



Compressed Air Treatment
for applications up to 2.500 m³/h

Compressed air treatment

ABOUT FST



THERE IS ALWAYS A SOLUTION

FST GmbH was founded in 2009. We specialise in the treatment of compressed air and technical gases. A market segment with a growing need for innovative, efficient, economical, resource-saving and environmentally friendly technical solutions.

Our aim is to inspire our customers not only with our products, but also with our advice and support, our service and especially with our employees - even long after a purchase has been made.

We offer a complete product portfolio for a wide range of applications. All compressed air purity classes in accordance with ISO 8573-1 can be achieved with our products.

With our standard products, we achieve compressed air purities for control air, technically oil-free compressed air up to sterile ultra-pure air or medical breathing air. The pressure range extends from 16 to 350 bar. All core products are manufactured in-house.

Special systems, higher volume flows or operating pressures, special approvals or materials are no problem for our experienced specialists. Thanks to our in-depth in-house production, there are virtually no limits - only the laws of physics apply to us - without exception.

FST offers treatment components for a wide range of applications.

Compressed air treatment

INTERESTING FACTS

WHAT IS COMPRESSED AIR?

Compressed air is energy in the form of compressed ambient air. Compressed air constantly seeks to expand back to ambient pressure and performs work during this expansion process. Alongside electrical energy, compressed air is one of the most important forms of energy in industrial production processes and is widely used due to its many advantages:

- can be produced locally and on demand
- can be stored easily without losses
- can be transported easily
- high amount of energy per volume
- can be easily converted into other forms of energy, e.g. blast air, fast linear movement with increased force, rotary movement with increased torque, in a space saving way
- versatile applications

The compressed air contains all kind of contamination and moisture from the ambient air, which are concentrated according to the operating pressure. Oil-lubricated compressors add additional oil to the compressed air. When the hot, compressed air cools down to a suitable operating temperature, large quantities of water condense (condensate). According to the current state of the art, the compressed air cannot be used in this state and would excessively contaminate and damage the compressed air system, the compressed air consumers and the products that come into contact with the compressed air.

COMPRESSED AIR TREATMENT

removes unwanted impurities and produces the compressed air purity required for the respective application - from control air or technically oil-free compressed air to sterile ultra-pure air or medical breathing air.

The aim of compressed air treatment is to ensure the continuous and trouble-free operation of applications operated with compressed air, to minimise downtimes and unscheduled maintenance and repair costs and to keep production-related impurities in the compressed air away from the goods produced.

More importantly, however, compressed air treatment is active environmental protection and labour protection! Liquid oil droplets, very fine oil mist, oil-contaminated solids and gaseous, foul-smelling oil vapours, i.e. contaminants that are only produced on site during the generation of compressed air, are removed to a high degree by compressed air treatment and therefore do not enter the environment in a harmful form.

Compressed air treatment is a system consisting of several treatment components connected in series - the so-called purification chain - in which the required compressed air purity is generated in stages.

Compressed air treatment can be roughly divided into the following categories:

- water separation / filtration
- cooling / drying
- oil vapour adsorption

CONDENSATE TECHNOLOGY

is used in almost every stage of the purification chain and is divided into condensate drainage and condensate treatment. Condensate drainage removes liquids from the compressed air system through condensation or targeted separation, thereby preventing the carryover of liquid contaminants within the purification chain. Condensate treatment purifies the condensate contaminated with dirt, oil and hydrocarbons, thereby enabling it to be discharged into a waste water network or body of water in an ecologically compatible manner.

THIS BROCHURE...

is a compilation of extracts from our extensive product brochures and contains a selection of basic treatment components for applications up to 2,500 m³/h and operating pressures up to 16 bar.

For further information on the products and other treatment components for volume flows up to 30,000 m³/h and operating pressures up to 350 bar, please refer to the relevant product brochures and product data sheets.

The latest information on these and other products and services can be found on our homepage www.fstweb.de

Compressed air treatment

WATER SEPARATOR, COALESCENCE- AND ACTIVATED CARBON FILTER



Robust aluminium housing with 2-layer surface protection for a long service life. Overwind protection for easy maintenance.

Filter elements with plug-in connection - easy element replacement and secure sealing between filter housing and element.



Robust steel housing with 2-layer surface protection for a long service life.



ISO 12500 validated filter elements with pleating technology for high separation efficiency at low differential pressure.

W (HP) water separator	V (5) coarse filter	ZN pre filter	XN fine filter	XXN super fine filter	A activated carbon filter	CA activated carbon cart.
						
99,9% (100µ)	99,99% (3µ)	99,9999% (1µ) ≤ 0,5 mg/m ³ res.oil cont.	99,9999% (0,01µ) ≤ 0,01 mg/m ³ res.oil cont.	99,99999% (0,01µ) ≤ 0,001 mg/m ³ res.oil cont.	< 0,003 mg/m ³ res.oil cont.	< 0,003 mg/m ³ res.oil cont.

Compressed air treatment

WATER SEPARATOR, COALESCENCE- AND ACTIVATED CARBON FILTER

Compressed air filtration is an elementary component of compressed air treatment and is included several times in a purification chain. Compressed air filters gradually remove all types of solid and liquid contaminants from the compressed air - from large amounts of condensate and coarse contaminants such as rust and abrasion, oil droplets and dust to the finest oil mist and fine dust. Compressed air filters with activated carbon also remove foul-smelling oil vapours. Special compressed air filters even remove viruses and bacteria and produce sterile compressed air.

FST offers a wide range of filters for different applications - from water separators, wet filtration and dry filtration to activated carbon filters.

Filter housings from FST are characterised by a high quality of workmanship combined with a user-friendly design. All filter housings have double corrosion protection for a long service life. Filter elements can be changed easily, quickly and reliably.

FST offers a wide range of options for all filter housings: different differential pressure gauges, oil or humidity indicators, manual or electronic condensate drains, right through to wall brackets.

Features:

- 18 sizes from 30 m³/h to 2.500 m³/h and 3/8" to 3" connection
- 7 different filter elements/ inserts – from water separator through fine filter to activated carbon filter
- High-quality powder coating and corrosion protection inside the housing for a long service life
- validated filter elements with pleated filter media for high dirt holding capacity and low differential pressure

Benefits:

Long service life and low differential pressure with a reliable high separation efficiency

BASIC DATA

size	nom. volume flow ¹	max. operating pressure	connect.	height	width	depth	weight	element
FCA 20	30 m ³ /h	16 bar	G 1/4"	136 mm	61 mm	60 mm	0,5 kg	EFST 25
FCA 25	35 m ³ /h	16 bar	G 3/8"	136 mm	61 mm	60 mm	0,5 kg	EFST 25
FCA 30	50 m ³ /h	16 bar	G 3/8"	183 mm	87 mm	80 mm	1,0 kg	EFST 30
FCA 50	70 m ³ /h	16 bar	G 1/2"	183 mm	87 mm	80 mm	1,0 kg	EFST 50
FCA 70	100 m ³ /h	16 bar	G 1/2"	253 mm	87 mm	80 mm	1,1 kg	EFST 70
FCA 90	160 m ³ /h	16 bar	G 3/4"	289 mm	130 mm	122 mm	3,9 kg	EFST 90
FCA 95	160 m ³ /h	16 bar	G 1"	289 mm	130 mm	122 mm	3,8 kg	EFST 90
FCA 110	330 m ³ /h	16 bar	G 1"	387 mm	130 mm	122 mm	4,3 kg	EFST 110
FCA 115	330 m ³ /h	16 bar	G 1 1/2"	387 mm	130 mm	122 mm	4,1 kg	EFST 110
FCA 120	500 m ³ /h	16 bar	G 1 1/2"	487 mm	130 mm	122 mm	4,7 kg	EFST 120
FCA 130	800 m ³ /h	16 bar	G 1 1/2"	689 mm	130 mm	122 mm	5,7 kg	EFST 130
FCA 140	1.000 m ³ /h	16 bar	G 2"	670 mm	164 mm	146 mm	7,8 kg	EFST 140
FCA 170	1.500 m ³ /h	16 bar	G 2"	923 mm	164 mm	146 mm	9,5 kg	EFST 170
FCA 180	2.000 m ³ /h	16 bar	G 2 1/2"	897 mm	250 mm	225 mm	22,9 kg	EFST 180
FCA 185	2.000 m ³ /h	16 bar	G 3"	897 mm	250 mm	225 mm	22,4 kg	EFST 180
FCA 190	2.500 m ³ /h	16 bar	G 3"	1049 mm	250 mm	225 mm	24,5 kg	EFST 190
FWS 170	1.500 m ³ /h	16 bar	DN 80	1115 mm	440 mm	285 mm	46 kg	EFST 170
FWS 190	2.500 m ³ /h	16 bar	DN 80	1115 mm	440 mm	285 mm	46 kg	EFST 190

¹ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.



→ to data sheets

Compressed air treatment

FRIDGE DRYER – DFLO

Indication of dryer capacity and various operating statuses via display and status LED.

From DFLO150 with potential-free contact.

A generously dimensioned air circuit ensures low flow velocities and achieves very good condensate separation and low differential pressure.



Air/air heat exchanger, evaporator and demister are combined in a compact aluminium module.

All models are available as air or (from size 66) water-cooled systems.

All models are equipped with a level-controlled condensate drain.

Compressed air treatment

FRIDGE DRYER – DFLO

The DFLO series of refrigerant dryers are designed for drying compressed air without aggressive components to pressure dew points of up to +3°C. With a range of 29 models, the DFLO refrigeration dryer series is extremely versatile.

The incoming compressed air is pre-cooled in an air/air heat exchanger. This pre-cooling takes place in counterflow to the outgoing, already cooled compressed air and therefore works without any additional energy requirement. It is then cooled to the desired pressure dew point via a refrigerant/air heat exchanger. During the entire cooling process, moisture in the compressed air is removed automatically as condensate. The treated compressed air is reheated by the incoming compressed air before it leaves the air/air heat exchanger and is undersaturated.

All models are equipped as standard with a level-controlled condensate drain, pressure dew point indicator, sturdy metal housing and contacts for operating and fault signalling (potential-free from DFLO 150).

BASIC DATA

Features:

- 29 models for volume flows from 24 m³/h to 24.000 m³/h
- air-cooled version (up from DFLO66 also water-cooled)
- level controlled condensate drain
- R513A refrigerant with low GWP value for long service life

Benefits:

High reliability and low differential pressure ensure stable pressure dew points of up to +3°C.

size	nom. volume flow ¹	max operating pressure	connection	height	width	depth	weight air-cooled / water-cooled	
DFLO 2.4	24 m ³ /h	16 bar	G 3/8"	404 mm	305 mm	360 mm	18 kg	
DFLO 5.4	54 m ³ /h	16 bar	G 1/2"	435 mm	370 mm	433 mm	26 kg	
DFLO 7.2	72 m ³ /h	16 bar	G 1/2"	435 mm	370 mm	433 mm	26 kg	
DFLO 10.8	108 m ³ /h	16 bar	G 3/4"	555 mm	420 mm	515 mm	33 kg	
DFLO 14.4	144 m ³ /h	16 bar	G 3/4"	555 mm	420 mm	515 mm	34 kg	
DFLO 18	180 m ³ /h	16 bar	G 3/4"	555 mm	420 mm	515 mm	43 kg	
DFLO 22.5	225 m ³ /h	16 bar	G 1"	614 mm	485 mm	595 mm	62 kg	
DFLO 26	260 m ³ /h	16 bar	G 1"	614 mm	485 mm	595 mm	64 kg	
DFLO 36	360 m ³ /h	16 bar	G 1 1/2"	980 mm	500 mm	679 mm	87 kg	
DFLO 48	480 m ³ /h	16 bar	G 1 1/2"	980 mm	500 mm	679 mm	110 kg	
DFLO 66	660 m ³ /h	16 bar	G 2"	1.360 mm	779 mm	720 mm	120 kg	130 kg
DFLO 78	780 m ³ /h	16 bar	G 2"	1.360 mm	779 mm	720 mm	130 kg	140 kg
DFLO 100	1.000 m ³ /h	13 bar	G 2"	1.360 mm	779 mm	720 mm	150 kg	160 kg
DFLO 150	1.500 m ³ /h	14 bar	G 3"	1.539 mm	806 mm	1.012 mm	234 kg	240 kg
DFLO 180	1.800 m ³ /h	14 bar	G 3"	1.539 mm	806 mm	1.012 mm	234 kg	240 kg
DFLO 225	2.250 m ³ /h	14 bar	G 3"	1.539 mm	806 mm	1.012 mm	260 kg	300 kg
DFLO 260	2.600 m ³ /h	14 bar	G 3"	1.555 mm	806 mm	1.012 mm	260 kg	270 kg
DFLO 360	3.600 m ³ /h	13 bar	DN 125	1.555 mm	1.510 mm	1.500 mm	420 kg	420 kg
DFLO 420	4.200 m ³ /h	13 bar	DN 125	1.555 mm	1.510 mm	1.500 mm	520 kg	520 kg
DFLO 530	5.300 m ³ /h	13 bar	DN 150	1.555 mm	1.510 mm	1.500 mm	620 kg	620 kg
DFLO 600	6.000 m ³ /h	13 bar	DN 150	1.555 mm	1.510 mm	1.500 mm	720 kg	720 kg
DFLO 680	6.800 m ³ /h	13 bar	DN 150	1.555 mm	1.510 mm	1.500 mm	735 kg	745 kg
DFLO 880	8.800 m ³ /h	13 bar	DN 150	1.570 mm	2.270 mm	1.500 mm	1.058 kg	1.095 kg
DFLO 1000	10.000 m ³ /h	13 bar	DN 200	1.570 mm	2.270 mm	1.590 mm	1.128 kg	1.165 kg
DFLO 1200	12.000 m ³ /h	13 bar	DN 200	1.565 mm	2.270 mm	1.590 mm	1.205 kg	1.245 kg
DFLO 1360	13.600 m ³ /h	13 bar	DN 200	1.565 mm	3.025 mm	1.590 mm	1.360 kg	1.380 kg
DFLO 1760	17.600 m ³ /h	13 bar	2 x DN 200	1.570 mm	4.535 mm	1.500 mm	2.116 kg	2.190 kg
DFLO 2000	20.000 m ³ /h	13 bar	2 x DN 200	1.570 mm	4.535 mm	1.590 mm	2.256 kg	2.330 kg
DFLO 2400	24.000 m ³ /h	13 bar	2 x DN 200	1.565 mm	4.535 mm	1.590 mm	2.720 kg	2.490 kg

¹ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.



→ to data sheets

Compressed air treatment

FRIDGE DRYER – DFLO-ES – THERMAL MASS DRYER

Cooling takes place in the patented refrigerant/air/glycol heat exchanger. The cold accumulator achieves high energy savings in partial load operation.

Air/air heat exchanger, evaporator and demister are combined in a compact aluminium module.



Indication of dryer status and various operating conditions via display and status LED. From DFLO150 ES with potential-free contact.

All models available as air or water-cooled (from size 150) systems available

All models are equipped with a level-controlled condensate drain.

Compressed air treatment

FRIDGE DRYER – DFLO-ES – THERMAL MASS

The DFLO ES series refrigeration dryers are designed for drying compressed air without aggressive components to pressure dew points of up to +3°C. With a range of 21 models, the DFLO ES refrigeration dryer series is extremely versatile.

The incoming compressed air is pre-cooled in an air/air heat exchanger. This pre-cooling takes place in counterflow to the outgoing, already cooled compressed air and therefore works without any additional energy requirement. Further cooling then happens in the patented refrigerant/air/glycol heat exchanger, which is cooled by a refrigerant circuit.

During the entire cooling process, moisture from the compressed air precipitates as condensate and is discharged automatically. Superfluous cooling capacity is stored in the glycol circuit and takes over the cooling of the compressed air at partial load and simultaneous shutdown of the refrigerant compressor. The treated compressed air is reheated by the incoming compressed air before it leaves the air/air heat exchanger and is therefore undersaturated.

All models are equipped as standard with a pre-filled glycol circuit, level-controlled condensate drain, pressure dew point indicator, sturdy metal housing and contacts for operating and fault signal (potential-free from DFLO 150 ES).

Features:

- 21 models for volume flows from 54 m³/h to 6.000 m³/h
- air-cooled version (from DFLO 150ES also water-cooled)
- level controlled condensate drain included
- R513A refrigerant with low GWP value for long service life

Benefits:

High energy savings in partial load operation thanks to innovative and patented refrigerant/air/glycol heat exchanger.

BASIC DATA

size	nom. volume flow ¹	max. operating pressure	connection	height	width	depth	weight air-cooled / water-cooled	
DFLO 5.4 ES	54 m ³ /h	16 bar	G 1/2"	651 mm	386 mm	500 mm	33 kg	
DFLO 7.2 ES	72 m ³ /h	16 bar	G 1/2"	651 mm	386 mm	500 mm	35 kg	
DFLO 10.8 ES	108 m ³ /h	16 bar	G 3/4"	651 mm	386 mm	500 mm	45 kg	
DFLO 14.4 ES	144 m ³ /h	16 bar	G 3/4"	651 mm	386 mm	500 mm	50 kg	
DFLO 18 ES	180 m ³ /h	16 bar	G 1"	771 mm	420 mm	567 mm	60 kg	
DFLO 24 ES	240 m ³ /h	16 bar	G 1"	771 mm	420 mm	567 mm	70 kg	
DFLO 30 ES	300 m ³ /h	16 bar	G 1 1/2"	980 mm	500 mm	720 mm	95 kg	
DFLO 36 ES	360 m ³ /h	16 bar	G 1 1/2"	980 mm	500 mm	720 mm	100 kg	
DFLO 48 ES	480 m ³ /h	16 bar	G 1 1/2"	980 mm	500 mm	720 mm	130 kg	
DFLO 66 ES	660 m ³ /h	16 bar	G 2"	1.340 mm	750 mm	780 mm	186 kg	
DFLO 78 ES	780 m ³ /h	13 bar	G 2"	1.340 mm	750 mm	780 mm	227 kg	
DFLO 100 ES	1.000 m ³ /h	13 bar	G 2"	1.340 mm	750 mm	780 mm	237 kg	
DFLO 150 ES	1.500 m ³ /h	14 bar	G 3"	1.539 mm	806 mm	1.012 mm	244 kg	270 kg
DFLO 180 ES	1.800 m ³ /h	14 bar	G 3"	1.539 mm	806 mm	1.012 mm	244 kg	270 kg
DFLO 225 ES	2.250 m ³ /h	14 bar	G 3"	1.539 mm	806 mm	1.012 mm	270 kg	300 kg
DFLO 260 ES	2.600 m ³ /h	14 bar	G3"	1.539 mm	806 mm	1.012 mm	399 kg	410 kg
DFLO 320 ES	3.600 m ³ /h	14 bar	DN 150	1.796 mm	880 mm	1.819 mm	810 kg	830 kg
DFLO 420 ES	4.200 m ³ /h	14 bar	DN 150	1.796 mm	880 mm	1.819 mm	840 kg	860 kg
DFLO 480 ES	4.800 m ³ /h	14 bar	DN 150	1.796 mm	880 mm	1.819 mm	840 kg	860 kg
DFLO 530 ES	5.300 m ³ /h	13 bar	DN 150	1.570 mm	1.510 mm	1.500 mm	620 kg	620 kg
DFLO 600 ES	6.000 m ³ /h	13 bar	DN 150	1.570 mm	1.510 mm	1.500 mm	720 kg	720 kg

¹ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.



→ to data sheets

Compressed air treatment

ADSORPTION DRYER – DPS

Innovative C1 control with clear text display – optionally with load dependant control.

High quality molecular sieve with mix-bed filling for stable pressure dewpoints up to -70°C .

Pressure vessels made in Germany. Different certifications and materials on demand.



An equal distribution of the compressed air flow through the stainless steel sieve tray (from DPS10) ensures low differential pressure and a long service life of the desiccant.

Compact valve blocks (up to DPS100). Large cross flow sections and no leakages.

...AS WELL AS AN EXTENSIVE RANGE OF ACCESSORIES AND OPTIONS



DPS1-100A
incl. activated carbon stage



C1 control
with Modbus



switch-over control
for operation of 2 dryers

Compressed air treatment

ADSORPTION DRYER – DPS

Heatless regenerated adsorption dryers of the DPS series from FST are characterised by high reliability. The use of a high-quality desiccant mixed-bed layer consisting of water-resistant silicagel WS and molecular sieve MS ensures high efficiency and a long service life of the desiccant. Large cross flow sections contribute to a low differential pressure.

The DPS 1-8 and DPS 10-100 series are equipped with valve blocks. The individually controlled valves ensure trouble-free operation and are easy to maintain.

The DPS 120-630 series are equipped with individually controlled valves. The sieve tray integrated into the base of the vessel ensures equal distribution of the incoming compressed air. Larger amounts of water are already separated here, thus ensuring a longer service life for the desiccant.

Features:

- Pressure dewpoints of -25°C to -70°C
- incl. pre- and afterfilter (DPS1-100)
- 8 m³/h to 6.290 m³/h

Benefits:

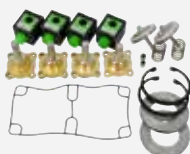
- High reliability and low differential pressure ensure sustainable pressure dewpoints of -25 to 70°C - depending on sizing.
- Vessels made in Germany
- large cross flow sections
- dewpoint control optional
- intelligent service management
- low operating costs

BASIC DATA

size	nom. volume flow ¹	max. operating pressure	connection	height	width	depth	weight
DPS 1	8 m³/h	16 bar	G 3/8"	450 mm	312 mm	185 mm	11 kg
DPS 2	15 m³/h	16 bar	G 3/8"	625 mm	312 mm	185 mm	15 kg
DPS 3	25 m³/h	16 bar	G 3/8"	875 mm	312 mm	185 mm	20 kg
DPS 4	35 m³/h	16 bar	G 3/8"	1.125 mm	312 mm	185 mm	25 kg
DPS 6	57 m³/h	16 bar	G 1/2"	1.180 mm	484 mm	220 mm	45 kg
DPS 7	72 m³/h	16 bar	G 1/2"	1.405 mm	484 mm	220 mm	54 kg
DPS 8	82 m³/h	16 bar	G 1/2"	1.605 mm	484 mm	220 mm	62 kg
DPS 10	110 m³/h	16 bar	G 1"	1.460 mm	675 mm	515 mm	126 kg
DPS 15	150 m³/h	16 bar	G 1"	1.700 mm	675 mm	515 mm	142 kg
DPS 20	200 m³/h	16 bar	G 1"	1.720 mm	675 mm	515 mm	180 kg
DPS 25	260 m³/h	16 bar	G 1"	1.735 mm	675 mm	515 mm	220 kg
DPS 30	320 m³/h	16 bar	G 1 1/2"	1.830 mm	745 mm	555 mm	250 kg
DPS 40	410 m³/h	16 bar	G 1 1/2"	1.840 mm	755 mm	570 mm	280 kg
DPS 60	590 m³/h	16 bar	G 1 1/2"	1.870 mm	775 mm	600 mm	355 kg
DPS 80	770 m³/h	16 bar	G 2"	2.045 mm	1.045 mm	715 mm	470 kg
DPS 100	1.000 m³/h	16 bar	G 2"	2.060 mm	1.050 mm	750 mm	560 kg
DPS 120	1.200 m³/h	11 bar	DN 50	1.975 mm	1.110 mm	670 mm	670 kg
DPS 150	1.480 m³/h	11 bar	DN 65	2.070 mm	1.250 mm	870 mm	850 kg
DPS 210	2.080 m³/h	11 bar	DN 65	2.090 mm	1.340 mm	920 mm	1.080 kg
DPS 240	2.430 m³/h	11 bar	DN 80	2.185 mm	1.520 mm	970 mm	1.300 kg
DPS 290	2.930 m³/h	11 bar	DN 80	2.200 mm	1.585 mm	1.000 mm	1.490 kg
DPS 370	3.700 m³/h	11 bar	DN 100	2.340 mm	1.850 mm	1.130 mm	1.930 kg
DPS 510	5.080 m³/h	11 bar	DN 100	2.600 mm	1.870 mm	1.160 mm	2.400 kg
DPS 630	6.290 m³/h	11 bar	DN 125	2.780 mm	2.350 mm	1.350 mm	3.100 kg

¹ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.

INNOVATIVE SERVICE- AND MAINTENANCE KITS



Service-kits for 12, 24 or 48 months



Service Repair-Kits



→ to data sheets

Compressed air treatment

BOOSTER – DTS HPI

Operation independent of ambient conditions. Pre-drying with a DTP $<+10^{\circ}\text{C}$ and inlet temperature $<+50^{\circ}\text{C}$ is sufficient.

One maintenance-free electrical heater installed directly on each vessel head. No heat losses and therefore high efficiency.

Long cycle times reduces the overall energy consumption.

Reliable pressure dewpoints of $-40^{\circ}\text{C} / -70^{\circ}\text{C}$.

Back-up Mode optional. If pre-drying fails, the DTS HPI continues to operate as a heatless regenerated adsorption dryer.

Plug & Play – easy installation and start-up.



...AS WELL AS AN EXTENSIVE RANGE OF ACCESSORIES AND OPTIONS

Skid including fridge dryer



noise reduction by 2-stage expansion



switch-over control for operation of 2 dryers



Compressed air treatment

BOOSTER – DTS HPI

The DTS HPI is a post-dryer that reduces the pressure dewpoint of pre-dried compressed air to a lower pressure dew point. The DTS HPI can be integrated into existing compressed air systems as a stand-alone device to an already existing refrigerant dryer or combined with a refrigeration dryer as a skid system. With pressure dew points from -70°C to -40°C and very long cycles, this booster achieves very low total cost of ownership.

Pre-drying to < +10°C and a compressed air inlet temperature of < +50°C is sufficient for safe and economical operation. With a capacity range from 150 m³/h to over 6,000 m³/h, the DTS HPI ensures economical treatment at very low but stable pressure dew points. Cooling is provided by a small proportion of purge air. This booster can therefore be used anywhere in the world, regardless of the ambient conditions.

The low power consumption is outstanding! During regeneration, the desiccant bed and the vessel steel are used as heat accumulators. The maintenance-free heaters mounted on the vessels heat the upper area of the container, including the desiccant, directly and without heat loss. The regeneration heat is then slowly „pressed“ through the desiccant bed.

Convincing concept, also for maintenance: all relevant components are freely accessible. The design of the booster corresponds to that of a heatless dryer. This means that, in opposite to a normal, heat-regenerated adsorption dryer, the maintenance effort is very low.

Features:

- Pressure dewpoints from -40°C to -70°C
- incl. pre- and afterfilter, insulation
- 150 m³/h to 6.290 m³/h
- Plug & Play

Benefits:

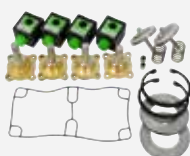
- High reliability and low differential pressure for sustainable pressure dewpoints of -40°C to 70°C - depending on sizing.
- Vessels made in Germany
- large cross-flow sections
- dewpoint control on request
- intelligent service management
- low operating costs
- high operational reliability with Back-up mode
- Intelligent C15 control in stainless steel cabinet with full text display and Trend-Recording

BASIC DATA

size	nom. volume flow ¹	max. operating pressure	connection	height	width	depth	weight
DTS 15 HPI	150 m³/h	16 bar	G 1"	1700 mm	675 mm	515 mm	142 kg
DTS 20 HPI	200 m³/h	16 bar	G 1"	1720 mm	675 mm	515 mm	180 kg
DTS 25 HPI	260 m³/h	16 bar	G 1"	1735 mm	675 mm	515 mm	220 kg
DTS 30 HPI	320 m³/h	16 bar	G 1 ½"	1830 mm	745 mm	555 mm	250 kg
DTS 40 HPI	410 m³/h	16 bar	G 1 ½"	1840 mm	755 mm	570 mm	280 kg
DTS 60 HPI	590 m³/h	16 bar	G 1 ½"	1870 mm	775 mm	600 mm	355 kg
DTS 80 HPI	770 m³/h	16 bar	G 2"	2.045 mm	1.045 mm	715 mm	470 kg
DTS 100 HPI	1.000 m³/h	16 bar	G 2"	2.060 mm	1.050 mm	750 mm	560 kg
DTS 150 HPI	1.480 m³/h	11 bar	DN 65	2.231 mm	1.250 mm	950 mm	950 kg
DTS 210 HPI	2.080 m³/h	11 bar	DN 65	2.290 mm	1.340 mm	1.060 mm	1.180 kg
DTS 240 HPI	2.430 m³/h	11 bar	DN 80	2.380 mm	1.520 mm	1.120 mm	1.400 kg
DTS 290 HPI	2.930 m³/h	11 bar	DN 80	2.400 mm	1.585 mm	1.150 mm	1.590 kg
DTS 370 HPI	3.700 m³/h	11 bar	DN 100	2.540 mm	1.850 mm	1.280 mm	2.030 kg
DTS 510 HPI	5.080 m³/h	11 bar	DN 100	2.800 mm	1.870 mm	1.300 mm	2.490 kg
DTS 630 HPI	6.290 m³/h	11 bar	DN 125	2.980 mm	2.370 mm	1.500 mm	3.200 kg

¹ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.

INNOVATIVE SERVICE- AND MAINTENANCE KITS



Service-kits for 12, 24 or 48 months



Service Repair-Kits



→ to data sheets

Compressed air treatment

OIL VAPOUR ADSORPTION – DSS

Sizes identical to the DPS series of heatless regenerated adsorption dryers.

Highly efficient adsorption of hydrocarbons down to a residual oil content of $< 0.003 \text{ mg/m}^3$ - ISO 8573.1 Class 0-1.

Oil indicator included.

Long service life thanks to high-quality (pressed) activated carbon pellets.



Compressed air treatment

OIL VAPOUR ADSORPTION – DSS

DSS oil vapour activated carbon adsorbers filled with activated carbon are primarily designed for the separation of oil vapours from compressed air flows (dry separation) at operating pressures of up to 16 bar (DSS120-DSS630 up to 11 bar) for compressed air without aggressive components.

Oil vapour activated carbon adsorbers are used when there are no more liquid contaminants, especially water or oil, in the compressed air flow. Oil vapours and other organic substances (especially long-chain hydrocarbons) are removed from the compressed air by adsorption in the activated carbon bed.

The standard scope of supply includes a tank pressure gauge and an oil test indicator with pressure reducer and shut-off valve.

Features:

- Residual oil content (vapour)
< 0,003 mg/m³
- incl. oil indicator
- 8 m³/h to 6.290 m³/h

Benefits:

High-quality activated carbon ensures reliable oil vapour adsorption.

- vessels made in Germany
- large cross flow sections
- long lifetime

BASIC DATA

size	nom. volume flow ¹⁾	max. operating pressure	connection	height	width	depth	weight
DSS 1	8 m ³ /h	16 bar	G 3/8"	392 mm	160 mm	210 mm	3 kg
DSS 2	15 m ³ /h	16 bar	G 3/8"	567 mm	160 mm	210 mm	5 kg
DSS 3	25 m ³ /h	16 bar	G 3/8"	817 mm	160 mm	210 mm	8 kg
DSS 4	35 m ³ /h	16 bar	G 3/8"	1.067 mm	160 mm	210 mm	10 kg
DSS 6	57 m ³ /h	16 bar	G 1/2"	1.107 mm	212 mm	245 mm	20 kg
DSS 7	72 m ³ /h	16 bar	G 1/2"	1.332 mm	212 mm	245 mm	24 kg
DSS 8	82 m ³ /h	16 bar	G 1/2"	1.532 mm	212 mm	245 mm	28 kg
DSS 10	110 m ³ /h	16 bar	G 1"	1.460 mm	265 mm	350 mm	45 kg
DSS 15	150 m ³ /h	16 bar	G 1"	1.700 mm	265 mm	350 mm	52 kg
DSS 20	200 m ³ /h	16 bar	G 1"	1.710 mm	290 mm	350 mm	67 kg
DSS 25	260 m ³ /h	16 bar	G 1"	1.720 mm	320 mm	350 mm	80 kg
DSS 30	320 m ³ /h	16 bar	G 1 1/2"	1.760 mm	345 mm	350 mm	95 kg
DSS 40	410 m ³ /h	16 bar	G 1 1/2"	1.820 mm	375 mm	350 mm	107 kg
DSS 60	590 m ³ /h	16 bar	G 1 1/2"	1.850 mm	425 mm	350 mm	143 kg
DSS 80	770 m ³ /h	16 bar	G 2"	1.980 mm	460 mm	400 mm	190 kg
DSS 100	1.000 m ³ /h	16 bar	G 2"	2.000 mm	515 mm	400 mm	230 kg
DSS 120	1.200 m ³ /h	11 bar	DN 50	2.020 mm	450 mm	570 mm	260 kg
DSS 150	1.480 m ³ /h	11 bar	DN 65	2.070 mm	500 mm	650 mm	325 kg
DSS 210	2.080 m ³ /h	11 bar	DN 65	2.100 mm	600 mm	745 mm	410 kg
DSS 240	2.430 m ³ /h	11 bar	DN 80	2.200 mm	650 mm	800 mm	495 kg
DSS 290	2.930 m ³ /h	11 bar	DN 80	2.200 mm	700 mm	855 mm	570 kg
DSS 370	3.700 m ³ /h	11 bar	DN 100	2.340 mm	800 mm	950 mm	715 kg
DSS 510	5.080 m ³ /h	11 bar	DN 100	2.600 mm	850 mm	1.030 mm	940 kg
DSS 630	6.290 m ³ /h	11 bar	DN 125	2.820 mm	950 mm	1.100 mm	1.200 kg

¹⁾ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.



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Compressed air treatment

CONDENSATE DRAINS – CDE L



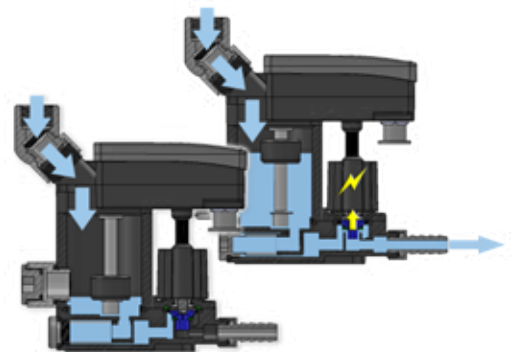
Automatic test and cleaning function included.

Up from CDE 6LC with potential-free alarm contact.

Condensate tank in stainless steel.

7 sizes for an optimised adaption to the amount of condensates.

1 service kit for all sizes!
Simple and fast maintenance.



Compressed air treatment

CONDENSATE DRAINS – CDE L

Condensate drains of the CDE..L.. series are designed for the discharge of compressed air condensates without aggressive components. The automatic discharge effects without losses of compressed air.

Condensate drains of the CDE..L.. series have their own condensate collection chamber, separated from the compressed air flow, into which the condensate is directly discharged and temporarily stored. The condensate collection chamber contains a maintenance-free, float level sensor, monitored by an electronic control unit.

A pilot-controlled diaphragm valve with condensate pre-control is connected to the condensate collection chamber and protected by an upstream dirt strainer. When the maximum filling level is achieved, the control unit activates the diaphragm valve and drains the condensate. When the minimum fill level is reached, the control unit closes the diaphragm valve before compressed air can escape (electronically level-controlled, loss-free condensate drainage).

Features:

- without losses of compressed air
- condensate collection chamber in stainless steel
- dirt sieve at the inlet of the condensate drain
- potential free contact (from CDE6L)
- 230V (optional: 115V, 24V)

Benefits:

Reliable and high quality condensate drain without losses of compressed air.

- 7 sizes
- dirt protection sieve
- Test button
- only 1 service kit for the entire series

BASIC DATA

sizes	nom. volume flow ¹	max. operating pressure	connection	height	width	depth	weight
CDE 4L	2.500 m ³ /h	16 bar	G 1/2"	120 mm	60 mm	143 mm	0,4 kg
CDE 6LC	3.800 m ³ /h	16 bar	G 1/2"	107 mm	69 mm	170 mm	0,5 kg
CDE 8LC	5.000 m ³ /h	16 bar	2 x G 1/2"	140 mm	69 mm	172 mm	0,6 kg
CDE 16LC	10.000 m ³ /h	16 bar	2 x G 1/2"	155 mm	69 mm	172 mm	0,7 kg
CDE 40LC	25.000 m ³ /h	16 bar	2 x G 1/2"	215 mm	69 mm	172 mm	1,2 kg
CDE 160LC	96.000 m ³ /h	16 bar	2 x G 1/2"	230 mm	121 mm	184 mm	2,8 kg
CDE 500LC	300.000 m ³ /h	16 bar	G1" +2xG 1/2"	281 mm	230 mm	492 mm	18 kg

¹ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.



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Compressed air treatment

OIL-WATER-SEPARATOR – CSQ

„FRC“ control displays the remaining capacity of the cartridges and can be connected to an existing master control via Modbus.

Clean and pure - no bacterial growth thanks to active pressing out of the condensate in a hermetically sealed circuit.

Modularly expandable by simply adding more cartridges.

Cartridges with automatic locking system ensure clean replacement.



Approved by the DIBt - Institute of structural engineering. No approval by an authority required.

One cartridge for all units and sizes reduces stock levels.

Compressed air treatment

OIL-WATER-SEPARATOR – CSQ

The CSQ is the first oil-water separator that actively separates oil and water, making it an innovation in condensate technology.

The condensate is first fed into the pressure relief chamber and compressed air is released. The condensate then passes through the control unit and enters the measuring chamber. When the level there reaches the required level, the control unit initiates the discharge process: A solenoid valve switches and auxiliary air moves a piston that closes the connection to the previous pressure relief chamber.

Another solenoid valve opens at intervals and additional auxiliary air flows into the measuring chamber at intervals. This displaces the condensate and pushes it through the filter cartridges until it reaches the collector cleaned.

The now purified condensate is fed into the clean water tank via the riser channel. The clean condensate can be discharged from this through the waste water connection.

The requirements of an oil-water separator can change over time. The CSQ is adaptable in this respect. Thanks to its modular design, it can be adapted to increasing requirements, i.e. subsequently enlarged or reduced in size. Adaptation can be achieved very simply by adding more cartridges. If the demand decreases again after some time – e.g. summer/winter operation – the CSQ can be dismantled in the same way.

Features:

- < 20 mg/m³ residual oil content
- DIBt approval for oil/water separation
- Modularly expandable
- Modbus included (> CSQ15)
- Innovative control displays the remaining capacity.

Benefits:

Reliable, validated condensate treatment.

- expandable by adding additional cartridges
- Innovative control system
- Active oil-water separation
- only one cartridge size required, thus reduced stock level
- Clean application due to hermetically closed circuit
- Significantly reduced risk of bacterial growth due to active squeezing of the condensate

BASIC DATA

size	nom. volume flow ¹	nom. condensate volume	max. operating pressure	connection	height	width	depth	weight
CSQ-P10	600 m ³ /h	12,7 l/h	16 bar	G 1/2"	1.482 mm	625 mm	540 mm	16 kg
CSQ-P15	900 m ³ /h	19,0 l/h	16 bar	G 1/2"	1.482 mm	744 mm	1.482 mm	16 kg
CSQ-P30	1.800 m ³ /h	38,0 l/h	16 bar	G 1/2"	1.482 mm	790 mm	1.482 mm	35 kg
CSQ-P60	3.600 m ³ /h	76,0 l/h	16 bar	G 1/2"	1.482 mm	899 mm	1.482 mm	45 kg
CSQ-P90	5.400 m ³ /h	114,0 l/h	16 bar	G 1/2"	1.482 mm	1.234 mm	1.482 mm	67 kg

¹ - standardised to 1 bar(a) and 20°C for operating condition 7 bar operating overpressure; apply correction factors for deviating operating conditions. Subject to technical alterations.



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