Ultrasorp **Smart** AKC

SMART

- The Ultrasorp Smart AKC comes with the new modular options
- The innovative activated carbon cartridges ensure you highest efficiency in hydrocarbon vapors adsorption as well as minimum residual water content to achieve low dewpoints in shortest time.

RELIABLE

- With the built-in oil indicator you can check the exact residual oil content at any time
- Long lifetime and low maintenance

EFFICIENT

- Flow-optimized and high efficient overall concept
- Easy service – all maintenance parts are easily accessible

ULTRASORP SMART AKC

Activated carbon adsorber to remove oil vapors and hydrocarbons from the compressed air system. High operational safety ensured by the built-in oil indicator – exact residual oil content can be determined at any time.
The new Ultrasorp Smart AKC can be used as single solution or connected as a series.

Excellence in performance – Innovative Concept - Smart Solution – Straightforward in Operation – Flexible

INDUSTRIES

- Industrial Machinery

- Packaging and Bottling

- Food Processing

- Automotive

- Energy

Donaldson Filtration Deutschland GmbH
Büssingstrasse 1
42781 Haan • Germany
Tel. +49 2129 569 0
Fax +49 2129 569 100
CAP-de@donaldson.com
www.donaldson.com

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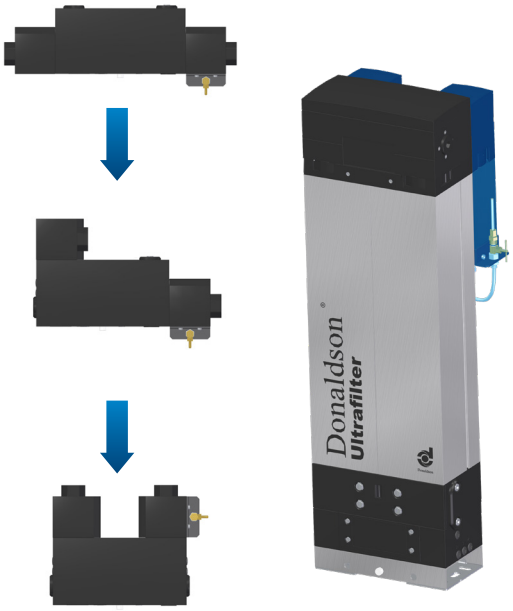
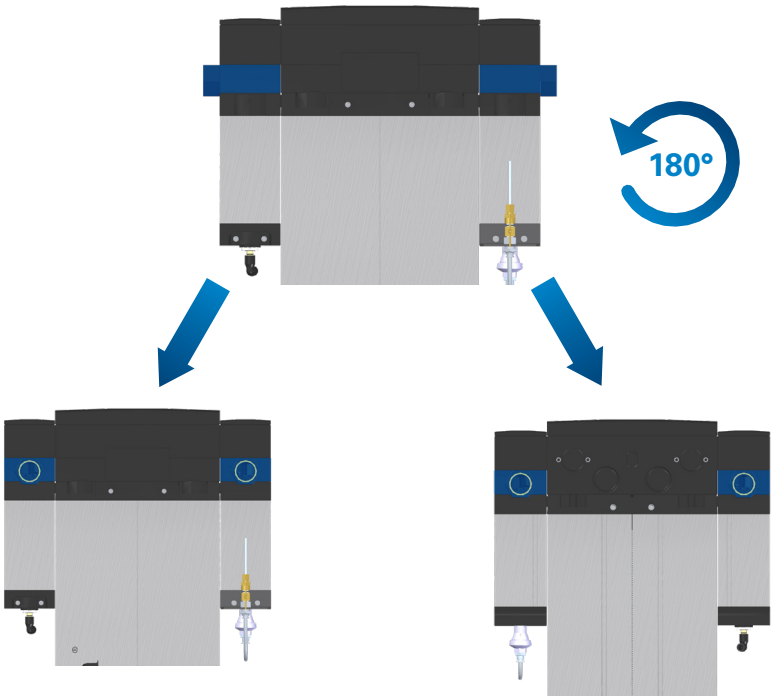
Technical alterations reserved (04/2020)

MODULARITY

With the new modular options you can find the right position for your activated carbon adsorber the smart way.



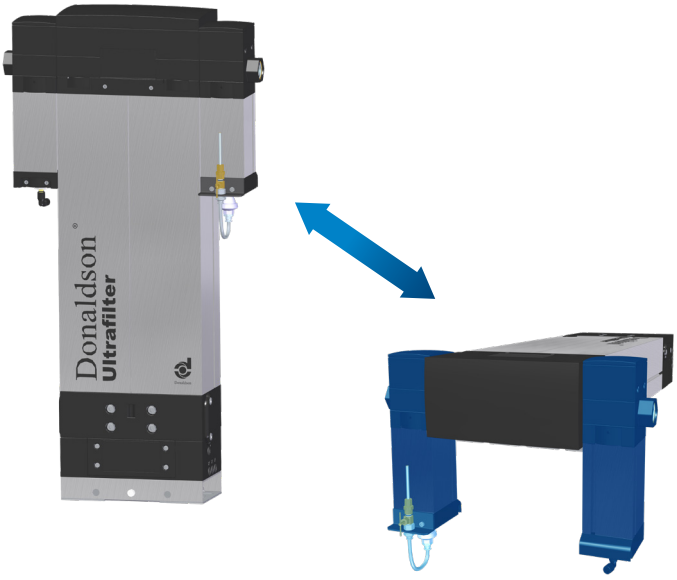


ROTATABLE INLET/OUTLET CONNECTION

Smart and easy inlet / outlet configuration by simply rotating the connection modules to the position that will fit your site.
No modifications, no additional equipment, no investment.

VARIABLE FILTER MODULES

Smart adsorber set-up. The filter modules are variable. adaptable. Space won't be a critical issue anymore.



VERTICAL/HORIZONTAL OPERATION

The Ultrasorp Smart AKC can be installed either in vertical or horizontal orientation. Even the smallest space is suitable!

ACTIVATED CARBON CARTRIDGES

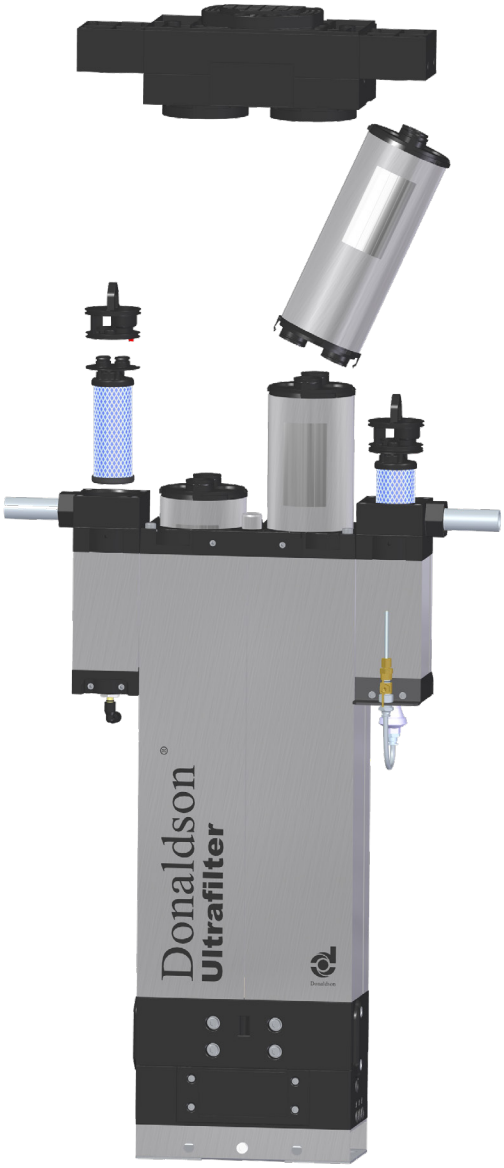
Reliable operation!

New activated carbon cartridge design in consideration of free flow in adsorbers. The flow-optimized design with low pressure drop is resistant against pressure and flow fluctuations. There is almost no start-up time to reach the required dew point. During service the compact activated carbon cartridges will be replaced one by one from the adsorber, so only small replacement space is needed. This gives additional advantages for your stock management.

Service-friendly

The new Ultrasorp Smart AKC manifests itself through its service-friendliness. During services, the Ultrasorp Smart AKC remains firmly installed and within the pipeline, a safe execution and minimum downtime is ensured. No special tools are needed and all maintenance parts are easily accessible.

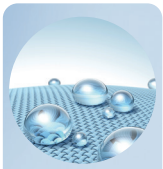
The overall concept is designed to keep it simple: all services are self-explanatory and time-saving!



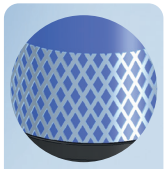
ULTRAPLEAT FILTER ELEMENTS

Efficient operation!

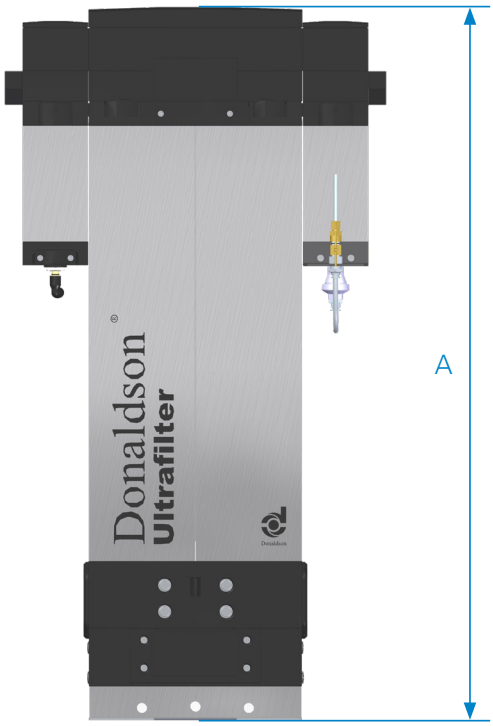
The UltraPleat™ filtration technology uses a new structure of coated high-tech fibres that are processed into a pleated filter medium with a high separation efficiency of liquid particles and a huge adsorption capacity for solid particles. The multilayer structure of the new filter medium was designed so that optimal aerodynamic conditions are achieved, simultaneously providing a filter surface that is over 400% larger by comparison with wrapped filter media. For the separation of oil aerosols, an efficiency of up to ≥ 99.9% is achieved.


Coated Media

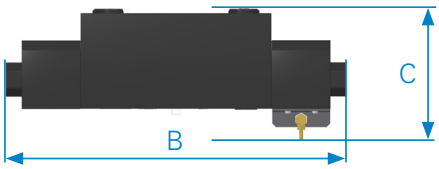
Improved Pleats

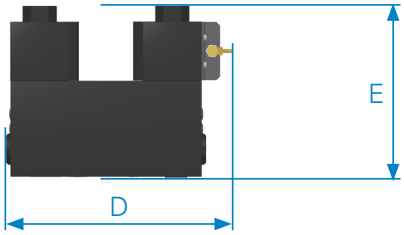

Stainless Steel Support Sleeves

ULTRASORP SMART AKC DIMENSIONS



	Type	A mm	Weight kg	
			Plus	Superplus
MINI	**0005**	497	7	8
	0010	764	12	13
	0015	1031	18	19
	0020	1298	23	24
	0025	1565	28	29
MIDI	**0035**	866	28	30
	0050	1130	37	39
	0065	1394	46	48
	0080	1658	55	57
	0100	1922	64	66





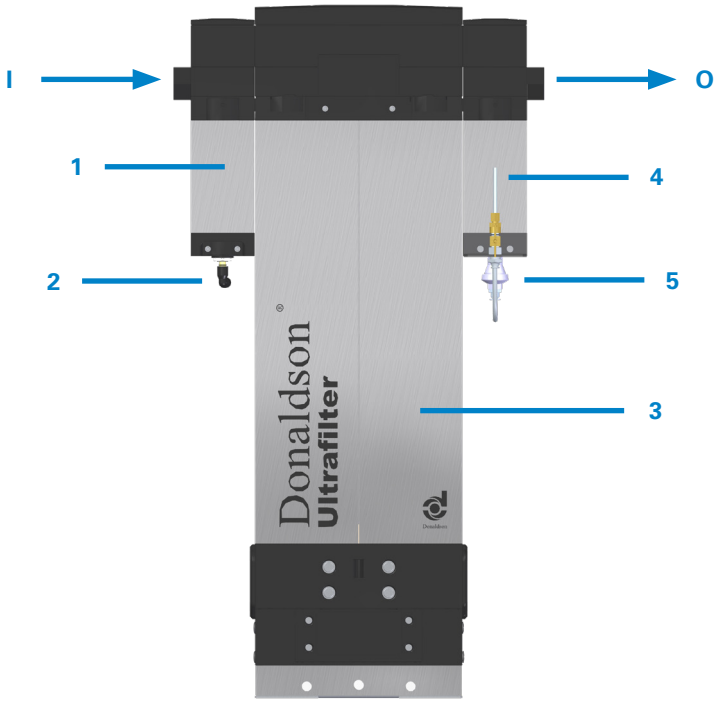
	Type	B mm		C mm	D mm	E mm
		Plus	Superplus			
MINI	**0005**	268	314	125	204	157
	0010	268	314	125	204	157
	0015	268	314	125	204	157
	0020	268	314	125	204	157
	0025	268	314	125	204	157
MIDI	**0035**	398	464	180	309	233
	0050	398	464	180	309	233
	0065	398	464	180	309	233
	0080	398	464	180	309	233
	0100	398	464	180	309	233

PRODUCT DESCRIPTION

Function description

Prefiltered, clean and dried compressed air (required inlet condition) is led via the inlet (**I**) and across the prefilter (**1**). At this stage, the air is cleaned from particles and condensate. The condensate is removed via the condensate drain (**2**). The air is led into the activated carbon adsorbers (**3**), in which the air will be cleaned from oil vapors and hydrocarbons. The air gets into an afterfilter (**4**), in which possible particles from the activated carbon are retained. Via the built-in oil indicator (**5**), the saturation of the carbon can be measured at any time.

Via the outlet (**O**), the clean and dry air is led into the compressed air network to the point of use.



Superplus version with pre- and afterfilter (Plus version with afterfilter)

Main Components

1 Prefilter UltraPleat™ (Superplus)

2 Condensate Drain (Superplus)

3 Activated Carbon Adsorber

4 Afterfilter UltraPleat™

5 Oil Indicator

TECHNICAL DATA

	Type	Nominal Flow m^3/h	Connection
MINI	0005	5	1/2"
	0010	10	1/2"
	0015	15	1/2"
	0020	20	1/2"
	0025	25	1/2"
MIDI	0035	35	1"
	0050	50	1"
	0065	65	1"
	0080	80	1"
	0100	100	1"

PRODUCT SPECIFICATION

Type	Nominal flow inlet* m^3/h	Prefilter UltraPleat™ S	Afterfilter UltraPleat™ S	Activated Carbon Cartridges QTY/Adsorber
0005	5	0035	0035	1
0010	10	0035	0035	2
0015	15	0035	0035	3
0020	20	0035	0035	4
0025	25	0035	0035	5
0035	35	0070	0070	2
0050	50	0070	0070	3
0065	65	0070	0070	4
0080	80	0120	0120	5
0100	100	0120	0120	6

* related to the intake condition of the compressor +20 °C, 1 bar (abs), at compressed air inlet temperature of +35 °C and 7 bar (g) operating pressure.
Pressure dew point:-40 °C , minimum pressure: 4 bar (g), maximum pressure: 16 bar (g) (type 0005 to 0025), 12 bar (g) (type 0035 to 0100), inlet temperature: min +5 °C, max +55 °C (dimensioning see below)

TECHNICAL CONFIGURATION

°C / bar g	4	5	6	7	8	9	10	11	12	13	14	15	16
20	0.91	0.99	1.08	1.16	1.23	1.30	1.37	1.43	1.49	1.55	1.61	1.66	1.72
25	0.89	0.98	1.07	1.15	1.22	1.29	1.36	1.42	1.47	1.53	1.59	1.65	1.70
30	0.83	0.97	1.06	1.13	1.21	1.27	1.34	1.40	1.46	1.51	1.56	1.62	1.67
35	0.63	0.75	0.88	1.00	1.12	1.25	1.33	1.39	1.45	1.50	1.55	1.60	1.65
40	0.38	0.45	0.53	0.60	0.67	0.75	0.80	0.83	0.87	0.90	0.93	0.96	0.99
45	0.22	0.26	0.31	0.35	0.39	0.44	0.47	0.49	0.51	0.53	0.54	0.56	0.58
50	0.13	0.15	0.18	0.20	0.22	0.25	0.27	0.28	0.29	0.30	0.31	0.32	0.33
55	0.08	0.10	0.11	0.13	0.15	0.16	0.17	0.18	0.19	0.20	0.20	0.21	0.21

* Maximum operating pressure 16 bar (g) (type 0005 to 0025), 12 bar (g) (type 0035 to 0100)

Example: $\dot{V}_{nom}$ = 22 m^3/h, Inlet temperature = 25°C, Operating pressure = 12 bar (g)

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f} = \frac{22\ m^3/h}{1{,}47} = 14{,}97\ m^3/h$$

Calculated AKC size: Type 0015

Functional Principle	Fully-automatic
Media	Compressed Air / Nitrogen
Operating Pressure	min. 4 bar / max. 16 bar (type 0005 to 0025), 12 bar (type 0035 to 0100)
Media Temperature	max. 55 °C
Ambient Temperature	min. 4 °C / max. 50 °C
Residual Oil Vapor Content	≤ 0,003 mg/m^3 *
Ambient Humidity	max 100% at 50 °C
Operational Environment	0-2000m NN (Indoor)

*appropriate pre filtration and drying required, depending on application and operation conditions

Donaldson® Ultrafilter