

COMPRESSED AIR TREATMENT

High pressure



50 bar



50 bar

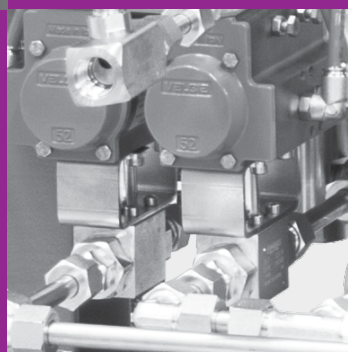
100 bar



250 bar



400 bar



Better air

Better air

OMEGA AIR



OMEGA

AIR

OMEGA AIR

Air and Gas Treatment



50 bar

- 12 **HF**
Cast aluminium HP filters
- 14 **BHF**
Welded carbon steel HP filters
- 16 **WHFIT**
HP stainless steel process filters
- 18 **MDHI 50**
Differential HP indicator
- 20 **TD 50M**
HP timer controlled cond. drain
- 21 **EMD HP**
HP electronic condensate drain
- 22 **AOK 50B**
Automatic HP condensate drain
- 23 **AOK 50SS**
Autom. stainless steel HP drain
- 24 **OHP**
HP compressed air dryers
- 26 **HP DRY**
HP heatless reg. adsorption dryer
- 28 **HPR DRY**
HP heat reg. adsorption dryer
- 30 **HP-TAC 50**
HP activated carbon tower
- 31 **HTP 50 PED**
HP pressure vessels - PED

100, 250, 400 bar

- 34 **CHP**
Carbon steel HP filters
- 36 **IHP**
Stainless steel HP filters
- 38 **MDH 200**
Differential HP indicator
- 39 **MDH 400**
Differential HP indicator
- 40 **TD 400M**
Timer controlled cond. drain
- 42 **HP DRY**
HP heatless reg. adsorption dryer
- 44 **TAC HP 100,250,400**
HP activated carbon tower
- 45 **HTP 100,250,400**
HP pressure vessels - PED

Controllers

- 48 **ADC 1.0**
Controller
- 48 **ADC 2.0**
Controller
- 49 **ADC 3.0**
Controller
- 49 **ADC 4.0**
Controller

SKIDS

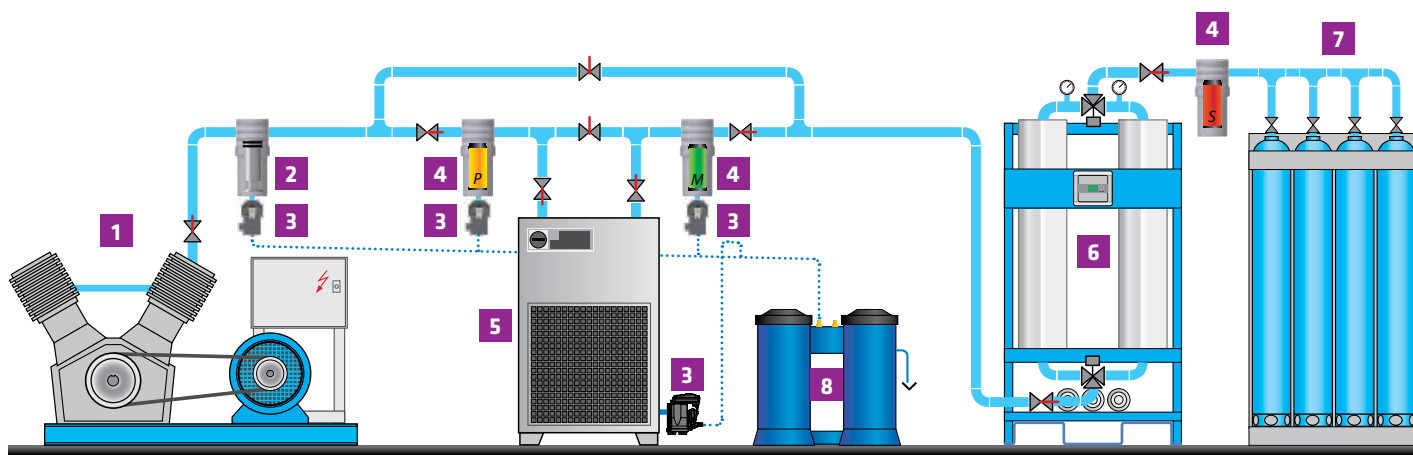
- 50 **SKIDS**
Custom made

SORBEO

- 52 **SORBEO**
Adsorbents

HP Compressed Air and Gas treatment

BASIC PRINCIPLES OF MOST TYPICAL HIGH PRESSURE APPLICATION



1

BOOSTER

Air boosters take pre-compressed air from an existing network (the main air system) and increase it to the required higher pressure of the specific application.

It is much more economical adding a booster compressor to increase pressure only for facilities, where it is required, than using higher pressures for the entire system.

Other methods of acquiring higher pressure air such as stand-alone air compressors, air amplifiers and increasing the pressure of the entire plant are more costly and less efficient.

2

CYCLONE CONDENSATE SEPARATOR

Cyclone condensate separators use centrifugal motion to force liquid water out of compressed air. The spinning causes the condensate to join together on the centrifugal separators walls when the condensate gains enough mass it falls to the bottom of the separators bowl where it pools in the sump until it is flushed out of the system by the automatic float drain valve.

They are installed following aftercoolers to remove the condensed moisture.

3

CONDENSATE DRAIN

Drains are used at all separators, filters, dryers and receivers in order to remove the liquid condensate from the compressed air system.

Failed drains can allow slugs of moisture to flow downstream that can overload the air dryer and foul end use equipment.

4

FILTER

Compressed air filters are used for high efficient removal of solid particles, water, oil aerosols, hydrocarbons, odour and vapours from compressed air systems.

To meet the required compressed air quality appropriate filter element must be installed into filter housing.

5

REFRIGERATED COMPRESSED AIR DRYER

Compressed air leaving the compressor aftercooler and moisture separator is normally warmer than the ambient air and fully saturated with moisture. As the air cools the moisture will condense in the compressed air lines. Excessive entrained moisture can result in undesired pipe corrosion and contamination at point of end use. For this reason some sort of air dryer is normally required. Some end use applications require very dry air, such as compressed air distribution systems where pipes are exposed to winter conditions. Drying the air to dew points below ambient conditions is necessary to prevent ice buildup.

6

HIGH PRESSURE ADSORPTION DRYER

High pressure adsorption dryers are used for continuous separation of water vapour from compressed air under high pressure thus reducing dew point.

Operation of the dryer requires two columns operated alternately. Adsorption takes place under pressure in the first column while the second column regenerates with a portion of already dried compressed air at ambient pressure.

7

HIGH PRESSURE TANKS

Air receivers must be hot galvanised, equipped with safety valves, drain system, air pressure gauge and inspection cover.

Design, mounting and stamping should be in accordance with the European pressure vessel code.

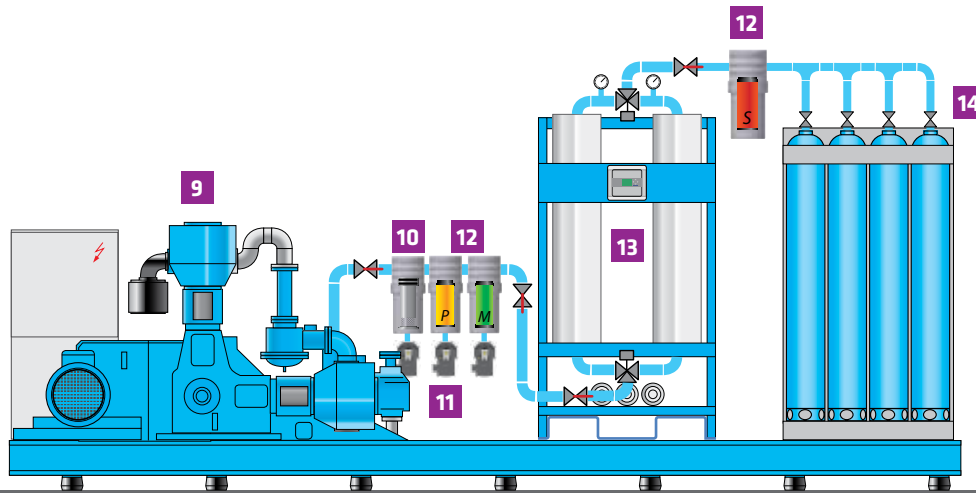
Pressure vessels and all other equipment must comply to the requested pressure range.

8

OIL/WATER SEPARATOR

Local environmental laws and regulations state that condensate drained from compressed air systems cannot be returned to the sewage system due to the content of compressor lubricating oil.

Water/oil separators are one of the most effective and economical solution. Multi-stage separation process using oleophilic filters and activated carbon, ensures exceptional performance and trouble free operation.



9 HIGH PRESSURE COMPRESSOR

High pressure compressed air package is mounted on a base plate equipped with anti-vibration mountings. Package includes electric motor, drive system, intercoolers between each stage and after-cooler, air inlet filter suitable for dusty conditions. Intake and discharge valves, intercoolers and aftercooler, moisture separators on each stage with safety valve and automatic drain trap, condensate drain system and interconnecting air pipe system.

10 CYCLONE CONDENSATE SEPARATOR

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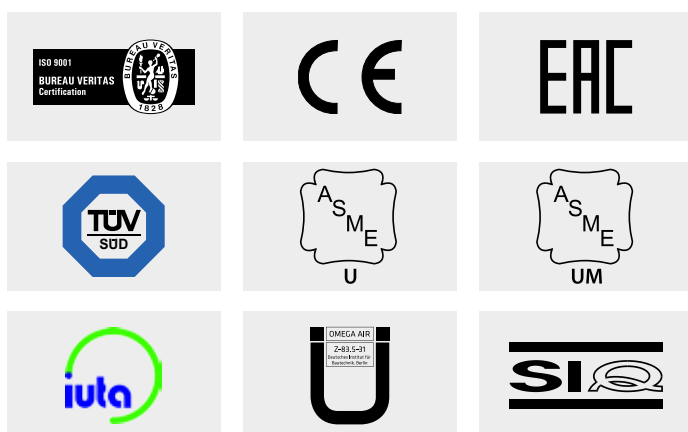
COMPRESSED AIR QUALITY CLASSES ACCORDING TO ISO 8573-1

CLASS	SOLID PARTICLES			HUMIDITY AND LIQUID WATER		OIL	
	Maximum number of particles per cubic meter as a function of particle size, $d^{(2)}$			Pressure dew point		Concentration of total oil ⁽²⁾ (liquid, aerosol and vapor)	
	$0,1 \mu\text{m} < d \leq 0,5 \mu\text{m}$	$0,5 \mu\text{m} < d \leq 1,0 \mu\text{m}$	$1,0 \mu\text{m} < d \leq 5,0 \mu\text{m}$	$^{\circ}\text{C}$	$^{\circ}\text{F}$	mg/m^3	$\text{ppm}/\text{w}/\text{w}$
0	As specified by the equipment user or supplier and more stringent than class 1						
1	≤ 20.000	≤ 400	≤ 10	≤ -70	-94	$\leq 0,01$	$\leq 0,008$
2	≤ 400.000	≤ 6.000	≤ 100	≤ -40	-40	$\leq 0,1$	$\leq 0,08$
3	Not specified	≤ 90.000	≤ 1.000	≤ -20	-4	≤ 1	$\leq 0,8$
4	Not specified	Not specified	≤ 10.000	$\leq +3$	38	≤ 5	≤ 4
5	Not specified	Not specified	≤ 100.000	$\leq +7$	45	Not specified	Not specified
6				$\leq \pm 10$	50		
	Mass concentration ⁽²⁾ - C_p			LIQUID WATER CONTENT ⁽²⁾ - C_w			
	mg/m^3			g/m^3			
6	$0 < C_p \leq 5$					Not specified	Not specified
7	$5 < C_p \leq 10$			$C_w \leq 0,5$		Not specified	Not specified
8	Not specified			$0,5 \leq C_w \leq 5$		Not specified	Not specified
9	Not specified					Not specified	Not specified
X	$C_p > 10$					> 5	> 4

⁽¹⁾ To qualify for a class designation, each size range and particle number within a class shall be met.

⁽²⁾ At reference conditions: air temperature of 20° C, absolute air pressure of 100 kPa (1 bar), 0 relative water vapor pressure.

Certificates



Fairs



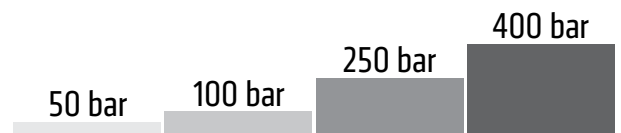
TYPICAL APPLICATION REQUIREMENTS

Table shows typical compressed air applications and the classification classes needed to suit the duty. Care should be taken when using this information, as it is for guidance only since individual uses can vary.

APPLICATION	TYPICAL QUALITY CLASSES ISO 8573-1			Cyclone separator	Prefilter	Microfilter	Activated carbon filter	Refrigerated dryer	Adsorption dryer	Sterile filter
	Solids	Water	Oil							
FOOD AND BEVERAGE INDUSTRY										
Control air / drive air	2	4	2	✓	✓	✓		✓		
Sterile air overlay	1	4	1	✓	✓	✓	✓	✓		✓
Conveying air / process air	1	3-4	1	✓	✓	✓	✓		✓	✓
Packaging production and processes, moulding	1	4	2-4	✓	✓	✓		✓		✓
PAPER/TEXTILE/CHEMICAL INDUSTRY										
Control air / drive air	2	4	2	✓	✓	✓		✓		
Conveying air / process air	2	4	1	✓	✓	✓	✓	✓		
Breathing air	1	1	1-3	✓	✓	✓	✓		✓	✓
METAL WORKING/FOUNDRY/GLASS/PLASTICS IND.										
Control air / drive air	2	4	2	✓	✓	✓		✓		
Blowing air / process air	2	4	1-2	✓	✓	✓	✓	✓		
SURFACE TREATMENT										
Control air	2	4	2	✓	✓	✓		✓		
Powder coating	2	3-4	1	✓	✓	✓	✓	✓	✓	
Blasting	-	4	2	✓	✓	✓		✓	✓	
Coating	2	3-4	1	✓	✓	✓	✓	✓	✓	
Breathing air	1	1	1-3	✓	✓	✓	✓		✓	✓
MECHANICAL / PLANT ENGINEERING										
Control air	2	4	2	✓	✓	✓		✓		
Blowing air	2-3	4	2	✓	✓	✓		✓		
Drive air	2-3	4	3-4	✓	✓	✓		✓		
Process air	2	4	1	✓	✓	✓	✓	✓		
MEASUREMENT AND MONITORING SYSTEMS										
3D measurement systems	1-2	3-4	1	✓	✓	✓	✓	✓	✓	
Measurement and monitoring systems	1-2	3-4	1	✓	✓	✓	✓	✓	✓	
GENERAL PURPOSE AIR										
General workshop air / Cleaning	4	5	4	✓	✓			✓		
Machine tools	3	5	4	✓	✓			✓		
Pneumatic tools	4	4	4	✓	✓			✓		
ELECTRONICS										
Micro electronics manufacture	1	1	1	✓	✓	✓	✓		✓	
MEDICAL AIR										
Medical equipment	1	1	1	✓	✓	✓			✓	✓
Breathing air	1	1	1-3	✓	✓	✓	✓		✓	✓
Dental laboratories	1	1	1	✓	✓	✓			✓	✓

Table in accordance with VDMA recommendation, Guideline 15390-1 (Draft 11/2013).

High pressure filtration



Unfiltered compressed air frequently contains dust, oil, rust, moisture and other harmful substances, and therefore requires filtration. Proper air treatment significantly increases the process and production reliability of machines. The compressed air, containing particles, water and oils reduce the service life and functionality of components and systems. Productivity and energy efficiency is also impaired.

High pressure filtration differs from low pressure filtration only by pressure range. Since pressure is much higher, filter housings must withstand this pressure load. Therefore the housing walls are much thicker.



pre-filter



microfilter



activated carbon filter



process filtration



Breathing Air

Diving centres need compressed air for filling diving cylinders. The quality of respiratory air is determined by the standard, therefore it is necessary to be appropriately purified and treated prior its use.

Diving cylinders are filled at high pressure, therefore high pressure equipment (high pressure filters, dryers and pressure regulators) is required.

Marine

Compressed air is the ideal medium for generation of seismic waves, where the seismic source is usually an air gun that uses bubbles of high pressure compressed air.

Compressed air is a versatile and powerfull energy source. Since it is adaptable to all conditions and climatic variations, it is ideal medium for this application.

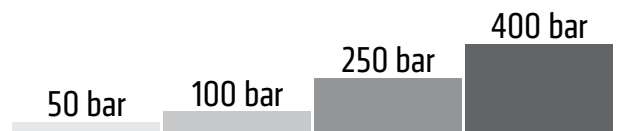
PET Bottle Blowing

The presence of oil in the air may constitute a health hazard for the user and leaves unwanted tastes and odours on the product. High efficient high pressure compressed air filter filters are needed for oil elimination.

Food and Beverage

Most problems caused by compressed air in food and beverage industry are related to its cleanliness. High-pressure compressed air comes into contact with beverage containers. Since the quality is essential in this type of industry, appropriate air and gas treatment is required.

High pressure drying



Compressed air contains contaminants such as water, oil and particulates which must be removed or reduced to the acceptable level based on specific application requirements.

Standard ISO 8573-1 specifies air purity/quality classes for these contaminants. Humidity (water vapour content) is expressed in the terms of Pressure Dew Point (PDP) where Dew point is the temperature at which air is 100% saturated with moisture.

When the temperature of the air decreases to or below the dew point, condensation will occur. Reduction of water content down to pressure dew point +3°C is usually achieved with refrigerant dryers while for lower pressure dew points adsorption (also called desiccant) dryers are typically used.

HP-Dry compressed air adsorption dryers are designed for continuous separation of water vapour from the compressed air in high pressure applications and reducing the pressure dew point. The HP-DRY series of dryers consists from 2 alternately working desiccant filled columns, piping, ball valves controlled by 5/2 pilot valves and a controller.

The adsorption process takes place under pressure in the first column, while the second regenerates with a portion of already dried compressed air at ambient pressure. When the first column is saturated to a certain level, a column switch-over is carried out and the process of adsorption continues in the second column without any drop of pressure at the house of the dryer.

Regeneration of saturated desiccant is possible because a small portion of already dry compressed air is decompressed and thus becomes very dry. This portion of extremely dry decompressed air, also called "purge air" is then fed through the saturated column in the reverse flow direction in order to remove the adsorbed water molecules from the desiccant and release them back to the ambient.

3°C



Pharmaceutical and chemical industry

Compressed air is directly used with products that come in direct contact with cleaning, aeration and product moving. So it should meet all requirements for pure, oil-free air, high-pressure capability and greater energy efficiency.

-25°C



Power generation

High pressure compressed air is used in water, carbon or nuclear fuelled power plants, delivering high pressure air at point of use. In those applications a continuous supply of high pressure air with controlled flow and pressure supply must be assured.

-40°C



Oil and Gas industry

High pressure compressed air is also used for drill string compensation, air and nitrogen drilling systems, well head cleaning and for revitalising of oil wells. It can also be used for cleaning pipelines, evacuation of gas from pipeline, and checking and testing of pipelines.

-70°C



Metal and Metalurgy

Medium and high pressure compressed air is used in a wide variety of metallurgical applications, which encompass the entire range of processes for producing and using metals, metalloids and non-metals. It is used for example for descaling and raising pressure for steel presses.



50 bar COMPRESSED AIR TREATMENT

Type	Pressure	Description	Page
HF	50 bar	HP cast aluminium compressed air filters	12
BHF	50 bar	HP welded carbon steel compressed air filters	14
WHFIT	50 bar	HP stainless steel compressed air filters	16
MDHI	50 bar	Differential high pressure indicator	18
TD 50M	50 bar	HP timer controlled condensate drain	20
EMD HP	50 bar	HP electronic condensate drain	21
AOK 50B	50 bar	HP automatic mechanical condensate drain	22
AOK 50SS	50 bar	HP automatic stainless steel mechanical condensate drain	23
OHP	50 bar	HP refrigerated compressed air dryers	24
HP-DRY	50 bar	HP heatless regenerated adsorption compressed air dryers	26
HPR-DRY	50 bar	HP heat regenerated adsorption compressed air dryers	28
HP TAC 50	50 bar	HP activated carbon tower	30
HTP 50 PED	50 bar	HP pressure vessels - PED certified	31





50 bar
operating pressure

71 to 2760 Nm³/h
volume flow rate

1/2" to 3"
connections

1,5 to 65°C
operating temperature range

RAL 5012
standard colour

RAL 7040
optional colour

DESCRIPTION

HF filters are designed for high efficient removal of solid particles, water, oil aerosols, hydrocarbons and other vapours from compressed air systems.

To meet the required compressed air quality appropriate filter element (B, P, R, M, S, A) must be installed into filter housing.

For any other technical gas please contact producer or your local distributor.

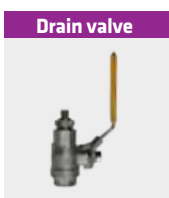
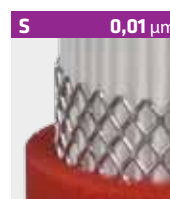
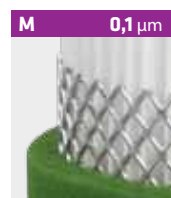
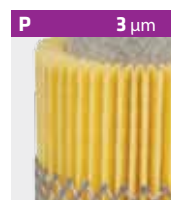
Optional external condensate drains should be used for efficient condensate draining from filter housing.

APPLICATIONS

- General industrial applications
- Automotive
- Electronics
- Food and beverage
- Chemical
- Petrochemical
- PET
- Paint

HF SERIES

CAST ALUMINIUM HIGH PRESSURE FILTERS





TECHNICAL DATA										FILTER ELEMENTS					
Filter housing size	Pipe size	Max. oper. pressure	Flow rate at 7 bar(g), 20 °C		Dimensions [mm]				Mass	B sintered 15 µm	P prefilter 3 µm	R prefilter 1 µm	M microfilter 0,1 µm	S microfilter 0,01 µm	A activated carbon
	inch	bar/psi	Nm³/h	scfm	A	B	C	D	kg						
HF 007	1/2"	50/725	71	42	250	110	30	80	2,1	HF 6060 B	HF 6060 P	HF 6060 R	HF 6060 M	HF 6060 S	HF 6060 A
HF 010	3/4"	50/725	112	66	250	110	30	90	2,1	HF 7060 B	HF 7060 P	HF 7060 R	HF 7060 M	HF 7060 S	HF 7060 A
HF 018	1"	50/725	204	120	250	110	30	140	2,1	HF 12060 B	HF 12060 P	HF 12060 R	HF 12060 M	HF 12060 S	HF 12060 A
HF 047	1 1/2"	50/725	282	166	535	160	45	260	9,5	HF 22090 B	HF 22090 P	HF 22090 R	HF 22090 M	HF 22090 S	HF 22090 A
HF 070	1 1/2"	50/725	400	235	535	160	45	360	9,5	HF 32090 B	HF 32090 P	HF 32090 R	HF 32090 M	HF 32090 S	HF 32090 A
HF 094	2"	50/725	494	291	715	160	45	540	12,2	HF 50090 B	HF 50090 P	HF 50090 R	HF 50090 M	HF 50090 S	HF 50090 A
HF 150	2"	50/725	799	470	715	160	45	550	12,2	HF 51090 B	HF 51090 P	HF 51090 R	HF 51090 M	HF 51090 S	HF 51090 A
HF 200	3"	50/725	2160	1270	862	198	70	620	30,4	HF 51140 B	HF 51140 P	HF 51140 R	HF 51140 M	HF 51140 S	HF 51140 A
HF 240	3"	50/725	2760	1620	1010	198	70	780	34,9	HF 75140 B	HF 75140 P	HF 75140 R	HF 75140 M	HF 75140 S	HF 75140 A
					quality class - solids (ISO 8573-1)				7	6	3	2	1	1 ³⁾	
					residual oil content [mg/m³]				-	-	-	<0,1	<0,01	<0,005	
					quality class - oils (ISO 8573-1)				-	-	-	2	1	1	
					pressure drop - new element [mbar / psi]				20 / 0,29	10 / 0,145	20 / 0,29	50 / 0,725	80 / 1,16	60 / 0,87	
					change filter cartridge at pressure drop [mbar / psi]				¹⁾	350 / 5,07	350 / 5,07	350 / 5,07	350 / 5,07	6 months ²⁾	
					filter media				sintered brass	acrylic fibres, cellulose	borosilicate micro fibres			activated carbon	
					pleated version				-	✓	✓	✓	✓	-	
					wrapped version				-	-	-	-	-	✓	
					sintered version				✓	-	-	-	-	-	
					min. operating temperature (°C / °F)				1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	
max. operating temperature (°C / °F)				65 / 149	65 / 149	65 / 149	65 / 149	65 / 149	45 / 113						
CORRECTION FACTORS															
Operating pressure [bar]		3	5	7	10	13	16	20	30	40	50				
Operating pressure [psi]		44	72	100	145	189	232	290	435	580	725				
Correction factor		0.50	0.75	1	1.38	1.75	2.13	2.63	3.88	5.13	6.38				

¹⁾ B filter element can be cleaned with ultrasonic bath or with back flushing. Intervals of cleaning depends of application. If necessary replace filter element with new one.

²⁾ Filter elements "A," must be changed periodically to suit application, but at least every 6 months. Activated carbon filters must not operate in oil saturated conditions.

³⁾ Valid if "S" filter cartridge is installed upstream.

**25, 50 bar**

operating pressure

1680 to 31400 Nm³/h

volume flow rate

DN80 to DN300

connections

1,5 to 65°C

operating temperature range

RAL 5012

standard colour

DESCRIPTION

BHF filters are designed for protection of the downstream compressed air system and equipment against defects and other failures in high pressure applications. Due to their robust welded carbon steel construction, are used for installation in heavy industrial applications with high air flows.

They ensure high efficient removal of solid particles, water, oil aerosols, hydrocarbons, odour and vapours from compressed air systems up to 25 or up to 50 bar. For any other technical gas please contact producer or your local distributor.

Required compressed air quality according to standard ISO 8571-1 can be achieved with 6 different grades of filter elements (B, P, R, M, S and A).

Optional external condensate drains should be used for efficient condensate draining from filter housing. Fluid group 1 on request.

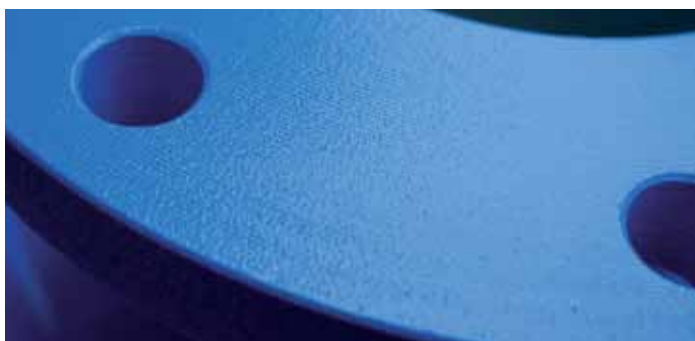
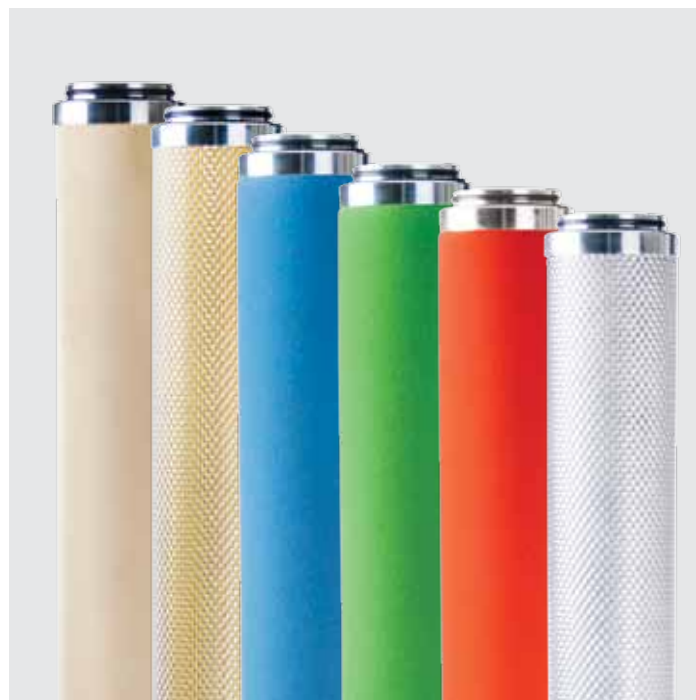
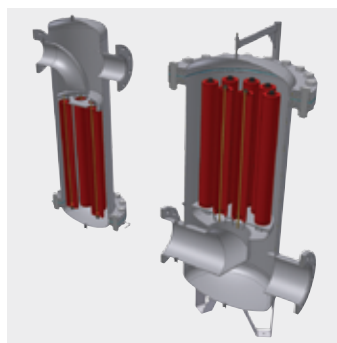
APPLICATIONS

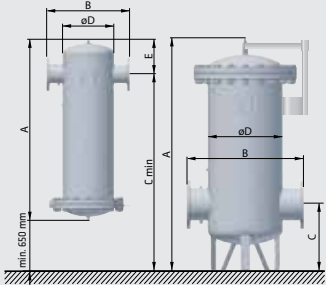
- General industrial applications
- Automotive
- Electronics
- Food and beverage
- Chemical
- Petrochemical
- Plastics
- Paint

BHF SERIES

HIGH PRESSURE WELDED CARBON STEEL COMPRESSED AIR FILTERS





TECHNICAL DATA									FILTER ELEMENTS					
Filter housing size	Pipe size	Max.oper. pressure	Flow rate at 7 bar(g), 20 °C		Dimensions [mm]				B sintered 15 µm	P prefilter 3 µm	R prefilter 1 µm	M microfilter 0,1 µm	S microfilter 0,01 µm	A activated carbon
	DN	bar/psi	Nm³/h	scfm	A	C	D	E						
BHF 0240	80	25/362; 50/725	1.680	989	1170	1645	219	177	1×76090 B15	1×76090 P	1×76090 R	1×76090 M	1×76090 S	1×76090 A
BHF 0300	100	25/362; 50/725	3.150	1.853	1340	1780	324	227	2×76090 B15	2×76090 P	2×76090 R	2×76090 M	2×76090 S	2×76090 A
BHF 0450	125	25/362; 50/725	4.700	2.765	1340	1780	324	227	3×76090 B15	3×76090 P	3×76090 R	3×76090 M	3×76090 S	3×76090 A
BHF 0600	150	25/362; 50/725	6.300	3.706	1425	1810	368	265	4×76090 B15	4×76090 P	4×76090 R	4×76090 M	4×76090 S	4×76090 A
BHF 0900	150	25/362; 50/725	9.400	5.530	1480	1850	419	650	6×76090 B15	6×76090 P	6×76090 R	6×76090 M	6×76090 S	6×76090 A
BHF 1200	200	25/362; 50/725	12.550	7.382	1835	510	508	-	8×76090 B15	8×76090 P	8×76090 R	8×76090 M	8×76090 S	8×76090 A
BHF 1500	200	25/362; 50/725	15.700	9.235	1880	535	610	-	10×76090 B15	10×76090 P	10×76090 R	10×76090 M	10×76090 S	10×76090 A
BHF 1800	250	25/362; 50/725	18.850	11.088	1950	555	610	-	12×76090 B15	12×76090 P	12×76090 R	12×76090 M	12×76090 S	12×76090 A
BHF 2500	250	25/362; 50/725	25.100	14.765	2060	645	711	-	16×76090 B15	16×76090 P	16×76090 R	16×76090 M	16×76090 S	16×76090 A
BHF 3000	300	25/362; 50/725	31.400	18.481	2130	680	711	-	20×76090 B15	20×76090 P	20×76090 R	20×76090 M	20×76090 S	20×76090 A
BHF 0240 BHF 0300 BHF 0450 BHF 0600 BHF 0900 BHF 1200 BHF 1500 BHF 1800 BHF 2500 BHF 3000 	quality class - solids (ISO 8573-1)				7	6	3	2	1	1 ³⁾				
	residual oil content [mg/m³]				-	-	-	<0,1	<0,01	<0,005				
	quality class - oils (ISO 8573-1)				-	-	-	2	1	1				
	pressure drop - new element [mbar / psi]				20 / 0,290	10 / 0,145	20 / 0,290	50 / 0,725	80 / 1,160	60 / 0,870				
	change filter cartridge at pressure drop [mbar / psi]				¹⁾	350 / 5,07	350 / 5,07	350 / 5,07	350 / 5,07	6 months ²⁾				
	filter media				sintered brass	acrylic fibres, cellulose	borosilicate micro fibres			activated carbon				
	pleated version				-	✓	✓	✓	✓	-				
	wrapped version				-	-	-	-	-	✓				
	sintered version				✓	-	-	-	-	-				
	min. operating temperature (°C / °F)				1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35				
	max. operating temperature (°C / °F)				65 / 149	65 / 149	65 / 149	65 / 149	65 / 149	45 / 113				

CORRECTION FACTORS

Operating pressure [bar]	3	5	7	10	13	16	20	25	30	40	50
Operating pressure [psi]	44	72	100	145	189	232	290	362	435	580	725
Correction factor	0,50	0,75	1	1,38	1,75	2,13	2,63	3,25	3,88	5,13	6,38

¹⁾ "B" filter element can be cleared with ultrasonic bath or with back flushing. Intervals of cleaning depends of application. If necessary replace filter element with new one.

²⁾ Filter elements "A" must be changed periodically to suit application, but at least every 6 months. Activated carbon filters must not operate in oil saturated conditions.

³⁾ Valid if "S" filter cartridge is installed upstream.

Models BHF 0240 to BHF 0900 can be produced with optional integrated support legs, which should be noticed at order.

**50 bar**

operating pressure

150 to 2400 Nm³/h

volume flow rate

1/2" to 3"

connections

up to +150°C

operating temperature range

stainless steel 1.4404-standard**stainless steel 1.4301**-option
material

DESCRIPTION

WHFIT process filter housings are designed for applications in process industry, where the risk for corrosion of compressed air system components is very high. WHFIT process filter housing can be used in variety of applications. For applications not listed please contact producer or your local distributor.

For any other technical gas please contact producer or your local distributor. For oil removal, coalescing filter element must be installed and flow direction inside-out must be provided. General arrangement is filter head on top and filter bowl on bottom.

Required compressed air quality according to standard ISO 8571-1 can be achieved with 8 different grades of filter elements (PI, PIW, PN, PP, PR, PM, PS and PA).

- Fluid group 1 on request.

APPLICATIONS

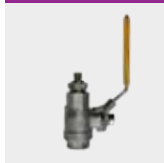
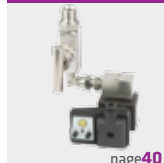
- Packing industry
- Biotechnology
- Breweries
- Chemical industry
- Dairies
- Fermentation processes
- Food and beverage industry
- Pharmaceutical industry
- Hospitals

WHFIT SERIES

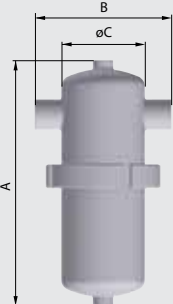
HIGH PRESSURE STAINLESS STEEL PROCESS COMPRESSED AIR FILTERS



PI	1; 20 µm	PIW	1; 20 µm
PN	5; 25 µm	PP	3 µm
PR	1 µm	PM	0,1 µm
PS	0,01 µm	PA	activated carbon

Drain valve**TD 400M**



TECHNICAL DATA									FILTER ELEMENTS							
Filter housing size	Pipe size	Oper. press.	Flow rate at 7 bar(g), 20°C		Dimensions [mm]			Mass	PI prefilter 1; 20 µm	PIW prefilter 1; 20 µm	PN prefilter 5; 25 µm	PP prefilter 3 µm	PR prefilter 1 µm	PM microfilter 0,1 µm	PS microfilter 0,01 µm	PA activated carbon
	inch	bar	Nm³/h	scfm	A	B	C	kg								
WHFIT 010	1/2"	50	150	88	231	125	76,1	2,5	0420 PI	0420 PIW	0420 PN	0420 PP	0420 PR	0420 PM	0420 PS	0420 PA
WHFIT 018	3/4"	50	225	132	253	125	76,1	2,6	0520 PI	0520 PIW	0520 PN	0520 PP	0520 PR	0520 PM	0520 PS	0520 PA
WHFIT 030	1"	50	315	185	274	136	88,9	3,4	0525 PI	0525 PIW	0525 PN	0525 PP	0525 PR	0525 PM	0525 PS	0525 PA
WHFIT 047	1 1/4"	50	420	247	336	155	88,9	3,9	0725 PI	0725 PIW	0725 PN	0725 PP	0725 PR	0725 PM	0725 PS	0725 PA
WHFIT 070	1 1/2"	50	600	353	387	180	114,3	5,6	0730 PI	0730 PIW	0730 PN	0730 PP	0730 PR	0730 PM	0730 PS	0730 PA
WHFIT 094	2"	50	900	530	453	180	114,3	6,2	1030 PI	1030 PIW	1030 PN	1030 PP	1030 PR	1030 PM	1030 PS	1030 PA
WHFIT 150	2"	50	1260	742	580	180	114,3	6,9	1530 PI	1530 PIW	1530 PN	1530 PP	1530 PR	1530 PM	1530 PS	1530 PA
WHFIT 200	3"	50	2400	1413	1005	224	139,7	14,1	3030 PI	3030 PIW	3030 PN	3030 PP	3030 PR	3030 PM	3030 PS	3030 PA
	quality class - solids (ISO 8573-1)								-	-	-	6	3	2	1	1 ¹⁾
	quality class - oils (ISO 8573-1)								-	-	-	-	-	2	1	1
	pressure drop - new elem.-dry [mbar / psi]								≤2600; ≤60	≤2600; ≤60	10	10	20	50	80	60
	filter media								sintered INOX 1.4404	sintered INOX 1.4404	stainless steel mesh 1.4301	acrylic fibres, cellulose		borosilicate micro fibres		borosilicate micro fibres, activ. carbon
	pleated version								-	-	-	✓	✓	✓	✓	-
	wrapped version								-	-	✓	-	-	-	-	✓
	sintered version								✓	✓	-	-	-	-	-	-
	min. operating temperature (°C / °F)								1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35
	max. operating temperature (°C / °F)								150 / 302	150 / 302	150 / 302	65 / 149	120 / 248	120 / 248	120 / 248	45 / 113

CORRECTION FACTORS					
Operating pressure [bar]	7	20	30	40	50
Operating pressure [psi]	100	290	435	580	725
Correction factor	1	2,63	3,88	5,13	6,38

¹⁾ Valid if "S" filter cartridge is installed upstream.



MDHI 50

DIFFERENTIAL HIGH PRESSURE STAINLESS STEEL INDICATOR

50 bar
operating pressure

1,5 to 65°C
operating temperature range

DESCRIPTION

Differential pressure drop indicator MDHI 50 has been developed for accurate indication of pressure drop across the filter element in compressed air system.

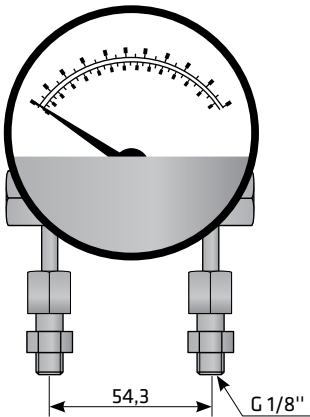
MDHI 50 is optimized for installation on the head of the filter housing.



APPLICATIONS

- Automotive
- Electronics
- Food & beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application

TECHNICAL DATA		
Ambient temperature range	1,5 - 60 °C	35 - 140 °F
Measuring range	0 - 1 bar	0 - 14,5 psi
Static pressure	50 bar	725 psi
Protection class	IP 54	
Accuracy	±3% of full scale	
Connection	2 x G 1/8" male	



OMEGA AIR

Air and Gas Treatment



50 bar
operating pressure

95 l/h
drain capacity

1/2"
connections

1,5 to 65°C
operating temperature range

DESCRIPTION

TD M timer controlled condensate drain is designed for reliable removal of condensate or other liquid from compressed air system. For any other technical gas please contact producer or your local distributor.

Discharge intervals can be set with two adjustment knobs. TD M drain is available in several types based on operating pressure and operating medium.

TD M can be used in variety of applications. For applications not listed please contact producer or your local dealer.

TD 50 M SERIES

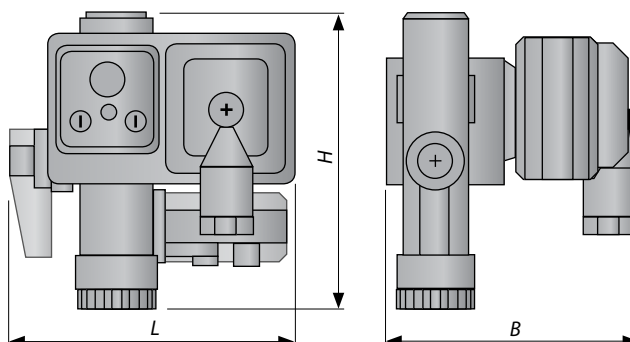
TIMER CONTROLLED CONDENSATE DRAIN



TECHNICAL DATA	TD50M	
Supply voltage	115 V	230 V
Operating temp. range	1,5 - 65 °C (35-149 °F)	
Operating pressure	50 bar (735 psi)	
Protection class	IP65	
Coil power	18VA (holding), 36 VA (inrush)	
Cable dimensions	3 × 0,75 mm ²	
Mass (cable+valve)	0,35 kg	
Mass (strainer)	0,23 kg	
Time ON	0,5 s - 10 s	
Time OFF	0,5 min - 45 min	
Drain capacity (at 7 bar)	74 l/h	
Flow rate Kvs	0,7 l/min	
Inlet connection	R 1/2"	
Outlet connection	R 1/4"	
Dimensions L×B×H [mm]	77×79×93	87,5×90,5×123
Medium	Air, water, oil	
Option strainer	yes	

APPLICATIONS

- Air compressor (piston or screw)
- After-cooler
- Cyclone condensate separator
- Pressure vessel/Air tank
- Air dryer
- Air filter



EMD HP SERIES

HIGH PRESSURE ELECTRONIC CONDENSATE DRAIN



50 bar
operating pressure

30,4 l/h
drain capacity

1/2"
connections

1,5 to 65°C
operating temperature range

DESCRIPTION

EMD HP series drain have been developed for fully automatic discharging of condensate or any other non-aggressive fluid from compressed air system. The units can be installed as external drain on any application specified below. Condensate accumulates in the collecting reservoir and when the level is high enough condensate is being discharged from the system without any air losses. Fluid level is detected by precise capacitive level sensor.

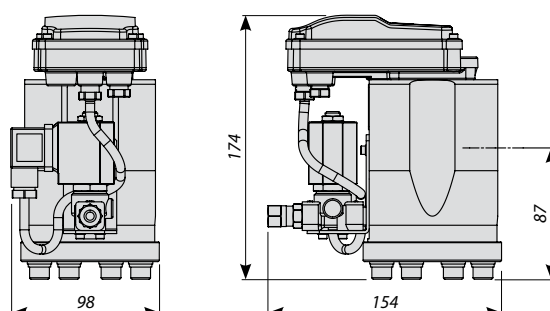
EMD HP series is also equipped with operation alarm (version A), led indicator, test button and internal strainer. Version with Service Network (version C) for diagnostics and parameter setting is also available. Working hours, valve operations and other operating parameters are stored in internal memory and can be read with Service Network reader.

TECHNICAL DATA	EMD HP	EMD HP A	EMD HP C	EMD HP	EMD HP A	EMD HP C	EMDHP	EMD HP A	EMD HPA
	230 V			115 V			24 Vac		24 Vdc
Service network connection	-	-	✓	-	-	✓	-	-	-
Alarm output	-	✓	✓	-	✓	✓	-	✓	✓
Voltage	230 VAC, 50-60 Hz			115 VAC, 50-60 Hz			24 Vac, 50-60 Hz		24Vdc
Internal fuse	5 x 20 1A T			5 x 20 1A T			2A		2A
Power	25 VA			25 VA			25 VA		22 W
Operating pressure range	0-50 bar (0-725 psi)			0-50 bar (0-725 psi)			0-50 bar (0-725 psi)		0-50 bar
Drain capacity (at 7 bar/101 psi)	30,4 l/h at 50 bar (0,018 cfm at 725 psi)								
Operating temperature range	1,5-65°C (35-149°F)								
Inlet connection	G 1/2" parallel thread								
Outlet connection	G 1/4" parallel thread								
Protection class	IP54								
Mass [kg]	2.3								

PEAK COMPRESSOR CAPACITY

The data apply for drain, located in the most unfavorable location i.e. compressor cyclone od pressure vessel.

System pressure	Northern Europe, Canada, Central Asia	Rest of the World	Moist tropical and subtropical regions
50 bar	29,5 m³/min	22,2 m³/min	12,9 m³/min
40 bar	26,4 m³/min	19,9 m³/min	11,5 m³/min
30 bar	22,9 m³/min	17,2 m³/min	10,0 m³/min
20 bar	18,7 m³/min	14,0 m³/min	8,1 m³/min



APPLICATIONS

- Air compressor (piston or screw)
- After-cooler
- Cyclone condensate separator
- Pressure vessel/air tank
- Air dryer
- Air filter



AOK 50B SERIES

AUTOMATIC MECHANICAL HIGH PRESSURE CONDENSATE DRAIN

50 bar

operating pressure

167 l/h

drain capacity

1/2"

connections

1,5 to 65°C

operating temperature range

DESCRIPTION

AOK50B has been developed for fully automatic discharging of condensate or any other non-aggressive fluid from compressed air system. The unit can be installed as external drain on any application specified below.

Condensate accumulates in the aluminium reservoir and when the level is high enough condensate is being discharged from the system. Direct acting valve is operated by precise level controlled floater which assures reliable and efficient operation.

Thanks to light aluminium housing AOK50B for ease mounting and is also suitable for heavy duty applications. On front side AOK50B is also equipped with separate manual drain or venting.



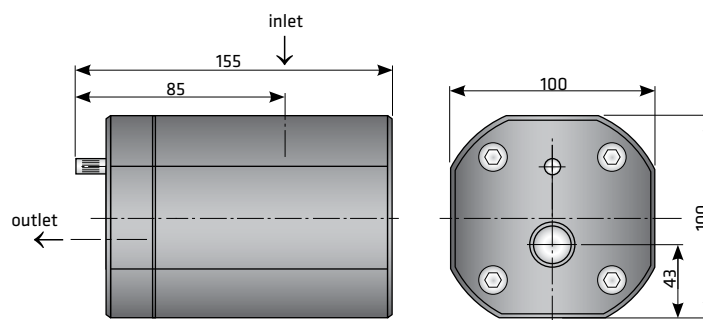
TECHNICAL DATA	AOK 50 B
Operating temperature range	1,5 - 65 °C (35-149 °F)
Operating pressure	8-50 bar (116-725 psi)
Min. recommended operating pressure	10 bar(g) (145 psi)
Mass	2,8 kg
Discharge capacity	145 l/h (at 50 barg)
Inlet connection	G 1/2" (NPT on request)
Outlet connection	G 1/2" (NPT on request)
Medium	Condensate (air, water, oil); non aggressive

RECOMMENDATIONS

Install ball valve between pressure vessel and inlet connection.
Install strainer element between pressure vessel and inlet connection.
Install nipple with venting tube to avoid generating of air bubbles.
Nipple is screwed on inlet connection.

APPLICATIONS

- Air compressor (piston or screw)
- After-cooler
- Cyclone condensate separator
- Pressure vessel/Air tank
- Air dryer
- Air filter



AOK 50SS SERIES

AUTOMATIC STAINLESS STEEL HIGH PRESSURE CONDENSATE DRAIN



8 - 50 barg
operating pressure

1/2"
connections

1,5 to 65°C
operating temperature range

1.4404
material

DESCRIPTION

AOK50SS has been developed for fully automatic discharging of condensate or any other non-aggressive fluid from compressed air system. The unit can be installed as external drain on any application specified below.

Condensate accumulates in the stainless steel reservoir and is discharged from the system when the level is high enough.

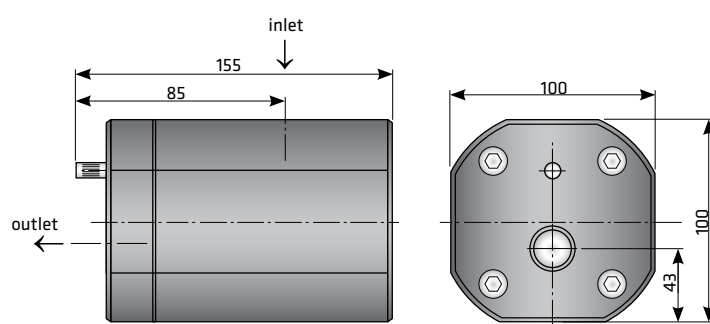
A direct acting valve is operated by a precise level controlled floater which assures reliable and efficient operation.

Thanks to its robust stainless steel housing AOK50 SS is suitable for heavy duty applications. On the front, the AOK50 SS, is also equipped with a separate manual drain for venting.

TECHNICAL DATA	AOK 50 SS
Operating temperature range	1,5 - 65 °C (35-149 °F)
Operating pressure	8-50 bar (116-725 psi)
Min. recommended operating pressure	10 bar(g) (145 psi)
Mass	7,2 kg
Discharge capacity	145 l/h (at 50 barg)
Inlet connection	G 1/2" (NPT on request)
Outlet connection	G 1/2" (NPT on request)
Medium	Condensate (air, water, oil); non aggressive

RECOMMENDATIONS

Install ball valve between pressure vessel and inlet connection.
Install strainer element between pressure vessel and inlet connection.
Install nipple with venting tube to avoid generating of air bubbles.
Nipple is screwed on inlet connection.



APPLICATIONS

- Cyclone condensate separator
- Air filter



50 (45) bar
operating pressure

1,5 to 65°C
inlet air temperature range

3°C
pressure dew point

25 to 5010 Nm³/h
flow rate

RAL 5012
standard colour

RAL 7040
optional colour

DESCRIPTION

OHP series (high pressure dryers for compressed air systems up to 50 barg) makes the most of manufacturing and functional advantages of brazed plate heat exchangers, which are more suitable for high pressure working conditions (on models OHP 90-3000).

Main features are:

- Simple and ergonomic component layouts guarantee functionality and efficiency;
- Excellent performance due to low pressure drop and constant pressure Dew Point;
- Dryer design is very attractive both aesthetically with a two tone cabinet and practically with a robust casing.

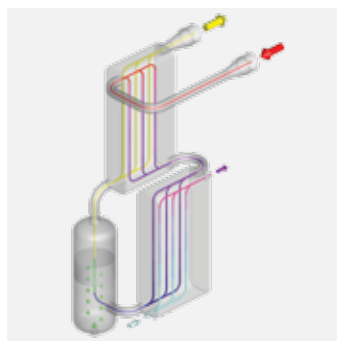
OHP SERIES

REFRIGERATION HIGH PRESSURE COMPRESSED AIR DRYERS



APPLICATIONS

- High pressure compressed air systems



TECHNICAL DATA									
Type	Air flow	Max. inlet pressure	Power supply	Dimensions			Zero loss drain (option)	Air connections	Mass net-gross [kg]
	[Nm³/h]	bar		A [mm]	B [mm]	C [mm]			
OHP 25	25	50	1/230V/50-60Hz	370	515	475	OBK 1/50	G 3/8" BSP-F	28-32
OHP 45	45	50	1/230V/50-60Hz	370	515	475	OBK 1/50	G 3/8" BSP-F	29-33
OHP 70	72	50	1/230V/50-60Hz	370	515	475	OBK 1/50	G 3/8" BSP-F	32-36
OHP 90	90	50	1/230V/50-60Hz	345	420	740	OBK 1/50	G 3/4" BSP-F	38-42
OHP 135	135	50	1/230V/50Hz	345	420	740	OBK 1/50	G 3/4" BSP-F	39-43
OHP 180	180	50	1/230V/50Hz	485	455	825	OBK 1/50	G 3/4" BSP-F	50-57
OHP 240	240	50	1/230V/50Hz	485	455	825	OBK 1/50	G 3/4" BSP-F	53-60
OHP 315	315	50	1/230V/50Hz	555	580	885	OBK 1/50	G 1" BSP-F	89-101
OHP 450	450	50	1/230V/50Hz	555	580	885	OBK 1/50	G 1" BSP-F	101-113
OHP 600	615	50	1/230V/50Hz	555	580	885	OBK 1/50	G 1" BSP-F	115-128
OHP 800	810	50	1/230V/50Hz	665	725	1105	OBK 1/50	G 1 1/2" BSP-F	156-176
OHP 1000	1008	50	1/230V/50Hz	665	725	1105	OBK 1/50	G 1 1/2" BSP-F	190-210
OHP 1250	1260	50	3/400V/50Hz	790	1000	1465	OBK 2/50	G 2" BSP-F	252-293
OHP 1600	1620	45	3/400V/50Hz	790	1000	1465	OBK 2/50	G 2" BSP-F	265-306
OHP 2250	2280	45	3/400V/50Hz	790	1000	1465	OBK 2/50	G 2" BSP-F	391-432
OHP 2400	2430	45	3/400V/50Hz	1135	1205	1750	OBK 2/50	Flange ANSI 3"	444-497
OHP 3000	3030	45	3/400V/50Hz	1135	1205	1750	OBK 2/50	Flange ANSI 3"	461-514
OHP 4000	4020	45	3/400V/50Hz	1135	1205	1750	OBK 2/50	Flange ANSI 3"	486-539
OHP 5000	5010	45	3/400V/50Hz	1135	1205	1750	OBK 2/50	Flange ANSI 3"	552-605

CORRECTION FACTOR FOR OPERATING PRESSURE CHANGES

Operat. pressure [bar]	15	20	25	30	35	40	45	50
Correction factor C_{op}	0,57	0,7	0,8	0,88	0,94	1	1,05	1,1

CORRECTION FACTOR FOR AMBIENT TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45	50
Correction factor C_{at}	1	0,96	0,9	0,82	0,72	0,6

CORRECTION FACTOR FOR INLET AIR TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45	50	55	60	65
Correction factor C_{it}	1,2	1,12	1	0,83	0,69	0,59	0,5	0,44	0,39

CORRECTION FACTOR FOR DEW POINT CHANGES

Temperature [°C]	3	5	7	10
Correction factor C_{dp}	1	1,09	1,19	1,37

To calculate the correct capacity of a given filter based on actual operating conditions, multiply the nominal flow capacity by the appropriate correction factor(s).

CORRECTED CAPACITY = NOMINAL FLOW CAPACITY $\times C_{op} \times C_{at} \times C_{it} \times C_{dp}$

Data refers to the following nominal conditions: Ambient temperature of 25°C, with inlet air at pressure 40 barg and 35°C - pressure dew point of 3°C.

Max. operating condition : Ambient temperature 50°C , Inlet air temperature 65°C and inlet air pressure 50 barg (45 barg from OHP 1600).



50 bar
operating pressure

1,5 to 50°C
operating temperature range

-40°C
pressure dew points

50 to 1600 Nm³/h
flow rate

RAL 5012
standard colour

DESCRIPTION

HP-DRY adsorption dryers have been designed for continuous separation of water vapour from compressed air thus reducing dew point. Operation of the dryer requires two columns operated alternately. Adsorption takes place under pressure in the first column while the second column regenerates with a portion of already dried compressed air at ambient pressure.

Dryers consists from control valves, controller with LED display and two columns filled with desiccant. Springs in the columns make sure that the desiccant beads will not move during operation. Proven robust design enables efficient and reliable operation, fast installation and simple maintenance.

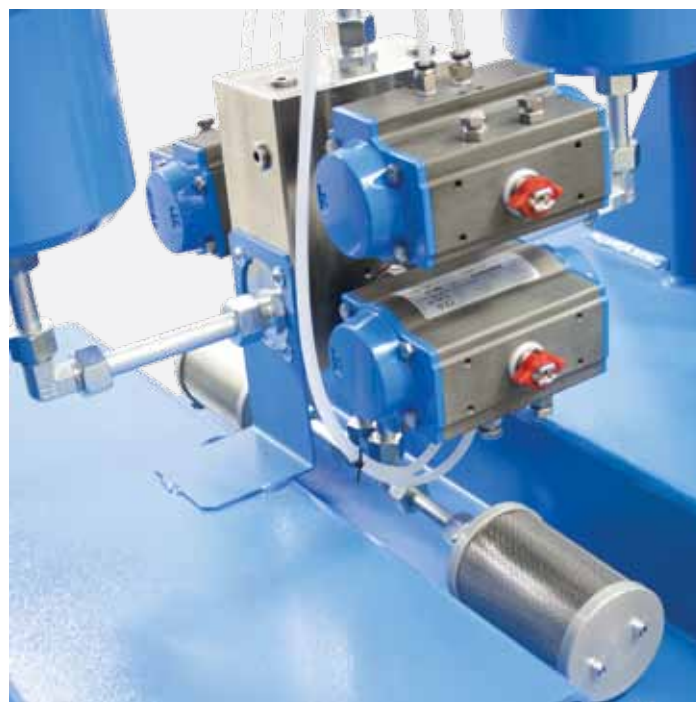
APPLICATIONS

- Compressed air systems

HP-DRY SERIES

HIGH PRESSURE HEATLESS REGENERATED ADSORPTION DRYERS





50 bar version							
Type	Connection ⁽³⁾	Inlet flow ⁽¹⁾	Outlet flow ⁽²⁾	Dimensions			Mass
	IN/OUT [°]	[Nm ³ /h]	[Nm ³ /h]	H [mm]	W [mm]	D [mm]	[kg]
HP-DRY 050 PN50	G 3/8"	50	48,5	1200	680	580	130
HP-DRY 100 PN50	G 3/8"	100	97	1250	680	580	150
HP-DRY 150 PN50	G 3/8"	150	145,5	1550	680	580	170
HP-DRY 250 PN50	G 3/8"	250	242,5	1700	820	700	260
HP-DRY 350 PN50	G 1/2"	350	339,5	1700	820	700	320
HP-DRY 500 PN50	G 1/2"	500	485	1920	820	700	410
HP-DRY 650 PN50	G 1/2"	650	630,5	2250	820	700	460
OPERATING PRESSURE 50 bar - CORRECTION FACTORS - C _{op}							
Operating pressure [bar]	25	30	35	40	45	50	
Correction factor C _{op}	0,51	0,61	0,71	0,81	0,90	1	
OPERATING TEMPERATURE - CORRECTION FACTORS - C _{ot}							DEW POINT - CORRECTION FACTORS - C _{dp}
Operating temperature [°C]	25	30	35	40	45	50	Dew point temperature [°C]
Correction factor C _{ot}	1	1	1	0,97	0,87	0,80	-25 -40 -55
							Correction factor C _{dp}
							1,1 1 0,7

(1) Refers to 1bar(a) and 20°C, at nominal operating pressure, inlet temperature 35°C and pressure dew point at outlet -40°C.

(2) Purge air requirements depend on actual operating conditions (Typically about 3%).

(3) Threads of the dryer are male. It is possible to remove the fittings on the inlet and outlet, to get a pipe connection (for welding), where you should contact the manufacturer for the diameter and thickness. On the inlet you can remove the fittings and pipes entirely to get a female connection directly on the pre-filter.



up to 50 bar
operating pressure

1,5 to 50°C
operating temperature range

-40°C
pressure dew points

2.485 to 23.400 Nm³/h
flow rate

RAL 5012
standard colour

DESCRIPTION

HPR-DRY adsorption dryers are designed for continuous separation of water vapour from compressed air thus reducing dew point. Operation of dryer requires two columns operated alternately. Adsorption takes place under pressure in first column while second column regenerates with a heated ambient air or purge.

A dryer consists of two columns, filled with desiccant beads, blower, heater, controller with LCD display, valves, manometers, and support construction. Proven robust design enables efficient and reliable operation, fast installation and simple maintenance.

APPLICATIONS

- Compressed air systems

HPR-DRY SERIES

HIGH PRESSURE HEAT REGENERATION



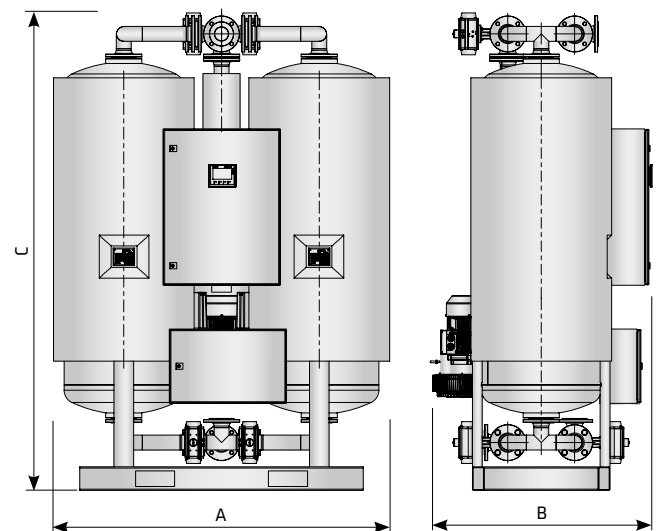


Protection class	IP 54
Filter (inlet)	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm
Column insulation	optional

Type	Max. oper. pressure	Connection IN/OUT	Inlet nominal volume flow
	bar	DN	[Nm³/h]
HPR-DRY 400	50	DN50	2.485
HPR-DRY 600	50	DN50	3.760
HPR-DRY 780	50	DN50	4.970
HPR-DRY 1000	50	DN50	5.930
HPR-DRY 1200	50	DN80	7.330
HPR-DRY 1600	50	DN80	10.200
HPR-DRY 2000	50	DN100	12.430
HPR-DRY 2500	50	DN100	16.120
HPR-DRY 3000	50	DN100	19.000
HPR-DRY 3600	50	DN100	23.400

OPERATING PRESSURE 50 bar - CORRECTION FACTORS - C_{op} (35 °C; 100 bar)						
Operating pressure [bar]	25	30	35	40	45	50
Correction factor C_{op}	0,51	0,61	0,71	0,81	0,90	1
OPERATING TEMPERATURE - CORRECTION FACTORS - C_{ot}						
Operat. temperature [°C]	25	30	35	40	42,5	45
Operat. temperature [F]	77	86	95	104	108	113
Correction factor C_{ot}	1	1	1	0,7	0,52	0,48

⁽¹⁾ Refers to 1bar(a) and 20°C at 7 bar operating pressure, inlet temperature 35°C and pressure dew point at outlet -40°C.





50 bar
operating pressure

1,5 to 45°C
operating temperature range

3/8" to 1/2"
connections

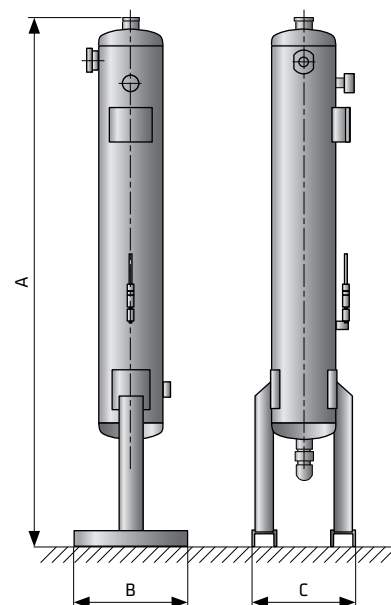
50 to 1600 Nm³/h
flow rate

RAL 9005
standard colour

DESCRIPTION

HP-TAC activated carbon towers have been developed for separating oil vapours from compressed air(1) (dry type separation). HP-TAC series is made from high quality carbon steel. Flow distributors ensure uniform distribution of air flow through activated carbon bed.

Oil vapours as well as some other hydrocarbons are separated due to adsorption process. Super fine coalescing filter is required upstream HP-TAC and 1µm dust filter is recommended downstream to intercept activated carbon dust.



APPLICATIONS

- Automotive
- Electronics
- Food & beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application

TECHNICAL DATA

Type	Connection size	Operating pressure	Flow rate at 7 bar(g), 20 °C		Dimensions [mm]			Mass
	inch	bar	Nm³/h	scfm	A	B	C	kg
HP-TAC 50 PN50	3/8"	50	50	49	1200	340	580	52
HP-TAC 100 PN50	3/8"		100	97	1250	340	580	60
HP-TAC 150 PN50	3/8"		150	146	1550	340	580	68
HP-TAC 250 PN50	3/8"		250	243	1700	410	700	104
HP-TAC 350 PN50	1/2"		350	340	1700	410	700	128
HP-TAC 500 PN50	1/2"		500	485	1920	410	700	164
HP-TAC 650 PN50	1/2"		650	631	2250	410	700	184

CORRECTION FACTORS - OPERATING PRESSURE - HP-TAC PN50

Operating pressure [bar]	25	30	35	40	45	50
Operating pressure [psi]	363	435	508	580	653	725
Correction factor C _{op}	0,51	0,61	0,71	0,81	0,9	1

CORRECTION FACTORS - OPERATING TEMPERATURE

Operating temperature [°C]	20	25	30	35	40	45
Correction factor	1	0,98	0,97	0,92	0,86	0,75

Replace activated carbon every 12 months or sooner if required. Check residual oil content with oil indicator monthly.

HTP 50 PED

HIGH PRESSURE VESSELS - PED



50 bar
operating pressure

-10 to +50°C
operating temperature range



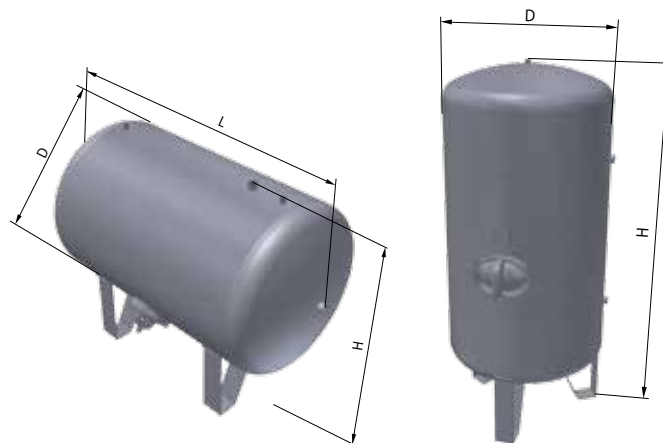
On request

DESCRIPTION

Pressure vessels are tanks, designed to store compressed air. Pressure vessels can also be designed for any other technical gas. Volume of pressure vessel depends on compressor capacity and on consumption of compressed air.

The supply of pressure vessel includes:

- Anticorrosion protection with basic colour painting and final painting
- CE - certificate
- Supporting legs
- Connections for optional equipment



Horizontal pressure vessel

Vertical pressure vessel

APPLICATIONS

- Compressed air systems



100, 250, 400 bar COMPRESSED AIR TREATMENT

Type	Pressure	Description	Page
CHP	100, 250, 400 bar	HP carbon steel compressed air filters	34
IHP	100, 250, 400 bar	HP stainless steel compressed air filters	36
MDH 200	200 bar	HP differential indicators	38
MDH 400	400 bar	HP differential indicators	39
TD 400M	0-400 bar	HP timer controlled condensate drain	40
HP DRY	100, 250, 400 bar	HP heatless regenerated adsorption compressed air dryers	42
TAC HP	100, 250, 400 bar	HP activated carbon towers	44
HTP	100, 250, 400 bar	HP vessels - PED	45





100, 250, 400 bar
operating pressure

40 to 715 Nm³/h
volume flow rate

1/4" to 2"
connections

1,5 to 65°C
operating temperature range

Nickel plated 25 µm
surface protection

DESCRIPTION

CHP carbon steel high pressure filters are designed for high efficient removal of solid particles, water, oil aerosols, hydrocarbons and other vapours from high pressure compressed air systems up to 400 bar.

Required compressed air quality according to standard ISO 8571-1 can be achieved with 6 different grades of filter elements (B, P, R, M, S and A).

For any other technical gas please contact producer or your local distributor.

Optional external condensate drain should be used for efficient condensate draining from filter housing.

APPLICATIONS

- General industrial applications
- Automotive
- Electronics
- Food and beverage
- Chemical
- Petrochemical
- PET
- Paint

CHP SERIES

CARBON STEEL HIGH PRESSURE FILTERS

MDH 200



MDH 400



B 15 µm



P 3 µm



R 1 µm



M 0,1 µm



S 0,01 µm



A activated carbon



TD 150M



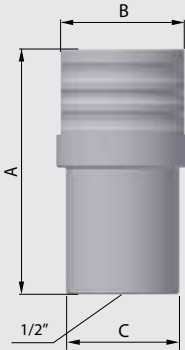
TD 400M



Drain valve





TECHNICAL DATA									FILTER ELEMENTS					
Filter housing size	Pipe size	Max. oper. pressure	Flow rate at 7 bar(g), 20 °C		Dimensions [mm]			Mass	B sintered 15 µm	P prefilter 3 µm	R prefilter 1 µm	M microfilter 0,1 µm	S microfilter 0,01 µm	A activated carbon
	inch	bar/psi	Nm³/h	scfm	A	B	C	kg						
CHP 003	1/4"	100/250/400	40	23,5	165	83,5	70	4,6	CHP 0305 B	CHP 0305 P	CHP 0305 R	CHP 0305 M	CHP 0305 S	CHP 0305 A
CHP 005	3/8"	100/250/400	70	41,2	165	83,5	70	4,6	CHP 0310 B	CHP 0310 P	CHP 0310 R	CHP 0310 M	CHP 0310 S	CHP 0310 A
CHP 007	1/2"	100/250/400	130	76,5	210	103	85	8,7	CHP 0420 B	CHP 0420 P	CHP 0420 R	CHP 0420 M	CHP 0420 S	CHP 0420 A
CHP 010	3/4"	100/250/400	195	115	235	103	85	9,3	CHP 0520 B	CHP 0520 P	CHP 0520 R	CHP 0520 M	CHP 0520 S	CHP 0520 A
CHP 018	1"	100/250/400	275	162	253	119	100	15	CHP 0525 B	CHP 0525 P	CHP 0525 R	CHP 0525 M	CHP 0525 S	CHP 0525 A
CHP 030	1 1/4"	100/250/400	380	223	303	119	100	16	CHP 0725 B	CHP 0725 P	CHP 0725 R	CHP 0725 M	CHP 0725 S	CHP 0725 A
CHP 047	1 1/2"	100/250/400	495	291	329	146	130	29	CHP 0730 B	CHP 0730 P	CHP 0730 R	CHP 0730 M	CHP 0730 S	CHP 0730 A
CHP 094	2"	100/250/400	715	421	415	182	150	49	CHP 1030 B	CHP 1030 P	CHP 1030 R	CHP 1030 M	CHP 1030 S	CHP 1030 A
	quality class - solids (ISO 8573-1)								8	6	3	2	1	1 ³⁾
	residual oil content [mg/m³]								-	-	-	<0,1	<0,01	<0,005
	quality class - oils (ISO 8573-1)								-	-	-	2	1	1
	pressure drop - new element [mbar / psi]								20 / 0,29	10 / 0,145	20 / 0,29	50 / 0,725	80 / 1,16	60 / 0,87
	change filter cartridge at pressure drop [mbar / psi]								1)	350 / 5,07	350 / 5,07	350 / 5,07	350 / 5,07	6 months ²⁾
	filter media								sintered brass	acrylic fibres, cellulose	borosilicate micro fibres			activated carbon
	pleated version								-	✓	✓	✓	✓	-
	wrapped version								-	-	-	-	-	✓
	sintered version								✓	-	-	-	-	-
	min. operating temperature (°C / °F)								1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35
	max. operating temperature (°C / °F)								65 / 149	65 / 149	65 / 149	65 / 149	65 / 149	45 / 113

CORRECTION FACTORS

Operating pressure [bar]	7	25	40	64	100	250	400
Operating pressure [psi]	100	362	580	928	1450	3625	5800
Correction factor	1	3	5	8	12	12	12

¹⁾ B filter element can be cleaned with ultrasonic bath or with back flushing. Intervals of cleaning depends of application. If necessary replace filter element with new one.

²⁾ Filter elements "A", must be changed periodically to suit application, but at least every 6 months. Activated carbon filters must not operate in oil saturated conditions.

³⁾ Valid if "S" filter cartridge is installed upstream.



100, 250, 400 bar

operating pressure

40 to 715 Nm³/h

volume flow rate

1/4" to 2"

connections

1,5 to 65°C

operating temperature range

stainless steel 1.4404-standard

stainless steel 1.4301-option

material

DESCRIPTION

IHP stainless steel high pressure filters are designed for high efficient removal of solid particles, water, oil aerosols, hydrocarbons and other vapours from compressed air systems up to 400 bar.

Required compressed air quality according to standard ISO 8571-1 can be achieved with 5 different grades of filter elements (N5, N25, M, S and A).

For any other technical gas please contact producer or your local distributor.

Optional external condensate drain should be used for efficient condensate draining from filter housing.

APPLICATIONS

- General industrial applications
- Automotive
- Electronics
- Food and beverage
- Chemical
- Petrochemical
- PET
- Paint

IHP SERIES

STAINLESS STEEL HIGH PRESSURE FILTERS

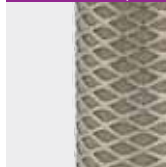
MDH 400



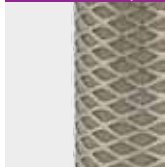
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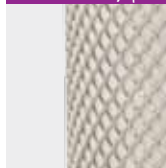
N5 5 µm



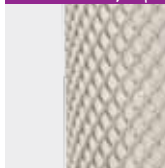
N25 25 µm



M 0,1 µm



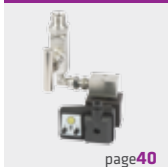
S 0,01 µm



A activated carbon

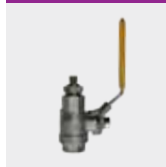


TD 400M

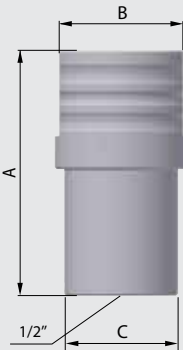


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Drain valve





TECHNICAL DATA									FILTER ELEMENTS							
Filter housing size	Pipe size	Max. oper. pressure	Flow rate at 7 bar(g), 20 °C		Dimensions [mm]			Mass	N5 5 µm	N25 25 µm	M microfilter 0,1 µm	S microfilter 0,01 µm	A activated carbon	CKL-IHP		
	inch	bar/psi	Nm³/h	scfm	A	B	C	kg								
IHP 003	1/4"	100/250/400	40	23,5	165	83,5	70	4,6	IHP 0305 N5	IHP 0305 N25	IHP 0305 M	IHP 0305 S	IHP 0305 A	CKL-IHP 0305		
IHP 005	3/8"	100/250/400	70	41,2	165	83,5	70	4,6	IHP 0310 N5	IHP 0310 N25	IHP 0310 M	IHP 0310 S	IHP 0310 A	CKL-IHP 0310		
IHP 007	1/2"	100/250/400	130	76,5	210	103	85	8,7	IHP 0420 N5	IHP 0420 N25	IHP 0420 M	IHP 0420 S	IHP 0420 A	CKL-IHP 0420		
IHP 010	3/4"	100/250/400	195	115	235	103	85	9,3	IHP 0520 N5	IHP 0520 N25	IHP 0520 M	IHP 0520 S	IHP 0520 A	CKL-IHP 0520		
IHP 018	1"	100/250/400	275	162	253	119	100	15	IHP 0525 N5	IHP 0525 N25	IHP 0525 M	IHP 0525 S	IHP 0525 A	CKL-IHP 0525		
IHP 030	1 1/4"	100/250/400	380	223	303	119	100	16	IHP 0725 N5	IHP 0725 N25	IHP 0725 M	IHP 0725 S	IHP 0725 A	CKL-IHP 0725		
IHP 047	1 1/2"	100/250/400	495	291	329	146	130	29	IHP 0730 N5	IHP 0730 N25	IHP 0730 M	IHP 0730 S	IHP 0730 A	CKL-IHP 0730		
IHP 094	2"	100/250/400	715	421	415	182	150	49	IHP 1030 N5	IHP 1030 N25	IHP 1030 M	IHP 1030 S	IHP 1030 A	CKL-IHP 1030		
									quality class - solids (ISO 8573-1)		-	-	2	1	1 ²⁾	-
									residual oil content [mg/m³]		-	-	<0,1	<0,01	<0,005	-
									quality class - oils (ISO 8573-1)		-	-	2	1	1	-
									pressure drop - new element [mbar / psi]		10 / 0,15	10 / 0,15	50 / 0,725	80 / 1,16	60 / 0,87	-
									change filter cartridge at pressure drop [mbar / psi]		-	-	350 / 5,07	350 / 5,07	6 months ¹⁾	-
									filter media		stainless steel mesh 1.4301	stainless steel mesh 1.4301	borosilicate micro fibres		activated carbon	-
									pleated version		-	-	✓	✓	-	-
									wrapped version		✓	✓	-	-	✓	-
									sintered version		-	-	-	-	-	-
									min. operating temperature (°C / °F)		1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35
									max. operating temperature (°C / °F)		65 / 149	65 / 149	65 / 149	65 / 149	45 / 113	65 / 149

CORRECTION FACTORS							
Operating pressure [bar]	7	25	40	64	100	250	400
Operating pressure [psi]	100	362	580	928	1450	3625	5800
Correction factor	1	3	5	8	12	12	12

¹⁾ Filter elements "A," must be changed periodically to suit application, but at least every 6 months. Activated carbon filters must not operate in oil saturated conditions.

²⁾ Valid if "S" filter cartridge is installed upstream.



MDH 200

DIFFERENTIAL HIGH PRESSURE INDICATOR

200 bar

operating pressure

1,5 to 80 °C

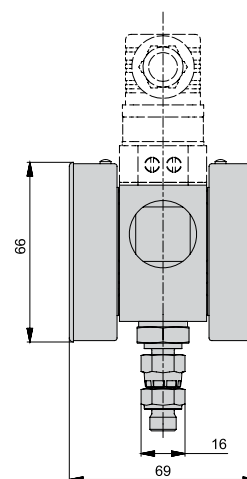
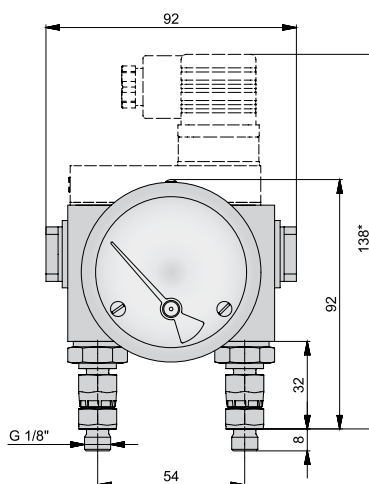
operating temperature range

DESCRIPTION

Magnetic differential manometer MDH200 is designed to indicate pressure drop across the filter element in compressed air system.

It detects when the filter cartridge is clogged and should be replaced. MDH200 is usually installed on the head of the filter housing.

Double dials on manometer allows readout values from both sides of the differential manometer.



APPLICATIONS

- Automotive
- Electronics
- Food & beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application

TECHNICAL DATA

Ambient temperature range	1,5 - 80 °C	35 - 175°F
Measuring range	0 - 1 bar	0 - 14,5 psi
Static pressure	200 bar	2900 psi
Protection class	IP 64	
Accuracy	±5% of full scale	
Connection	2 x G 1/8" male	
Model	Description	
MDH 200	basic version	
MDH 200C	voltage-free contact version for remote alarm	

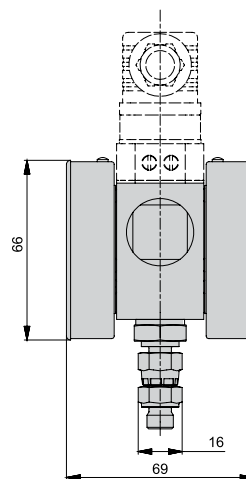
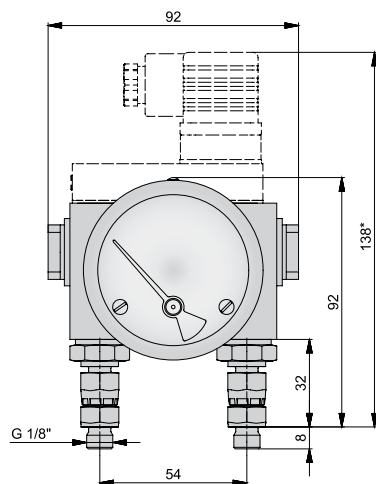
MDH 400

DIFFERENTIAL HIGH PRESSURE INDICATOR



400 bar
operating pressure

1,5 to 80 °C
operating temperature range



DESCRIPTION

Magnetic differential manometer MDH400 is designed to indicate pressure drop across the filter element in compressed air system.

It detects when the filter cartridge is clogged and should be replaced. MDH400 is usually installed on the head of the filter housing.

Double dials on manometer allows readout values from both sides of the differential manometer. Thanks to resistance stainless steel housing is also suitable for demanding applications.

TECHNICAL DATA

Ambient temperature range	1,5 - 80 °C	35 - 175°F
Measuring range	0 - 1 bar	0 - 14,7 psi
Static pressure	400 bar	5801 psi
Protection class	IP 65	
Accuracy	±5% of full scale	
Connection	On body G1/4" female - reducing fittings G1/8" male	
Model	Description	
MDH 400	basic version	
MDH 400C	voltage-free contact version for remote alarm	

APPLICATIONS

- Automotive
- Electronics
- Food & beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application



400 bar(g)
operating pressure

see spec.
drain capacity

1/2"
connections

1,5 to 150°C
operating temperature range

DESCRIPTION

TD400M timer controlled condensate drain is designed for reliable removal of condensate or other liquid from high pressure compressed air system⁽¹⁾. Discharge intervals can be set with two adjustment knobs. TD400M drain is available with a kit for easy installation which enable us to mount it in many different positions.

TD400M can be used in variety of applications. For applications not listed please contact us or your local dealer.

⁽¹⁾For any other technical gas please contact us or your local dealer

APPLICATIONS

- Air compressor (piston or screw)
- After-cooler
- Cyclone condensate separator
- Pressure vessel/Air tank
- Air dryer
- Air filter

TD 400M SERIES

TIMER CONTROLLED CONDENSATE DRAIN

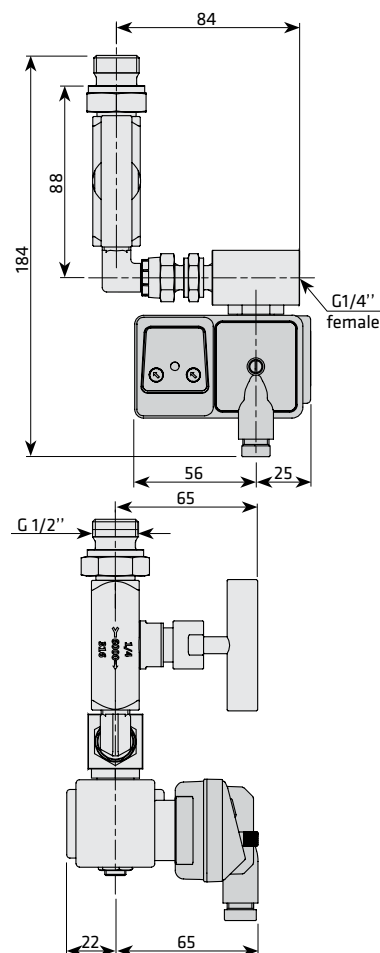


TECHNICAL DATA	TD 400M 230V AC	TD 400M 24V DC
Supply voltage	230V (±10%), AC, 50/60Hz	24V DC
Operating temp. range	1,5 - 150 °C (35-302 °F)	
Operating pressure	0 - 400 bar (0 - 5800 psi)	
Protection class	IP65	
Coil power	8W	18 W
Cable dimensions	3 × 0,75 mm ²	
Mass (timer+valve)	0,35 kg	
Mass (fittings+needle valve)	0,23 kg	
Time ON	0,5 s - 10 s	
Time OFF	0,5 min - 45 min	
Valve	Direct acting solenoid valve, 2/2, NC	
Connector	DIN EN 175301-803 form A	
Inlet connection	G 1/2"	
Outlet connection	G 1/4" (female)	
Dimensions L×B×H [mm]	105×87×184	
Medium	Air, water, oil	
Flow coefficient Kvs	0,3 l/min	0,3 l/min

DISCHARGE CAPACITY

Q-Discharge capacity [l/min], Kvs-Flow coefficient, Δp-pressure difference [bar], Time ON and Time OFF are determined by adjustment knobs, the range of each timer is specified in technical specification.

$$Q = Kvs \times \sqrt{\Delta p} \times \left(\frac{\text{TimeON}}{60} \div \left(\frac{\text{TimeON}}{60} + \text{TimeOFF} \right) \right)$$



OMEGA AIR
Air and Gas Treatment



100, 250, 400 bar
operating pressure

1,5 to 50°C
operating temperature range

-40°C
pressure dew points

50 to 1600 Nm³/h
flow rate

RAL 5012
standard colour

DESCRIPTION

HP-DRY adsorption dryers have been designed for continuous separation of water vapour from compressed air thus reducing dew point. Operation of the dryer requires two columns operated alternately. Adsorption takes place under pressure in the first column while the second column regenerates with a portion of already dried compressed air at ambient pressure.

Dryers consists from control valves, controller with LED display and two columns filled with desiccant. Springs in the columns make sure that the desiccant beads will not move during operation. Proven robust design enables efficient and reliable operation, fast installation and simple maintenance.

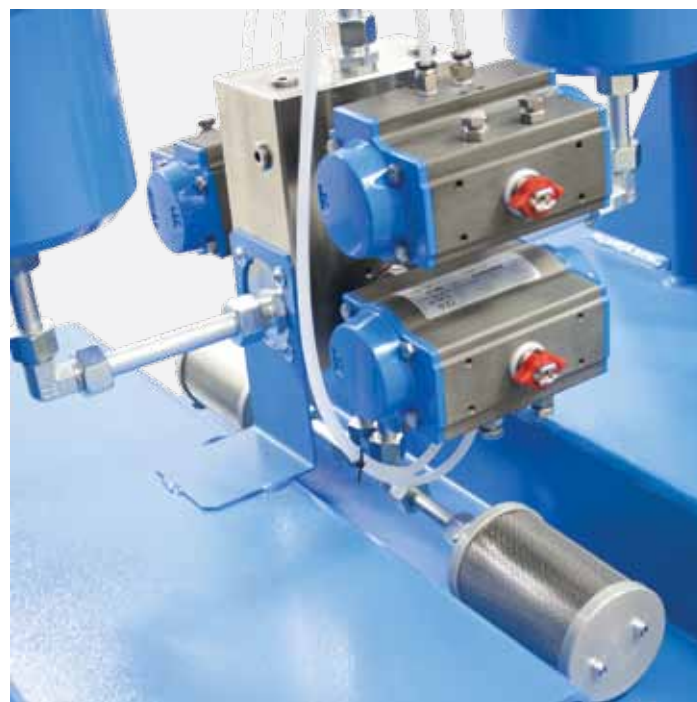
APPLICATIONS

- Compressed air systems

HP-DRY SERIES

HIGH PRESSURE HEATLESS REGENERATED ADSORPTION DRYERS





100 bar version							
Type	Connection ⁽³⁾	Inlet flow ⁽¹⁾	Outlet flow ⁽²⁾	Dimensions			Mass
	IN/OUT [°]	[Nm³/h]	[Nm³/h]	H [mm]	W [mm]	D [mm]	[kg]
HP-DRY 050 PN100	G 3/8"	50	48,5	1250	680	580	125
HP-DRY 100 PN100	G 3/8"	100	97	1350	680	580	170
HP-DRY 150 PN100	G 3/8"	150	145,5	1650	680	580	200
HP-DRY 250 PN100	G 3/8"	250	242,5	1550	680	600	210
HP-DRY 350 PN100	G 1/2"	350	339,5	1460	820	680	270
HP-DRY 500 PN100	G 1/2"	500	485	1700	820	680	290
HP-DRY 650 PN100	G 1/2"	650	630,5	1800	820	700	380
HP-DRY 800 PN100	G 1/2"	800	776	1850	820	680	480

OPERATING PRESSURE 100 bar - CORRECTION FACTORS - C_{op} (35 °C; 100 bar)

Operating pressure [bar]	50	60	70	80	90	100
Correction factor C _{op}	0,50	0,60	0,70	0,80	0,90	1,00

400 bar version							
Type	Connection ⁽³⁾	Inlet flow ⁽¹⁾	Outlet flow ⁽²⁾	Dimensions			Mass
	IN/OUT [°]	[Nm³/h]	[Nm³/h]	H [mm]	W [mm]	D [mm]	[kg]
HP-DRY 100 PN400	G 3/8"	100	97	1120	680	450	120
HP-DRY 150 PN400	G 3/8"	150	145,5	1360	680	450	135
HP-DRY 250 PN400	G 3/8"	250	242,5	1450	680	580	190
HP-DRY 350 PN400	G 1/2"	350	339,5	1350	820	580	270
HP-DRY 500 PN400	G 1/2"	500	485	1380	820	650	310
HP-DRY 650 PN400	G 1/2"	650	630	1450	820	650	440
HP-DRY 800 PN400	G 1/2"	800	776	1230	820	650	425
HP-DRY 1000 PN400	G 1/2"	1000	970	1450	820	650	600
HP-DRY 1200 PN400	G 1/2"	1200	1164	1450	1000	900	850
HP-DRY 1400 PN400	G 1/2"	1400	1358	1500	1000	900	800
HP-DRY 1600 PN400	G 1/2"	1600	1552	1450	1000	900	1200

OPERATING PRESSURE 50 bar - CORRECTION FACTORS - C_{op} (35 °C; 400 bar)

Operating pressure [bar]	250	275	300	325	350	375	400
Correction factor C _{op}	0,63	0,69	0,75	0,81	0,88	0,94	1,00

250 bar version							
Type	Connection ⁽³⁾	Inlet flow ⁽¹⁾	Outlet flow ⁽²⁾	Dimensions			Mass
	IN/OUT [°]	[Nm³/h]	[Nm³/h]	H [mm]	W [mm]	D [mm]	[kg]
HP-DRY 050 PN250	G 3/8"	50	48,5	1000	680	450	95
HP-DRY 100 PN250	G 3/8"	100	97	1360	680	450	135
HP-DRY 150 PN250	G 3/8"	150	145,5	1600	680	450	145
HP-DRY 250 PN250	G 3/8"	250	242,5	1500	680	450	180
HP-DRY 350 PN250	G 1/2"	350	339,5	1500	820	650	300
HP-DRY 500 PN250	G 1/2"	500	485	1500	820	650	280
HP-DRY 650 PN250	G 1/2"	650	630,5	1500	820	650	400
HP-DRY 800 PN250	G 1/2"	800	776	1550	820	650	460
HP-DRY 1000 PN250	G 1/2"	1000	970	1600	820	650	580
HP-DRY 1200 PN250	G 1/2"	1200	1164	1550	820	700	620
HP-DRY 1400 PN250	G 1/2"	1400	1358	1650	820	700	650

OPERATING PRESSURE 50 bar - CORRECTION FACTORS - C_{op} (35 °C; 250 bar)

Operating pressure [bar]	110	130	160	190	220	250
Correction factor C _{op}	0,44	0,52	0,64	0,76	0,88	1,00

OPERATING TEMPERATURE - CORRECTION FACTORS - C_{ot}

Operating temperature [°C]	25	30	35	40	45	50
Correction factor C _{ot}	1	1	1	0,97	0,87	0,80

DEW POINT - CORRECTION FACTORS - C_{dp}

Dew point temperature [°C]	-25	-40	-55
Correction factor C _{dp}	1,1	1	0,7

(1) Refers to 1bar(a) and 20°C, at nominal operating pressure, inlet temperature 35°C and pressure dew point at outlet -40°C.

(2) Purge air requirements depend on actual operating conditions (Typically about 3%).

(3) Threads of the dryer are male. It is possible to remove the fittings on the inlet and outlet, to get a pipe connection (for welding), where you should contact the manufacturer for the diameter and thickness. Also on the inlet you can remove the fittings and pipes entirely to get a female connection directly on the pre-filter.



100, 250, 400 bar
operating pressure

1,5 to 45°C
operating temperature range

3/8" to 1/2"
connections

6 to 2800 Nm³/h
flow rate

RAL 9005
standard colour

DESCRIPTION

TAC HP activated carbon towers have been developed for separating oil vapours from compressed air (dry type separation).

TAC HP series is made from high quality carbon steel. Flow distributors ensure uniform distribution of air flow through activated carbon bed. Oil vapours as well as some other hydrocarbons are separated due to adsorption process.

Super fine coalescing filter is required upstream TAC HP and 1µm dust filter is recommended downstream to intercept activated carbon dust. High pressure version is available on request.

Stainless steel version available on request.

APPLICATIONS

- Automotive
- Electronics
- Food & beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application

TAC HP 100, 250, 400 SERIES

HIGH PRESSURE ACTIVATED CARBON TOWER



TECHNICAL DATA								
Type	Connection size	Operating pressure	Flow rate at 7 bar(g), 20 °C		Dimensions [mm]			Mass
	inch	bar	Nm³/h	scfm	A	B	C	kg
HP-TAC 50 PN100	3/8"	100	50	49	1250	340	580	50
HP-TAC 100 PN100	3/8"		100	97	1350	340	580	68
HP-TAC 150 PN100	3/8"		150	146	1650	340	580	80
HP-TAC 250 PN100	3/8"		250	243	1550	340	600	84
HP-TAC 350 PN100	1/2"		350	340	1460	410	680	108
HP-TAC 500 PN100	1/2"		500	485	1700	410	680	116
HP-TAC 650 PN100	1/2"		650	631	1800	410	700	152
HP-TAC 800 PN100	1/2"		800	776	1850	410	680	192
HP-TAC 50 PN250	3/8"	250	50	49	1000	340	450	38
HP-TAC 100 PN250	3/8"		100	97	1360	340	450	54
HP-TAC 150 PN250	3/8"		150	146	1600	340	450	58
HP-TAC 250 PN250	3/8"		250	243	1500	340	450	72
HP-TAC 350 PN250	1/2"		350	340	1500	410	650	120
HP-TAC 500 PN250	1/2"		500	485	1500	410	650	112
HP-TAC 650 PN250	1/2"		650	631	1500	410	650	160
HP-TAC 800 PN250	1/2"		800	776	1550	410	650	184
HP-TAC 1000 PN250	1/2"		1000	970	1600	410	650	232
HP-TAC 1200 PN250	1/2"		1200	1164	1550	410	700	248
HP-TAC 1400 PN250	1/2"		1400	1358	1650	410	700	260
HP-TAC 100 PN400	3/8"	400	100	97	1120	340	450	48
HP-TAC 150 PN400	3/8"		150	146	1360	340	450	54
HP-TAC 250 PN400	3/8"		250	243	1450	340	580	76
HP-TAC 350 PN400	1/2"		250	340	1350	410	580	108
HP-TAC 500 PN400	1/2"		500	485	1380	410	650	124
HP-TAC 650 PN400	1/2"		650	631	1450	410	650	176
HP-TAC 800 PN400	1/2"		800	776	1230	410	650	170
HP-TAC 1000 PN400	1/2"		1000	970	1450	410	650	240
HP-TAC 1200 PN400	1/2"		1200	1164	1450	500	900	340
HP-TAC 1400 PN400	1/2"		1400	1358	1500	500	900	320
HP-TAC 1600 PN400	1/2"		1600	1552	1450	500	900	480

CORRECTION FACTORS - OPERATING PRESSURE - HP-TAC PN100

Operating pressure [bar]	50	60	70	80	90	100
Operating pressure [psi]	725	870	1015	1160	1305	1450
Correction factor C _{up}	0,5	0,6	0,7	0,8	0,9	1

CORRECTION FACTORS - OPERATING PRESSURE - HP-TAC PN250

Operating pressure [bar]	110	130	160	190	220	250
Operating pressure [psi]	1595	1885	2320	2755	3190	3625
Correction factor C _{up}	0,44	0,52	0,64	0,76	0,88	1

CORRECTION FACTORS - OPERATING PRESSURE - HP-TAC PN400

Operating pressure [bar]	250	275	300	325	350	375	400
Operating pressure [psi]	3625	3990	4350	4715	5075	5440	5800
Correction factor C _{up}	0,63	0,69	0,75	0,81	0,88	0,94	1

CORRECTION FACTORS - OPERATING TEMPERATURE

Operating temperature [°C]	20	25	30	35	40	45
Correction factor	1	0,98	0,97	0,92	0,86	0,75

Replace activated carbon every 12 months or sooner if required. Check residual oil content with oil indicator monthly.

HTP 100, 250, 400 PED

HIGH PRESSURE VESSELS - PED



100, 250, 400 bar
operating pressure

-10 to +50°C
operating temperature range



On request

DESCRIPTION

Pressure vessels are tanks, designed to store compressed air. Pressure vessels can also be designed for any other technical gas. Volume of pressure vessel depends on compressor capacity and on consumption of compressed air.

The supply of pressure vessel includes:

- Anticorrosion protection with basic colour painting and final painting
- CE - certificate
- Supporting legs
- Connections for optional equipment

APPLICATIONS

- Compressed air systems



CONTROLLERS, SKIDS, ADSORBENTS

Type		Description	Page
ADC		Controllers	48
SKIDS		SKID units	50
SORBEO		Adsorbents	52



CONTROLLERS

ADC 1.0

Adsorption dryer controller ADC 1.0 is the most basic electronic controller for heatless adsorption dryers. It can control 4 230 VAC solenoid valves and receive a STAND-BY signal. It cycles the dryer in 5 min half-cycles. The advantages of ADC 1.0 are simplicity and low price.



TECHNICAL DATA

Voltage, Frequency	230V, 50/60Hz
Power rating	1W
Dimensions	150 x 85 x 55
Protection class (controller)	IP 65
Outputs	4 relay outputs for control valves
Input for stand-by	STANDARD, Open contact 24 VDC

ADC 2.0

Adsorption dryer controller ADC 2.0 is based on Siemens LOGO! PLC series. The basic design has 8 relay outputs. 4 relay outputs are used for control valves, 1 for drain and 1 for warning signal. 12 digital inputs of which 4 can be set up as analog input enable the connection of 0...10 VDC or 4...20 mA sensor which. The standard version of ADC 2.0 uses one analog input for connection of dew-point sensor and one digital input for connection of STAND-BY signal.

LOGO! PLC has a display with buttons that enables easy access to information and parameter settings. If the ADC 2.0 is connected to the network remote access through the web browser can be achieved. The advantages of ADC 2.0 are its adaptability and flexibility. The standard controller can easily be upgraded and built on for more advanced projects by reprogramming the existing controller or adding modules for specific applications.



TECHNICAL DATA

Voltage, Frequency	230V, 50/60Hz
Power rating	10 W
Dimensions	235 x 215 x 100 mm
Protection class (controller)	IP 65
Inputs	12 digital inputs (4 can be selected as analog inputs)
Outputs	8 relay outputs
Dew point dependent control	OPTIONAL, Only available when dew point sensor is connected!
Relay output for dew point warning	OPTIONAL, Only available when dew point sensor is connected!
Digital input for stand-by	STANDARD, Open contact 24 VDC
Communication	ON REQUEST, TCP/IP with Siemens LOGO! and Siemens SIMATIC devices, LOGO! Web server



TECHNICAL DATA

Voltage, Frequency	400V, 50 Hz
Power rating	Depends on the dryer
Dimensions	800 x 600 x 200 mm
Protection class (controller)	IP 54
Inputs	22 digital inputs, 3 analog inputs, 4 RTD inputs
Outputs	18 relay outputs, 2 analog outputs
Dew point dependent control	OPTIONAL, Only available when dew point sensor is connected!
Relay output for dew point warning	OPTIONAL, Only available when dew point sensor is connected!
Digital input for stand-by	STANDARD, 24 VDC
Communication	OPTIONAL: PROFIBUS, PROFINET

ADC 3.0

Adsorption dryer controller ADC 3.0 is based on Siemens SIMATIC S7-1200 PLC series. The basic design consists of SIMATIC S7-1200 PLC and modules. The setup has 22 digital inputs 5 analog inputs, 4 RTD inputs, 18 relay outputs and 2 analog outputs. Each controller comes with Siemens KTP400 HMI touchscreen display. Communication modules for PROFINET and PROFIBUS are installed on request.

Adsorption dryer controller ADC 3.0 is intended for control of heat regenerated adsorption dryers. As such it comes in several versions with automation components adjusted to dryer blowers and heaters.

The advantages of ADC 3.0 are its adaptability and flexibility. The standard controller can easily be used for more advanced project by reprogramming the existing controller or adding modules for specific applications.



TECHNICAL DATA

Voltage, Frequency	230 V, 50 Hz
Power rating	3 W
Dimensions	116 x 232 x 65 mm
Outputs	6 x 40 VA, 1 x relay NC/NO 230 V/3 A
Inputs	Digital input
Dew point dependent control	OPTIONAL, Only available when dew point sensor is connected!

ADC 4.0

Adsorption dryer controller ADC 4.0 is the next generation of electronic controllers for heatless adsorption dryers. It builds on previous ADC 1.0 design by adding more functionality to the controller while maintaining simplicity and low cost.



0 - 400 bar
operating pressure

on request
operating temperature range

on request
connections

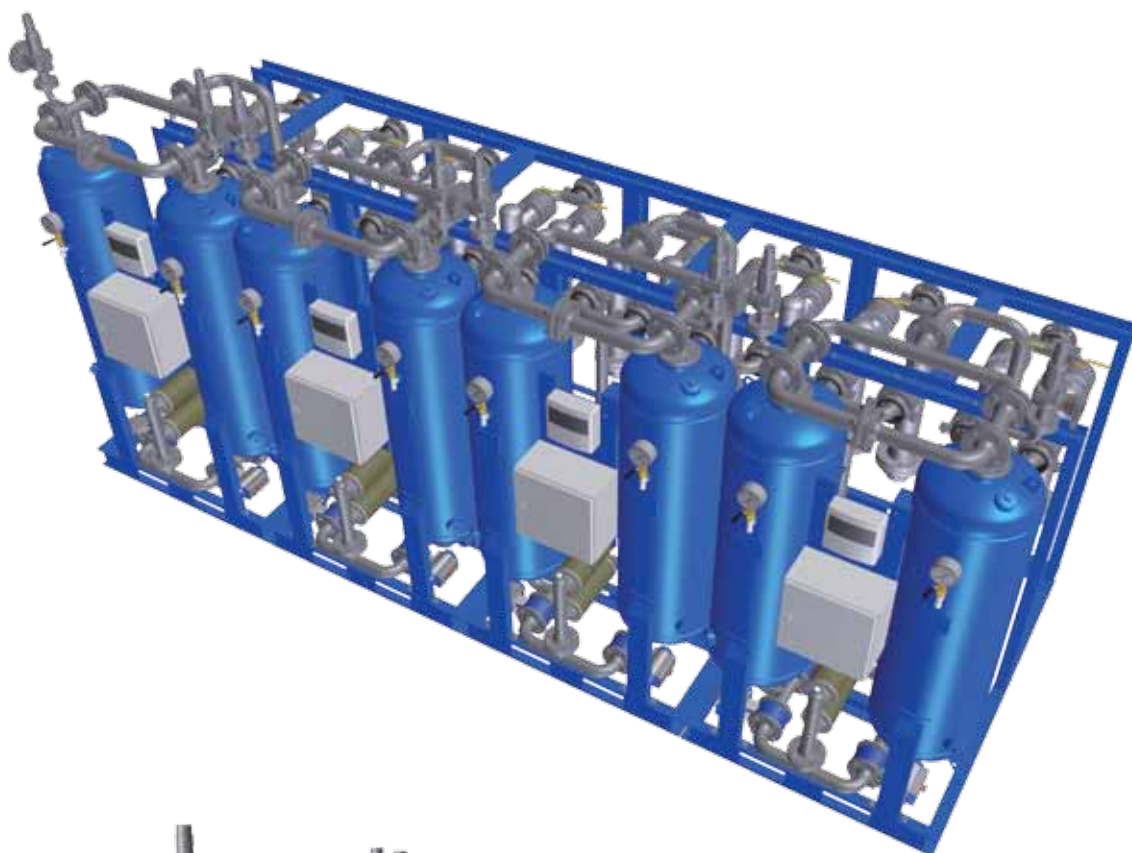
on request
flow capacity

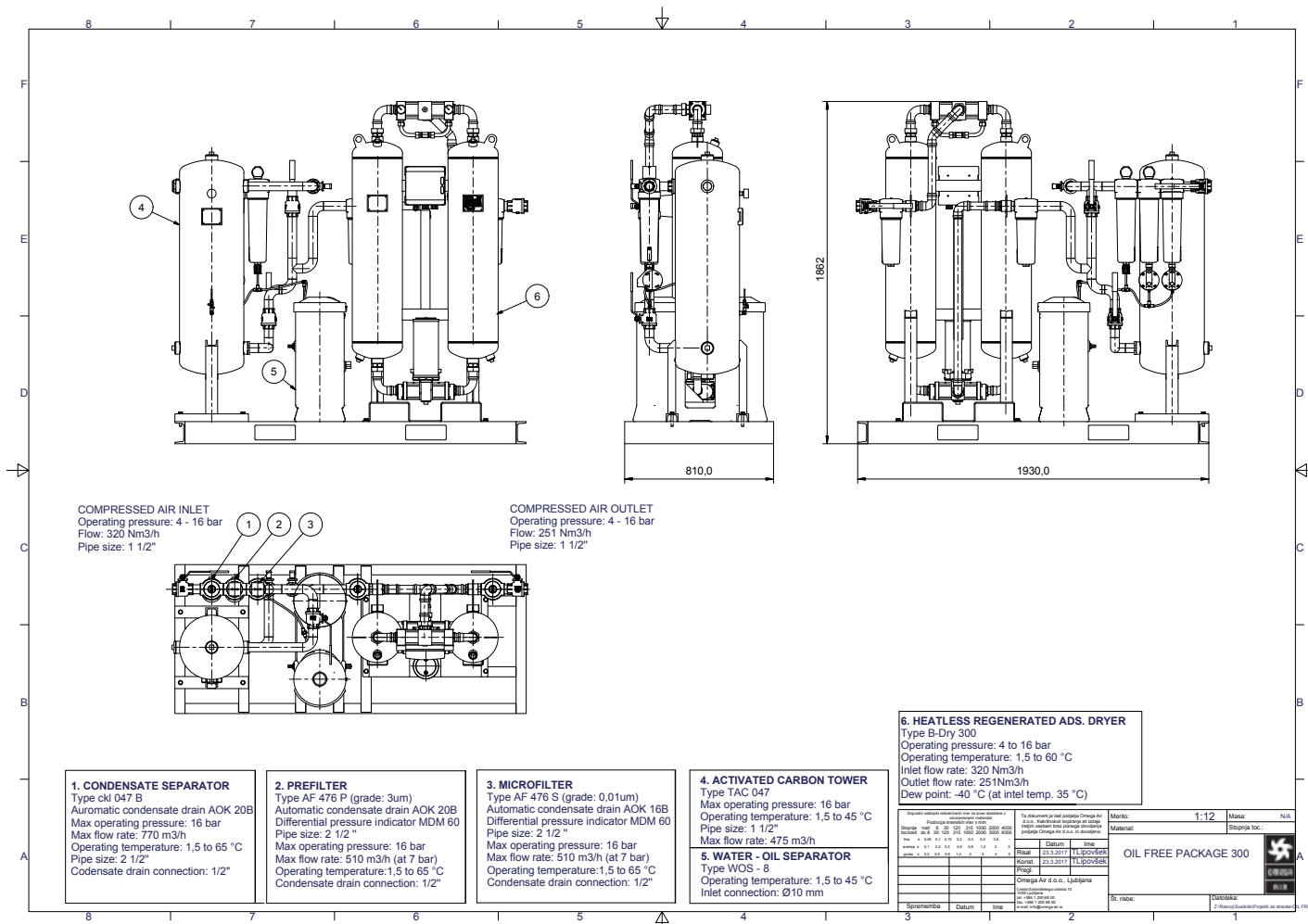
DESCRIPTION

Omega air manufactures wide range of compressed air and gas treatment products (cyclone separators, filters, dryers, condensate drains, gas generators, pressure vessels...).

Our industrial engineering division is able to integrate standard or custom made products into a skid/container based packages according to specific project requirements. Skids can be designed according to variety of design codes (PED, ASME, DNV, ABS, NR13, AS1210 ...).

SKIDS







SORBEO

ADSORBENTS

DESCRIPTION

SORBEO type adsorbents are highly porous materials suitable for use in many adsorption applications. Adsorbents are available in several pack sizes. For detail specification please refer to technical data sheet of specific adsorbent.



APPLICATIONS

- Adsorption dryers



SORBEO MS 3A - Molecular sieve



Adsorbent SORBEO MS3 is a highly porous, crystalline aluminosilicate in beaded form. The pore openings in the crystals have a diameter of approximately 3 Å. Adsorbent has been specially designated for drying of ethylene in cracked gas units. Also, propylene, butadiene and other unsaturated hydrocarbons are dried using this molecular sieve. Adsorbent is also used in **drying of gases containing H₂S and CO₂** where COS formation has to be minimized.

Model	Shape	Bulk density	Package	Mass
SORBEO MS3-S	Granule 2,5mm - 5,0mm	0,7 kg/l	5,8 L container	4 kg
SORBEO MS3-M			16,6 L container	11,5 kg
SORBEO MS3-L			35,4 L container	24 kg
SORBEO MS3-XL			216,5 L barrel	150 kg
SORBEO MS3-XXL			4 x barrel	600 kg

SORBEO MS 4A - Molecular sieve



Adsorbent SORBEO MS4 is a highly porous, crystalline aluminosilicate in beaded form. The pore openings in the crystals have a diameter of approximately 4 Å. SORBEO MS4 is a product for dynamic drying of most gases and vapors. It can also be used to remove other impurities with effective molecule diameters smaller than 4 Å. Typical applications for SORBEO MS4 adsorbent are **drying/purification of natural gas, reformer gas and air**.

Model	Shape	Bulk density	Package	Mass
SORBEO MS4-S	Granule 2,5mm - 5,0mm	0,7 kg/l	5,8 L container	4 kg
SORBEO MS4-M			16,6 L container	11,5 kg
SORBEO MS4-L			35,4 L container	24 kg
SORBEO MS4-XL			220 L barrel	150 kg
SORBEO MS4-XXL			Big bag	800 kg

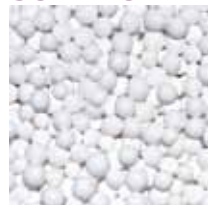
SORBEO MS 10A - Molecular sieve



Adsorbent SORBEO MS10 is a highly porous, crystalline aluminosilicate in beaded form. The pore openings in the crystals have a diameter of approximately 10 Å. Due to its high capacity for water and CO₂ this molecular sieve is widely used for **air purification in cryogenic air separation plants**. It is also applied in the **removal of H₂S/mercaptans and other sulphur compounds** from natural gas and LPG.

Model	Shape	Bulk density	Package	Mass
SORBEO MS10-S	Granule 2,5mm - 5,0mm	0,64 kg/l	5,8 L container	3,5 kg
SORBEO MS10-M			16,6 L container	10,5 kg
SORBEO MS10-L			35,4 L container	22 kg
SORBEO MS10-XL			216,5 L barrel	130 kg
SORBEO MS10-XXL			4x barrel	520 kg

SORBEO AA - Activated Alumina



Adsorbent SORBEO AA is a smooth sphere of activated alumina. It is a desiccant for drying a wide variety of liquids and gases. Although all molecules are adsorbed to some extent on activated alumina, those molecules having the highest polarity are preferentially absorbed. SORBEO AA can be used as **adsorbent in adsorption dryers, acid removal originating from lubricating oils and refrigerants, process stream purification/removal of highly polar compounds**.

Model	Shape	Bulk density	Package	Mass
SORBEO AA-S	Granule 2,0mm - 5,0mm	0,77 kg/l	5,8 L container	4 kg
SORBEO AA-M			16,6 L container	12 kg
SORBEO AA-L			35,4 L container	27 kg
SORBEO AA-XL			220 L barrel	170 kg
SORBEO AA-XXL			Big bag	907 kg

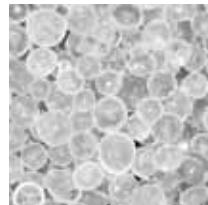
SORBEO SGW - Silica Gel



Water resistant adsorbent SORBEO SGW is a wide pore, beaded form of silica gel. It is a buffer adsorbent used to protect adsorbent beds. SGW exhibits a high water capacity under conditions of high relative humidity and in particular when water is present in the liquid phase. It also has a high capacity for liquid hydrocarbons and other organic liquids. It is used as a **buffer layer in molecular sieve and silica gel beds** which may be subject to occasional liquid carryover.

Model	Shape	Bulk density	Package	Mass
SORBEO SGW-S	Granule 2,0mm - 5,0mm	0,45 kg/l	5,8 L container	2,5 kg
SORBEO SGW-M			16,6 L container	7 kg
SORBEO SGW-L			35,4 L container	15 kg
SORBEO SGW-XL			220 L barrel	100 kg
SORBEO SGW-XXL			4x barrel	400 kg

SORBEO SGR - Silica Gel



Adsorbent SORBEO SGR is a narrow pore, beaded form of silica. SORBEO SGR consists of relatively large beads and is used in a wide variety of drying and purification processes. Main applications are in **dynamic drying and hydrocarbon dew point control of Natural Gas, drying of other gases and liquids in refining and petrochemical processes, and in air drying**. Beaded silica gels are specifically suitable, when dust and attrition are critical in application.

Model	Shape	Bulk density	Package	Mass
SORBEO SGR-S	Granule 2,0mm - 5,0mm	0,7 kg/l	5,8 L container	4 kg
SORBEO SGR-M			16,6 L container	11,5 kg
SORBEO SGR-L			35,4 L container	24 kg
SORBEO SGR-XL			220 L barrel	150 kg
SORBEO SGR-XXL			Big bag	500 kg

SORBEO AC - Activated Carbon



Activated carbon packages can purify compressed air and gases by means of an adsorptive process and is mainly used for separating oil vapors from compressed air flows. Activated carbon can be used for other applications according to its specifications at any time. Typical applications for activated carbon are **purification of natural gas, reformer gas and air**.

Model	Shape	Bulk density	Package	Mass
SORBEO AC-S	Pellet 3 mm	0,5 kg/l	5,8 L container	2,5 kg
SORBEO AC-M			16,6 L container	8 kg
SORBEO AC-L			35,4 L container	17 kg
SORBEO AC-XL			220 L barrel	110 kg

SORBEO HC - Catalyst



Catalyst SORBEO HC is intended for catalytic oxidation of CO to CO₂ in dry air or other gases. In this way poisonous CO is removed and CO₂ is generated instead. This process is used in applications such as **compressed breathing air, respirators, escape masks and cryogenic gas purification**.

Model	Shape	Bulk density	Package	Mass
SORBEO HC-S	Granule 3 mm	0,9 kg/l	5,8 L container	5 kg
SORBEO HC-M			16,6 L container	14 kg
SORBEO HC-L			35,4 L container	31 kg
SORBEO HC-XL			220 L barrel	198 kg



OMEGA AIR







PRODUCTION

OMEGA AIR

Modern production, contemporary CNC machining centres, strict internal control, external quality assessment system and prescribed procedure compliance monitoring, ensures that production lines produce only products of the highest quality.

We also manage all the product's phases, from its concept to final production. Only a small fraction is made by contractors which strictly follows demands of services and supply of materials

- Toolroom dept.
- Plastics dept.
- Machining dept.
- Welding dept.
- Filtration dept.
- Assembly dept



RESEARCH AND DEVELOPMENT

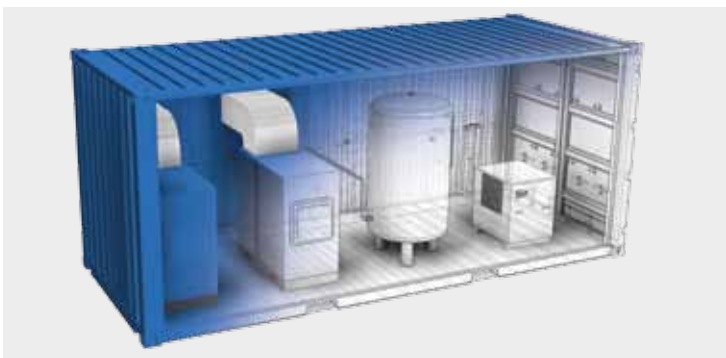
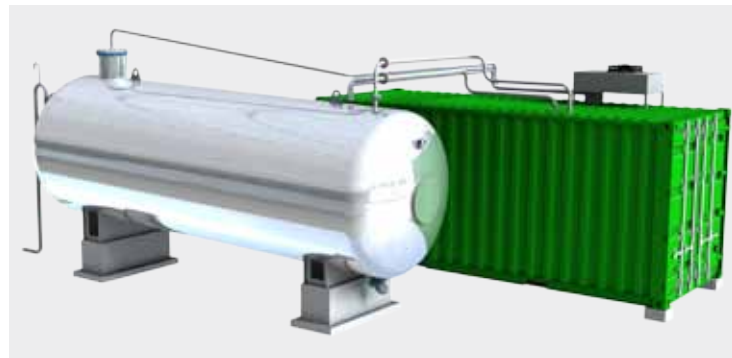
OMEGA AIR



Our experts develop tailored solutions for our clients, no matter how demanding their requirements are. Wide range of experiences, technical know-how and innovations are key features, making the best solutions possible. Introducing new technologies and permanent investing in development give optimal solutions.

Our people work closely with the business to develop solutions that enable them and their clients to stay ahead of their game. Technology is a place where communication and innovation allow us to provide an unbeatable service to our clients.

Our team works closely with our clients to invent, develop and build real-world technology solutions to some of their hardest problems, as well as providing professional support services for those solutions throughout their operational lives. Through the system testing and optimization we try to achieve the reduction of device operating costs.





SERVICE

OMEGA AIR

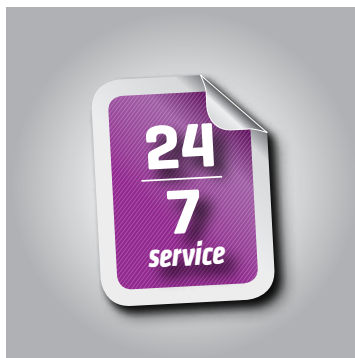
The service centre is at a separate location in Logatec. It is responsible for servicing all equipment purchased in our company. The wide range of spare parts ensures the shortest possible downtime of your production plant. The replacement equipment - as much as the entire mobile compressor station - is available in case of major annual servicing.

Every member of service staff has their own service vehicle equipped with spare parts for the implementation of basic services, as well as all the necessary.

Customer service provides 24/7 customer support.

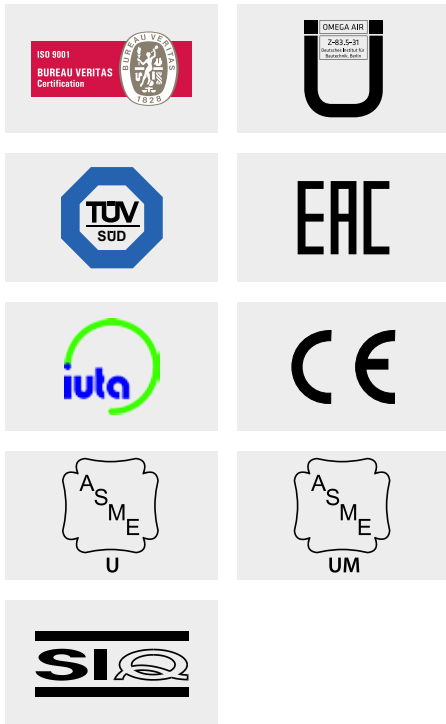
Service covers the following areas:

- Compressors and compressor equipment
- Air conditioning and industrial cooling processes
- Humidifiers and air heaters
- Pneumatic tools



FAIRS, QUALITY, CERTIFICATES

OMEGA AIR



Obtained quality certificates and standards compliance are proof that we know how to produce quality products. We are proudly introducing these at the most prestigious fairs all over the World.

We are satisfied that knowledge about our products and systems from our product range is not hidden behind a wall. Our training centre provides all necessary information about our product programme.

Certificates

- ISO 9001:2008
- ASME U code
- CE-PED-H1
- CE-PED-H1D
- GOST

Fairs

- ComVac, Hannover (D)
- ITFM, Moscow (RUS)
- PCV Expo, Moscow (RUS)
- HPS, Katowice (PL)
- PTC Asia, Shanghai (PRC)
- MDA India (IN)
- PLOVDIV FAIR (BG)
- Energetics, Celje (SLO)
- MOS, Celje (SLO)
- AGRA, Gornja Radgona (SLO)
- Formatool, Celje (SLO)
- Car and maintenance, Celje (SLO)





Good flow of raw materials and products is provided with our own transport capacities, as well as contractual partners and services for fast delivery.

- 2 heavy goods vehicles (26t and 12t)
- Cargo trailer (8,5t)
- 11 vans
- 15 company cars
- 10 forklifts (10t, 6t, 3.5t 3 x 1.7t, 3 x 1.2t)
- 2000 m² of warehouses
- Logistics centre in Logatec

TRANSPORT AND LOGISTICS

OMEGA AIR



OMEGA AIR SHOP

OMEGA AIR



On the store shelves you can find a wide range of quality products for compressed air.

Professionally trained staff will help you to find the perfect choice.

Products selection can also be reached through a sales catalogue and online store.

- Sales catalogue
- Web catalogue



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Languages:



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