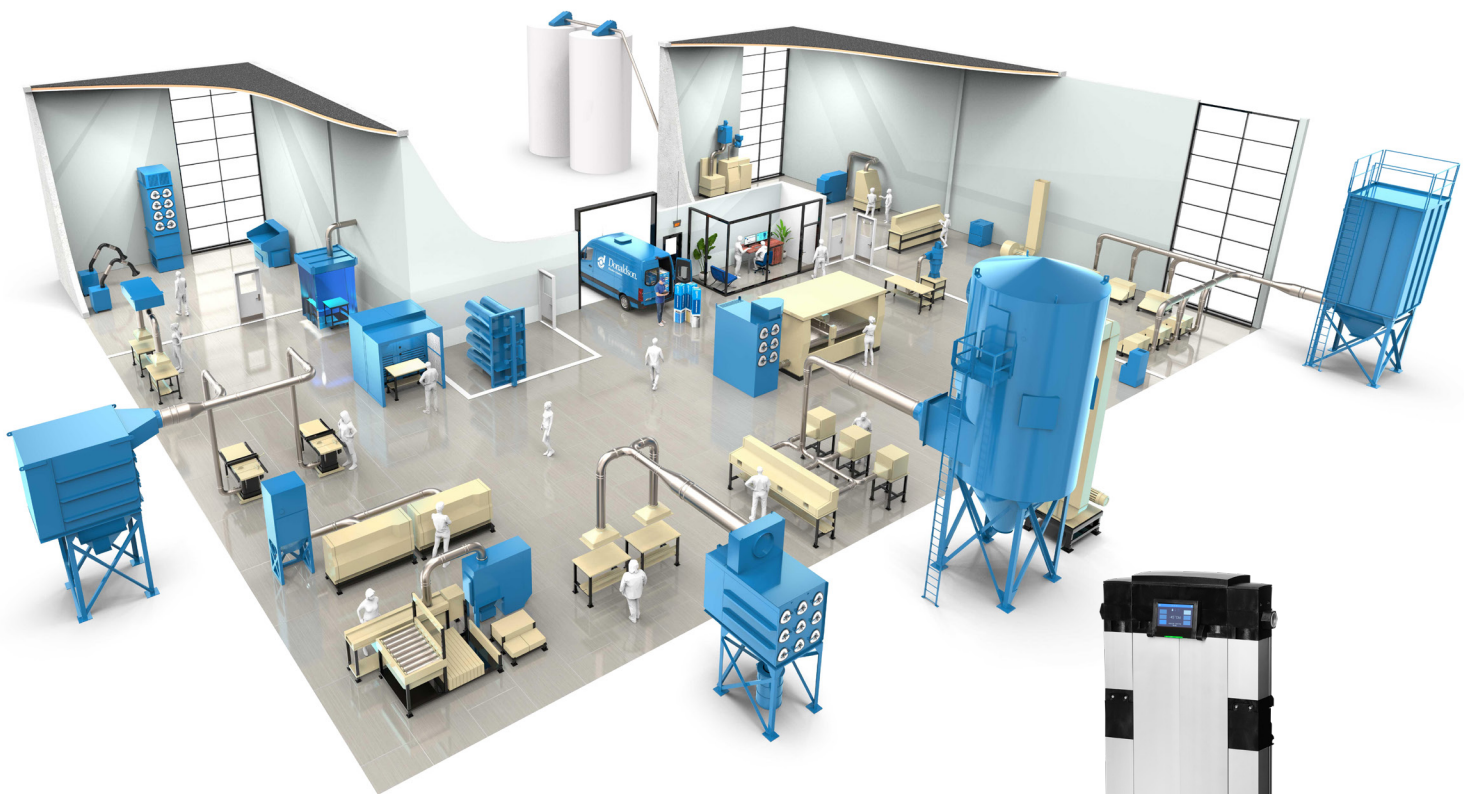
## DRYING AIR FOR INDUSTRIAL APPLICATIONS

Utilizing compressed air dryers to reduce this moisture and target dewpoints of  $-40^{\circ}\text{C}$  can help reduce the chance of interruption and keep your dust collection equipment running smoothly.

## DONALDSON ULTRAPAC SMART COMPRESSED AIR DRYER

Donaldson Ultrapac Smart Dryers are a complete and compact compressed air treatment solution designed to reduce downtime and maintenance costs. By reducing moisture and oil in the dust collector air supply, solenoid and diaphragm valves remain free and dry and can operate more efficiently. Ultrapac Smart Dryers also reduces overall maintenance cost by removing moisture and oil in the air used to pulse clean dust collector filters. This avoids clogging, improving the regeneration cycle and extending filter life.

Finally, providing flexibility for your particular facility configuration, Donaldson Ultrapac Smart Dryers cost significantly less than central drying systems and are ideal for point of use systems where specific processes can use moisture reduction.



**Ultrapac™ Smart Heatless Adsorption Dryer** is a compact, plug & play system that purifies compressed air efficiently while helping reduce installation and maintenance costs.



# COMPRESSED AIR PURIFICATION IN THREE STAGES

## ADSORPTION DRYING - WHY?

Compressed air is an important process and energy medium applied in all areas of industrial production. The compressor inlet suction air contains contaminants, dirt particles and humidity (e.g. water vapour), which condenses in the compressed air systems. This condensate can lead to considerable costs (corrosion, freezing etc.).

The application of an Ultrapac™ Smart adsorption dryer can help avoid these costs.

This complete and compact purification package Ultrapac™ Smart dryer is equipped with a prefilter and afterfilter with UltraPleat™ technology.

- 1 The integrated prefilter retains solid particulates and liquid aerosols (oil/water).
- 2 The adsorption dryer next in line adsorbs the moisture in the compressed air up to a pressure dew point of -40 °C.
- 3 Finally, remaining solid particulates are retained in the integrated afterfilter.

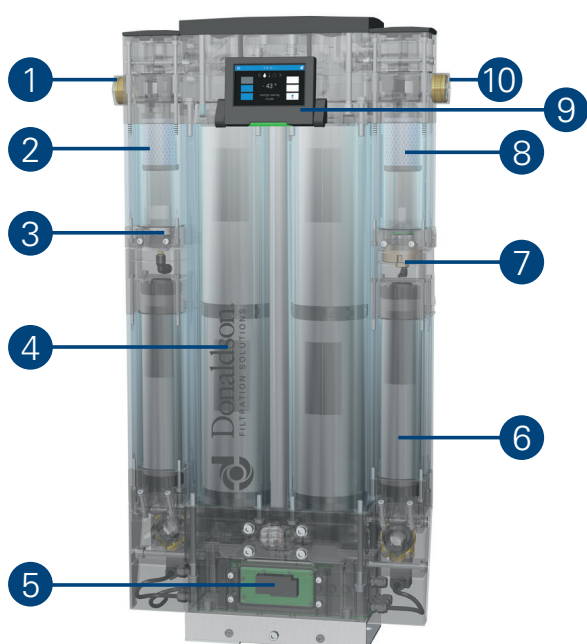
The three-stage purification system can be used to comply with ISO 8573-1:2010, which corresponds to the quality classes 1-2:1-2:1-2.

Compressed air quality classes	Solid particles			Water	Oil (liquid and vapor)
	Maximum particle count per m <sup>3</sup> (particle size, d in µm)			Pressure dew point	Concentration
	0.10 < d ≤ 0.5	0.5 < d ≤ 1.0	1.0 < d ≤ 5.0	°C	mg/m <sup>3</sup>
0	Specified according to application and better than Class 1				
1	20,000	400	10	≤ -70	≤ 0.01
2	400,000	6,000	100	≤ -40	≤ 0.1
3	n.a.	90,000	1,000	≤ -20	≤ 1
4	n.a.	n.a.	10,000	≤ +3	≤ 5
5	n.a.	n.a.	100,000	≤ +7	> 5

Compressed air quality classes according to ISO 8573-1:2010

n.a. = not specified

## ULTRAPAC™ SMART ADSORPTION DRYER



### COMPACT DESIGN

1. Dryer inlet
2. Integrated UltraPleat™ prefilter
3. Condensate drain
4. Desiccant cartridge
5. Electronic control
6. UltraSilencer
7. Dew point transmitter (Superplus version)
8. Integrated UltraPleat™ afterfilter
9. Touch display (Superplus version)
10. Dryer outlet



# WELLTHOUGHT-OUT

Validated performance data: Stable pressure dew point at minimal regeneration air requirements (ISO 7183), innovative UltraPleat™ filtration technology provide a high filtration efficiency (ISO 12500). Provides opportunity for saving regeneration air through capacity control and compressor coupling.



Smart Connectivity:  
Industry 4.0-ready.



The adsorption dryer can be flexibly configured and installed, as well as integrated in machines and equipment.



The UltraSilencer supports quiet operation (ISO 3744).



The all-round package includes easy handling of maintenance and service. All relevant components are easily accessible, filter elements and desiccant cartridges can be exchanged fast and easily.



May be used as part of an ISO 8573-1:2010 compliant system.

Validations in accordance to  
ISO 7183 Ultrapac™ Smart dryer,  
ISO 12500-1 and 12500-3  
UltraPleat™ technology,  
ISO 3744 UltraSilencer.



# MODULAR, VARIABLE, COMPACT

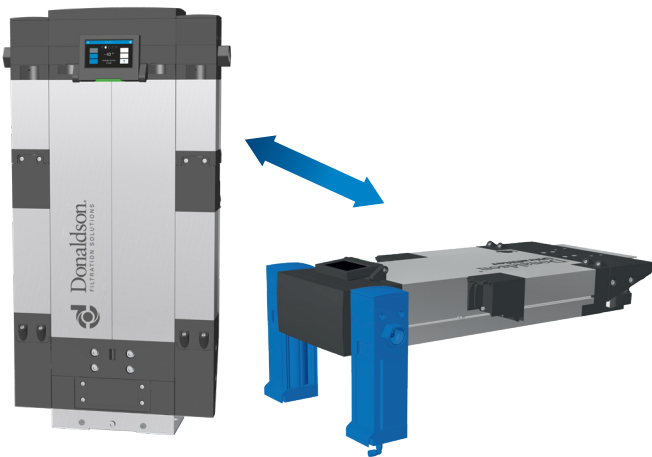
## MODULAR DESIGN

The Ultrapac™ Smart dryer impresses through its variably arranged modules and flexible installation variants, whether standing, vertical, horizontal or attached to the wall.

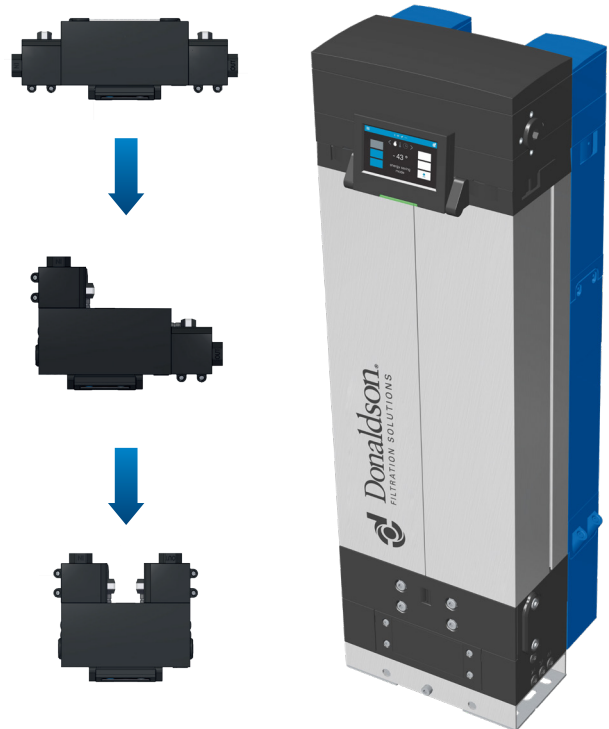
Additionally the inlet and outlet compressed air connections can be aligned in different directions and the prefilter and afterfilter are integrated into the adsorption dryer.

## SPACE-SAVING APPLICATION THROUGH COMPACT DESIGN & MODULAR ARRANGEMENT

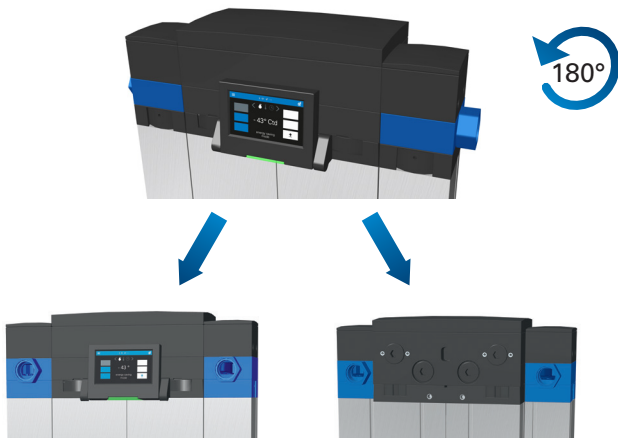
Vertical and horizontal alignment



Variable, compact arrangement



Inlet and outlet variable rotatable

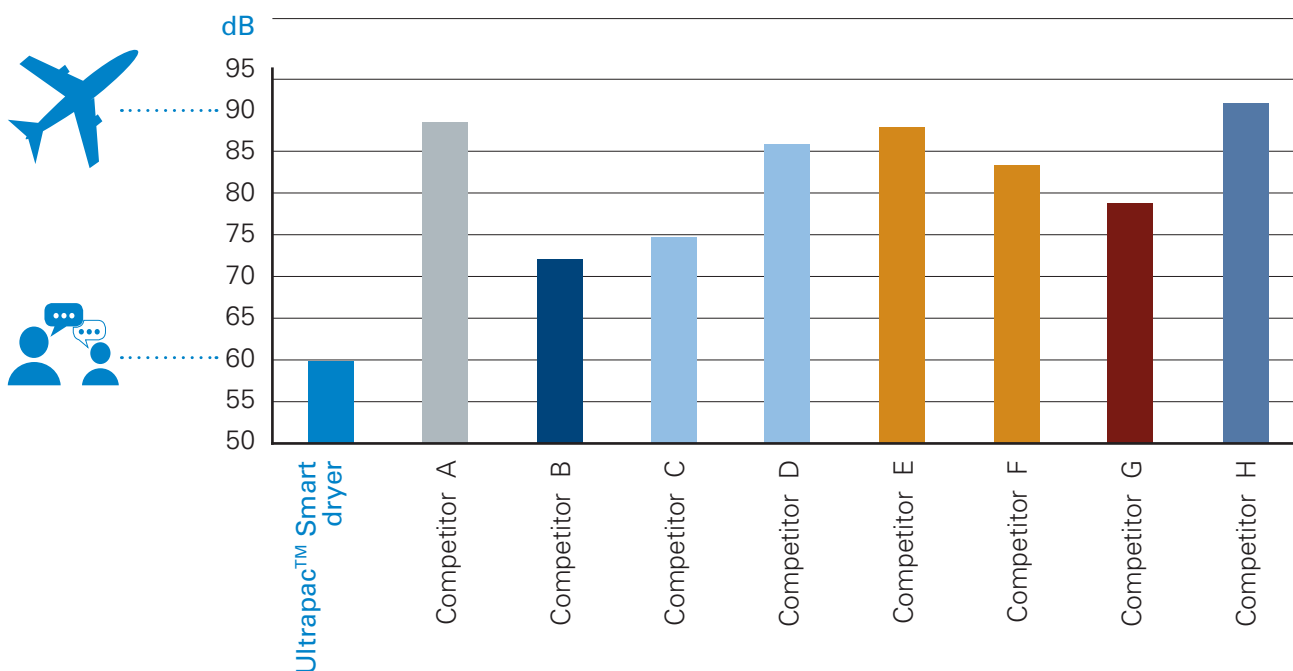


# QUIET, CLEVER, STABLE

## NEW SILENCER, QUIET SOUNDS

The Ultrapac™ Smart dryer is quieter than comparable adsorption dryers. In internal testing the Ultrapac™ Smart dryer operates in the range of just 60dB, while comparable units from other manufacturers tested in the range of 70-90 dB. The 60 dB volume is the volume of a normal conversation and thus supports your noise management program in the work place.

The noise management is made possible by the development of the powerful UltraSilencer.



## SERVICE-FRIENDLY CARTRIDGE, STABLE PRESSURE DEW POINT

The desiccant has a high adsorption capacity and excellent regeneration capabilities. The flow-optimized design leads to an optimum utilization of the desiccant volume even in partial load operation.

An additional plus point is the spring-loaded desiccant bed, which prevents abrasion of the desiccant and supports long service life. The desiccant is protected against external influences such as pressure shocks by spring-loading.

Switching between adsorption and regeneration of the cartridges takes place thanks to a dew point transmitter integrated in the Superplus variant only when the desiccant is saturated. The pressure dew point remains stable at below -40 °C. This promotes high efficiency and operational reliability.

## CLEAN AND EASY EXCHANGE OF THE DESICCANT CARTRIDGE



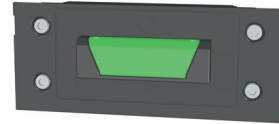
# SMART CONNECTIVITY

## Superplus Touch Display



- Alarm contact
- Smart connectivity
- Ultraeconomy (dew point control)
- Intermittent operation (compressor coupling)

## Standard LED Signal



- Alarm contact
- Intermittent operation (compressor coupling)



---

# ULTRAPLEAT™ TECHNOLOGY

The innovative UltraPleat filtration technology uses a structure of coated high-tech fibres that are processed into a pleated filter medium with a high separation efficiency of liquid particles and a high absorption capacity for solid particles.



## Success Factors of the UltraPleat Technology

- 1 High-tech fibre filter media
- 2 Pleated form and structure
- 3 Special filter media coating
- 4 Outer stainless steel support sleeve



# EXTENSIVE APPLICATION OPTIONS

Adsorption dryers are used where highly purified and dry compressed air is required in accordance with ISO8573-1.

## Examples of application areas:

- Food processing
- Beverage
- Pharmaceutical
- Medical
- Industrial machinery
- Plastic industry
- Laser cutting
- Packaging and bottling
- Packaging
- Optical measuring machines
- Automotive
- Energy

i

For more information on the Ultrapac Smart heatless regenerated adsorption dryers, or for help identifying the right dryer for your application, contact your local Donaldson representative today.

Food processing



Pharmaceutical



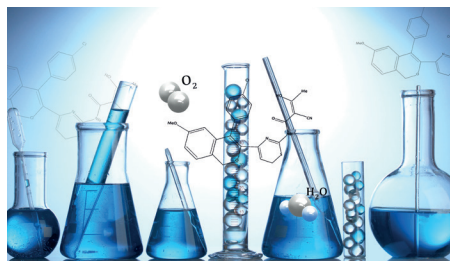
Packaging and bottling



Automotive



Chemical



Beverage



Energy



Medical



Industrial machinery



Discover our range on [www.donaldson.com](http://www.donaldson.com)  
Shop for filters the easier way at [shop.donaldson.com](http://shop.donaldson.com)  
Contact us at [iaf-europe@donaldson.com](mailto:iaf-europe@donaldson.com)

Donaldson Europe BV – Interleuvenlaan 1, B-3001 Leuven - Belgium – Phone +32 (0) 16 38 38 11  
Donaldson Filtration (GB) Ltd. – Humberstone Lane Thurmaston – Leicester LE4 8HP, United Kingdom – Phone +44 116 269 6161

## Important Notice

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, product specifications, availability and data are subject to change without notice, and may vary by region or country.

F118087 EUK (02/25) Ultrapac Smart Heatless Regenerative Adsorption Dryer ©2021 Donaldson Company, Inc. Donaldson, Torit, Superplus, Ultrapac, UltraPleat, UltraSilencer, and the color blue are marks of Donaldson Company, Inc. All other marks belong to their respective owners.