FST GmbH
Filtrations-Separations-Technik

elneo compressors

Compressed air Adsorption dryers

DPS 1-8 (A) series

Type of regeneration: Heatless
Pressure dew-points: -25°C / -40°C / -70°C
Volume flow rate: 8 m³/h to 82 m³/h
Connection: G 3/8 to G 1/2

The advantages...

✓ **Loose desiccant filling**
– Maximum desiccant filling
– Easy, environmentally-friendly and cost-effective maintenance

✓ **Molecular sieve desiccant**
– High-quality, effective desiccant
– Stable pressure dew-points down to -70°C
– Energy-saving cycle time of 10 minutes

✓ **2-layer desiccant bed**
– Stable drying
– Extended desiccant service life

✓ **Evenly distributed flow through stainless steel demister**
– Maximum drying efficiency
– Low differential pressures
– Extended desiccant service life

✓ **Individual valve control**
– No pressure peaks during switch-over
– Reliable compressed air supply

✓ **Fully integrated, compact valve blocks**
– Leak-free
– Easy, cost-effective maintenance

✓ **C1 control unit**
– Plain text display
– Prepared for dew-point dependent control with variable cycle
– Individual choice of alarm management
– ... and much more

.. result in a dryer providing ..

✓ Maximum operational reliability

✓ Minimum total operating costs

✓ Long service life

✓ Easy maintenance

Compressed air drying on a small scale – with the technology and features of a large dryer

Series DPS 1-8 adsorption dryers, optionally available as DPS 1-8 A with additional activated carbon oil vapour adsorber, can dry the compressed air to a pressure dew-point of -25°C, -40°C or down to -70°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point.

Series DPS 1-8 adsorption dryers consist of a powder-coated aluminium profile body which is pressure-rated up to 16 bar. Fully integrated, leak-free valve plates with large flow cross-sections resulting in low differential pressure are connected to the body. The switch-over valves are freely accessible in the lower valve plate and are individually controlled without any overlap. The dryers are operated with a 2-layer desiccant bed, consisting of 20% water resistant silica gel WS and 80% high-grade drying molecular sieve.

Series DPS 1-8 adsorption dryers are equipped with pressure gauges and a pre-filter and after-filter, which can be fitted in various ways, as standard. Wall mounting is simple and easy using commercially available wall brackets. The standard C1 control unit with plain text display and integrated operating elements controls all operating modes for heatless adsorption dryers and enables both independent operation of the dryer as well as integration into the control system of an existing compressed air station. In conjunction with an optional dew-point sensor, the adsorption dryer can be operated depending on the load in variable cycle mode and thus typical energy savings of 20-70% can be achieved.

Available accessories

Dew-point sensor	Differential pressure gauges with alarm contact (DPS 6-8)	Start-up device (minimum pressure valve)	GSM module	Switch-over control
				

Many other options, such as a frost protection heater or pneumatic control, are available on request.

Technical data

Model	Nominal volume flow*1	Min./max. operating pressure	Connection	Supply voltage	Height	Width	Depth	Weight
DPS 1	8 m³/h	4 - 16 bar	G 3/8	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	450 mm	312 mm	185 mm	11 kg
DPS 2	15 m³/h	4 - 16 bar	G 3/8		625 mm	312 mm	185 mm	15 kg
DPS 3	25 m³/h	4 - 16 bar	G 3/8		875 mm	312 mm	185 mm	20 kg
DPS 4	35 m³/h	4 - 16 bar	G 3/8		1125 mm	312 mm	185 mm	25 kg
DPS 6	57 m³/h	4 - 16 bar	G 1/2		1180 mm	484 mm	220 mm	45 kg
DPS 7	72 m³/h	4 - 16 bar	G 1/2		1405 mm	484 mm	220 mm	54 kg
DPS 8	82 m³/h	4 - 16 bar	G 1/2		1605 mm	484 mm	220 mm	62 kg
DPS 1 A	8 m³/h	4 - 16 bar	G 3/8	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	450 mm	412 mm	185 mm	14 kg
DPS 2 A	15 m³/h	4 - 16 bar	G 3/8		625 mm	412 mm	185 mm	20 kg
DPS 3 A	25 m³/h	4 - 16 bar	G 3/8		875 mm	412 mm	185 mm	27 kg
DPS 4 A	35 m³/h	4 - 16 bar	G 3/8		1125 mm	412 mm	185 mm	35 kg
DPS 6 A	57 m³/h	4 - 16 bar	G 1/2		1180 mm	614 mm	220 mm	65 kg
DPS 7 A	72 m³/h	4 - 16 bar	G 1/2		1405 mm	614 mm	220 mm	78 kg
DPS 8 A	82 m³/h	4 - 16 bar	G 1/2		1605 mm	614 mm	220 mm	90 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions 7 bar operating pressure, inlet temperature 35°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DPS 10-100 (A) series

Type of regeneration: Heatless
Pressure dew-points: -25°C / -40°C / -70°C
Volume flow rate: 110 m³/h to 1,000 m³/h
Connection: G 1 to G 2

The advantages...

✓ **Pressure vessels MADE IN GERMANY**
– Meets the highest safety standards
– High-quality, durable coating

✓ **Molecular sieve desiccant**
– High-quality, effective desiccant
– Stable pressure dew-points down to -70°C
– Energy-saving cycle time of 10 minutes

✓ **2-layer desiccant bed**
– Stable drying
– Extended desiccant service life

✓ **Evenly distributed flow through stainless steel screen**
– Maximum drying efficiency
– Low differential pressures
– Extended desiccant service life

✓ **Individual valve control**
– No pressure peaks during switch-over
– Reliable compressed air supply

✓ **Compact valve blocks**
– Practically leak-free
– Easy, cost-effective service

✓ **C1 control unit**
– Plain text display
– Prepared for dew-point dependent control with variable cycle
– Individual choice of alarm management
– ... and much more

.. result in a dryer providing ..

✓ Maximum operational reliability

✓ Minimum total operating costs

✓ Long service life

✓ Easy maintenance

Efficient and economical compressed air drying – resulting from many features of the DPS series

Series DPS 10-100 adsorption dryers, optionally available as DPS 10-100 A with additional activated carbon oil vapour adsorber, can dry the compressed air to a pressure dew-point of -25°C, -40°C or down to -70°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point.

Series DPS 10-100 adsorption dryers consist of welded and coated steel vessels, which are pressure-rated up to 16 bar, and practically leak-free valve blocks with large flow cross-sections and thus low differential pressure. The valves are individually controlled with a time delay which means there is no overlap. The dryers are operated with a 2-layer desiccant bed, consisting of 20% water resistant silica gel WS and 80% high-grade drying molecular sieve.

Series DPS 10-100 adsorption dryers are fitted with pressure gauges and a pre-filter and after-filter with differential pressure gauge as standard. The standard C1 control unit with plain text display and integrated operating elements controls all operating modes for heatless adsorption dryers and enables both independent operation of the dryer as well as integration into the control system of an existing compressed air station. In conjunction with an optional dew-point sensor, the adsorption dryer can be operated depending on the load in variable cycle mode and thus typical energy savings of 20-70% can be achieved.

Available accessories

Dew-point sensor	Differential pressure gauges with alarm contact	Start-up device (minimum pressure valve)	GSM module	Switch-over control
				

Many other options, such as a frost protection heater, pneumatic control, special coatings, enhanced noise reduction, quick-closing valves, are available on request.

Technical data

Model	Nominal volume flow*1	Min./max. operating pressure	Connection	Supply voltage	Height	Width	Depth	Weight
DPS 10	110 m³/h	4 - 16 bar	G 1	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1460 mm	675 mm	515 mm	126 kg
DPS 15	150 m³/h	4 - 16 bar	G 1		1700 mm	675 mm	515 mm	142 kg
DPS 20	200 m³/h	4 - 16 bar	G 1		1710 mm	675 mm	515 mm	180 kg
DPS 25	260 m³/h	4 - 16 bar	G 1		1735 mm	675 mm	515 mm	220 kg
DPS 30	320 m³/h	4 - 16 bar	G 1 ½		1825 mm	745 mm	520 mm	255 kg
DPS 40	410 m³/h	4 - 16 bar	G 1 ½		1840 mm	755 mm	525 mm	275 kg
DPS 60	590 m³/h	4 - 16 bar	G 1 ½		1870 mm	775 mm	575 mm	355 kg
DPS 80	770 m³/h	4 - 16 bar	G 2		2045 mm	1050 mm	695 mm	470 kg
DPS 100	1,000 m³/h	4 - 16 bar	G 2		2060 mm	1050 mm	730 mm	560 kg
DPS 10 A	110 m³/h	4 - 16 bar	G 1	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1460 mm	955 mm	515 mm	173 kg
DPS 15 A	150 m³/h	4 - 16 bar	G 1		1700 mm	955 mm	515 mm	195 kg
DPS 20 A	200 m³/h	4 - 16 bar	G 1		1710 mm	955 mm	515 mm	250 kg
DPS 25 A	260 m³/h	4 - 16 bar	G 1		1735 mm	955 mm	515 mm	300 kg
DPS 30 A	320 m³/h	4 - 16 bar	G 1 ½		1825 mm	1045 mm	520 mm	350 kg
DPS 40 A	410 m³/h	4 - 16 bar	G 1 ½		1840 mm	1095 mm	525 mm	395 kg
DPS 60 A	590 m³/h	4 - 16 bar	G 1 ½		1870 mm	1175 mm	575 mm	525 kg
DPS 80 A	770 m³/h	4 - 16 bar	G 2		2045 mm	1470 mm	695 mm	630 kg
DPS 100 A	1,000 m³/h	4 - 16 bar	G 2		2060 mm	1520 mm	730 mm	740 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions 7 bar operating pressure, inlet temperature 35°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DPS 120-630 series

Type of regeneration: Heatless
Pressure dew-points: -25°C / -40°C / -70°C
Volume flow rate: 1,200 m³/h to 6,290 m³/h
Connection: DN 50 to DN 125

The advantages...

✓ **Pressure vessels MADE IN GERMANY**
– Meets the highest safety standards
– High-quality, durable coating

✓ **Molecular sieve desiccant**
– High-quality, effective desiccant
– Stable pressure dew-points down to -70°C
– Energy-saving cycle time of 10 minutes

✓ **2-layer desiccant bed**
– Stable drying
– Extended desiccant service life

✓ **Evenly distributed flow through stainless steel wedge screen**
– Maximum drying efficiency
– Low differential pressures
– Extended desiccant service life

✓ **Individual valve control**
– No pressure peaks during switch-over
– Reliable compressed air supply

✓ **3/2-way ball valve with full cross section flow and position indicator**
– Low differential pressures
– Freely accessible allowing easy maintenance

✓ **C1 control unit**
– Plain text display
– Prepared for dew-point dependent control with variable cycle
– Individual choice of alarm management
– ... and much more

.. result in a dryer providing ..

✓ Maximum operational reliability

✓ Minimum total operating costs

✓ Long service life

✓ Easy maintenance

Compressed air drying on a large scale – with maximum efficiency and operational reliability

Series DPS 120-630 adsorption dryers can dry the compressed air to a pressure dew-point of -25°C, -40°C or down to -70°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point. Additionally a separate downstream activated carbon oil vapour adsorber can be provided (see DSS series).

Series DPS 120-630 adsorption dryers consist of welded and coated steel vessels, which are pressure rated up to 11 bar and generously sized, zinc-coated piping and classic individual valves for low differential pressures in this performance range. They feature a pneumatically controlled 3/2-way ball valve with full cross section flow as well as pneumatically controlled angle valves from well-known manufacturers. The valves are individually controlled with a time delay which means there is no overlap. The dryers are operated with a 2-layer desiccant bed, consisting of 20% water resistant silica gel WS and 80% high-grade drying molecular sieve. Generously sized silencers reduce noise emission, optionally down to values of 75 dB(A).

Series DPS 120-630 adsorption dryers are fitted with pressure gauges as standard. Pre-filters and after-filters are optionally available. The standard C1 control unit with plain text display and integrated operating elements controls all operating modes for heatless adsorption dryers and enables both independent operation of the dryer as well as integration into the control system of an existing compressed air station. In conjunction with an optional dew-point sensor, the adsorption dryer can be operated depending on the load in variable cycle mode and thus typical energy savings of 20-70% can be achieved.

Available accessories

Dew-point sensor	Start-up device (minimum pressure valve)	GSM module	Switch-over control
			

Many other options, such as a frost protection heater, pneumatic control, special coatings, enhanced noise reduction, are available on request.

Technical data

Model	Nominal volume flow*1	Min./max. operating pressure	Connection	Supply voltage	Height	Width	Depth	Weight
DPS 120	1,200 m³/h	4 - 11 bar	DN 50	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	2020 mm	1370 mm	570 mm	650 kg
DPS 150	1,480 m³/h	4 - 11 bar	DN 65		2070 mm	1470 mm	650 mm	840 kg
DPS 210	2,080 m³/h	4 - 11 bar	DN 65		2100 mm	1620 mm	745 mm	960 kg
DPS 240	2,430 m³/h	4 - 11 bar	DN 80		2200 mm	1750 mm	800 mm	1080 kg
DPS 290	2,930 m³/h	4 - 11 bar	DN 80		2200 mm	1900 mm	855 mm	1520 kg
DPS 370	3,700 m³/h	4 - 11 bar	DN 100		2340 mm	2070 mm	950 mm	2000 kg
DPS 510	5,080 m³/h	4 - 11 bar	DN 100		2600 mm	2220 mm	1030 mm	2450 kg
DPS 630	6,290 m³/h	4 - 11 bar	DN 125		2820 mm	2420 mm	1100 mm	2900 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions 7 bar operating pressure, inlet temperature 35°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DSS 1-630 A series

Type of regeneration: ---
Residual oil content: ≤ 0.003 mg/m³
Volume flow rate: 8 m³/h to 6,290 m³/h
Connection: G 3/8 to DN 125

The advantages...

✓ **Pressure vessels MADE IN GERMANY**
– Meets the highest safety standards
– High-quality, durable coating

✓ **Activated carbon pellets**
– High-quality, compressed activated carbon pellets with low dust level

✓ **Loose filling**
– Maximum amount of activated carbon
– Easy, environmentally friendly maintenance

✓ **Stainless steel flow distributor at inlet and outlet**
– Uniform flow distribution
– Reduced dust formation

✓ **Low dust level at outlet through stainless steel screen**
– Reduced dust formation
– Easy maintenance

✓ **Oil indicator as standard**
– Controls the saturation level of the activated carbon
– Control point with lifetime reserve

✓ **Vessel pressure gauge (DSS 10-630)**
– Visual display of the operating situation
– Ensures depressurised state before maintenance work

.. result in an adsorber providing ..

✓ Maximum operational reliability

✓ Long service life

✓ Easy maintenance

Oil vapour adsorption – specific elimination of the second largest vapour phase in compressed air

Series DSS activated carbon oil vapour adsorbers reduce the oil vapour content of the compressed air to low residual levels. Oil vapour is the second largest vapour phase in compressed air and, like moisture, is highly likely to condense – in the case of oil vapour it condenses to form liquid oil. High-grade removal of oil vapour using an activated carbon oil vapour adsorber reliably prevents condensation processes during the cooling of compressed air and thus the formation of liquid oil. In addition, activated carbon oil vapour adsorbers remove a variety of other hydrocarbons, odours and flavours.

Series DSS 1-8 activated carbon oil vapour adsorbers consist of a powder-coated aluminium profile body, which is pressure-rated up to 16 bar and on which two end plates are mounted. Series DSS 10-100 and DSS 120-630 activated carbon oil vapour adsorbers consist of welded and coated steel vessels, which are pressure-rated up to 11 or 16 bar. They are operated with activated carbon filling, consisting of 100% pure activated carbon. Flow distributors or stainless steel demister at the inlet and stainless steel screens or stainless steel demister at the outlet ensure uniform flow and reduced abrasion of the activated carbon.

Series DSS activated carbon oil vapour adsorbers are fitted with an oil indicator as standard, the DSS 10-630 models also feature a vessel pressure gauge. The oil indicator's control point is approximately 15% before the activated carbon filling needs to be replaced in order to ensure sufficient lifetime reserve until the activated carbon is replaced.

Technical data

Model	Nominal volume flow rate*1	Max. allowable operating pressure	Connection	Height	Width	Depth	Weight
DSS 1 A	8 m³/h	16 bar	G 3/8	392 mm	158 mm	180 mm	3 kg
DSS 2 A	15 m³/h	16 bar	G 3/8	567 mm	158 mm	180 mm	5 kg
DSS 3 A	25 m³/h	16 bar	G 3/8	817 mm	158 mm	180 mm	7.5 kg
DSS 4 A	35 m³/h	16 bar	G 3/8	1067 mm	158 mm	180 mm	10 kg
DSS 6 A	57 m³/h	16 bar	G 1/2	1107 mm	208 mm	215 mm	20 kg
DSS 7 A	72 m³/h	16 bar	G 1/2	1332 mm	208 mm	215 mm	24 kg
DSS 8 A	82 m³/h	16 bar	G 1/2	1532 mm	208 mm	215 mm	28 kg
DSS 10 A	110 m³/h	16 bar	G 1	1460 mm	265 mm	350 mm	45 kg
DSS 15 A	150 m³/h	16 bar	G 1	1700 mm	265 mm	350 mm	52 kg
DSS 20 A	200 m³/h	16 bar	G 1	1710 mm	290 mm	350 mm	67 kg
DSS 25 A	260 m³/h	16 bar	G 1	1720 mm	320 mm	350 mm	80 kg
DSS 30 A	320 m³/h	16 bar	G 1 ½	1760 mm	345 mm	350 mm	95 kg
DSS 40 A	410 m³/h	16 bar	G 1 ½	1820 mm	375 mm	350 mm	107 kg
DSS 60 A	590 m³/h	16 bar	G 1 ½	1850 mm	425 mm	350 mm	143 kg
DSS 80 A	770 m³/h	16 bar	G 2	1980 mm	460 mm	400 mm	190 kg
DSS 100 A	1,000 m³/h	16 bar	G 2	2000 mm	515 mm	400 mm	230 kg
DSS 120 A	1,200 m³/h	11 bar	DN 50	2020 mm	450 mm	570 mm	260 kg
DSS 150 A	1,480 m³/h	11 bar	DN 65	2070 mm	500 mm	650 mm	325 kg
DSS 210 A	2,080 m³/h	11 bar	DN 65	2100 mm	600 mm	745 mm	410 kg
DSS 240 A	2,430 m³/h	11 bar	DN 80	2200 mm	650 mm	800 mm	495 kg
DSS 290 A	2,930 m³/h	11 bar	DN 80	2200 mm	700 mm	855 mm	570 kg
DSS 370 A	3,700 m³/h	11 bar	DN 100	2340 mm	800 mm	950 mm	715 kg
DSS 510 A	5,080 m³/h	11 bar	DN 100	2600 mm	850 mm	1030 mm	940 kg
DSS 630 A	6,290 m³/h	11 bar	DN 125	2820 mm	950 mm	1100 mm	1200 kg

*1 – standardised to 1 bar(a) and 20°C for operating condition 7 bar operating pressure

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DTS 45-1470 V series

Type of regeneration: Heat regenerated
Pressure dew-points: -25°C / -40°C / -70°C
Volume flow rate: 410 m³/h to 14,700 m³/h
Connection: DN 40 to DN 200

The advantages...

✓ **Pressure vessels MADE IN GERMANY**
– Meets the highest design and safety standards
– High-quality, durable coating
– Fully zinc-coated piping

✓ **2-layer silica gel desiccant bed**
– High-quality, effective desiccant
– Stable pressure dew-points down to -70°C
– Low regeneration temperatures with energy savings of up to 33%
– Extended desiccant service life

✓ **Uniform flow through stainless steel wedge screen**
– Maximum drying efficiency
– Low differential pressures
– Extended desiccant service life

✓ **Mechanically linked 4/2-way valves (DTS 45 V to DTS 1100 V)**
– Overlap-free, reliable switch-over
– Reliable compressed air supply downstream of the dryer

✓ **External heater**
– No differential pressure in adsorption mode
– Freely accessible, thus easy to maintain
– Easy integration of alternative energy sources

✓ **Fast cooling in suction mode**
– No blower heat input during cooling
– No purge air required

✓ **Cooling from bottom to top**
– Moisture from the ambient air enters only at the bottom, water resistant area at the inlet of the dryer
– No purge air required

✓ **C10 control unit**

.. result in a dryer providing ..

✓ Maximum operational reliability
✓ Minimum total operating costs
✓ Long service life
✓ Easy maintenance
✓ Comprehensive options to choose

Heat regeneration with fast cooling without purge air – economical compressed air drying in the mid to high performance range

Series DTS..V adsorption dryers can dry the compressed air to a pressure dew-point of -25°C, -40°C or down to -70°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point. Additionally a separate downstream activated carbon oil vapour adsorber can be provided (see DSS series).

Series DTS..V adsorption dryers consist of welded and coated steel vessels, which are pressure-rated up to 11 bar, and generously sized, zinc-coated piping. The flow paths are switched over via pneumatically controlled 4/2-way plug valves, which are mechanically connected to each other via a cardan shaft and therefore switch in synch. Model DTS 1280 and higher uses shut-off valves with end position control. The dryers are operated with a 2-layer desiccant bed, consisting of 30% water resistant silica gel WS and 70% high-grade drying silica gel N. The regeneration takes place with ambient air, which is drawn in by a vacuum pump, warmed in an electric heater and fed through the desiccant (heating). Cooling is carried out in a similar manner with the electric heater switched off – without the need for purge air.

Series DTS..V adsorption dryers feature comprehensive standard equipment. Pre-filters and after-filters are optionally available. The standard C10 control unit with 5.7" touch-screen controls all operating modes for heat regenerating adsorption dryers and enables both independent operation of the dryer as well as integration into the control system of an existing compressed air station. In conjunction with an optional dew-point sensor, the adsorption dryer can be operated depending on the load in variable cycle mode and thus typical energy savings of 20-70% can be achieved.

Further energy savings can be made through integration of the customer's alternative energy sources (e.g. steam or hot water) and/or thermal insulation.

Available accessories

Dew-point sensor	Thermal insulation	Start-up device (minimum pressure valve)	Limit switch main valve	Switch-over control
				

Many other options, such as special voltages, special control units, special coatings, are available on request.

Technical data

Model	Nominal volume flow*1	Min./max. operating pressure	Connection	Supply voltage	Height	Width	Depth	Weight
DTS 45 V	410 m³/h	4 - 11 bar	DN 40	400 V / 50 Hz 500 V / 50 Hz 690 V / 60 Hz	2225 mm	1190 mm	1000 mm	465 kg
DTS 55 V	500 m³/h	4 - 11 bar	DN 40		2225 mm	1190 mm	1000 mm	560 kg
DTS 65 V	645 m³/h	4 - 11 bar	DN 50		2325 mm	1310 mm	1085 mm	640 kg
DTS 85 V	790 m³/h	4 - 11 bar	DN 50		2325 mm	1310 mm	1085 mm	780 kg
DTS 125 V	1,210 m³/h	4 - 11 bar	DN 80		2705 mm	1460 mm	1150 mm	1020 kg
DTS 155 V	1,490 m³/h	4 - 11 bar	DN 80		2720 mm	1510 mm	1230 mm	1320 kg
DTS 215 V	2,100 m³/h	4 - 11 bar	DN 80		2770 mm	1600 mm	1460 mm	1690 kg
DTS 250 V	2,440 m³/h	4 - 11 bar	DN 100		2885 mm	2015 mm	1475 mm	1900 kg
DTS 300 V	2,950 m³/h	4 - 11 bar	DN 100		2920 mm	2045 mm	1505 mm	2400 kg
DTS 380 V	3,750 m³/h	4 - 11 bar	DN 100		2970 mm	2160 mm	1590 mm	2800 kg
DTS 430 V	4,250 m³/h	4 - 11 bar	DN 150		3210 mm	2370 mm	1560 mm	3800 kg
DTS 500 V	4,930 m³/h	4 - 11 bar	DN 150		3235 mm	2475 mm	1745 mm	4050 kg
DTS 540 V	5,330 m³/h	4 - 11 bar	DN 150		3250 mm	2520 mm	1870 mm	4220 kg
DTS 650 V	6,510 m³/h	4 - 11 bar	DN 150		3520 mm	2520 mm	1920 mm	5000 kg
DTS 720 V	7,180 m³/h	4 - 11 bar	DN 150		3560 mm	2640 mm	1985 mm	5650 kg
DTS 860 V	8,600 m³/h	4 - 11 bar	DN 200		3585 mm	4400 mm	1995 mm	6380 kg
DTS 940 V	9,400 m³/h	4 - 11 bar	DN 200		3605 mm	4500 mm	1995 mm	7520 kg
DTS 1110 V	11,000 m³/h	4 - 11 bar	DN 200		3650 mm	4750 mm	1995 mm	8730 kg
DTS 1280 V	12,800 m³/h	4 - 11 bar	DN 200		4050 mm	4945 mm	2030 mm	8730 kg
DTS 1470 V	14,700 m³/h	4 - 11 bar	DN 200		4050 mm	5145 mm	2055 mm	8730 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions 7 bar operating pressure, inlet temperature 35°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DTS 125-1470 BVL series

Type of regeneration: Heat regenerated
Pressure dew-points: -25°C / -40°C / -70°C
Volume flow rate: 1,210 m³/h to 14,700 m³/h
Connection: DN 80 to DN 200

The advantages...

✓ **Pressure vessels MADE IN GERMANY**
– Meets the highest design and safety standards
– High-quality, durable coating
– Fully zinc-coated piping

✓ **2-layer silica gel desiccant bed**
– High-quality, effective desiccant
– Stable pressure dew-points down to -70°C
– Low regeneration temperatures with energy savings of up to 33%
– Extended desiccant service life

✓ **Uniform flow through wedge screen**
– Maximum drying efficiency
– Low differential pressures
– Extended desiccant service life

✓ **Mechanically linked 4/2-way valves (DTS 125 BVL to DTS 1100 BVL)**
– Overlap-free, reliable switch-over
– Reliable compressed air supply downstream of the dryer

✓ **External heater**
– No differential pressure in adsorption mode
– Freely accessible, thus easy to maintain
– Easy integration of alternative energy sources

✓ **Serial heating in blower mode**
– Utilises blower heat
– Energy savings of up to 21%

✓ **Fast cooling in suction mode**
– No blower heat input during cooling
– No purge air required

✓ **Closed loop cooling – water or air-cooled**
– Independent of climatic conditions
– Higher performance due to lack of moisture input
– Easy integration of external cooling sources

✓ **C10 control unit**

.. result in a dryer providing ..

✓ Maximum operational reliability
✓ Minimum total operating costs
✓ Long service life
✓ Easy maintenance
✓ Comprehensive options to choose

Heat regeneration with serial heating and fast closed loop cooling – the most economical method for drying compressed air in the high performance range

Series DTS..BVL adsorption dryers can dry the compressed air to a pressure dew-point of -25°C, -40°C or down to -70°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point. Additionally a separate downstream activated carbon oil vapour adsorber can be provided (see DSS series).

Series DTS..BVL adsorption dryers consist of welded and coated steel vessels, which are pressure-rated up to 11 bar, and generously sized, zinc-coated piping. The flow paths are switched over via pneumatically controlled 4/2-way plug valves, which are mechanically connected to each other via a cardan shaft and therefore switch in synch. Model DTS 1280 and higher uses shut-off valves with end position control. The dryers are operated with a 2-layer desiccant bed, consisting of 30% water-resistant silica gel WS and 70% high-grade drying silica gel N. The heating phase of the regeneration takes place in blower mode using the blower heat. The ambient air intake is pre-warmed, reheated in an electric heater and fed through the desiccant (serial heating). The cooling phase takes place in suction mode and therefore without blower heat (fast cooling) and in a closed loop via a heat exchanger. Cooling takes place without the input of ambient air and therefore independent of climatic conditions – and, of course, without purge air.

Series DTS..BVL adsorption dryers feature comprehensive standard equipment. Pre-filters and after-filters are optionally available. The standard C10 control unit with 5.7" touchscreen controls all operating modes for heat regenerating adsorption dryers and enables both independent operation of the dryer as well as integration into the control system of an existing compressed air station. In conjunction with an optional dew-point sensor, the adsorption dryer can be operated depending on the load in variable cycle mode and thus typical energy savings of 20-70% can be achieved.

Further energy savings can be made through integration of the customer's alternative energy sources (e.g. steam or hot water) and/or thermal insulation.

Available accessories

Dew-point sensor	Thermal insulation	Start-up device (minimum pressure valve)	Limit switch main valve	Switch-over control
				

Many other options, such as special voltages, special control units, special coatings, are available on request.

Technical data

Model	Nominal volume flow*1	Min./max. operating pressure	Connection	Supply voltage	Height	Width	Depth	Weight
DTS 125 BVL	1,210 m³/h	4 - 11 bar	DN 80	400 V / 50 Hz 500 V / 50 Hz 690 V / 60 Hz	On request			
DTS 155 BVL	1,490 m³/h	4 - 11 bar	DN 80					
DTS 215 BVL	2,100 m³/h	4 - 11 bar	DN 80					
DTS 250 BVL	2,440 m³/h	4 - 11 bar	DN 100					
DTS 300 BVL	2,950 m³/h	4 - 11 bar	DN 100					
DTS 380 BVL	3,750 m³/h	4 - 11 bar	DN 100					
DTS 430 BVL	4,250 m³/h	4 - 11 bar	DN 150					
DTS 500 BVL	4,930 m³/h	4 - 11 bar	DN 150					
DTS 540 BVL	5,330 m³/h	4 - 11 bar	DN 150					
DTS 650 BVL	6,510 m³/h	4 - 11 bar	DN 150					
DTS 720 BVL	7,180 m³/h	4 - 11 bar	DN 150					
DTS 860 BVL	8,600 m³/h	4 - 11 bar	DN 200					
DTS 940 BVL	9,400 m³/h	4 - 11 bar	DN 200					
DTS 1110 BVL	11,000 m³/h	4 - 11 bar	DN 200					
DTS 1280 BVL	12,800 m³/h	4 - 11 bar	DN 200					
DTS 1470 BVL	14,700 m³/h	4 - 11 bar	DN 200					

*1 – standardised to 1 bar(a) and 20°C for operating conditions 7 bar operating pressure, inlet temperature 35°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DHM series

Type of regeneration: Heatless
Pressure dew-points: -25°C / -40°C / -55°C
Volume flow rate: 130 m³/h to 1,600 m³/h
Connection: G 1/2 to G 3/4

The advantages...

✓ **Stainless steel seamless vessels MADE IN GERMANY**
– Meet the highest safety standards
– Maximum corrosion resistance

✓ **Molecular sieve desiccant**
– High-quality, effective desiccant
– Stable pressure dew-points down to -55°C
– Energy-saving cycle time of 20 minutes

✓ **2-layer desiccant bed**
– Stable drying
– Extended desiccant service life

✓ **Evenly distributed flow through stainless steel sieve plate**
– Maximum drying efficiency
– Low differential pressures
– Extended desiccant service life

✓ **Individual valve control**
– No pressure peaks during switch-over
– Reliable compressed air supply

✓ **Fully integrated, compact valve blocks**
– Leak-free
– Unique, compact design
– Easy, cost-effective service

✓ **C1 control unit**
– Plain text display
– Prepared for dew-point dependent control with variable cycle
– Individual choice of alarm management
– ... and much more

.. result in a dryer providing ..

✓ Maximum operational reliability

✓ Minimum total operating costs

✓ Long service life

✓ Easy maintenance

Compressed air drying for high pressure applications – the compact DHM series

Series DHM adsorption dryers, optionally available as DHM..A with additional activated carbon oil vapour adsorber, can dry the compressed air down to a pressure dew-point of -25°C, -40°C or -55°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point.

Series DHM adsorption dryers consist of seamless stainless steel vessels, which are pressure-rated up to 350 bar and on which fully integrated, leak-free valve blocks are fitted. The switch-over valves are freely accessible in the lower valve block and are individually controlled without any overlap.

The dryers are operated with a 2-layer desiccant bed, consisting of 20% water resistant silica gel WS and 80% high-grade drying molecular sieve.

Series DHM adsorption dryers are fitted with pressure gauges and a pre-filter and after-filter as standard. The standard C1 control unit with plain text display and integrated operating elements controls all operating modes for heatless adsorption dryers and enables both independent operation of the dryer as well as integration into the control system of an existing compressed air station. In conjunction with an optional dew-point sensor, the adsorption dryer can be operated depending on the load in variable cycle mode and thus typical energy savings of 20-70% can be achieved.

Available accessories

Dew-point sensor	Differential pressure gauges with alarm contact	Start-up device (minimum pressure valve)	GSM module	Switch-over control
				

Many other options are available on request.

Technical data

Model	Nominal volume flow*1	Min./max. operating pressure	Connection	Supply voltage	Height	Width	Depth	Weight
DHM 8/100	130 m³/h	30 - 100 bar	G 1/2	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1040 mm	782 mm	370 mm	85 kg
DHM 13/100	195 m³/h	30 - 100 bar	G 1/2		1190 mm	782 mm	370 mm	96 kg
DHM 18/100	270 m³/h	30 - 100 bar	G 1/2		1340 mm	782 mm	370 mm	109 kg
DHM 26/100	345 m³/h	30 - 100 bar	G 1/2		1490 mm	782 mm	370 mm	122 kg
DHM 31/100	425 m³/h	30 - 100 bar	G 1/2		1740 mm	782 mm	370 mm	134 kg
DHM 41/100	565 m³/h	30 - 100 bar	G 3/4		1700 mm	850 mm	370 mm	157 kg
DHM 52/100	670 m³/h	30 - 100 bar	G 3/4		1900 mm	850 mm	370 mm	172 kg
DHM 59/100	760 m³/h	30 - 100 bar	G 3/4		2100 mm	850 mm	370 mm	193 kg
DHM 66/100	825 m³/h	30 - 100 bar	G 3/4		2350 mm	850 mm	370 mm	218 kg
DHM 8/350	225 m³/h	30 - 350 bar	G 1/2	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1040 mm	782 mm	370 mm	130 kg
DHM 13/350	350 m³/h	30 - 350 bar	G 1/2		1190 mm	782 mm	370 mm	151 kg
DHM 18/350	480 m³/h	30 - 350 bar	G 1/2		1340 mm	782 mm	370 mm	177 kg
DHM 26/350	620 m³/h	30 - 350 bar	G 1/2		1490 mm	782 mm	370 mm	209 kg
DHM 31/350	750 m³/h	30 - 350 bar	G 1/2		1740 mm	782 mm	370 mm	237 kg
DHM 41/350	1,100 m³/h	30 - 350 bar	G 3/4		1700 mm	850 mm	370 mm	284 kg
DHM 52/350	1,300 m³/h	30 - 350 bar	G 3/4		1900 mm	850 mm	370 mm	314 kg
DHM 59/350	1,475 m³/h	30 - 350 bar	G 3/4		2100 mm	850 mm	370 mm	356 kg
DHM 66/350	1,600 m³/h	30 - 350 bar	G 3/4		2350 mm	850 mm	370 mm	397 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions maximum permissible operating pressure, inlet temperature 35°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DHW series

Type of regeneration: Heatless
Pressure dew-points: -25°C / -40°C / -55°C
Volume flow rate: 45 m³/h to 1,560 m³/h
Connection: G 1/2 to G 3/4

The advantages...

✓ **Pressure vessels MADE IN GERMANY**
– Meets the highest safety standards
– High-quality, durable coating

✓ **Molecular sieve desiccant**
– High-quality, effective desiccant
– Stable pressure dew-points down to -55°C
– Energy-saving cycle time of 20 minutes

✓ **2-layer desiccant bed**
– Stable drying
– Extended desiccant service life

✓ **Individual valve control**
– No pressure peaks during switch-over
– Reliable compressed air supply

✓ **C1 control unit**
– Plain text display
– Prepared for dew-point dependent control with variable cycle
– Individual choice of alarm management
– ... and much more

.. result in a dryer providing ..

✓ Maximum operational reliability

✓ Minimum total operating costs

✓ Long service life

✓ Easy maintenance

Compressed air drying for high pressure applications – the individually configurable DHW series

Series DHW adsorption dryers, optionally available as DHW..A with additional activated carbon oil vapour adsorber, can dry the compressed air to a pressure dew-point of -25°C, -40°C or down to -55°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point.

Series DHW adsorption dryers consist of welded and coated steel vessels, which are pressure-rated up to 350 bar. The switch-over valves are freely accessible and are individually controlled without any overlap. The dryers are operated with a 2-layer desiccant bed, consisting of 20% water resistant silica gel WS and 80% high-grade drying molecular sieve.

Series DHW adsorption dryers are fitted with pressure gauges and a pre-filter and after-filter. The standard C1 control unit with plain text display and integrated operating elements controls all operating modes for heatless adsorption dryers and enables both independent operation of the dryer as well as integration into the control system of an existing compressed air station. In conjunction with an optional dew-point sensor, the adsorption dryer can be operated depending on the load in variable cycle mode and thus typical energy savings of 20-70% can be achieved.

Available accessories

Dew-point sensor	Differential pressure gauges with alarm contact	Start-up device (minimum pressure valve)	GSM module	Switch-over control
				

Many other options are available on request.

Technical data

Model	Nominal volume flow*1	Min./max. operating pressure	Connection	Supply voltage	Height	Width	Depth	Weight
DHW 11/50	45 m³/h	17 - 50 bar	G 1/2	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1155 mm	735 mm	465 mm	65 kg
DHW 19/50	91 m³/h	17 - 50 bar	G 1/2		1425 mm	735 mm	465 mm	80 kg
DHW 39/50	200 m³/h	17 - 50 bar	G 1/2		1525 mm	810 mm	480 mm	105 kg
DHW 49/50	244 m³/h	17 - 50 bar	G 1/2		1715 mm	810 mm	480 mm	115 kg
DHW 72/50	357 m³/h	17 - 50 bar	G 3/4		1780 mm	930 mm	500 mm	150 kg
DHW 96/50	475 m³/h	17 - 50 bar	G 3/4		1780 mm	980 mm	525 mm	180 kg
DHW 156/50	825 m³/h	17 - 50 bar	G 3/4		1870 mm	1080 mm	575 mm	240 kg
DHW 239/50	1,254 m³/h	17 - 50 bar	G 3/4		1870 mm	1190 mm	630 mm	390 kg
DHW 5/100	72 m³/h	30 - 100 bar	G 1/2	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1155 mm	635 mm	400 mm	100 kg
DHW 9/100	87 m³/h	30 - 100 bar	G 1/2		1205 mm	635 mm	400 mm	110 kg
DHW 12/100	153 m³/h	30 - 100 bar	G 1/2		1220 mm	685 mm	400 mm	115 kg
DHW 24/100	283 m³/h	30 - 100 bar	G 3/4		1350 mm	740 mm	450 mm	144 kg
DHW 37/100	429 m³/h	30 - 100 bar	G 3/4		1410 mm	810 mm	450 mm	200 kg
DHW 58/100	750 m³/h	30 - 100 bar	G 3/4		1710 mm	870 mm	450 mm	275 kg
DHW 5/250	115 m³/h	30 - 250 bar	G 1/2	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1155 mm	635 mm	400 mm	110 kg
DHW 9/250	140 m³/h	30 - 250 bar	G 1/2		1205 mm	635 mm	400 mm	115 kg
DHW 12/250	270 m³/h	30 - 250 bar	G 1/2		1220 mm	685 mm	400 mm	132 kg
DHW 24/250	500 m³/h	30 - 250 bar	G 3/4		1350 mm	740 mm	450 mm	195 kg
DHW 37/250	800 m³/h	30 - 250 bar	G 3/4		1410 mm	810 mm	450 mm	245 kg
DHW 58/250	1,400 m³/h	30 - 250 bar	G 3/4		1710 mm	870 mm	450 mm	375 kg
DHW 5/350	150 m³/h	30 - 350 bar	G 1/2	230 V / 50-60 Hz 115 V / 50-60 Hz 24 V DC	1155 mm	635 mm	400 mm	110 kg
DHW 9/350	180 m³/h	30 - 350 bar	G 1/2		1205 mm	635 mm	400 mm	115 kg
DHW 12/350	300 m³/h	30 - 350 bar	G 1/2		1220 mm	685 mm	400 mm	145 kg
DHW 24/350	525 m³/h	30 - 350 bar	G 3/4		1350 mm	740 mm	450 mm	225 kg
DHW 37/350	850 m³/h	30 - 350 bar	G 3/4		1410 mm	810 mm	450 mm	280 kg
DHW 58/350	1,560 m³/h	30 - 350 bar	G 3/4		1710 mm	870 mm	450 mm	415 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions maximum permissible operating pressure, inlet temperature 35°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

DM series

Type of regeneration: ---
Pressure dew-points: Down to -40°C
Volume flow rate: 4.2 m³/h to 24 m³/h
Connection: G 1/8 to G 3/8

Series DM membrane dryers can dry small amounts of compressed air to pressure dew-points down to -40°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point.

The pressure dew-point achieved by the membrane dryer is dependent on the inlet temperature and the set amount of purge air. From an energy point of view, the maximum pressure dew-point reduction should be 30°C. For example, at an inlet temperature of 20°C, a pressure dew-point of -10°C is achieved.

Series DM membrane dryers consist of hollow fibre membrane bundles, which are pressure-rated up to 8.5 bar. Only water molecules and therefore moisture can diffuse through the fine pores of these bundles. Expanded, dry compressed air (purge air) from the membrane dryer outlet is led to the outside of the hollow fibres and removes the moisture from the compressed air flowing through the hollow fibres by the means of diffusion.

Solid and oily contaminants must be kept away from the sensitive hollow fibre membranes. If the compressed air purity at the membrane dryer inlet is not sufficient, then a suitable pre-filter must be used.

Series DM membrane dryers are compact, fully integrated compressed air dryers. The DM-SWC series also have a 3 stage purge air setting option for achieving different pressure dew-points.

Available accessories

Pre-filter

Technical data

Model	Nominal volume flow*1	Max. operating pressure	Connection	Height	Width	Depth	Weight
DM-SWCM-08-100	4.2 m³/h	8.5 bar	G 1/8	112 mm	61 mm	31 mm	0.26 kg
DM-SWCM-15-100	7.2 m³/h	8.5 bar	G 1/8	112 mm	61 mm	31 mm	0.27 kg
DM-SWC-01-150	12 m³/h	8.5 bar	G 1/4	165 mm	70 mm	40 mm	0.39 kg
DM-SWC-02-250	18 m³/h	8.5 bar	G 3/8	215 mm	100 mm	50 mm	0.69 kg
DM-SWC-03-250	24 m³/h	8.5 bar	G 3/8	215 mm	100 mm	50 mm	0.71 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions 7 bar operating pressure, inlet temperature 20°C, 30°C pressure dew-point reduction

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de

FCA..CMSM series

Type of regeneration: Replacement cartridges
Pressure dew-points: Down to -40°C
Volume flow rate: 0.5 m³/h to 4 m³/h
Connection: G 1/2

Series FCA point of use dryers can dry small amounts of temporarily required compressed air to pressure dew-points down to -40°C. In doing so, they create dry, thoroughly undersaturated compressed air in which no further condensation takes place and thus no formation of liquid water can occur at compressed air temperatures above the pressure dew-point.

Series FCA point of use dryers are also used when sensitive applications with high requirements in terms of the degree of dryness of the compressed air need to be protected against unexpected moisture appearance (safety level for adsorption dried compressed air).

Series FCA point of use dryers consist of housings which are pressure-rated up to 16 bar and a desiccant cartridge with integrated dust filter. As the compressed air flows through the desiccant cartridge, the moisture is thoroughly removed from it by the desiccant (adsorption). The integrated dust filter collects any abrasion particles from the desiccant. Downstream dust filtration is not required.

Oily contaminants would stick to the desiccant and therefore need to be kept away from it. If the compressed air purity at the point of use dryer inlet is not sufficient, then a suitable pre-filter must be used.

The optional moisture indicator approximately determines the degree of dryness of the compressed air and thus when the desiccant cartridge needs to be replaced.

Available accessories

Pre-filter

Moisture indicator

Technical data

Model	Nominal volume flow*1	Capacity*1	Max. operating pressure	Connection	Height	Width	Depth	Weight
FCA90CMSM	0.5 m³/h	11 m³	16 bar	G 1/2	312 mm	130 mm	122 mm	4.0 kg
FCA110CMSM	1.5 m³/h	32 m³	16 bar	G 1/2	412 mm	130 mm	122 mm	4.5 kg
FCA120CMSM	2.5 m³/h	54 m³	16 bar	G 1/2	512 mm	130 mm	122 mm	5.0 kg
FCA130CMSM	4.0 m³/h	95 m³	16 bar	G 1/2	712 mm	130 mm	122 mm	6.5 kg

*1 – standardised to 1 bar(a) and 20°C for operating conditions 7 bar operating pressure, inlet temperature 20°C, pressure dew-point at outlet -40°C

For detailed technical data and reference variables, please refer to the relevant product data sheet which can be downloaded at www.fstweb.de