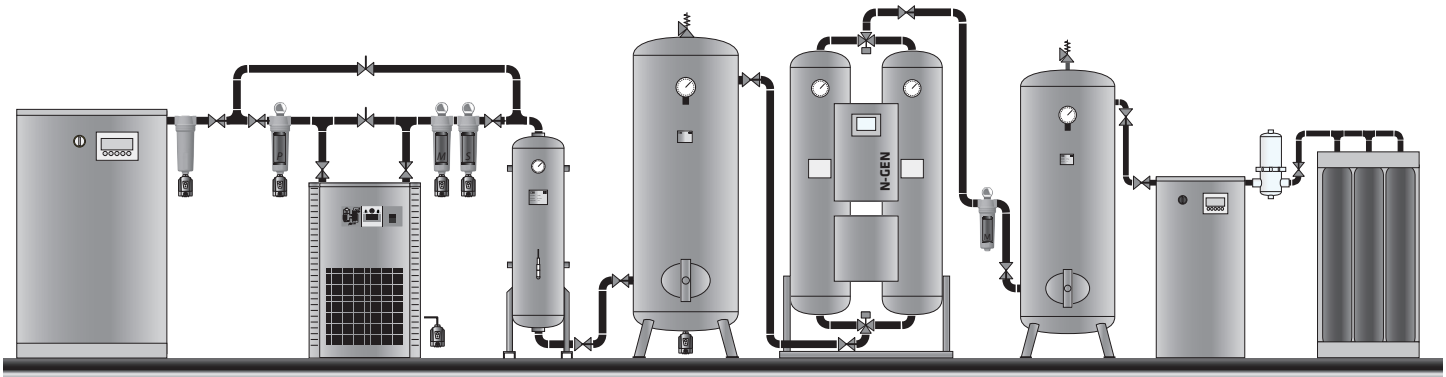
N_2 PRODUCTION
Product catalogue



Compressor | Refrigeration dryer | Activated carbon tower | Pressure vessel | Nitrogen generator | N_2 receiver | N_2 high pressure compressor | N_2 high pressure receiver

OMEGA AIR

N2

OMEGA AIR

Air and Gas

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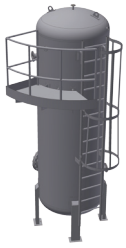


Nitrogen applications

NITROGEN GAS APPLICATIONS

Nitrogen is an inert gas that is suitable for a wide range of applications, covering various aspects of chemical manufacturing, processing, handling, and shipping. Nitrogen has low reactivity and it is excellent for blanketing and is often used as purging gas. It can be used to remove contaminants from process streams through methods such as stripping and sparging. Due to its properties it can be used for protection of valuable products against harmful contaminants. It also enables safe storage, usage of flammable compounds and can help prevent combustible dust explosions.

The applications of nitrogen compounds are naturally extremely widely varied due to the huge size of this class: hence, only applications of pure nitrogen itself will be considered here. Two-thirds of nitrogen produced by industry is sold as the gas and the remaining one-third as the liquid. The gas is mostly used as an inert atmosphere whenever the oxygen in the air would pose a fire, explosion, or oxidising hazard. Some examples include:

Food industry

Nitrogen gas is also used to provide an unreactive atmosphere. It is used in this way to preserve foods. As a modified atmosphere, pure or mixed with carbon dioxide, to nitrogenate and preserve the freshness of packaged or bulk foods (by delaying rancidity and other forms of oxidative damage). Pure nitrogen as food additive is labelled in the European Union with the E number E941.

Light bulbs industry

Bulbs should not be filled with air since hot tungsten wire will combust in presence of oxygen. You can't maintain vacuum either or external atmospheric pressure will break the glass. So they must be filled with non-reactive gas like nitrogen. We can use inert gases like argon or helium instead of N, but they are more expensive & rarer than nitrogen.

Fire suppression systems

Nitrogen is a naturally occurring gas that operates as a fire suppressant. Fire suppression is achieved by reducing the oxygen concentration where the fire will extinguish, while remaining at a level acceptable for human exposure for a short period of time.

Stainless steel manufacturing

There are various instances when nitrogen can be added to steel during steelmaking such as melting, the ladle processing and the casting operations. Sources of nitrogen in BOF include hot metal, scrap, nitrogen impurity in oxygen and nitrogen gas used while stirring. Nitrogen effect on hardness (nitriding), formability, strain ageing and impact properties.

Tire filling systems

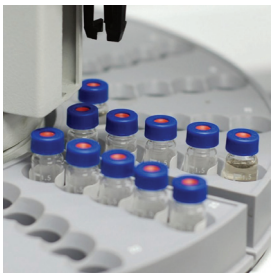
Nitrogen is used to inflate race car and aircraft tires, reducing the problems caused by moisture and oxygen in natural air. Nitrogen is less likely to migrate through tire rubber than is oxygen, which means that your tire pressures will remain more stable over the long term. That means more consistent inflation pressures during a use as the tires heat up.

Aircraft fuel systems

In some aircraft fuel systems nitrogen is used to reduce fire hazard. The nitrogen can be one that simply reduces the oxygen available for combustion, which chemically interferes with the combustion process.

Chemical analysis

Nitrogen is commonly used during sample preparation in chemical analysis. It is used to concentrate and reduce the volume of liquid samples. Directing a pressurised stream of nitrogen gas perpendicular to the surface of the liquid causes the solvent to evaporate while leaving the solute(s) and un-evaporated solvent behind.



Pressurised beer kegs

Nitrogen can be used as a replacement, or in combination with, carbon dioxide to pressurise kegs of some beers, particularly stouts and British ales, due to the smaller bubbles it produces, which makes the dispensed beer smoother and headier. A pressure-sensitive nitrogen capsule known commonly as a "widget" allows nitrogen-charged beers to be packaged in cans and bottles.

Nitrogen is important to the chemical industry. It is used in production of fertilisers, nitric acid, nylon, dyes and explosives. To make these products, nitrogen must first be reacted with hydrogen to produce ammonia. This is done by the Haber process. 150 million tonnes of ammonia are produced in this way every year.

Nitrogen gas is also used to provide an unreactive atmosphere. It is used in this way to preserve foods, and in the electronics industry during the production of transistors and diodes. Large quantities of nitrogen are used in annealing stainless steel and other steel mill products. Annealing is a heat treatment that makes steel easier to work.

Liquid nitrogen is often used as a refrigerant. It is used for storing sperm, eggs and other cells for medical research and reproductive technology. It is also used to rapidly freeze foods, helping them to maintain moisture, colour, flavour and texture. Nitrogen tanks are also replacing carbon dioxide as the main power source for paintball guns. Nitrogen must be kept at higher pressure than CO2, making N_2 tanks heavier and more expensive. Nitrogen gas has become the inert gas of choice for inert gas asphyxiation, and is under consideration as a replacement for lethal injection in Oklahoma. Nitrogen gas, formed from the decomposition of sodium azide, is used for the inflation of airbags.

SAFETY - NITROGEN GAS

Nitrogen is nontoxic and largely inert gas and that is why it is often mistakenly considered harmless. Notwithstanding by displacing oxygen in air to levels below those required for survival, nitrogen can act as an asphyxiate medium.

Although nitrogen is non-toxic, when released into an enclosed space it can displace oxygen, and therefore presents an asphyxiation hazard. This may happen with few warning symptoms, since the human carotid body is a relatively poor and slow low-oxygen (hypoxia) sensing system. An example occurred shortly before the launch of the first Space Shuttle mission in 1981, when two technicians died from asphyxiation after they walked into a space located in the Shuttle's Mobile Launcher Platform that was pressurised with pure nitrogen as a precaution against fire.

When inhaled at high partial pressures (more than about 4 bar, encountered at depths below about 30 m in scuba diving), nitrogen is an anesthetic agent, causing nitrogen narcosis, a temporary state of mental impairment similar to nitrous oxide intoxication.

Nitrogen dissolves in the blood and body fats. Rapid decompression (as when divers ascend too quickly or astronauts decompress too quickly from cabin pressure to spacesuit pressure) can lead to a potentially fatal condition called decompression sickness (formerly known as caisson sickness or the bends), when nitrogen bubbles form in the bloodstream, nerves, joints, and other sensitive or vital areas. Bubbles from other "inert" gases (gases other than carbon dioxide and oxygen) cause the same effects, so replacement of nitrogen in breathing gases may prevent nitrogen narcosis, but does not prevent decompression sickness.

NITROGEN USE BY PURITY

PSA can produce nitrogen at various range of purities. The lower the purity, the lower is the cost of nitrogen production. For example, the quality of vegetable oil can be maintained by blanketing with 99,5% nitrogen purity. Normal nitrogen purity for food processing is in the range from 99% to 99,5%. Lower purity nitrogen in the range from 96% to 99% is often used in fire and explosion prevention. High purity with nitrogen content from 99,9 % to 99,999 % is typically used for laser cutting, electronics soldering and pharmaceutical applications.

Use of the nitrogen	Purity of the N_2
Food processing: - Wine blanketing - Beer dispense - Oil sparging - Fruit storage	99,0 % to 99,9 %
Fire prevention	95 %
Explosion prevention	95% to 98 %
Chemical blanketing	95 % to 999 %
Pressure testing	95 %
Injection moulding	99 % to 99,5 %
Electronic soldering	99,95 % to 99,995 %
Laser cutting	99,95 % to 99,995 %
Pharmaceutical	99,95 to 99,999 %

CLASSIFICATION ACCORDING TO PED 2014/68/EU

According to The Pressure Equipment Directive (PED) (2014/68/EU) and Regulation (EC) No 1272/2008 classify Nitrogen as fluid group 2.

Nitrogen production methods

Industrial nitrogen gas can be produced by:

SEPARATION OF GASEOUS AIR USING PRESSURE SWING ADSORPTION (PSA) TECHNOLOGY

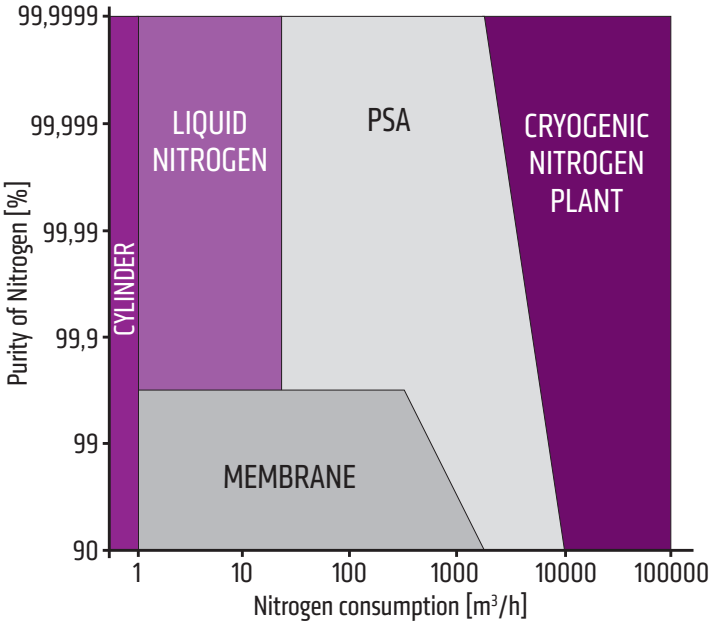
At least two pressure vessels are filled with adsorbent which selectively adsorbs oxygen, allowing nitrogen to pass through it at the desired purity level. While one vessel is at high pressure to produce nitrogen, the second vessel is depressurized to remove the adsorbed oxygen, which is then vented to the atmosphere.

SEPARATION OF GASEOUS AIR USING MEMBRANE TECHNOLOGY

Gas flow is supplied under pressure into a bundle of membrane fibres. Due to the difference in partial pressures on the external and internal membrane surface oxygen selectively permeates through the membrane allowing nitrogen to pass through at the desired purity level. Oxygen which concentrates on the external surface of the membrane is vented to the atmosphere by a portion of produced nitrogen.

FRACTIONAL DISTILLATION OF LIQUID AIR USING CRYOGENIC TECHNOLOGY

Pure gases (N_2, O_2, Ar) can be separated from air by first cooling it until it liquefies and then selectively distilling the components at their various boiling temperatures. The process can produce high purity gases but is energy-intensive and requires large initial investment.



Decision on production method depend on required purity, volume and regime of consumption.

PSA - Pressure swing adsorption

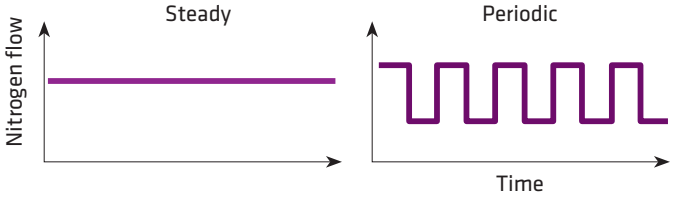
The first step in the PSA process is compressed air passing through a combination of filters and an activated carbon tower with the purpose of removing dust, entrained oil and water. The purified air is then directed to one of two adsorption vessels that are packed with carbon molecular sieves (CMS). The remaining impurities such as carbon dioxide and residual moisture are adsorbed by the CMS at the entrance of the adsorbent bed.

When the CMS is at high pressure, it selectively adsorbs oxygen, allowing nitrogen to pass through it at the desired purity level. While one vessel is at high pressure to produce nitrogen, the second vessel is depressurized to remove the adsorbed oxygen, which is then vented to the atmosphere. The automatic switching between adsorption and desorption between the two beds enables the continuous production of nitrogen.

By adjusting the size of the air compressor and adsorption vessels containing the CMS, a large range of flow and purity combinations can be met. PSAs can economically produce nitrogen gas at flow rates from less than one cubic meter per hour to greater than a few thousand cubic meter per hour at purities ranging from 96% to 99.999%.

NITROGEN DEMAND PATTERNS

Where the consumption rate as a function of time is essentially constant, a PSA nitrogen system is an excellent fit for a steady flow pattern. The PSA unit size can easily be matched to the measured or estimated consumption rate. Furthermore, nitrogen production will be most economical if the unit operates continuously near or at its full capacity.



A PSA system is not a good fit for processes with periodic flow pattern, where flow is characterized by peaks and valleys as a function of time. An on site generator with such variable consumption, particularly if it is sized for a peak flow, will operate at partial capacity or idle for a significant amount of time. This will results in high operating costs and operational inefficiency. However, if the duration of the valleys is short, a PSA combined with a large product buffer tank may be sufficient. A PSA system can be sized to handle most of the nitrogen requirements, supplemented with liquid nitrogen during peak-demand periods.

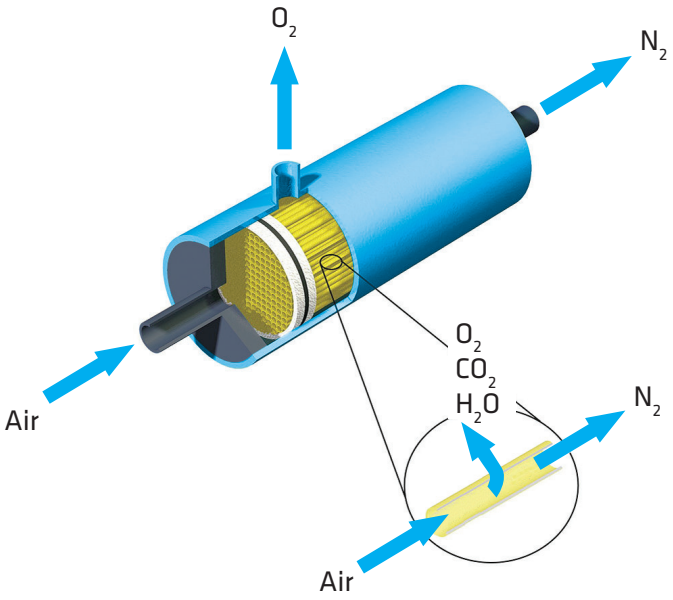
Membrane nitrogen generators

GAS SEPARATION CONCEPT

The operation of membrane systems is based on the principle of differential velocity with which various gas mixture components permeate membrane substance. The driving force in the gas separation process is the difference in partial pressures on different membrane sides.

MEMBRANE CARTRIDGE

Structurally, a hollow fibre membrane represents a cylindrical cartridge functioning as a spool with specifically reeled polymer fibres. Gas flow is supplied under pressure into a bundle of membrane fibres. Due to the difference in partial pressures on the external and internal membrane surface gas flow separation is accomplished.



ADVANTAGES

Economic benefits:
By substitution of out-of-date cryogenic or adsorption systems nitrogen production savings generally exceed 50%. The net cost of nitrogen produced by nitrogen complexes is significantly less than the cost of cylinder or liquefied nitrogen.

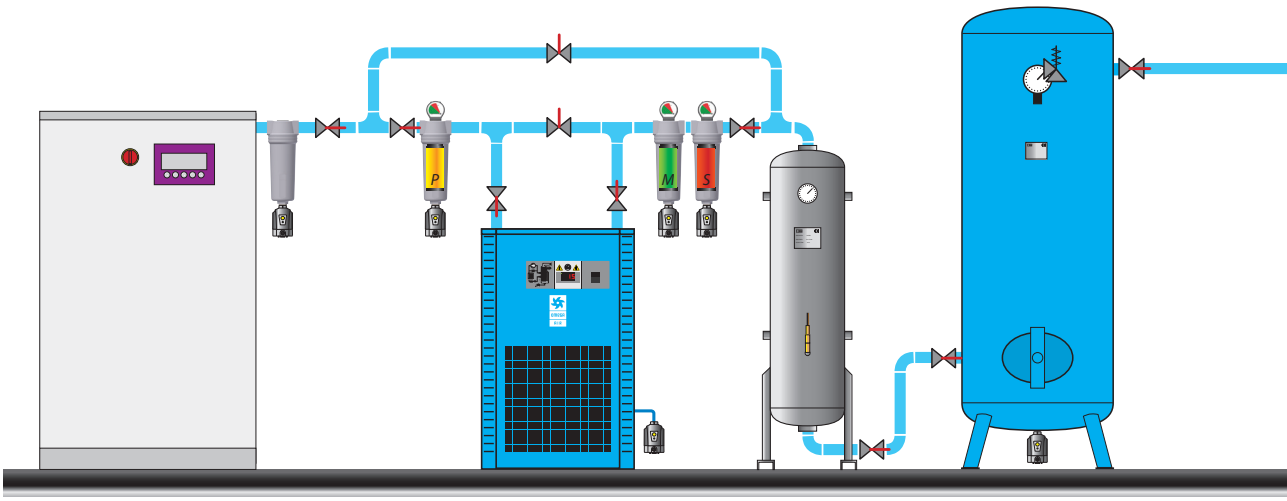
Module design:
With respect to the simplicity of the system, a nitrogen generator can be split into modules. This is in direct contrast to classical systems where the equipment is designed for a certain stage of the separation process. Using a modular system, the generation facility may be built from a selection of preexisting equipment and where necessary, the output capacity of a plant may be increased at the minimum cost. This option appears all the more useful where a project envisages a subsequent increase in enterprise capacity, or where demand may simply require on site production of nitrogen by employing equipment that is already present.

Dependability:
Gas separation units have no moving component parts, thus ensuring exceptional reliability. Membranes are highly resistant to vibration and shocks, moisture-insensitive, and capable of operating over a wide temperature range of –40°C to +60°C. With appropriate maintenance, membrane unit useful life ranges between 130,000 and 180,000 hours (15 to 20 years of continuous operation).

DISADVANTAGES

Limited capacity:
Relatively low purity compared to PSA units (95% purity as compared to 99.9995% - higher purity applications are available at lower flow rates ≤ 10 l/min).

N_2 production line



Compressor | Refrigeration dryer | Activated carbon tower | Pressure vessel

Generators

N-GEN SERIES

Capacity: 0,83 to 766 Nm³/h
Pressure: 6-10 bar
Dew point: <-45°C
Vessels according to EN 13445

NC-GEN SERIES

Capacity: 0,14 to 14,2 Nm³/h
Pressure: 6-10 bar
Dew point: <-45°C
Vessels according to EN 13445

NM-GEN SERIES

Capacity: 0,8 to 780 Nm³/h
Pressure: 5-24 bar
Dew point: <-50°C
Vessels according to EN 13445

SKID N-GEN

Flow rate: 40 to 828 Nm³/h
Pressure: on request
Connections: on request
Vessels according to EN 13445

Refrigeration dryers

RDP, RDL, RDF, RDHP

Flow rate: 20 to 13.200 Nm³/h
Pressure: 14-50 bar
Dew point: 3°C, 5°C

Adsorption dryers

A-DRY SERIES

Flow rate: 6 to 200 Nm³/h
Pressure: 4 to 16 bar
PDP: -40°C (-25°C/-70°C)
Vessels according to EN 13445

B-DRY SERIES

Flow rate: 110 to 1.152 Nm³/h
Pressure: 4 to 16 bar
PDP: -40°C (-25°C/-70°C)
Vessels according to EN 13445

F-DRY SERIES

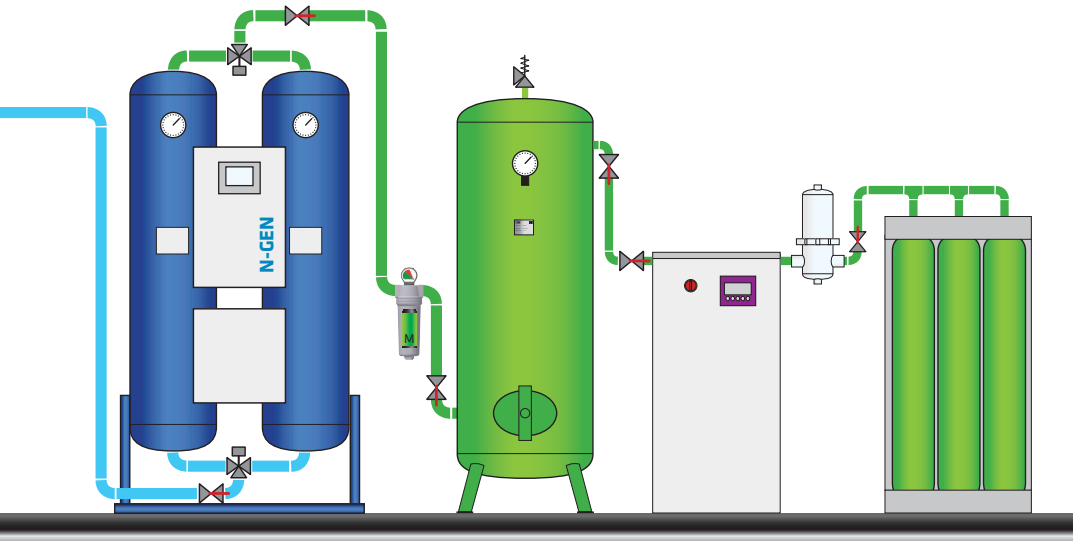
Flow rate: 1.200 to 6.500 Nm³/h
Pressure: 4 to 16 bar
PDP: -40°C (-25°C/-70°C)
Vessels according to EN 13445

R-DRY SERIES

Flow rate: 390 to 20.200 Nm³/h
Pressure: 4 to 50 bar
Pressure dew point: -40°C (-20°C)
Vessels according to EN 13445

HP-DRY SERIES

Flow rate: 50 to 1.600 Nm³/h
Pressure: 50, 100, 250, 420 bar
Pressure dew point: -40°C
Vessels according to EN 13445



Nitrogen generator | N_2 receiver | N_2 high pressure compressor | N_2 high pressure receiver

SYSTEM OUTPUT

6-10 bar
operating pressure

-45°C
dew point (at ambient pressure)

up to 770 Nm³/h
flow capacity

5°C to 35°C
operating temperature - feed air

up to 40°C
ambient temperature

1.4.1 acc. to ISO 8573-1
(0,1 µm; 3°C; <0,01 mg/ m³/h)
filtration classes

97% to 99.999%
purity rates

Other technical specifications are project based and provided on request.

Filters

AF SERIES
aluminium filters

Flow rate: 60 to 2.760 Nm³/h
Pressure: 16 bar
Connections: 3/8" to 3"

BF, BF HP SERIES
welded carbon steel filters

Flow rate: 1.680 to 31.400 Nm³/h
Pressure: 16, 25, 50 bar
Connections: DN80 to DN300
Vessels according to EN 13445

HF SERIES
aluminium high pressure filters

Flow rate: 71 to 2.760 Nm³/h
Pressure: 50 bar
Connections: 1/2" to 3"

CHP, IHP SERIES
carbon/stainless steel HP filters

Flow rate: 40 to 715 Nm³/h
Pressure: 100, 250, 420 bar
Connections: 1/4" to 2"
Vessels according to EN 13445

PF, HPF SERIES
stainless steel process filters

Flow rate: 75 to 21.120 Nm³/h
Pressure: 16 (12, 10), 50 bar
Connections: 1/4" to DN200
Vessels according to EN 13445

Condensate separators

CKL/CS/SFH SERIES

Flow rate: 30 to 14.280 Nm³/h
Pressure: 16 to 420 bar
Connections: 3/8" to DN350
Vessels according to EN 13445

Aftercoolers

ACA/ACW SERIES

Flow rate: 66 to 45.570 Nm³/h
Pressure: up to 16 bar
Connections: 1" to DN500

Pressure vessels

TP SERIES

PED
ASME
Custom made
Vessels according to EN 13445

Activated carbon towers

TAC, HP-TAC SERIES

Flow rate: 6 to 6.500 Nm³/h
Pressure: 16, 50, 100, 250, 420 bar
Connections: 3/8" to DN125
Vessels according to EN 13445

AF SERIES

ALUMINIUM COMPRESSED AIR FILTERS

16 bar
operating pressure

60 to 2760 Nm³/h
volume flow rate

3/8" to 3"
connections

1,5 to 65 °C
operating temperature range

RAL 5012
standard colour

DESCRIPTION

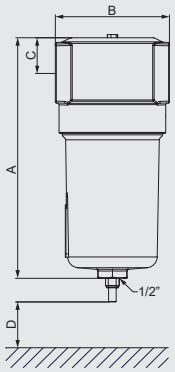
AF filters are designed for protection of the downstream compressed air system and equipment against defects and other failures.

They ensure high efficient removal of solid particles, water, oil aerosols, hydrocarbons, odour and vapours from compressed air systems up to 16 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 9 different grades of filter elements (B, P, R, M, S, A, A^2, H^2 and MS^2).

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

TECHNICAL DATA										FILTER ELEMENTS								
Filter housing size	Pipe size	Max. oper. press.	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	4) A^2 adsorption (act. carbon)	4) H^2 catalyst (hopcalite)	4) MS^2 molecular sieve
	inch	[bar/psi]	Nm³/h	scfm	A	B	C	D	kg									
AF 0056	3/8"	16/232	60	35	192	88	25	60	0,6	06050 B15	06050 P	06050 R	06050 M	06050 S	06050 A	-	-	-
AF 0076	1/2"	16/232	78	46	192	88	25	60	0,6	07050 B15	07050 P	07050 R	07050 M	07050 S	07050 A	07050 A^2	07050 H^2	07050 MS^2
AF 0106	3/4"	16/232	120	70	262	88	25	80	0,7	14050 B15	14050 P	14050 R	14050 M	14050 S	14050 A	14050 A^2	14050 H^2	14050 MS^2
AF 0186	1"	16/232	198	116	264	125	39	100	1,2	12075 B15	12075 P	12075 R	12075 M	12075 S	12075 A	12075 A^2	12075 H^2	12075 MS^2
AF 0306	1"	16/232	335	197	364	125	39	120	1,6	22075 B15	22075 P	22075 R	22075 M	22075 S	22075 A	22075 A^2	22075 H^2	22075 MS^2
AF 0476	1 1/2"	16/232	510	300	464	125	39	140	1,9	32075 B15	32075 P	32075 R	32075 M	32075 S	32075 A	32075 A^2	32075 H^2	32075 MS^2
AF 0706	1 1/2"	16/232	780	459	644	125	39	160	2,6	50075 B15	50075 P	50075 R	50075 M	50075 S	50075 A	50075 A^2	50075 H^2	50075 MS^2
AF 0946	2"	16/232	1000	588	696	164	50	520	5,7	51090 B15	51090 P	51090 R	51090 M	51090 S	51090 A	-	-	-
AF 1506	2"	16/232	1500	882	943	164	50	770	7,6	76090 B15	76090 P	76090 R	76090 M	76090 S	76090 A	-	-	-
AF 1756	2 1/2"	16/232	1680	990	943	164	50	770	7,3	76090 B15	76090 P	76090 R	76090 M	76090 S	76090 A	-	-	-
AF 2006	3"	16/232	2160	1270	801	242	60	630	14,1	51140 B15	51140 P	51140 R	51140 M	51140 S	51140 A	-	-	-
AF 2406	3"	16/232	2760	1620	998	242	60	780	16,7	75140 B15	75140 P	75140 R	75140 M	75140 S	75140 A	-	-	-



quality class - solids (ISO 8573-1)	7	6	3	2	1	1 3)	1 3)	1 3)	1
residual oil content [mg/m³]	-	-	-	<0,1	<0,01	<0,005	<0,005	-	-
quality class - oils (ISO 8573-1)	-	-	-	2	1	1	0/1	-	-
pressure drop - new element [mbar / psi]	20 / 0,290	10 / 0,145	20 / 0,290	50 / 0,725	80 / 1,160	60 / 0,870	see spec.	see spec.	< 50 / 0,725
change filter cartridge at pressure drop [mbar / psi]	1)	350 / 5,07	350 / 5,07	350 / 5,07	350 / 5,07	6 months 2)	6 months 2)	6 months 2)	
filter material	sintered brass	acrylic fibres, cellulose	borosilicate micro fibres			borosilicate micro fibres			
						activ. carbon	activ. carbon	hopcalite	molecular sieve
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	1,5 / 35
max. operating temperature (°C / °F)	65 / 149	65 / 149	65 / 149	65 / 149	65 / 149	45 / 113	45 / 113	45 / 113	45 / 113

CORRECTION FACTORS															
Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,38	0,50	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

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, A^2, H^2", 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.
4) For elements A^2, H^2 and MS^2 it is necessary to reduce the flow according to technical data sheet specification.

BF SERIES

WELDED CARBON STEEL COMPRESSED AIR FILTERS

16 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

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

BF filters are designed for protection of the downstream compressed air system and equipment against defects and other failures. 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 16 bar. For any other technical gas please contact producer or your local distributor.

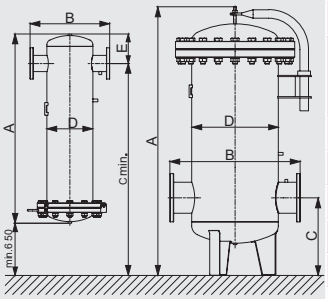
Required compressed air quality according to standard ISO 8571-1 can be achieved with 6 different grades of filter elements (B, P, R, M, S and A).

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

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
	DN	bar/psi	Nm³/h	scfm	A	B	C	D	E	kg						
BF 0240	80	16/232	1.680	989	1170	450	1645	219	177	61	1×76090 B15	1×76090 P	1×76090 R	1×76090 M	1×76090 S	1×76090 A
BF 0300	100	16/232	3.150	1.853	1340	560	1780	324	227	115	2×76090 B15	2×76090 P	2×76090 R	2×76090 M	2×76090 S	2×76090 A
BF 0450	125	16/232	4.700	2.765	1340	560	1780	324	227	123	3×76090 B15	3×76090 P	3×76090 R	3×76090 M	3×76090 S	3×76090 A
BF 0600	150	16/232	6.300	3.706	1425	620	1810	368	265	178	4×76090 B15	4×76090 P	4×76090 R	4×76090 M	4×76090 S	4×76090 A
BF 0900	150	16/232	9.400	5.530	1480	680	1850	419	650	218	6×76090 B15	6×76090 P	6×76090 R	6×76090 M	6×76090 S	6×76090 A
BF 1200	200	16/232	12.550	7.382	1835	792	510	508	-	320	8×76090 B15	8×76090 P	8×76090 R	8×76090 M	8×76090 S	8×76090 A
BF 1500	200	16/232	15.700	9.235	1880	918	535	610	-	455	10×76090 B15	10×76090 P	10×76090 R	10×76090 M	10×76090 S	10×76090 A
BF 1800	250	16/232	18.850	11.088	1950	955	555	610	-	500	12×76090 B15	12×76090 P	12×76090 R	12×76090 M	12×76090 S	12×76090 A
BF 2500	250	16/232	25.100	14.765	2060	1042	645	711	-	590	16×76090 B15	16×76090 P	16×76090 R	16×76090 M	16×76090 S	16×76090 A
BF 3000	300	16/232	31.400	18.481	2130	1085	680	711	-	684	20×76090 B15	20×76090 P	20×76090 R	20×76090 M	20×76090 S	20×76090 A

BF 0240
BF 0300
BF 0450
BF 0600
BF 0900

BF 1200
BF 1500
BF 1800
BF 2500
BF 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]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,38	0,50	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

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

BF HP SERIES

HIGH PRESSURE WELDED CARBON STEEL COMPRESSED AIR FILTERS

25 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

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

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

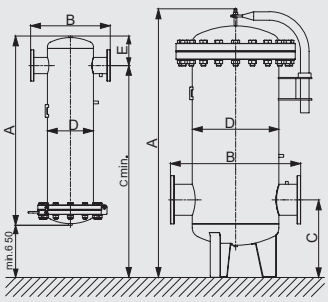
Required compressed air quality according to standard ISO 8571-1 can be achieved with 6 different grades of filter elements (B, P, R, M, S and A).

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

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	B	C	D	E						
BF HP 0240	80	25/362	1.680	989	1170	450	1660	219	166	1×76090 B15	1×76090 P	1×76090 R	1×76090 M	1×76090 S	1×76090 A
BF HP 0300	100	25/362	3.150	1.853	1330	560	1780	324	208	2×76090 B15	2×76090 P	2×76090 R	2×76090 M	2×76090 S	2×76090 A
BF HP 0450	125	25/362	4.700	2.765	1330	560	1780	324	206	3×76090 B15	3×76090 P	3×76090 R	3×76090 M	3×76090 S	3×76090 A
BF HP 0600	150	25/362	6.300	3.706	1360	620	1780	368	241	4×76090 B15	4×76090 P	4×76090 R	4×76090 M	4×76090 S	4×76090 A
BF HP 0900	150	25/362	9.400	5.530	1420	680	1810	405	261	6×76090 B15	6×76090 P	6×76090 R	6×76090 M	6×76090 S	6×76090 A
BF HP 1200	200	25/362	12.550	7.382	1850	792	525	508	-	8×76090 B15	8×76090 P	8×76090 R	8×76090 M	8×76090 S	8×76090 A
BF HP 1500	200	25/362	15.700	9.235	1890	918	545	610	-	10×76090 B15	10×76090 P	10×76090 R	10×76090 M	10×76090 S	10×76090 A
BF HP 1800	250	25/362	18.850	11.088	1920	655	555	610	-	12×76090 B15	12×76090 P	12×76090 R	12×76090 M	12×76090 S	12×76090 A
BF HP 2500	250	25/362	25.100	14.765	2030	1042	685	711	-	16×76090 B15	16×76090 P	16×76090 R	16×76090 M	16×76090 S	16×76090 A
BF HP 3000	300	25/362	31.400	18.481	2130	1085	680	711	-	20×76090 B15	20×76090 P	20×76090 R	20×76090 M	20×76090 S	20×76090 A

BF HP 0240
BF HP 0300
BF HP 0450
BF HP 0600
BF HP 0900

BF HP 1200
BF HP 1500
BF HP 1800
BF HP 2500
BF HP 3000



	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
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]	2	3	4	5	6	7	8	9	10	12	14	15	18	20	22	25
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	174	203	218	261	290	319	363
Correction factor	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,63	1,88	2,00	2,37	2,63	2,89	3,25

[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 BF HP 0240 to BF HP 0900 can be produced with optional integrated support legs, which should be noticed at order.

HF SERIES

CAST ALUMINIUM HIGH PRESSURE FILTERS

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

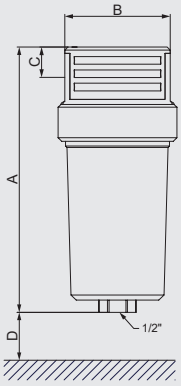
HF filters are designed for high efficient removal of solid particles, water, oil aerosols, hydrocarbons and other vapours from compressed air systems.

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.

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.

CHP SERIES

CARBON STEEL HIGH PRESSURE FILTERS

100, 250, 420 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 15 µm
surface protection

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

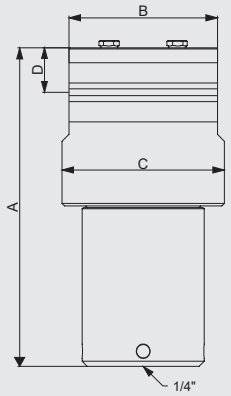
CHP carbon steel high pressure filters are designed for high efficient removal of solid particles, water, oil aerosols, hydrocarbons and other vapours from high pressure compressed air systems up to 420 bar.

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.

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	Nm³/h	scfm	A	B	C	D	kg						
CHP 003	1/4"	100/250/420	40	23,5	182	98	104	30	7,6	CHP 0305 B	CHP 0305 P	CHP 0305 R	CHP 0305 M	CHP 0305 S	CHP 0305 A
CHP 005	3/8"	100/250/420	70	41,2	182	98	104	30	7,6	CHP 0310 B	CHP 0310 P	CHP 0310 R	CHP 0310 M	CHP 0310 S	CHP 0310 A
CHP 007	1/2"	100/250/420	130	76,5	230	118	129	36	15,3	CHP 0420 B	CHP 0420 P	CHP 0420 R	CHP 0420 M	CHP 0420 S	CHP 0420 A
CHP 010	3/4"	100/250/420	195	115	254	118	129	36	16,1	CHP 0520 B	CHP 0520 P	CHP 0520 R	CHP 0520 M	CHP 0520 S	CHP 0520 A
CHP 018	1"	100/250/420	275	162	276	145	158	46	26,5	CHP 0525 B	CHP 0525 P	CHP 0525 R	CHP 0525 M	CHP 0525 S	CHP 0525 A
CHP 030	1 1/4"	100/250/420	380	223	328	145	158	46	28,6	CHP 0725 B	CHP 0725 P	CHP 0725 R	CHP 0725 M	CHP 0725 S	CHP 0725 A
CHP 047	1 1/2"	100/250/420	495	291	385	195	216	65	65,9	CHP 0730 B	CHP 0730 P	CHP 0730 R	CHP 0730 M	CHP 0730 S	CHP 0730 A
CHP 094	2"	100/250/420	715	421	460	195	216	65	71,4	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	420
Operating pressure [psi]	100	362	580	928	1450	3625	6091
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.

IHP SERIES

STAINLESS STEEL HIGH PRESSURE FILTERS

100, 250, 420 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 1.4301-standard
stainless steel 1.4404-option
material

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

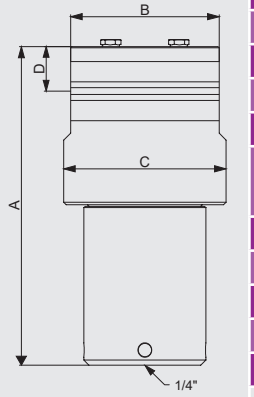
IHP stainless steel high pressure filters are designed for high efficient removal of solid particles, water, oil aerosols, hydrocarbons and other vapours from compressed air systems up to 420 bar.

Required compressed air quality according to standard ISO 8571-1 can be achieved with 6 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.

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	R prefilter 1 µm	M microfilter 0,1 µm	S microfilter 0,01 µm	A activated carbon	CKL-IHP
	inch	bar	Nm³/h	scfm	A	B	C	D	kg							
IHP 003	1/4"	100/250/420	40	23,5	182	98	104	30	7,9	IHP 0305 N5	IHP 0305 N25	IHP 0305 R	IHP 0305 M	IHP 0305 S	IHP 0305 A	CKL-IHP 0305
IHP 005	3/8"	100/250/420	70	41,2	182	98	104	30	7,9	IHP 0310 N5	IHP 0310 N25	IHP 0310 R	IHP 0310 M	IHP 0310 S	IHP 0310 A	CKL-IHP 0310
IHP 007	1/2"	100/250/420	130	76,5	230	118	129	36	15,7	IHP 0420 N5	IHP 0420 N25	IHP 0420 R	IHP 0420 M	IHP 0420 S	IHP 0420 A	CKL-IHP 0420
IHP 010	3/4"	100/250/420	195	115	254	118	129	36	16,6	IHP 0520 N5	IHP 0520 N25	IHP 0520 R	IHP 0520 M	IHP 0520 S	IHP 0520 A	CKL-IHP 0520
IHP 018	1"	100/250/420	275	162	276	145	158	46	27,3	IHP 0525 N5	IHP 0525 N25	IHP 0525 R	IHP 0525 M	IHP 0525 S	IHP 0525 A	CKL-IHP 0525
IHP 030	1 1/4"	100/250/420	380	223	328	145	158	46	29,6	IHP 0725 N5	IHP 0725 N25	IHP 0725 R	IHP 0725 M	IHP 0725 S	IHP 0725 A	CKL-IHP 0725
IHP 047	1 1/2"	100/250/420	495	291	385	195	216	65	67,8	IHP 0730 N5	IHP 0730 N25	IHP 0730 R	IHP 0730 M	IHP 0730 S	IHP 0730 A	CKL-IHP 0730
IHP 094	2"	100/250/420	715	421	460	195	216	65	73,5	IHP 1030 N5	IHP 1030 N25	IHP 1030 R	IHP 1030 M	IHP 1030 S	IHP 1030 A	CKL-IHP 1030
										-	-	3	2	1	1 [2]	-
										-	-	-	<0,1	<0,01	<0,005	-
										-	-	-	2	1	1	-
										10 / 0,15	10 / 0,15	20 / 0,29	50 / 0,725	80 / 1,16	60 / 0,87	-
										-	-	350 / 5,07	350 / 5,07	350 / 5,07	6 months [1]	-
										stainless steel mesh 1.4301	stainless steel mesh 1.4301	borosilicate micro fibres			activated carbon	-
										-	-	✓	✓	✓	-	-
										✓	✓	-	-	-	✓	-
										-	-	-	-	-	-	-
										1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35	1,5 / 35
										65 / 149	65 / 149	65 / 149	65 / 149	65 / 149	45 / 113	65 / 149



quality class - solids (ISO 8573-1)
residual oil content [mg/m³]
quality class - oils (ISO 8573-1)
pressure drop - new element [mbar / psi]
change filter cartridge at pressure drop [mbar / psi]
filter media
pleated version
wrapped version
sintered version
min. operating temperature (°C / °F)
max. operating temperature (°C / °F)

CORRECTION FACTORS							
Operating pressure [bar]	7	25	40	64	100	250	420
Operating pressure [psi]	100	362	580	928	1450	3625	6091
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.

PF SERIES

STAINLESS STEEL PROCESS FILTERS

14 bar
operating pressure

75 to 21120 Nm³/h
volume flow rate

1/4" to DN200
connections

up to 150 °C
operating temperature range

stainless steel 1.4404-standard
stainless steel 1.4301-option
material

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

PF process filters are designed for applications in process industry, where the risk for corrosion of compressed air system components is very high.

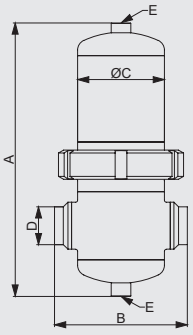
Required compressed air quality according to standard ISO 8571-1 can be achieved with 9 different grades of filter elements.

PF 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 bowl on the top and filter head on the bottom.

TECHNICAL DATA										FILTER ELEMENTS								
Filter housing size	Pipe size D	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	CKL-P
	inch	bar/psi	Nm³/h	scfm	A	B	C	E	kg									
PF 005	1/4"	14/203	75	44	206	120	76,1	1/4"	1,8	0310 PI	0310 PIW	0310 PN	0310 PP	0310 PR	0310 PM	0310 PS	0310 PA	0310 PA
PF 007	3/8"	14/203	105	62	236	120	76,1	1/4"	2,0	0410 PI	0410 PIW	0410 PN	0410 PP	0410 PR	0410 PM	0410 PS	0410 PA	0410 PA
PF 010	1/2"	14/203	150	88	239	121	76,1	1/4"	2,1	0420 PI	0420 PIW	0420 PN	0420 PP	0420 PR	0420 PM	0420 PS	0420 PA	0420 PA
PF 018	3/4"	14/203	225	132	263	121	76,1	1/4"	2,2	0520 PI	0520 PIW	0520 PN	0520 PP	0520 PR	0520 PM	0520 PS	0520 PA	0520 PA
PF 030	1"	14/203	315	185	280	136	88,9	1/4"	3,0	0525 PI	0525 PIW	0525 PN	0525 PP	0525 PR	0525 PM	0525 PS	0525 PA	0525 PA
PF 047	1 1/4"	14/203	420	247	343	155	88,9	1/4"	3,4	0725 PI	0725 PIW	0725 PN	0725 PP	0725 PR	0725 PM	0725 PS	0725 PA	0725 PA
PF 070	1 1/2"	14/203	600	353	376	180	114,3	1/4"	4,6	0730 PI	0730 PIW	0730 PN	0730 PP	0730 PR	0730 PM	0730 PS	0730 PA	0730 PA
PF 094	2"	14/203	900	530	445	180	114,3	1/4"	5,2	1030 PI	1030 PIW	1030 PN	1030 PP	1030 PR	1030 PM	1030 PS	1030 PA	1030 PA
PF 150	2"	14/203	1.260	742	572	180	114,3	1/4"	6,0	1530 PI	1530 PIW	1530 PN	1530 PP	1530 PR	1530 PM	1530 PS	1530 PA	1530 PA
PF 175	2 1/2"	14/203	1.680	989	736	226	139,7	1/4"	9,6	2030 PI	2030 PIW	2030 PN	2030 PP	2030 PR	2030 PM	2030 PS	2030 PA	2030 PA
PF 200	3"	14/203	2.400	1.413	979	226	139,7	1/4"	13,7	3030 PI	3030 PIW	3030 PN	3030 PP	3030 PR	3030 PM	3030 PS	3030 PA	3030 PA
PF 240	3"	14/203	3.600	2.119	1041	256	168,3	1/4"	18,5	3050 PI	3050 PIW	3050 PN	3050 PP	3050 PR	3050 PM	3050 PS	3050 PA	3050 PA
PF 450	DN100	10/145	5.040	2.966	981	410	219,1	1"	56	3x2030 PI	3x2030 PIW	3x2030 PN	3x2030 PP	3x2030 PR	3x2030 PM	3x2030 PS	3x2030 PA	-
PF 600	DN100	10/145	6.720	3.955	1240	410	219,1	1"	60	3x3030 PI	3x3030 PIW	3x3030 PN	3x3030 PP	3x3030 PR	3x3030 PM	3x3030 PS	3x3030 PA	-
PF 900	DN150	10/145	9.600	5.650	1311	480	273,0	1"	90	4x3030 PI	4x3030 PIW	4x3030 PN	4x3030 PP	4x3030 PR	4x3030 PM	4x3030 PS	4x3030 PA	-
PF 1200	DN150	10/145	13.440	7.910	1330	540	323,9	1"	112	6x3030 PI	6x3030 PIW	6x3030 PN	6x3030 PP	6x3030 PR	6x3030 PM	6x3030 PS	6x3030 PA	-
PF 1800	DN200	10/145	17.280	10.171	1496	660	406,4	1"	201	8x3030 PI	8x3030 PIW	8x3030 PN	8x3030 PP	8x3030 PR	8x3030 PM	8x3030 PS	8x3030 PA	-
PF 2000	DN200	10/145	21.120	12.431	1496	660	406,4	1"	202	10x3030 PI	10x3030 PIW	10x3030 PN	10x3030 PP	10x3030 PR	10x3030 PM	10x3030 PS	10x3030 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 element-dry [mbar]	≤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	1,5 / 35
max. operating temperature (°C / °F)	150 / 302	150 / 302	150 / 302	65 / 149	120 / 248	120 / 248	120 / 248	45 / 113	120 / 248

CORRECTION FACTORS													
Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203
Correction factor	0,38	0,50	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88

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

HPF SERIES

HIGH PRESSURE STAINLESS STEEL PROCESS FILTERS

50 bar
operating pressure

150 to 2400 Nm³/h
volume flow rate

1/2" to 3"
connections

1,5 to 150 °C
operating temperature range

stainless steel 1.4404-standard
stainless steel 1.4301-option
material

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

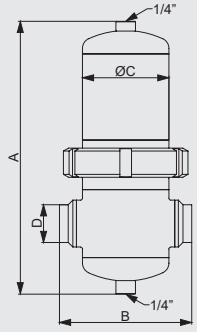
HPF process filters are designed for high pressure applications in process industry, where the risk for corrosion of compressed air system components is very high.

Required compressed air quality according to standard ISO 8571-1 can be achieved with 9 different grades of filter elements.

HPF 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 bowl on the top and filter head on the bottom.

TECHNICAL DATA									FILTER ELEMENTS								
Filter housing size	Pipe size D	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	CKL-P
	inch	bar/psi	Nm³/h	scfm	A	B	C	kg									
HPF 010	1/2"	50/725	150	88	243	121	76,1	2,5	0420 PI	0420 PIW	0420 PN	0420 PP	0420 PR	0420 PM	0420 PS	0420 PA	0420 CKL-P
HPF 018	3/4"	50/725	225	132	267	129	76,1	2,7	0520 PI	0520 PIW	0520 PN	0520 PP	0520 PR	0520 PM	0520 PS	0520 PA	0520 CKL-P
HPF 030	1"	50/725	315	185	286	143	88,9	3,4	0525 PI	0525 PIW	0525 PN	0525 PP	0525 PR	0525 PM	0525 PS	0525 PA	0525 CKL-P
HPF 047	1 1/4"	50/725	420	247	336	160	88,9	3,9	0725 PI	0725 PIW	0725 PN	0725 PP	0725 PR	0725 PM	0725 PS	0725 PA	0725 CKL-P
HPF 070	1 1/2"	50/725	600	353	400	182	114,3	5,6	0730 PI	0730 PIW	0730 PN	0730 PP	0730 PR	0730 PM	0730 PS	0730 PA	0730 CKL-P
HPF 094	2"	50/725	900	530	481	180	114,3	9,2	1030 PI	1030 PIW	1030 PN	1030 PP	1030 PR	1030 PM	1030 PS	1030 PA	1030 CKL-P
HPF 150	2"	50/725	1260	742	607	180	114,3	10,9	1530 PI	1530 PIW	1530 PN	1530 PP	1530 PR	1530 PM	1530 PS	1530 PA	1530 CKL-P
HPF 200	3"	50/725	2400	1413	1018	228	139,7	11,5	3030 PI	3030 PIW	3030 PN	3030 PP	3030 PR	3030 PM	3030 PS	3030 PA	3030 CKL-P



quality class - solids (ISO 8573-1)	-	-	-	6	3	2	1	1 [1]	-
quality class - oils (ISO 8573-1)	-	-	-	-	-	2	1	1	-
pressure drop - new element-dry [mbar]	≤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	1,5 / 35
max. operating temperature (°C / °F)	150 / 302	150 / 302	150 / 302	65 / 149	120 / 248	120 / 248	120 / 248	45 / 113	120 / 248

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] Valid if "S" filter cartridge is installed upstream.

CKL-B SERIES

ALUMINIUM CONDENSATE SEPARATORS

16 bar
operating pressure

60 to 2160 Nm³/h
volume flow rate

3/8" to 3"
connections

1,5 to 65 °C
operating temperature range

RAL 9005
standard colour

DESCRIPTION

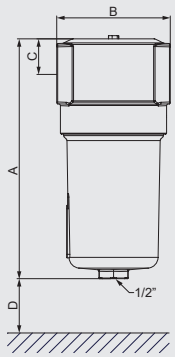
CKL-B condensate separators are designed for high efficient removal of bulk liquids from compressed air and vacuum systems. Inside the housing there is an insert with vanes that creates controlled rotation of the air.

As a result of centrifugal action, liquids (water, oil) and large particles are forced to the housing wall, slowed down and accumulated at the bottom of separator housing as condensate. The turbulent free zone in the lower part of the filter housing prevents condensate from being picked up and "carried over" into the airstream.

To discharge condensate from the CKL-B cyclone separator it is essential to install automatic or electronic condensate drain.

TECHNICAL DATA

Model	Pipe size	Max.oper. pressure	Flow rate at 7 bar(g), 20 °C		Temperature oper. range		Dimensions [mm]				Mass
	inch	bar/psi	Nm³/h	SCFM	°C	°F	A	B	C	D	kg
CKL 005 B	3/8"	16/232	60	35	1,5 - 65	35 - 149	187	88	20	60	0,7
CKL 007 B	1/2"	16/232	78	46	1,5 - 65	35 - 149	187	88	20	60	0,7
CKL 010 B	3/4"	16/232	120	70	1,5 - 65	35 - 149	257	88	20	80	0,8
CKL 018 B	1"	16/232	198	116	1,5 - 65	35 - 149	263	125	32	100	1,8
CKL 047 B	1 1/2"	16/232	510	300	1,5 - 65	35 - 149	461	125	32	140	2,5
CKL 094 B	2"	16/232	1000	588	1,5 - 65	35 - 149	684	163	43	520	5,1
CKL 150 B	2 1/2"	16/232	1500	882	1,5 - 65	35 - 149	684	163	43	520	5,1
CKL 200 B	3"	16/232	2160	1270	1,5 - 65	35 - 149	795	240	59	630	12,9



quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	8
quality class - oils (ISO 8573-1)	-
efficiency	>98%

CORRECTION FACTORS

Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,38	0,50	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

CS/CS SS SERIES

WELDED CONDENSATE SEPARATORS

16 (13) bar
operating pressure

840 to 14280 Nm³/h
volume flow rate

DN65 to DN300
connections

1,5 to 120 °C
operating temperature range

RAL 9005
standard colour CS series

CS: carbon steel
CS SS: stainless steel 1.4404
material

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

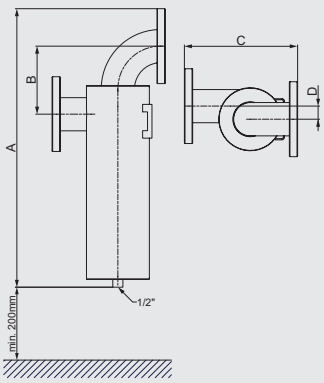
CS condensate separators are designed for high efficient removal of bulk liquids and large impurities from compressed air systems. The insert inside the housing creates controlled rotation of the air flow. Centrifugal flow of liquids (water, oil) and large particles is forced to the housing wall, slowed down and accumulated at the bottom of separator housing as condensate.

The turbulent free zone in the lower part of the cyclone housing prevents condensate from being picked up and "carried over" into the airstream.

To discharge condensate from the CS cyclone separator it is essential to install automatic or electronic condensate drain. CS cyclone separators are also available in stainless steel version CS-SS.

TECHNICAL DATA

Model		Pipe size	Max.oper. pressure		Flow rate at 7 bar(g), 20 °C		Temperature oper. range		Dimensions [mm]				Mass
carbon steel	stainless steel	DN	CS bar/psi	CS SS bar/psi	Nm³/h	SCFM	°C	°F	A	B	C	D	kg
CS 14	**CS SS 14**	65	16/232	13/188	840	495	1,5 - 120	35 - 248	613	153	302	45	21
CS 28	**CS SS 28**	80	16/232	13/188	1.710	1.005	1,5 - 120	35 - 248	745	182	302	35	26
CS 62	**CS SS 62**	125	16/232	13/188	3.720	2.190	1,5 - 120	35 - 248	1041	280	390	43	58
CS 88	**CS SS 88**	150	16/232	13/188	5.280	3.110	1,5 - 120	35 - 248	1298	330	489	50	87
CS 124	**CS SS 124**	200	16/232	13/188	7.440	4.380	1,5 - 120	35 - 248	1506	436	619	52	147
CS 238	**CS SS 238**	300	16/232	13/188	14.280	8.404	1,5 - 120	35 - 248	1680	509	805	89	314



quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	8
quality class - oils (ISO 8573-1)	-
efficiency	>98%

CORRECTION FACTORS

Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,38	0,50	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

SFH/SFH SS SERIES

WELDED CONDENSATE SEPARATORS

SFH

SFH SS

16 (13) bar
operating pressure

1760 to 12550 Nm³/h
volume flow rate

DN80 to DN350
connections

1,5 to 120 °C
operating temperature range

RAL 9005
standard colour CS series

SFH: carbon steel
SFH SS: stainless steel 1.4404
material

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

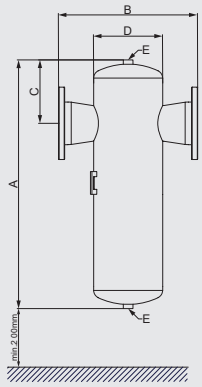
SFH condensate separators are designed for high efficient removal of bulk liquids and large impurities from compressed air systems. The insert inside the housing creates controlled rotation of the air flow. Centrifugal flow of liquids (water, oil) and large particles is forced to the housing wall, slowed down and accumulated at the bottom of separator housing as condensate.

The turbulent free zone in the lower part of the cyclone housing prevents condensate from being picked up and "carried over" into the airstream.

To discharge condensate from the SFH cyclone separator it is essential to install automatic or electronic condensate drain. SFH cyclone separators are also available in stainless steel version SFH-SS.

TECHNICAL DATA

Model		Pipe size	Max.oper. pressure		Flow rate at 7 bar(g), 20 °C		Temperature oper. range		Dimensions [mm]					Mass
carbon steel	stainless steel	DN	SFH bar/psi	SFH SS bar/psi	Nm³/h	SCFM	°C	°F	A	B	C	D	E	kg
SFH 029	SFH SS 029	80	16/232	13/188	1.760	1.024	1,5 - 120	35 - 248	720	400	165	219	1/2"	33
SFH 037	SFH SS 037	100	16/232	13/188	2.200	1.307	1,5 - 120	35 - 248	890	460	236	244	1/2"	45
SFH 066	SFH SS 066	125	16/232	13/188	3.940	2.331	1,5 - 120	35 - 248	980	550	250	273	1"	58
SFH 088	SFH SS 088	150	16/232	13/188	5.300	3.108	1,5 - 120	35 - 248	1040	570	250	300	1"	81
SFH 097	SFH SS 097	200	16/232	13/188	5.820	3.426	1,5 - 120	35 - 248	1110	690	265	350	1"	117
SFH 142	SFH SS 142	250	16/232	13/188	8.520	5.015	1,5 - 120	35 - 248	1330	800	360	480	1"	227
SFH 180	SFH SS 180	300	16/232	13/188	10.770	6.357	1,5 - 120	35 - 248	1470	820	408	550	1"	280
SFH 209	SFH SS 209	350	16/232	13/188	12.550	7.381	1,5 - 120	35 - 248	1670	920	471	622	1"	379



quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	8
quality class - oils (ISO 8573-1)	-
efficiency	>98%

CORRECTION FACTORS

Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,38	0,50	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

SFH HP SERIES

WELDED HIGH PRESSURE CONDENSATE SEPARATORS

50 bar
operating pressure

1760 to 12550 Nm³/h
volume flow rate

DN80 to DN350
connections

1,5 to 65 °C
operating temperature range

RAL 9005
standard colour CS series

carbon steel
material

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

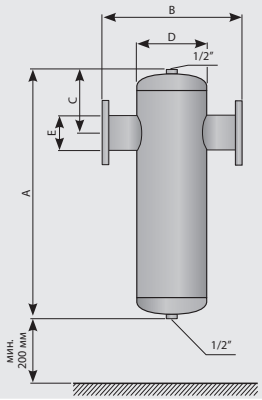
SFH HP welded high pressure condensate separators are designed for high efficient removal of bulk liquids and large impurities from high pressure compressed air systems up to 50 bar. The insert inside the housing creates controlled rotation of the air flow. Centrifugal flow of liquids (water, oil) and large particles is forced to the housing wall, slowed down and accumulated at the bottom of separator housing as condensate.

The turbulent free zone in the lower part of the cyclone housing prevents condensate from being picked up and "carried over" into the airstream.

To discharge condensate from the SFH HP cyclone separator it is essential to install automatic or electronic condensate drain.

TECHNICAL DATA

Model	Pipe size	Max.oper. pressure	Flow rate at 7 bar(g), 20 °C		Temperature oper. range		Dimensions [mm]					Mass
	DN	bar/psi	Nm³/h	SCFM	°C	°F	A	B	C	D	E	kg
SFH HP 029	80	50/725	1760	1024	1,5 - 65	35 - 149	720	400	165	219	1/2"	
SFH HP 037	100	50/725	2200	1307	1,5 - 65	35 - 149	890	460	236	244	1/2"	
SFH HP 066	125	50/725	3940	2331	1,5 - 65	35 - 149	980	550	250	273	1"	
SFH HP 088	150	50/725	5300	3108	1,5 - 65	35 - 149	1040	570	250	300	1"	
SFH HP 097	200	50/725	5820	3426	1,5 - 65	35 - 149	1110	690	265	350	1"	
SFH HP 142	250	50/725	8520	5015	1,5 - 65	35 - 149	1330	800	360	480	1"	
SFH HP 180	300	50/725	10770	6357	1,5 - 65	35 - 149	1470	820	408	550	1"	
SFH HP 209	350	50/725	12550	7381	1,5 - 65	35 - 149	1670	920	471	622	1"	



quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	8
quality class - oils (ISO 8573-1)	-
efficiency	>98%

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

CKL-HF SERIES

ALUMINIUM CONDENSATE SEPARATORS

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 9005
standard colour

RAL 7040
optional colour

DESCRIPTION

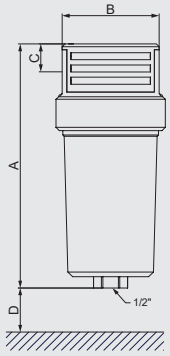
CKL-HF condensate separators are designed for high efficient removal of bulk liquids from compressed air systems. Inside the housing there is a condensate separator element.

This element separates already liquefied water from mainstream and prevents the liquids and large particles from being airborne again.

To discharge condensate from the CKL-HF condensate separator it is essential to install automatic or electronic condensate drain.

TECHNICAL DATA

Model	Pipe size	Max.oper. pressure	Flow rate at 7 bar(g), 20 °C		Temperature oper. range		Dimensions [mm]				Mass
	inch	bar/psi	Nm³/h	SCFM	°C	°F	A	B	C	D	kg
CKL-HF 007	1/2"	50/725	71	42	1,5 - 65	35 - 149	250	110	30	80	2,1
CKL-HF 010	3/4"	50/725	112	66	1,5 - 65	35 - 149	250	110	30	90	2,1
CKL-HF 018	1"	50/725	204	120	1,5 - 65	35 - 149	250	110	30	140	2,1
CKL-HF 047	1 1/2"	50/725	282	166	1,5 - 65	35 - 149	535	160	45	260	9,5
CKL-HF 070	1 1/2"	50/725	400	235	1,5 - 65	35 - 149	535	160	45	360	9,5
CKL-HF 094	2"	50/725	494	291	1,5 - 65	35 - 149	715	160	45	540	12,2
CKL-HF 150	2"	50/725	799	470	1,5 - 65	35 - 149	715	160	45	550	12,2
CKL-HF 200	3"	50/725	2160	1270	1,5 - 65	35 - 149	862	198	70	620	30,4
CKL-HF 240	3"	50/725	2760	1620	1,5 - 65	35 - 149	1010	198	70	780	34,9



quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	8
quality class - oils (ISO 8573-1)	-
efficiency	>98%

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

CKL-CHP SERIES

CARBON STEEL HIGH PRESSURE CONDENSATE SEPARATORS

100, 250, 420 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 15 µm
surface protection

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

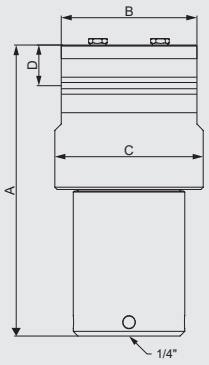
CKL-CHP condensate separators are designed for high efficient removal of bulk liquids from high pressure compressed air systems.

Condensate separator element inside the housing separates already liquefied water from mainstream and prevents the liquids and large particles from being airborne again.

To discharge condensate from the CKL-CHP condensate separator it is essential to install condensate drain. Please take appropriate pressure level into account.

TECHNICAL DATA

Filter housing size	Pipe size	Max. oper. pressure		Flow rate at 7 bar(g), 20 °C		Temperature oper. range		Dimensions [mm]			Mass
	inch	bar	psi	Nm³/h	scfm	°C	°F	A	B	C	kg
CKL-CHP 003	1/4"	100/250/420	1450/3626/6091	40	23,5	1,5 - 65	35 - 149	182	98	104	7,6
CKL-CHP 005	3/8"	100/250/420	1450/3626/6091	70	41,2	1,5 - 65	35 - 149	182	98	104	7,6
CKL-CHP 007	1/2"	100/250/420	1450/3626/6091	130	76,5	1,5 - 65	35 - 149	230	118	129	15,3
CKL-CHP 010	3/4"	100/250/420	1450/3626/6091	195	115	1,5 - 65	35 - 149	254	118	129	16,1
CKL-CHP 018	1"	100/250/420	1450/3626/6091	275	162	1,5 - 65	35 - 149	276	145	158	26,5
CKL-CHP 030	1 1/4"	100/250/420	1450/3626/6091	380	223	1,5 - 65	35 - 149	328	145	158	28,6
CKL-CHP 047	1 1/2"	100/250/420	1450/3626/6091	495	291	1,5 - 65	35 - 149	385	195	216	65,9
CKL-CHP 094	2"	100/250/420	1450/3626/6091	715	421	1,5 - 65	35 - 149	460	195	216	71,4



quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	8
quality class - oils (ISO 8573-1)	-
efficiency	>98%

CORRECTION FACTORS

Operating pressure [bar]	7	25	40	64	100	250	420
Operating pressure [psi]	100	362	580	928	1450	3625	6091
Correction factor	1	3	5	8	12	12	12

CKL-IHP SERIES

STAINLESS STEEL HIGH PRESSURE CONDENSATE SEPARATORS

100, 250, 420 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 1.4301-standard
stainless steel 1.4404-option
material

EN 13445
Design code for pressure vessels

2
Fluid group

DESCRIPTION

CKL-IHP condensate separators are designed for high efficient removal of bulk liquids from high pressure compressed air systems.

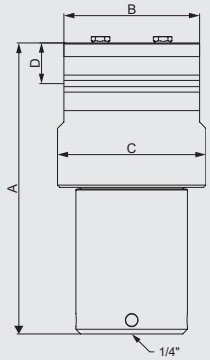
Condensate separator element inside the housing separates already liquefied water from mainstream and prevents the liquids and large particles from being airborne again.

To discharge condensate from the CKL-IHP condensate separator it is essential to install condensate drain. Please take appropriate pressure level into account.

TECHNICAL DATA

Filter housing size	Pipe size	Max. oper. pressure		Flow rate at 7 bar(g), 20 °C		Temperature oper. range		Dimensions [mm]			Mass
	inch	bar	psi	Nm³/h	scfm	°C	°F	A	B	C	kg
CKL-IHP 003	1/4"	100/250/420	1450/3626/6091	40	23,5	1,5 - 65	35 - 149	182	98	104	7,9
CKL-IHP 005	3/8"	100/250/420	1450/3626/6091	70	41,2	1,5 - 65	35 - 149	182	98	104	7,9
CKL-IHP 007	1/2"	100/250/420	1450/3626/6091	130	76,5	1,5 - 65	35 - 149	230	118	129	15,7
CKL-IHP 010	3/4"	100/250/420	1450/3626/6091	195	115	1,5 - 65	35 - 149	254	118	129	16,6
CKL-IHP 018	1"	100/250/420	1450/3626/6091	275	162	1,5 - 65	35 - 149	276	145	158	27,3
CKL-IHP 030	1 1/4"	100/250/420	1450/3626/6091	380	223	1,5 - 65	35 - 149	328	145	158	29,6
CKL-IHP 047	1 1/2"	100/250/420	1450/3626/6091	495	291	1,5 - 65	35 - 149	385	195	216	67,8
CKL-IHP 094	2"	100/250/420	1450/3626/6091	715	421	1,5 - 65	35 - 149	460	195	216	73,5

quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	8
quality class - oils (ISO 8573-1)	-
efficiency	>98%



CORRECTION FACTORS

Operating pressure [bar]	7	25	40	64	100	250	420
Operating pressure [psi]	100	362	580	928	1450	3625	6091
Correction factor	1	3	5	8	12	12	12

A-DRY SERIES

HEATLESS REGENERATION ADSORPTION COMPRESSED AIR DRYERS

4 to 16 bar
operating pressure

1,5 to 50 °C
inlet air temperature range

-40 °C (-25 °C / -70 °C)
pressure dew points

6 to 200 Nm³/h
flow rate

RAL 5012
standard / optional colour

15-20 %
avg. comp. air consumption

EN 13445
Design code for pressure vessels

DESCRIPTION

A-DRY 6-200 desiccant adsorption dryer has been designed to separate water moisture from compressed air thus reducing the dew point in the system. A-DRY is a range of products offering our customers a wide array of dried air solutions with volumetric flow rates ranging from 6 Nm³/h to 200 Nm³/h.

An innovative design of A-DRY adsorption driers, developed with consideration of our customers, enables fast and reliable installation, use and servicing. Installation is simple with our ready to use controller while minimising the number of parts and motions required for assembly and disassembly makes servicing fast and reliable.

TECHNICAL DATA

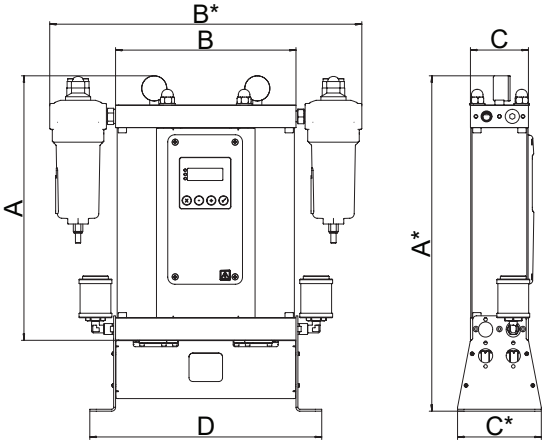
Type	Connection IN/OUT	Nominal volume flow		Dimensions							Mass
		Inlet[1]	Outlet[2]								
	''	[Nm³/h]	[Nm³/h]	A [mm]	A* [mm]	B [mm]	B* [mm]	C [mm]	C* [mm]	D [mm]	kg
A-DRY 06	G3/8''	6	4,7	339	520	280	480	100	130	354	10,5
A-DRY 12	G3/8''	12	9,5	573	715	280	480	100	130	354	13,5
A-DRY 24	G3/8''	24	19,0	1041	1105	280	480	100	130	354	19,0
A-DRY 36	G3/8''	36	28,4	1509	1495	280	480	100	130	354	27,5
A-DRY 60	G3/4''	60	47,4	972	1105	370	570	148	170	434	45,0
A-DRY 75	G3/4''	75	59,3	1167	1300	370	570	148	170	434	53,0
A-DRY 105	G3/4''	117	83	1567	1700	370	570	148	170	434	70,0
A-DRY 150	G1''	150	118	1345	1440	440	725	198	240	570	170,5
A-DRY 200	G1''	200	158	1538	1655	440	725	198	240	570	182,2

Operating pressure range	4 to 16 bar(g)
Operating temperature range	+1,5 °C to +50 °C
Pressure dew points	-25 °C / -40 °C / -70 °C
Voltage, frequency	230V, 50/60 Hz
Power consumption	<35 W
Protection class	IP 65
Filter (inlet)*	super fine; 0,01 µm
Filter (outlet)	dust filter; 1 µm

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

(2) Outlet flow refers to typical assumption during regeneration phase for operating at nominal inlet flow conditions. Outlet flow includes average air losses of approximately 17,3 %.

* If dryer is supplied without inlet filter compressed air class 1 (ISO 8753-1) for solid particles and oil should be provided to the inlet of the dryer.



CORRECTION FACTORS - F1

Operating pressure [bar]	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

CORRECTION FACTORS - F2

Inlet temperature [°C]	25	30	35	40	45	50
Correction factor	1,00	1,00	1,00	0,97	0,87	0,80

DEW POINT

[°C]	-25	-40	-70
C_D	1,1	1	0,7

X-DRY SERIES

HEATLESS REGENERATION MODULAR ADSORPTION COMPRESSED AIR DRYERS

4 to 16 bar
operating pressure

1,5 to 50 °C
inlet air temperature range

-40 °C (-25 °C / -70 °C)
pressure dew points

300 to 1050 Nm³/h
flow rate

RAL 5012
standard / optional colour

15-20 %
avg. comp. air consumption

EN 13445
Design code for pressure vessels

DESCRIPTION

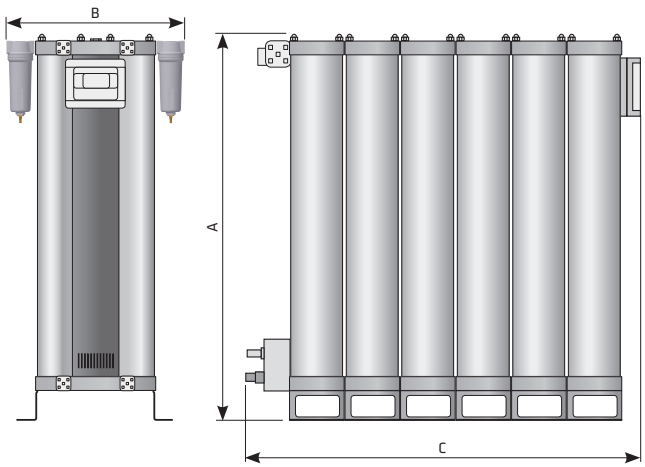
X-DRY 300-1050 modular adsorption dryers are designed for continuous separation of water vapour from compressed air thus reducing dew point. Operation of dryer requires two columns operated alternately.

Adsorption takes place under pressure in first column while second column regenerates with a portion of already dried compressed air at ambient pressure.

A dryer consists of two columns, filled with desiccant beads, controller with LCD display, valves, manometers, support construction and suitable filter housings with the required filter element. Proven robust design enables efficient and reliable operation, fast installation and simple maintenance.

Type	Connection IN/OUT[3]	Nominal volume flow		Dimensions			Mass
		Inlet[1]	Outlet[2]				
	"	[Nm³/h]	[Nm³/h]	A [mm]	B [mm]	C [mm]	kg
X-DRY 300	G 2"	300	237	1515	674	686	350
X-DRY 450	G 2"	450	255,5	1515	674	886	520
X-DRY 600	G 2"	600	474	1515	674	1086	690
X-DRY 750	G 2"	750	592,5	1515	674	1286	860
X-DRY 900	G 2"	900	711	1515	674	1486	1030
X-DRY1050	G 2"	1050	829,5	1515	674	1686	1200

[1] Refers to 1 bar(a) and 20 °C at 7 bar operating pressure, inlet temperature 35 °C and pressure dew point at outlet -40 °C.
[2] Outlet flow refers to typical assumption during regeneration phase for operating at nominal inlet flow conditions. Outlet flow includes average air losses of approximately 17,3 %.
[3] Refers to inlet and outlet filter housing.



Operating pressure range	4 to 16 bar
Operating temperature range	+1,5 °C to +60 °C
Pressure dew points	-40 °C (-25 °C / -70 °C)
Voltage, frequency	230V, 50/60 Hz
Power consumption	<60 W
Protection class	IP 65
Filter (inlet)*	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm

CORRECTION FACTORS - F1															
Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

CORRECTION FACTORS - F2								
Inlet temperature [°C]	25	30	35	40	45	50	55	60
Correction factor	1,00	1,00	1,00	0,97	0,87	0,80	0,64	0,51

DEW POINT			
[°C]	-25	-40	-70
C_D	1,1	1	0,7

B-DRY SERIES

HEATLESS REGENERATION ADSORPTION COMPRESSED AIR DRYERS

4 to 16 bar
operating pressure

1,5 to 60 °C
inlet air temperature range

-40 °C (-25 °C / -70 °C)
pressure dew points

110 to 1200 Nm³/h
flow rate

RAL 5012
standard / optional colour

15-20 %
avg. comp. air consumption

EN 13445
Design code for pressure vessels

DESCRIPTION

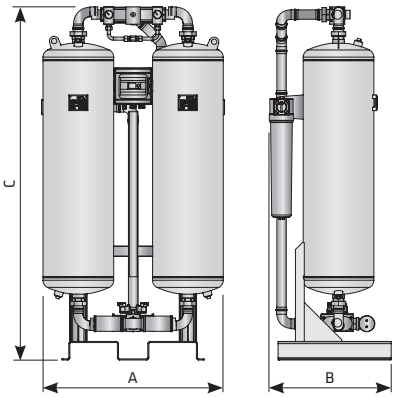
B-DRY adsorption dryers are designed for continuous separation of water vapour from the compressed air thus reducing the pressure dew point. B-DRY series dryer consists of two columns, filled with desiccant beds, controller with LCD display, valves, manometers, support construction and suitable filter housings with the required filter element. 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.

When the first column is saturated to a certain level column switch-over is carried out and the process of adsorption continues in the second column without any drop of pressure at the outlet of the dryer. Regeneration of saturated desiccant is possible because a small portion of already dry compressed air is decompressed and when expanded it becomes extremely dry.

Type	Connection IN/OUT	Nominal volume flow		Dimensions			Mass
		Inlet[1]	Outlet[2]				
	''	[Nm³/h]	[Nm³/h]	A [mm]	B [mm]	C [mm]	kg
B-DRY 110	G 1"	110	86,0	719 ±5	422	1647	140
B-DRY 150	G 1"	150	117,5	707 ±5	422	1897	156
B-DRY 200	G 1"	200	157,0	707 ±5	471	1664	196
B-DRY 250	G 1"	260	204,0	707 ±5	471	1914	236
B-DRY 300	G 1 1/2"	320	251,0	860 ±5	535	1742	274
B-DRY 400	G 1 1/2"	410	321,5	854 ±5	535	1989	295
B-DRY 600	G 1 1/2"	590	462,5	854 ±5	671	2051	392
B-DRY 800	G 2"	770	603,5	1051 ±10	701	2080	507
B-DRY 1000	G 2"	1000	784,0	1051 ±10	701	2140	597
B-DRY 1200	G 2"	1152	903,2	1153 ±10	727	2140	625

Voltage, frequency	230V, 50/60 Hz
Power consumption	<60 W
Protection class	IP 65
Filter (inlet)*	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm
DPD control	optional
Input for stand-by	standard

DEW POINT - CORRECTION FACTORS - C_D			
Operat. temperature [°C]	-25	-40	-70
Operat. temperature [F]	-13	-40	-94
Correction factor C_D	1,1	1	0,7



OPERATING TEMPERATURE - CORRECTION FACTORS - C_{OT}								
Operat. temperature [°C]	25	30	35	40	45	50	55	60
Operat. temperature [F]	77	86	95	104	113	122	131	140
Correction factor C_{OT}	1	1	1	0,97	0,87	0,80	0,64	0,51

OPERATING PRESSURE - CORRECTION FACTORS - C_{OP}															
Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor C_{OP}	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

(1) Refers to 1 bar(a) and 20 °C at 7 bar operating pressure, inlet temperature 35 °C and pressure dew point at outlet -40 °C.
(2) Outlet flow refers to typical assumption during regeneration phase for operating at nominal inlet flow conditions. Outlet flow includes average air losses of approximately 17,3 %.
* If dryer is supplied without inlet filter compressed air class 1 (ISO 8753-1) for solid particles and oil should be provided to the inlet of the dryer.

F-DRY SERIES

HEATLESS REGENERATION ADSORPTION COMPRESSED AIR DRYERS

4 to 16 bar
operating pressure

1,5 to 60 °C
inlet air temperature range

-40 °C (-25 °C / -70 °C)
pressure dew points

1200 to 6500 Nm³/h
flow rate

RAL 5012
standard colour

15-20 %
avg. comp. air consumption

EN 13445
Design code for pressure vessels

DESCRIPTION

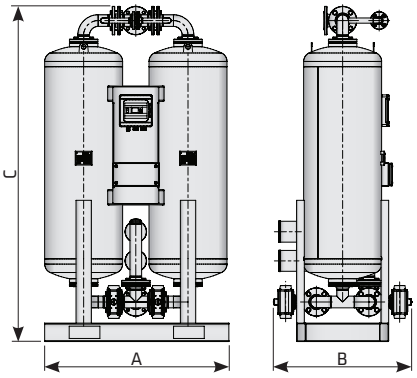
F-DRY adsorption dryers are designed for continuous separation of water vapour from the compressed air thus reducing pressure dew point. F-DRY series dryer consists of two columns, filled with desiccant beds, controller with LCD display, valves, manometers, support construction and suitable filter housings with the required filter element. 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.

When the first column is saturated to a certain level column switch-over is carried out and the process of adsorption continues in the second column without any drop of pressure at the outlet of the dryer. Regeneration of saturated desiccant is possible because a small portion of already dry compressed air is decompressed and when expanded it becomes extremely dry.

Type	Connection IN/OUT	Nominal volume flow		Dimensions			Mass
		Inlet[1]	Outlet[2]				
	DN	[Nm³/h]	[Nm³/h]	A [mm]	B [mm]	C [mm]	kg
F-DRY 1200	DN50	1200	936	1210	850	2170	820
F-DRY 1500	DN65	1500	1170	1535	950	2210	980
F-DRY 2000	DN65	2000	1560	1685	980	2330	1550
F-DRY 2500	DN80	2500	1950	1785	1120	2260	1680
F-DRY 3000	DN80	3000	2340	1875	1120	2400	1850
F-DRY 3750	DN100	3750	2925	2025	1230	2490	2300
F-DRY 5000	DN100	5000	3900	2235	1230	2600	2850
F-DRY 6500	DN125	6500	5070	2420	1430	2730	3750

Voltage, frequency	230V, 50/60 Hz
Power consumption	<60 W
Protection class	IP 65
Filter (inlet)*	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm
DPD control	optional
Input for stand-by	standard

DEW POINT - CORRECTION FACTORS - C_D			
Operat. temperature [°C]	-25	-40	-70
Operat. temperature [F]	-13	-40	-94
Correction factor C_D	1,1	1	0,7



OPERATING TEMPERATURE - CORRECTION FACTORS - C_{OT}								
Operat. temperature [°C]	25	30	35	40	45	50	55	60
Operat. temperature [F]	77	86	95	104	113	122	131	140
Correction factor C_{OT}	1	1	1	0,97	0,87	0,80	0,64	0,51

OPERATING PRESSURE - CORRECTION FACTORS - C_{OP}													
Operating pressure [bar]	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor C_{OP}	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

(1) Refers to 1 bar(a) and 20 °C at 7 bar operating pressure, inlet temperature 35 °C and pressure dew point at outlet -40 °C.
(2) Outlet flow refers to typical assumption during regeneration phase for operating at nominal inlet flow conditions. Outlet flow includes average air losses of approximately 17,3 %.
* If dryer is supplied without inlet filter compressed air class 1 (ISO 8753-1) for solid particles and oil should be provided to the inlet of the dryer.

R-DRY BVA SERIES

VACUUM REGENERATION WITH AMBIENT AIR

4 to 11 bar
operating pressure

1,5 to 42,5 °C
inlet air temperature range

-40 °C
pressure dew points

390 to 20.200 Nm³/h
flow rate

0 %
avg. comp. air consumption

EN 13445
Design code for pressure vessels

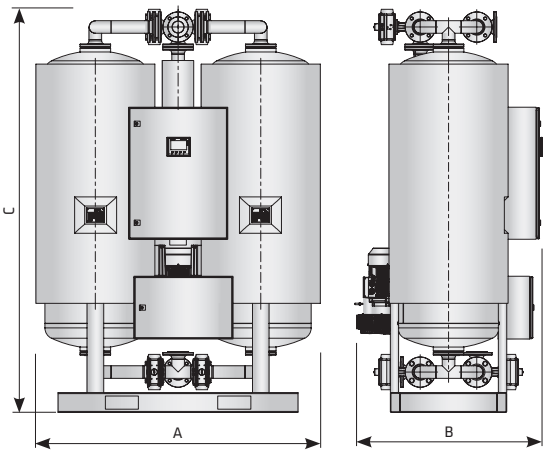
DESCRIPTION

R-DRY BVA 400-20000 adsorption dryers are designed for continuous separation of water vapour from compressed air thus lowering the dew point.

R-DRY BVA dryers have two columns that operate alternately. Adsorption takes place under pressure in the first column while the second column regenerates (heated ambient air for desorption + ambient air in vacuum mode for cooling). BVA type of dryer is suitable for applications running at mild ambient conditions. Due to regeneration in vacuum mode BVA type of dryers don't consume any compressed air for the operation.

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

Type	Connection IN/OUT [2]	Nominal volume flow Inlet [1]	Dimensions			Mass	Blower power	Heater power	Filter type
	DN	[Nm³/h]	A [mm]	B [mm]	C [mm]	kg	kW	kW	
R-DRY 400 BVA	DN50	390	1.200	850	2.250	1.000	1,3	3,5	AF 0476
R-DRY 600 BVA	DN50	590	1.500	900	2.350	1.400	1,6	5,5	AF 0706
R-DRY 780 BVA	DN50	780	1.750	1.000	2.450	1.800	1,6	7	AF 0706
R-DRY 1000 BVA	DN50	930	1.750	1.250	2.450	1.900	1,6	8	AF 0946
R-DRY 1200 BVA	DN80	1.150	1.900	1.100	2.450	2.200	1,6	10	AF 1506
R-DRY 1600 BVA	DN80	1.600	1.900	1.350	2.500	2.600	4	14	AF 1756
R-DRY 2000 BVA	DN100	1.950	2.200	1.150	2.600	3.400	4	17	AF 2006
R-DRY 2500 BVA	DN100	2.530	2.350	1.150	2.750	3.800	7,5	22	AF 2406
R-DRY 3000 BVA	DN100	2.990	2.500	1.150	2.750	4.000	8,5	26	BF 300
R-DRY 3600 BVA	DN100	3.680	2.800	1.350	2.850	4.800	8,5	32	BF 450
R-DRY 4100 BVA	DN125	4.100	3.000	1.350	2.850	5.100	8,5	35	BF 450
R-DRY 5000 BVA	DN125	4.990	3.200	1.450	2.950	5.900	15	45	BF 600
R-DRY 6500 BVA	DN150	6.550	3.520	1.750	3.050	7.200	15	56	BF 900
R-DRY 7700 BVA	DN150	7.700	3.700	2.000	3.100	7.900	15	70	BF 900
R-DRY 10000 BVA	DN200	10.250	4.300	2.200	3.550	12.000	22	95	BF 1200
R-DRY 12000 BVA	DN200	11.700	4.400	2.500	3.550	14.200	-	-	BF 1200
R-DRY 14000 BVA	DN200	14.800	4.800	2.600	3.650	16.800	-	-	BF 1500
R-DRY 16000 BVA	DN250	16.000	5.000	3.200	3.650	18.500	-	-	BF 1800
R-DRY 18000 BVA	DN250	18.200	5.200	3.500	4.200	20.000	-	-	BF 1800
R-DRY 20000 BVA	DN250	20.200	6.000	3.500	4.350	23.000	-	-	BF 2500



OPERATING PRESSURE - CORRECTION FACTORS - C_{OP}								
Operating pressure [bar]	4	5	6	7	8	9	10	11
Operating pressure [psi]	58	72	87	100	115	130	145	160
Correction factor C_{OP}	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50

OPERATING TEMPERATURE - CORRECTION FACTORS - C_{OT}					
Operat. temperature [°C]	25	30	35	40	42,5
Operat. temperature [F]	77	86	95	104	108
Correction factor C_{OT}	1	1	1	0,7	0,52

Protection class	IP 54
Filter (inlet)	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm
Column insulation	optional
Blower suction conditions	Max 40 °C, 25 % RH

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

[2] Refers to dryer inlet and outlet connection without filters

R-DRY BP SERIES

COOLING WITH PURGE

4 to 11 bar
operating pressure

1,5 to 42,5 °C
inlet air temperature range

-40 °C
pressure dew points

390 to 20.200 Nm³/h
flow rate

2-3 %
avg. comp. air consumption

EN 13445
Design code for pressure vessels

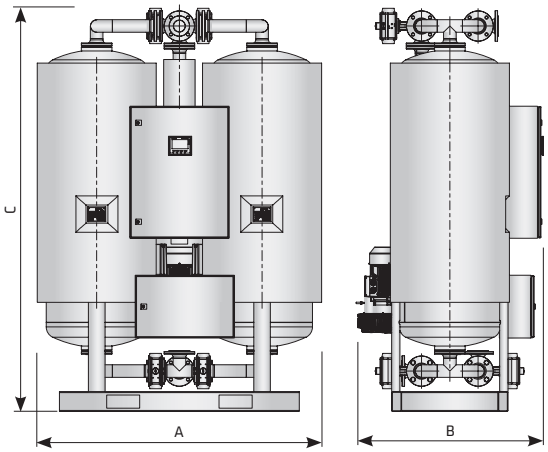
DESCRIPTION

R-DRY BP 400-20000 adsorption dryers are designed for continuous separation of water vapour from compressed air thus lowering the dew point.

R-DRY BP dryers have two columns that operate alternately. Adsorption takes place under pressure in the first column while the second column regenerates (heated ambient air for desorption + expanded dry compressed air purge for cooling). BP type of dryer is suitable for applications where low PDP is required at hotter and more humid ambient conditions and where compressed air can be utilised for cooling.

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

Type	Connection IN/OUT (2)	Nominal volume flow Inlet (1)	Dimensions			Mass	Blower power	Heater power	Filter type
	DN	[Nm³/h]	A [mm]	B [mm]	C [mm]	kg	kW	kW	
R-DRY 400 BP	DN50	390	1.200	850	2.250	1.000	1,3	3,5	AF 0476
R-DRY 600 BP	DN50	590	1.500	900	2.350	1.400	1,6	5,5	AF 0706
R-DRY 780 BP	DN50	780	1.750	1.000	2.450	1.800	1,6	7	AF 0706
R-DRY 1000 BP	DN50	930	1.750	1.250	2.450	1.900	1,6	8	AF 0946
R-DRY 1200 BP	DN80	1.150	1.900	1.100	2.450	2.200	1,6	10	AF 1506
R-DRY 1600 BP	DN80	1.600	1.900	1.350	2.500	2.600	4	14	AF 1756
R-DRY 2000 BP	DN100	1.950	2.200	1.150	2.600	3.400	4	17	AF 2006
R-DRY 2500 BP	DN100	2.530	2.350	1.150	2.750	3.800	7,5	22	AF 2406
R-DRY 3000 BP	DN100	2.990	2.500	1.150	2.750	4.000	8,5	26	BF 300
R-DRY 3600 BP	DN100	3.680	2.800	1.350	2.850	4.800	8,5	32	BF 450
R-DRY 4100 BP	DN125	4.100	3.000	1.350	2.850	5.100	8,5	35	BF 450
R-DRY 5000 BP	DN125	4.990	3.200	1.450	2.950	5.900	15	45	BF 600
R-DRY 6500 BP	DN150	6.550	3.520	1.750	3.050	7.200	15	56	BF 900
R-DRY 7700 BP	DN150	7.700	3.700	2.000	3.100	7.900	15	70	BF 900
R-DRY 10000 BP	DN200	10.250	4.300	2.200	3.550	12.000	22	95	BF 1200
R-DRY 12000 BP	DN200	11.700	4.400	2.500	3.550	14.200	-	-	BF 1200
R-DRY 14000 BP	DN200	14.800	4.800	2.600	3.650	16.800	-	-	BF 1500
R-DRY 16000 BP	DN250	16.000	5.000	3.200	3.650	18.500	-	-	BF 1800
R-DRY 18000 BP	DN250	18.200	5.200	3.500	4.200	20.000	-	-	BF 1800
R-DRY 20000 BP	DN250	20.200	6.000	3.500	4.350	23.000	-	-	BF 2500



OPERATING PRESSURE - CORRECTION FACTORS - C_{OP}								
Operating pressure [bar]	4	5	6	7	8	9	10	11
Operating pressure [psi]	58	72	87	100	115	130	145	160
Correction factor C_{OP}	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50

OPERATING TEMPERATURE - CORRECTION FACTORS - C_{OT}					
Operating temperature [°C]	25	30	35	40	42,5
Operating temperature [F]	77	86	95	104	108
Correction factor C_{OT}	1	1	1	0,7	0,52

Protection class	IP 54
Filter (inlet)	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm
Column insulation	optional
Blower suction conditions	Max 50 °C, 35 % RH

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

(2) Refers to dryer inlet and outlet connection without filters

R-DRY BVL SERIES

VACUUM REGENERATION WITH CLOSED LOOP

4 to 11 bar
operating pressure

1,5 to 50 °C
ambient operating temp. range

1,5 to 42,5 °C
inlet air temperature range

-40 °C
pressure dew points

390 to 20.200 Nm³/h
flow rate

0 %
avg. comp. air consumption

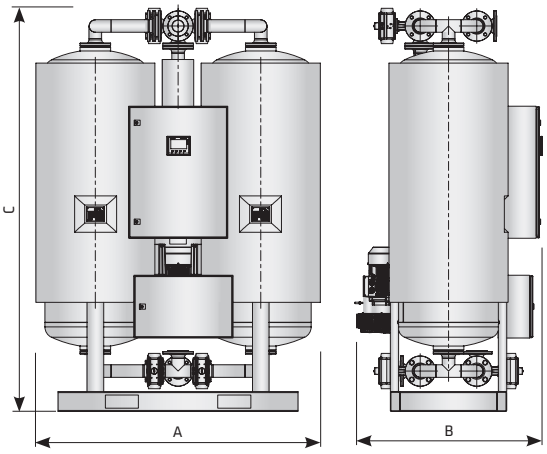
EN 13445
Design code for pressure vessels

DESCRIPTION

R-DRY BVL 400-10000 adsorption dryers are designed for continuous separation of water vapour from compressed air thus lowering the dew point. R-Dry BVL dryers have two columns that operate alternately. Adsorption takes place under pressure in the first column while the second column is regenerated(heated ambient air for desorption + cooling with water cooled air in a closed loop). Due to cooling in a closed loop BVL type of dryer is suitable for applications where low PDP is required at hotter and more humid ambient conditions. Due to cooling with water cooled air in a closed loop BVL type of dryers don't consume any compressed air for the operation.

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

Type	Connection IN/OUT [2]	Nominal volume flow Inlet [1]	Dimensions			Mass	Blower power	Heater power	Filter type
	DN	[Nm³/h]	A [mm]	B [mm]	C [mm]	kg	kW	kW	
R-DRY 400 BVL	DN50	390	1.200	850	2.250	1.400	1,3	3,5	AF 0476
R-DRY 600 BVL	DN50	590	1.500	900	2.350	1.900	1,6	5,5	AF 0706
R-DRY 780 BVL	DN50	780	1.750	1.000	2.450	2.300	1,6	7	AF 0706
R-DRY 1000 BVL	DN50	930	1.750	1.250	2.450	2.400	1,6	8	AF 0946
R-DRY 1200 BVL	DN80	1.150	1.900	1.100	2.450	3.000	1,6	10	AF 1506
R-DRY 1600 BVL	DN80	1.600	1.900	1.350	2.500	3.200	4	14	AF 1756
R-DRY 2000 BVL	DN100	1.950	2.200	1.150	2.600	4.420	4	17	AF 2006
R-DRY 2500 BVL	DN100	2.530	2.350	1.150	2.750	5.000	7,5	22	AF 2406
R-DRY 3000 BVL	DN100	2.990	2.500	1.150	2.750	5.200	8,5	26	BF 300
R-DRY 3600 BVL	DN100	3.680	2.800	1.350	2.850	6.240	8,5	32	BF 450
R-DRY 4100 BVL	DN125	4.100	3.000	1.350	2.850	6.700	8,5	35	BF 450
R-DRY 5000 BVL	DN125	4.990	3.200	1.450	2.950	7.700	15	45	BF 600
R-DRY 6500 BVL	DN150	6.550	3.520	1.750	3.050	9.400	15	56	BF 900
R-DRY 7700 BVL	DN150	7.700	3.700	2.000	3.100	10.300	15	70	BF 900
R-DRY 10000 BVL	DN200	10.250	4.300	2.200	3.550	15.600	22	95	BF 1200
R-DRY 12000 BVL	DN200	11.700	4.400	2.500	3.550	-	-	-	BF 1200
R-DRY 14000 BVL	DN200	14.800	4.800	2.600	3.650	-	-	-	BF 1500
R-DRY 16000 BVL	DN250	16.000	5.000	3.200	3.650	-	-	-	BF 1800
R-DRY 18000 BVL	DN250	18.200	5.200	3.500	4.200	-	-	-	BF 1800
R-DRY 20000 BVL	DN250	20.200	6.000	3.500	4.350	-	-	-	BF 2500



OPERATING PRESSURE - CORRECTION FACTORS - C_{OP}								
Operating pressure [bar]	4	5	6	7	8	9	10	11
Operating pressure [psi]	58	72	87	100	115	130	145	160
Correction factor C_{OP}	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50

OPERATING TEMPERATURE - CORRECTION FACTORS - C_{OT}					
Operating temperature [°C]	25	30	35	40	42,5
Operating temperature [F]	77	86	95	104	108
Correction factor C_{OT}	1	1	1	0,7	0,52

Protection class	IP 54
Filter (inlet)	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm
Column insulation	optional
Blower suction conditions	Max 50 °C, 35 % RH

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

[2] Refers to dryer inlet and outlet connection without filters

RC-DRY SERIES

REGENERATION BY HEAT OF COMPRESSION - FULL STREAM

4 to 11 bar
operating pressure

140 to 200 °C
inlet air temperature range

-20 °C
pressure dew points

390 to 20.200 Nm³/h
flow rate

0 %
avg. comp. air consumption

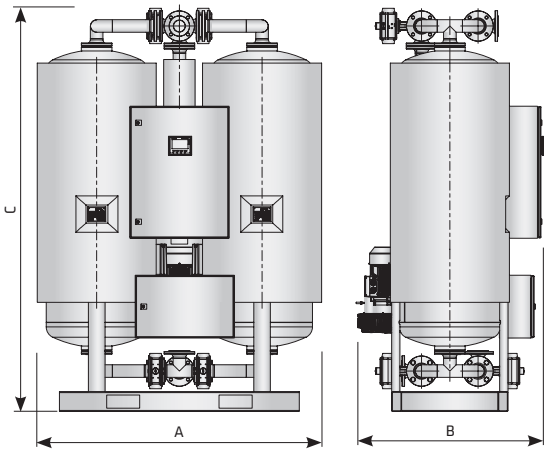
EN 13445
Design code for pressure vessels

DESCRIPTION

RC-DRY adsorption dryers have been designed for continuous separation of water vapour from compressed air thus reducing dew point. Operation of dryer requires two columns operated alternately. Heat of compression dryers do not need any additional source of energy to regenerate the adsorbent as they fully or partially utilise the heat generated during compression of the air in the compressor. Adsorption as well as regeneration take place under pressure meaning no compressed air is wasted for depressurisation.

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

Type	Connection IN/OUT (2)	Nominal volume flow Inlet (1)	Filter type
	DN	[Nm³/h]	
RC-DRY 400	DN50	390	AF 0476
RC-DRY 600	DN50	590	AF 0706
RC-DRY 780	DN50	780	AF 0706
RC-DRY 1000	DN50	930	AF 0946
RC-DRY 1200	DN80	1.150	AF 1506
RC-DRY 1600	DN80	1.600	AF 1756
RC-DRY 2000	DN100	1.950	AF 2006
RC-DRY 2500	DN100	2.530	AF 2406
RC-DRY 3000	DN100	2.990	BF 300
RC-DRY 3600	DN100	3.680	BF 450
RC-DRY 4100	DN125	4.100	BF 450
RC-DRY 5000	DN125	4.990	BF 600
RC-DRY 6500	DN150	6.550	BF 900
RC-DRY 7700	DN150	7.700	
RC-DRY 10000	DN200	10.250	
RC-DRY 12000	DN200	11.700	
RC-DRY 14000	DN200	14.800	
RC-DRY 16000	DN250	16.000	
RC-DRY 18000	DN250	18.200	
RC-DRY 20000	DN250	20.200	



OPERATING PRESSURE - CORRECTION FACTORS - C_{OP}								
Operating pressure [bar]	4	5	6	7	8	9	10	11
Operating pressure [psi]	58	72	87	100	115	130	145	160
Correction factor C_{OP}	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50

OPERATING TEMPERATURE - CORRECTION FACTORS - C_{OT}					
Operating temperature [°C]	25	30	35	40	42,5
Operating temperature [F]	77	86	95	104	108
Correction factor C_{OT}	1	1	1	0,7	0,52

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

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

(2) Refers to dryer inlet and outlet connection without filters

HPR-DRY SERIES

HIGH PRESSURE HEAT REGENERATION

up to 50 bar
operating pressure

1,5 to 42,5 °C
inlet air temperature range

-40 °C
pressure dew points

2.485 to 23.400 Nm³/h
flow rate

RAL 5012
standard colour

EN 13445
Design code for pressure vessels

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.

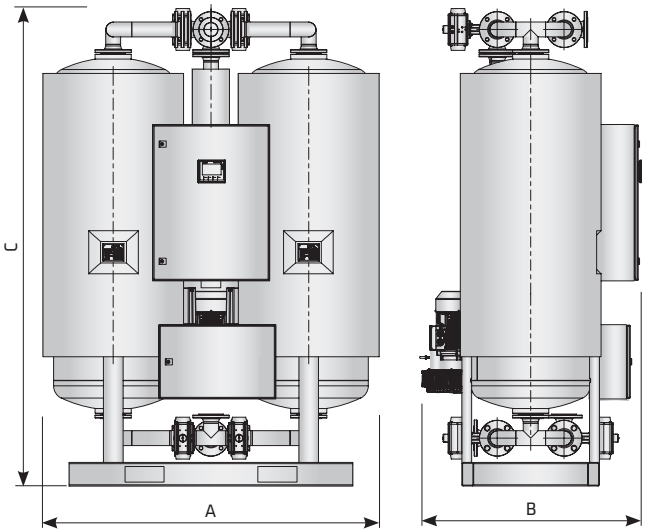
Protection class	IP 54
Filter (inlet)	super fine - 0,01 µm
Filter (outlet)	dust filter; 1 µm
Column insulation	optional

Type	Max. oper. pressure	Connection IN/OUT	Inlet nominal volume flow[1]
	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}					
Operating temperature [°C]	25	30	35	40	42,5
Operating temperature [F]	77	86	95	104	108
Correction factor C_{OT}	1	1	1	0,7	0,52

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



HP-DRY SERIES

HIGH PRESSURE HEATLESS REGENERATION ADSORPTION DRYERS

50, 100, 250, 420 bar
operating pressure

1,5 to 50 °C
inlet air temperature range

-40 °C
pressure dew points

50 to 1600 Nm³/h
flow rate

RAL 5012
standard colour

EN 13445
Design code for pressure vessels

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.

50 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 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} (35 °C; 50 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

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

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	1400	820	650	250
HP-DRY 500 PN250	G 1/2"	500	485	1500	820	650	300
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 250 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

420 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 PN420	G 3/8"	100	97	1120	680	450	120
HP-DRY 150 PN420	G 3/8"	150	145,5	1360	680	450	135
HP-DRY 250 PN420	G 3/8"	250	242,5	1450	680	580	190
HP-DRY 350 PN420	G 1/2"	350	339,5	1350	820	580	270
HP-DRY 500 PN420	G 1/2"	500	485	1380	820	650	310
HP-DRY 650 PN420	G 1/2"	650	630	1450	820	650	440
HP-DRY 800 PN420	G 1/2"	800	776	1230	820	650	425
HP-DRY 1000 PN420	G 1/2"	1000	970	1450	820	650	600
HP-DRY 1200 PN420	G 1/2"	1200	1164	1450	1000	900	850
HP-DRY 1400 PN420	G 1/2"	1400	1358	1500	1000	900	800
HP-DRY 1600 PN420	G 1/2"	1600	1552	1450	1000	900	1200

OPERATING PRESSURE 420 bar - CORRECTION FACTORS - C_{OP} (35 °C; 420 bar)

Operating pressure [bar]	250	275	300	325	350	375	400	420
Correction factor C_{OP}	0,59	0,65	0,71	0,77	0,83	0,89	0,95	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 1 bar(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.

RDP SERIES

REFRIGERATION COMPRESSED AIR DRYERS

14 bar
max. operating pressure

1,5 to 45 °C
operating ambient temperature

3°C
pressure dew point

20 to 13.200 Nm³/h
flow rate

R134a (R407c)
refrigerant

air cooled
type of cooling

DESCRIPTION

RDP refrigeration dryers have been designed to effectively separate water from the compressed air thus lower pressure dew point all the way down to +3°C.

Drying is achieved on the principle of cooling which takes place inside highly efficient and ultra-compact 3 stage heat exchanger. In the first stage (air-air heat exchanger) hot and humid inlet air is being precooled by the cold outgoing air. In the second stage (air-refrigerant heat exchanger) intensive water condensation takes place due to cooling the air.

All condensed water is separated from the main compressed air stream in the third stage by the integrated demister. A proven and robust design enables efficient and reliable operation, fast installation and simple maintenance.

TECHNICAL DATA

Type	Air flow	Power supply	Dimensions			Power input	Air connection
	Nm³/h	Ph / V / Hz	W [mm]	L [mm]	H [mm]	W	
RDP 20	20	1/230/50	385	465	606	150	G 3/8" BSP-F
RDP 35	35	1/230/50	385	465	606	150	G 3/8" BSP-F
RDP 50	50	1/230/50	385	465	606	180	G 3/4" BSP-F
RDP 75	75	1/230/50	385	465	606	250	G 3/4" BSP-F
RDP 100	100	1/230/50	385	465	606	360	G 3/4" BSP-F
RDP 140	140	1/230/50	417	468	807	460	G 1" BSP-F
RDP 180	180	1/230/50	417	468	807	590	G 1" BSP-F
RDP 235	235	1/230/50	417	468	807	840	G 1" BSP-F
RDP 300	300	1/230/50	548	590	916	1.200	G 1 1/4" BSP-F
RDP 380	380	1/230/50	548	590	916	1.400	G 1 1/4" BSP-F
RDP 480	480	1/230/50	548	590	916	1.900	G 1 1/2" BSP-F
RDP 600	600	1/230/50	548	710	1.058	1.900	G 2" BSP-F
RDP 750	750	3/400/50	548	710	1.058	2.700	G 2" BSP-F
RDP 950	950	3/400/50	548	710	1.058	3.800	G 2" BSP-F
RDP 1150	1.150	3/400/50	703	815	1.438	3.700	G 2 1/2" BSP-F
RDP 1300	1.300	3/400/50	703	815	1.438	4.700	G 2 1/2" BSP-F
RDP 1500	1.500	3/400/50	900	1.100	1.500		G 2 1/2" BSP-F
RDP 1900	1.900	3/400/50	900	1.100	1.500		G 2 1/2" BSP-F
RDP 2600	2.600	3/400/50	1.200	1.250	1.750		DN100
RDP 3400	3.400	3/400/50	1.200	1.250	1.750		DN100
RDP 4400	4.400	3/400/50	1.200	1.250	1.750		DN125
RDP 5400	5.400	3/400/50	1.350	1.800	1.850		DN125
RDP 6600	6.600	3/400/50	1.350	1.800	1.850		DN150
RDP 7200	7.200	3/400/50	1.350	1.800	1.850		DN150
RDP 8800	8.800	3/400/50	1.350	1.800	1.850		DN200
RDP 10800	10.800	3/400/50	1.600	2.300	2.500		DN200
RDP 13200	13.200	3/400/50	1.600	2.300	2.500		DN200

CORRECTION FACTOR FOR OPERATING PRESSURE CHANGES

Operating pressure [bar]	4	5	6	7	8	10	12	14
Operating pressure [bar]	58	72	87	100	115	145	174	203
Correction factor	0,77	0,86	0,93	1,00	1,05	1,14	1,21	1,27

CORRECTION FACTOR FOR DEW POINT CHANGES

Temperature [°C]	3	5	7	10
Temperature [°F]	37,4	41	44,6	50
Correction factor	1,00	1,099	1,209	1,385

CORRECTION FACTOR FOR INLET TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45	50	55
Temperature [°F]	77	86	95	104	113	122	131
Correction factor	1,2	1,12	1	0,83	0,69	0,59	0,5

CORRECTION FACTOR FOR AMBIENT TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45
Temperature [°F]	77	86	95	104	113
Correction factor	1	0,96	0,9	0,82	0,72

RDL SERIES

REFRIGERATION COMPRESSED AIR DRYERS

14 bar
max. operating pressure

1,5 to 45 °C
operating ambient temperature

5°C
pressure dew point

20 to 235 Nm³/h
flow rate

R134a
refrigerant

air cooled
type of cooling

DESCRIPTION

RDL dryer series utilizes a natural evolution of the RDP series. Drying is achieved on the principle of cooling which takes place inside highly efficient and ultra-compact 3 stage heat exchanger.

This series is designed with focus on essential components. Its compact size, optimized layout and innovative solutions reduce manufacturing costs whilst maintaining the same levels of reliability, quality and attention to details.

RDL dryer series is designed and manufactured with respect to the environment using recyclable materials.

TECHNICAL DATA

Type	Inlet flow	Power supply	Dimensions			Power input	Air connection IN and OUT
	Nm³/h	Ph / V / Hz	W [mm]	L [mm]	H [mm]	W	
RDL 20	20	1/230/50	358	455	604	150	G 3/8" BSP-F
RDL 35	35	1/230/50	358	455	604	150	G 3/8" BSP-F
RDL 50	50	1/230/50	358	455	604	180	G 3/4" BSP-F
RDL 75	75	1/230/50	358	455	604	250	G 3/4" BSP-F
RDL 100	100	1/230/50	358	455	604	360	G 3/4" BSP-F
RDL 140	140	1/230/50	486	580	904	460	G 1" BSP-F
RDL 180	180	1/230/50	486	580	904	590	G 1" BSP-F
RDL 235	235	1/230/50	486	580	904	840	G 1" BSP-F

CORRECTION FACTOR FOR OPERATING PRESSURE CHANGES

Operating pressure [bar]	4	5	6	7	8	10	12	14
Operating pressure [bar]	58	72	87	100	115	145	174	203
Correction factor	0,77	0,86	0,93	1,00	1,05	1,14	1,21	1,27

CORRECTION FACTOR FOR DEW POINT CHANGES

Temperature [°C]	3	5	7	10
Temperature [°F]	37,4	41	44,6	50
Correction factor	0,9	1,0	1,1	1,26

CORRECTION FACTOR FOR INLET TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45	50	55
Temperature [°F]	77	86	95	104	113	122	131
Correction factor	1,2	1,12	1	0,83	0,69	0,59	0,5

CORRECTION FACTOR FOR AMBIENT TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45
Temperature [°F]	77	86	95	104	113
Correction factor	1	0,96	0,9	0,82	0,72

RDF SERIES

REFRIGERATION COMPRESSED AIR DRYERS WITH INTEGRATED FILTERS

14 bar
max. operating pressure

1,5 to 45 °C
operating ambient temperature

5°C
pressure dew point

20 to 235 Nm³/h
flow rate

R134a
refrigerant

air cooled
type of cooling

DESCRIPTION

For maximum convenience the RDF dryer series is equipped with air inlet and outlet filters. It is based on the RDL series with extended casing to include them. The design allows service technicians an easy element replacement.

This series is designed with focus on essential components. Its compact size, optimized layout and innovative solutions reduce manufacturing costs whilst maintaining the same levels of reliability, quality and attention to details.

RDF dryer series is designed and manufactured with respect to the environment using recyclable materials.

Drying is achieved on the principle of cooling which takes place inside highly efficient and ultra-compact 3 stage heat exchanger.

TECHNICAL DATA

Type	Inlet flow	Power supply	Dimensions			Power input	Air connection IN and OUT	Integrated filters
	Nm³/h	Ph / V / Hz	W [mm]	L [mm]	H [mm]	W		
RDF 20	20	1/230/50	358	455	604	150	G 3/8" BSP-F	AF 0056
RDF 35	35	1/230/50	358	455	604	150	G 3/8" BSP-F	AF 0056
RDF 50	50	1/230/50	358	455	604	180	G 3/4" BSP-F	AF 0106
RDF 75	75	1/230/50	358	455	604	250	G 3/4" BSP-F	AF 0106
RDF 100	100	1/230/50	358	455	604	360	G 3/4" BSP-F	AF 0106
RDF 140	140	1/230/50	486	580	904	460	G 1" BSP-F	AF 0186
RDF 180	180	1/230/50	486	580	904	590	G 1" BSP-F	AF 0306
RDF 235	235	1/230/50	486	580	904	840	G 1" BSP-F	AF 0306

CORRECTION FACTOR FOR OPERATING PRESSURE CHANGES

Operating pressure [bar]	4	5	6	7	8	10	12	14
Operating pressure [bar]	58	72	87	100	115	145	174	203
Correction factor	0,77	0,86	0,93	1,00	1,05	1,14	1,21	1,27

CORRECTION FACTOR FOR DEW POINT CHANGES

Temperature [°C]	3	5	7	10
Temperature [°F]	37,4	41	44,6	50
Correction factor	0,9	1,0	1,1	1,26

CORRECTION FACTOR FOR INLET TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45	50	55
Temperature [°F]	77	86	95	104	113	122	131
Correction factor	1,2	1,12	1	0,83	0,69	0,59	0,5

CORRECTION FACTOR FOR AMBIENT TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45
Temperature [°F]	77	86	95	104	113
Correction factor	1	0,96	0,9	0,82	0,72

RDHP SERIES

REFRIGERATION HIGH PRESSURE COMPRESSED AIR DRYERS

50 bar
max. operating pressure

1,5 to 45 °C
operating ambient temperature

3°C
pressure dew point

20 to 950 Nm³/h
flow rate

R134a
refrigerant

air cooled
type of cooling

DESCRIPTION

RDHP series (high pressure dryers for compressed air systems up to 50 barg) makes the most of manufacturing and functional advantages of heat exchangers, designed for high pressure working conditions.

Drying is achieved on the principle of cooling which takes place with highly efficient three stage air thermal management.

Excellent performance with low pressure drop and constant pressure dew point is standard on this series. Robustness, simple and ergonomic component layout guarantees functionality and efficiency.

TECHNICAL DATA

Type	Inlet flow	Dimensions			Air connection IN and OUT
	Nm³/h	W [mm]	L [mm]	H [mm]	
RDHP 20	20	358	455	604	G 3/8" BSP-F
RDHP 35	35	358	455	604	G 3/8" BSP-F
RDHP 50	50	358	455	604	G 3/8" BSP-F
RDHP 75	75	358	455	604	G 3/8" BSP-F
RDHP 100	100	358	455	604	G 3/8" BSP-F
RDHP 140	140	486	580	904	G 1/2" BSP-F
RDHP 180	180	486	580	904	G 1/2" BSP-F
RDHP 235	235	486	580	904	G 1/2" BSP-F
RDHP 300	300	486	580	904	G 3/4" BSP-F
RDHP 380	380	596	735	1104	G 3/4" BSP-F
RDHP 480	480	596	735	1104	G 3/4" BSP-F
RDHP 600	600	718	697	1405	G 1" BSP-F
RDHP 750	750	596	735	1104	G 1" BSP-F
RDHP 950	950	718	697	1405	G 1" BSP-F

CORRECTION FACTOR FOR OPERATING PRESSURE CHANGES

Operating pressure [bar]	15	20	25	30	35	40	45	50
Operating pressure [bar]	218	290	363	435	508	580	652	725
Correction factor	0,52	0,64	0,73	0,80	0,85	0,91	0,95	1

CORRECTION FACTOR FOR DEW POINT CHANGES

Temperature [°C]	3	5	7	10
Temperature [°F]	37,4	41	44,6	50
Correction factor	1,00	1,099	1,209	1,385

CORRECTION FACTOR FOR INLET TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45	50	55
Temperature [°F]	77	86	95	104	113	122	131
Correction factor	1,2	1,12	1	0,83	0,69	0,59	0,5

CORRECTION FACTOR FOR AMBIENT TEMPERATURE CHANGES

Temperature [°C]	≤25	30	35	40	45
Temperature [°F]	77	86	95	104	113
Correction factor	1	0,96	0,9	0,82	0,72

ACA SERIES

AIR COOLED AFTERCOOLERS

15 bar
operating pressure

120 °C
inlet air temperature

170 °C
max. inlet air temperature

66 to 4500 Nm³/h
flow rate

RAL 9005
standard colour

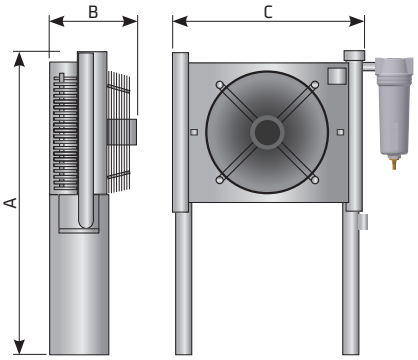
DESCRIPTION

Air cooled aftercoolers series ACA are designed to reduce compressed air temperature and water vapour dew point in compressed air system. High efficiency axial fan forces ambient air over the heat exchangers copper tubes supported by aluminium fins, which provides the necessary cooling effect. The compressed air is cooled down to approximately 10 °C above ambient temperature.

ACA aftercoolers ensures the maximum performance and protection of all equipment, such refrigeration dryers, adsorption dryers and filters, positioned downstream of this unit.

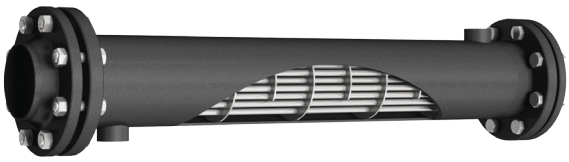
TECHNICAL DATA

Model	Flow rate		Pipe size	Power supply	Fan	Dimensions			Mass
fixed bundle	Nm³/h	scfm		ph/V/Hz	ø mm/ W	A [mm]	B [mm]	C [mm]	kg
ACA 003	66	39	G 1"	1/230/50	ø250-45W	850	300	715	19
ACA 007	126	74	G 1"	1/230/50	ø250-45W	850	300	715	20
ACA 010	222	131	G 1 1/2"	3/400/50	ø350-110W	990	310	845	27
ACA 018	294	173	G 1 1/2"	3/400/50	ø400-130W	990	310	845	29
ACA 030	390	230	G 2"	3/400/50	ø500-750W	1.175	440	980	44
ACA 047	522	307	G 2"	3/400/50	ø500-750W	1.175	440	980	48
ACA 070	774	456	G 2"	3/400/50	ø600-370W	1.325	490	1.130	61
ACA 094	990	583	G 2 1/2"	3/400/50	ø600-370W	1.325	490	1.130	66
ACA 150	1.260	742	DN100	3/400/50	ø800-1470W	1.800	660	1.590	127
ACA 175	1.560	918	DN100	3/400/50	ø800-1470W	1.800	660	1.590	143
ACA 240	1.890	1.112	DN100	3/400/50	ø800-1470W	1.800	790	1.560	148
ACA 300	2.520	1.483	DN100	3/400/50	ø800-1470W	2.000	795	1.740	166
ACA 450	3.090	1.819	DN125	3/400/50	2x ø800-1470W	2.090	830	1.850	212
ACA 600	4.500	2.649	DN125	3/400/50	2x ø800-1470W	2.300	850	2.010	315



ACW SERIES

WATER COOLED AFTERCOOLERS



16 bar
operating pressure

DN50 to DN500
connections

1,5 to 200 °C
operating temperature range

132 to 45570 Nm³/h
flow rate

RAL 9005
standard colour

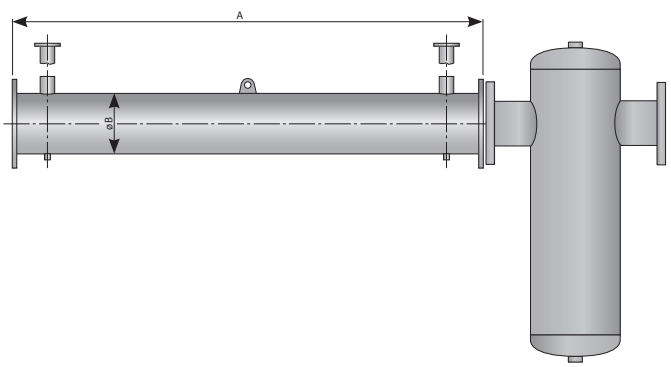
DESCRIPTION

ACW – Water-cooled aftercooler series has been designed to reduce compressed air temperature thus water vapour content in compressed air system. Hot compressed air/gas passes through the tubes. Cooling water passes around the tubes in counter flow.

ACW aftercooler ensures the maximum performance and protection of all equipment, such refrigeration dryers, adsorption dryers and filters, positioned downstream of this unit.

TECHNICAL DATA							
Model	Connections		Flow capacity[1]		Operating pressure	Dimensions	
fixed bundle	Air	Water	Nm³/h	scfm	bar	A [mm]	B [mm]
ACW 010 F	DN50	DN20	132	78	10	806	60,3
ACW 018 F	DN50	DN20	235	138	10	816	60,3
ACW 030 F	DN50	DN20	367	216	10	816	60,3
ACW 047 F	DN50	DN20	661	389	10	870	60,3
ACW 070 F	DN50	DN20	955	562	10	870	60,3
ACW 094 F	DN80	DN20	1.323	779	10	1.500	88,9
ACW 150 F	DN80	DN20	2.205	1.298	10	1.510	88,9
ACW 200 F	DN100	DN40	2.650	1.560	10	1.500	114,3
ACW 240 F	DN125	DN32	3.087	1.817	10	1.300	139,7
ACW 300 F	DN125	DN32	3.969	2.336	10	1.300	139,7
ACW 375 F	DN150	DN65	5.200	3.060	10	1.300	168,3
ACW 450 F	DN200	DN50	7.056	4.153	10	1.300	219
ACW 600 F	DN200	DN65	8.967	5.278	10	1.300	219
ACW 900 F	DN250	DN80	11.025	6.489	10	1.300	273
ACW 1200 F	DN300	DN80	16.170	9.517	10	1.300	323,9
ACW 1500 F	DN400	DN100	22.050	12.978	10	1.300	406
ACW 1800 F	DN400	DN150	26.460	15.574	10	1.300	406
ACW 2500 F	DN450	DN200	33.810	19.900	10	1.300	457
ACW 3000 F	DN500	DN200	45.570	26.821	10	1.300	508

[1] Refers to 1 bar and 20 °C at 7 bar operating pressure and inlet temperature 120 °C



TAC SERIES

ACTIVATED CARBON TOWER

TACm TAC

16 bar
operating pressure

1,5 to 45 °C
inlet air temperature range

3/8" to DN125
connections

6 to 6500 Nm³/h
flow rate

RAL 9005
standard colour

EN 13445
Design code for pressure vessels

DESCRIPTION

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

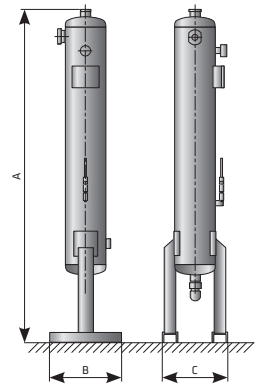
TAC series is made from high quality carbon steel. Flow distributors ensure uniform distribution of air flow through activated carbon bed. Oil vapours as well as some other hydrocarbons are separated due to adsorption process.

Super fine coalescing filter is required upstream TAC and 1µm dust filter is recommended downstream to intercept activated carbon dust.

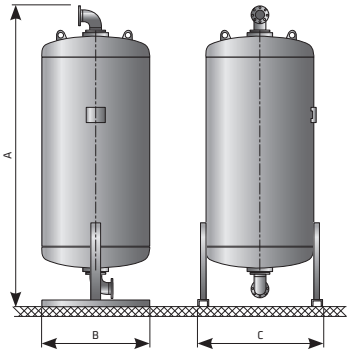
High pressure version is available on request.
Stainless steel version available on request.

TECHNICAL DATA

Type	Pipe size	Operating pressure	Flow rate at 7 bar(g), 20 °C		Dimensions [mm]			Mass	Cartridge number
		bar	Nm³/h	scfm	A	B	C	kg	
TACm 6	3/8"	16	6	3,5	404	188	100	3,5	1 x ø80
TACm 12	3/8"	16	12	7	638	188	100	5,3	2 x ø80
TACm 23	3/8"	16	24	14,1	1.106	188	100	6,5	4 x ø80
TACm 35	3/8"	16	36	21,1	1.574	188	100	12	6 x ø80
TACm 56	1/2"	16	60	35,3	1.106	270	148	15	4 x ø129
TACm 70	1/2"	16	75	44,1	1.340	270	148	18	5 x ø129
TACm 105	1/2"	16	105	61,8	1.808	270	148	22	7 x ø129
TAC 110	1"	16	110	86	1.522	350	252	45	-
TAC 150	1"	16	150	117	1.766	350	252	52	-
TAC 200	1"	16	200	157	1.532	400	303	71	-
TAC 250	1"	16	260	204	1.784	400	303	83	-
TAC 300	1 1/2"	16	320	251	1.551	450	357	97	-
TAC 400	1 1/2"	16	410	321	1.798	450	357	114	-
TAC 600	1 1/2"	16	590	462	1.893	650	424	160	-
TAC 800	2"	16	770	603	1.877	650	468	201	-
TAC 1000	2"	16	1.000	784	1.961	650	506	242	-
TAC 1200 F	DN50	16	1.200	936	2.170	550	550	280	-
TAC 1500 F	DN65	16	1.500	1.170	2.210	620	620	355	-
TAC 2000 F	DN65	16	2.000	1.560	2.330	700	700	420	-
TAC 2500 F	DN80	16	2.500	1.950	2.260	760	760	510	-
TAC 3000 F	DN80	16	3.000	2.340	2.400	800	800	595	-
TAC 3750 F	DN100	16	3.750	2925	2.490	920	920	745	-
TAC 5000 F	DN100	16	5.000	3.900	2.600	1.050	1.050	960	-
TAC 6500 F	DN125	16	6.500	5.070	2.730	1.150	1.150	1.300	-



TAC



TAC F

quality class - solids (ISO 8573-1)	-
quality class - water (ISO 8573-1)	-
quality class - oils (ISO 8573-1)	0/1
pressure drop - new element-dry [mbar / psi]	20 / 0,29
filter media	act. carbon
residual oil vapour content (nominal) [mg/m³]	<0,003

CORRECTION FACTORS

Operating pressure [bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Operating pressure [psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Correction factor	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,0	2,13

CORRECTION FACTORS

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.

TAC HP SERIES

HIGH PRESSURE ACTIVATED CARBON TOWERS

50/100/250/420 bar
operating pressure

1,5 to 45 °C
inlet air temperature range

3/8" to 1/2"
connections

50 to 1600 Nm³/h
flow rate

RAL 9005
standard colour

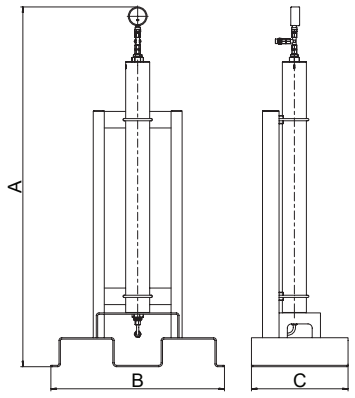
DESCRIPTION

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 1 µm dust filter is recommended downstream to intercept activated carbon dust.

TECHNICAL DATA

Type	Connection size	Operating pressure	Nominal flow		Dimensions [mm]			Mass
	inch	bar	Nm³/h	scfm	A	B	C	kg
TAC HP 50 PN50	3/8"	50	50	49	1.200	340	580	52
TAC HP 100 PN50	3/8"		100	97	1.250	340	580	60
TAC HP 150 PN50	3/8"		150	146	1.550	340	580	68
TAC HP 250 PN50	3/8"		250	243	1.700	410	700	104
TAC HP 350 PN50	1/2"		350	340	1.700	410	700	128
TAC HP 500 PN50	1/2"		500	485	1.920	410	700	164
TAC HP 650 PN50	1/2"		650	631	2.250	410	700	184
TAC HP 50 PN100	3/8"	100	50	49	1.250	340	580	50
TAC HP 100 PN100	3/8"		100	97	1.350	340	580	68
TAC HP 150 PN100	3/8"		150	146	1.650	340	580	80
TAC HP 250 PN100	3/8"		250	243	1.550	340	600	84
TAC HP 350 PN100	1/2"		350	340	1.460	410	680	108
TAC HP 500 PN100	1/2"		500	485	1.700	410	680	116
TAC HP 650 PN100	1/2"		650	631	1.800	410	700	152
TAC HP 800 PN100	1/2"		800	776	1.850	410	680	192
TAC HP 50 PN250	3/8"	250	50	49	1.000	340	450	38
TAC HP 100 PN250	3/8"		100	97	1.360	340	450	54
TAC HP 150 PN250	3/8"		150	146	1.600	340	450	58
TAC HP 250 PN250	3/8"		250	243	1.500	340	450	72
TAC HP 350 PN250	1/2"		350	340	1.500	410	650	120
TAC HP 500 PN250	1/2"		500	485	1.500	410	650	112
TAC HP 650 PN250	1/2"		650	631	1.500	410	650	160
TAC HP 800 PN250	1/2"		800	776	1.550	410	650	184
TAC HP 1000 PN250	1/2"		1.000	970	1.600	410	650	232
TAC HP 1200 PN250	1/2"		1.200	1164	1.550	410	700	248
TAC HP 1400 PN250	1/2"		1.400	1358	1.650	410	700	260
TAC HP 100 PN400	3/8"	420	100	97	1.120	340	450	48
TAC HP 150 PN400	3/8"		150	146	1.360	340	450	54
TAC HP 250 PN400	3/8"		250	243	1.450	340	580	76
TAC HP 350 PN400	1/2"		250	340	1.350	410	580	108
TAC HP 500 PN400	1/2"		500	485	1.380	410	650	124
TAC HP 650 PN400	1/2"		650	631	1.450	410	650	176
TAC HP 800 PN400	1/2"		800	776	1.230	410	650	170
TAC HP 1000 PN400	1/2"		1.000	970	1.450	410	650	240
TAC HP 1200 PN400	1/2"		1.200	1.164	1.450	500	900	340
TAC HP 1400 PN400	1/2"		1.400	1.358	1.500	500	900	320
TAC HP 1600 PN400	1/2"		1.600	1.552	1.450	500	900	480



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

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 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_{OP}	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_{OP}	0,44	0,52	0,64	0,76	0,88	1

CORRECTION FACTORS - OPERATING PRESSURE - HP-TAC PN420

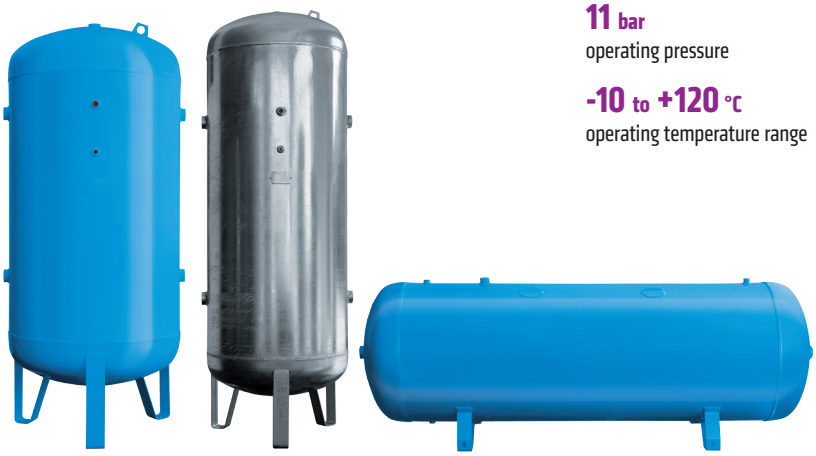
Operating pressure [bar]	250	275	300	325	350	375	400	420
Operating pressure [psi]	3625	3990	4350	4715	5075	5440	5800	6091
Correction factor C_{OP}	0,59	0,65	0,71	0,77	0,83	0,89	0,95	1

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

PV PED

PRESSURE VESSELS - PED



11 bar
operating pressure

-10 to +120 °C
operating temperature range

DESCRIPTION

Pressure vessels are tanks, designed to store compressed air. On request 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 (external painting or hot dip galvanizing)
- CE certificate (PV 200-900)
  PED (PV 1000-10000)
- Inspection opening (PV 1000-10000)
- Supporting legs
- Connections for optional equipment

Model	Volume	Max. press.	Connections number and dimensions									Dimensions			Mass
	l	bar	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	H(mm)	D(mm)	L(mm)	kg
PRESSURE VESSELS - VERTICAL - PAINTED															
PV 50 V 11 P	50	11	1	3	-	-	-	-	-	-	-	926	300	-	19
PV 100 V 11 P	100	11	1	1	4	-	-	-	-	-	-	1.153	370	-	28
PV 150 V 11 P	150	11	1	1	-	1	-	-	-	-	-	1.364	400	-	43
PV 200 V 11 P	200	11	1	-	5	-	-	-	2	-	-	1.530	430	-	50
PV 270 V 11 P	270	11	1	-	5	-	-	-	2	-	-	1.685	500	-	60
PV 500 V 11 P	500	11	1	-	1	-	2	4	-	-	-	2.077	600	-	130
PV 725 V 11 P	725	11	1	-	1	-	2	4	-	-	-	1.863	790	-	167
PV 900 V 11 P	900	11	1	-	1	-	2	-	4	-	-	2.213	790	-	186
PV 1000 V 11 P	1.000	11	1	-	1	-	2	-	4	-	-	2.345	790	-	204
PV 1500 V 11 P	1.500	11	1	-	1	-	2	-	4	-	-	2.305	1.000	-	278
PV 2000 V 11 P	2.000	11	1	-	1	-	2	-	4	-	-	2.805	1.000	-	352
PV 3000 V 11 P	3.000	11	1	-	1	-	2	-	-	4	-	2.965	1.300	-	537
PV 4000 V 11 P	4.000	11	1	-	1	-	2	-	-	4	-	3.070	1.450	-	802
PV 5000 V 11 P	5.000	11	1	-	1	-	2	-	-	4	-	3.570	1.450	-	932
PV 6000 V 11 P	6.000	11	1	-	1	-	2	-	-	4	-	4.070	1.450	-	1.057
PV 8000 V 11 P	8.000	11	1	-	-	-	2	-	-	-	4	4.135	1.650	-	1.352
PV 10000 V 11 P	10.000	11	1	-	-	-	2	-	-	-	4	5.135	1.650	-	1.694

Model	Volume	Max. press.	Connections number and dimensions									Dimensions			Mass
	l	bar	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	H(mm)	D(mm)	L(mm)	kg
PRESSURE VESSELS - VERTICAL - GALVANIZED															
PV 50 V 11 G	50	11	1	2	-	1	-	-	-	-	-	926	300	-	19
PV 100 V 11 G	100	11	1	-	4	-	-	-	1	-	-	1.153	370	-	28
PV 150 V 11 G	150	11	1	-	-	4	-	-	1	-	-	1.364	400	-	43
PV 200 V 11 G	200	11	1	-	3	-	-	-	2	-	-	1.530	430	-	50
PV 270 V 11 G	270	11	1	-	3	-	-	-	2	-	-	1.685	500	-	60
PV 500 V 11 G	500	11	1	-	1	-	2	2	-	-	-	2.077	600	-	130
PV 725 V 11 G	725	11	1	-	1	-	2	2	-	-	-	1.863	790	-	167
PV 900 V 11 G	900	11	1	-	1	-	2	-	2	-	-	2.213	790	-	186
PV 1000 V 11 G	1.000	11	1	-	1	-	2	-	2	-	-	2.345	790	-	204
PV 1500 V 11 G	1.500	11	1	-	1	-	2	-	2	-	-	2.305	1.000	-	278
PV 2000 V 11 G	2.000	11	1	-	1	-	2	-	2	-	-	2.805	1.000	-	352
PV 3000 V 11 G	3.000	11	1	-	1	-	2	-	-	2	-	2.965	1.300	-	537
PV 4000 V 11 G	4.000	11	1	-	1	-	2	-	-	2	-	3.070	1.450	-	802
PV 5000 V 11 G	5.000	11	1	-	1	-	2	-	-	2	-	3.570	1.450	-	932
PV 6000 V 11 G	6.000	11	1	-	1	-	2	-	-	2	-	4.070	1.450	-	1.057
PV 8000 V 11 G	8.000	11	1	-	-	-	2	-	-	-	2	4.135	1.650	-	1.352
PV 10000 V 11 G	10.000	11	1	-	-	-	2	-	-	-	2	5.135	1.650	-	1.694

Model	Volume	Max. press.	Connections number and dimensions									Dimensions			Mass
	l	bar	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	H(mm)	D(mm)	L(mm)	kg
PRESSURE VESSELS - HORIZONZAL - PAINTED															
PV 50 H 11 P	50	11	1	1	-	-	-	-	-	-	-	352	300	774	19
PV 100 H 11 P	100	11	2	2	1	-	-	-	-	-	-	447	370	1.010	28
PV 150 H 11 P	150	11	2	2	1	-	-	-	-	-	-	470	400	1.224	43
PV 500 H 11 P	500	11	1	2	-	1	1	-	-	-	-	670	600	1.860	140
PV 900 H 11 P	900	11	1	-	1	-	1	-	4	-	-	905	790	1.970	195
PV 1000 H 11 P	1.000	11	2	-	2	1	1	-	-	-	-	905	790	2.180	210
PV 1500 H 11 P	1.500	11	1	-	1	-	1	-	4	-	-	1.160	1.000	2.160	278
PV 2000 H 11 P	2.000	11	1	-	1	-	1	-	4	-	-	1.160	1.000	2.660	352
PV 3000 H 11 P	3.000	11	1	-	1	-	1	-	-	4	-	1.340	1.200	2.815	537
PV 4000 H 11 P	4.000	11	1	-	1	-	1	-	-	4	-	1.620	1.450	1.920	802
PV 5000 H 11 P	5.000	11	1	-	1	-	1	-	-	4	-	1.620	1.450	3.420	932
PV 6000 H 11 P	6.000	11	1	-	1	-	1	-	-	4	-	1.620	1.450	3.920	1.057
PV 8000 H 11 P	8.000	11	1	-	1	-	1	-	-	-	4	1.790	1.650	4.025	1.352
PV 10000 H 11 P	10.000	11	1	-	1	-	1	-	-	-	4	1.790	1.650	5.025	1.694

Model	Volume	Max. press.	Connections number and dimensions									Dimensions			Mass
	l	bar	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	H(mm)	D(mm)	L(mm)	kg
PRESSURE VESSELS - HORIZONZAL - GALVANIZED															
PV 50 H 11 G	50	11	1	-	-	1	-	-	-	-	-	352	300	774	19
PV 100 H 11 G	100	11	2	1	1	-	-	-	1	-	-	447	370	1.010	28
PV 150 H 11 G	150	11	2	1	1	-	-	-	1	-	-	470	400	1.224	43
PV 500 H 11 G	500	11	1	2	-	1	-	-	-	-	-	670	600	1.860	140
PV 900 H 11 G	900	11	1	-	-	-	-	-	4	-	-	905	790	1.970	195
PV 1000 H 11 G	1.000	11	2	-	2	1	-	-	-	-	-	905	790	2.180	210
PV 1500 H 11 G	1.500	11	1	-	1	-	-	-	4	-	-	1.160	1.000	2.160	278
PV 2000 H 11 G	2.000	11	1	-	1	-	-	-	4	-	-	1.160	1.000	2.660	352
PV 3000 H 11 G	3.000	11	1	-	1	-	-	-	-	4	-	1.340	1.200	2.815	537
PV 4000 H 11 G	4.000	11	1	-	1	-	-	-	-	4	-	1.620	1.450	1.920	802
PV 5000 H 11 G	5.000	11	1	-	1	-	-	-	-	4	-	1.620	1.450	3.420	932
PV 6000 H 11 G	6.000	11	1	-	1	-	-	-	-	4	-	1.620	1.450	3.920	1.057
PV 8000 H 11 G	8.000	11	1	-	1	-	-	-	-	-	4	1.790	1.650	4.025	1.352
PV 10000 H 11 G	10.000	11	1	-	1	-	-	-	-	-	4	1.790	1.650	5.025	1.694

For any nonstandard pressure vessel (based on operating media, design pressure, design temperature, standard, ...) please contact producer or your local distributor.

Pressure vessels are designed and manufactured according to the European Directive and International Standard:

STANDARD: • Directive 2014/68/EU PED Pressure Equipment

OPTION: • Directive 2014/29/EU Simple Pressure Vessel • ASME "U" Designator (The American Society of Mechanical Engineers (section VIII div. 1) • NATIONAL BOARD REGISTRATION (Boiler and Pressure Vessel) • CRN Canadian Registration Number • EAC - REGULATIONS Customs Union "On the safety equipment of high pressure" (TR TC 032/2013) • EAC - REGULATIONS Customs Union "On the safety on machines and equipment" (TR CU 010/2011) • Lloyd's Register for ship - Fusion Welded Class 2.1 • SII – The Standards Institutions of Israel • DGM / DPP Algeria (ex ARH) • Tunisia • UKR Ukraine • MHLW Japan • DOSH Malaysia • AS 1210 Australian Standard • MOM Singapore • NR13 Brazil • Serbia AAA • TUV • Bureau Veritas • Rina • SGS • DNV – GL • ABS American Bureau of Shipment

HPV PED

HIGH PRESSURE VESSELS - PED

up to 48 bar
operating pressure

-10 to +120 °C
operating temperature range

DESCRIPTION

HPV pressure vessels are designed for high pressure compressed air applications. The design, construction with approved welding procedures and assessment of vessels conformity are regulated by European Directive 2014/68/EU PED.

The supply of pressure vessel includes:
- Anticorrosion protection (external painting or hot dip galvanizing)
- Supporting legs
- Connections for optional equipment

Model		Volume	Max. pressure	Connections number and dimensions						Dimensions		Mass
		l	bar	1/4"	3/8 "	3/4 "	1 1/4"	2"	3"	H (mm)	D (mm)	kg
16 bar - HIGH PRESSURE VESSELS - VERTICAL												
PAINTED	**GALVANIZED**											
HPV 500 V 16 P	**HPV 500 V 16 G**	500	16	-	1	1	2	2	-	2.120	600	160
HPV 1000 V 16 P	**HPV 1000 V 16 G**	1.000	16	-	1	1	2	2	-	2.365	790	280
HPV 1500 V 16 P	**HPV 1500 V 16 G**	1.500	16	-	1	1	-	4	-	2.310	1.000	405
HPV 2000 V 16 P	**HPV 2000 V 16 G**	2.000	16	-	1	1	-	4	-	2.810	1.000	490
HPV 3000 V 16 P	**HPV 3000 V 16 G**	3.000	16	-	1	1	-	2	2	2.965	1.200	620
HPV 4000 V 16 P	**HPV 4000 V 16 G**	4.000	16	-	1	1	-	2	2	3.110	1.430	905
HPV 5000 V 16 P	**HPV 5000 V 16 G**	5.000	16	-	1	1	-	2	2	3.610	1.430	1.055
21 bar - HIGH PRESSURE VESSELS - VERTICAL												
PAINTED	**GALVANIZED**											
HPV 475 V 21 P	**HPV 475 V 21 G**	475	21	-	1	1	2	2	-	2.135	600	220
HPV 1000 V 21 P	**HPV 1000 V 21 G**	1.000	21	-	1	1	-	4	-	2.385	790	352
HPV 1500 V 21 P	**HPV 1500 V 21 G**	1.500	21	-	1	1	-	4	-	2.470	1.000	555
HPV 2000 V 21 P	**HPV 2000 V 21 G**	2.000	21	-	1	1	-	4	-	2.810	1.000	715
HPV 3000 V 21 P	**HPV 3000 V 21 G**	3.000	21	-	1	1	-	4	-	2.950	1.200	950
HPV 4000 V 21 P	**HPV 4000 V 21 G**	4.000	21	-	1	1	-	4	-	3.130	1.430	1.400
HPV 5000 V 21 P	**HPV 5000 V 21 G**	5.000	21	-	1	1	-	4	-	3.630	1.430	1.750
32 bar - HIGH PRESSURE VESSELS - VERTICAL												
PAINTED	**GALVANIZED**											
HPV 500 V 32 P	**HPV 475 V 32 G**	500	32	-	1	1	-	4	-	2.140	600	245
HPV 1000 V 32 P	**HPV 1000 V 32 G**	1.000	32	-	1	1	-	4	-	2.390	790	505
HPV 1500 V 32 P	**HPV 1500 V 32 G**	1.500	32	-	1	1	-	4	-	2.500	1.000	710
HPV 2000 V 32 P	**HPV 2000 V 32 G**	2.000	32	-	1	1	-	4	-	2.850	1.000	875
HPV 3000 V 32 P	**HPV 3000 V 32 G**	3.000	32	-	1	1	-	4	-	2.950	1.200	1.170
HPV 4000 V 32 P	**HPV 4000 V 32 G**	4.000	32	-	1	1	-	4	-	3.100	1.430	1.700
HPV 5000 V 32 P	**HPV 5000 V 32 G**	5.000	32	-	1	1	-	4	-	3.600	1.430	1.950
42 bar - HIGH PRESSURE VESSELS - VERTICAL												
PAINTED	**GALVANIZED**											
HPV 120 V 42 P	**HPV 120 V 42 G**	120	42	1	-	-	2	2	-	1.300	400	135
HPV 500 V 42 P	**HPV 500 V 42 G**	500	42	-	1	1	-	4	-	2.135	600	340
HPV 1000 V 42 P	**HPV 1000 V 42 G**	1.000	42	-	1	1	-	4	-	2.385	790	605
HPV 1500 V 42 P	**HPV 1500 V 42 G**	1.500	42	-	1	1	-	4	-	2.470	1.000	755
HPV 2000 V 42 P	**HPV 2000 V 42 G**	2.000	42	-	1	1	-	4	-	2.810	1.000	1.025
HPV 3000 V 42 P	**HPV 3000 V 42 G**	3.000	42	-	1	1	-	4	-	2.950	1.200	1.450
HPV 4000 V 42 P	**HPV 4000 V 42 G**	4.000	42	-	1	1	-	4	-	3.130	1.430	2.190
HPV 5000 V 42 P	**HPV 5000 V 42 G**	5.000	42	-	1	1	-	4	-	3.630	1.430	2.515
48 bar - HIGH PRESSURE VESSELS - VERTICAL												
PAINTED	**GALVANIZED**											
HPV 1000 V 48 P	**HPV 1000 V 48 G**	790	48		1	1		4		2.400	790	725
HPV 2000 V 48 P	**HPV 2000 V 48 G**	1.000	48		1	1		4		2.810	1.000	1.195
HPV 3000 V 48 P	**HPV 3000 V 48 G**	1.200	48		1	1		4		2.970	1.200	1.685

Pressure vessels are designed and manufactured according to the European Directive and International Standard:

STANDARD: • Directive 2014/68/EU PED Pressure Equipment

OPTION: • Directive 2014/29/EU Simple Pressure Vessel • ASME "U" Designator (The American Society of Mechanical Engineers (section VIII div. 1) • NATIONAL BOARD REGISTRATION (Boiler and Pressure Vessel) • CRN Canadian Registration Number • EAC - REGULATIONS Customs Union "On the safety equipment of high pressure" (TR TC 032/2013) • EAC - REGULATIONS Customs Union "On the safety on machines and equipment" (TR CU 010/2011) • Lloyd's Register for ship - Fusion Welded Class 2.1 • SII – The Standards Institutions of Israel • DGM / DPP Algeria (ex ARH) • Tunisia • UKR Ukraine • MHLW Japan • DOSH Malaysia • AS 1210 Australian Standard • MOM Singapore • NR13 Brazil • Serbia AAA • TUV • Bureau Veritas • Rina • SGS • DNV – GL • ABS American Bureau of Shipment

CUSTOM MADE PV

CUSTOM MADE PRESSURE VESSELS

on request
operating pressure

on request
operating temperature range

on request
design

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
- Revision openings
- Supporting legs
- Connections for optional equipment

CE

ASME U

ASME UM

N-GEN SERIES

PSA NITROGEN GENERATORS

6-10 bar
operating pressure

5 to 50 °C
operating temp. range (feed air)

< -45 °C
dew points (atmospheric)

0,83 to 766,8 Nm³/h
capacity

up to 99,999 %
N_2 purity

EN 13445
Design code for pressure vessels

DESCRIPTION

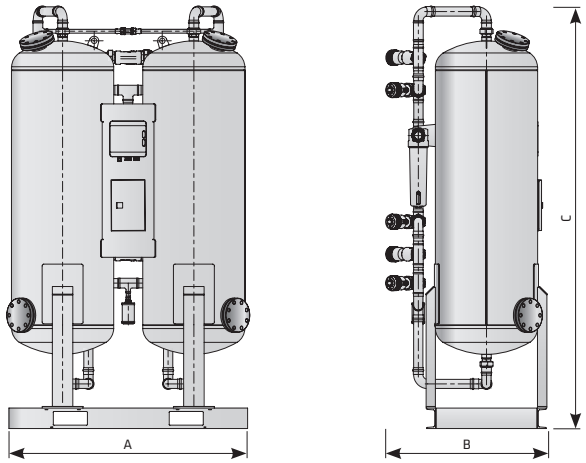
The N-GEN nitrogen generators extract the available nitrogen in the ambient air from the other gases by applying the Pressure Swing Adsorption (PSA) technology.
During the PSA process compressed, cleaned ambient air is led to a molecular sieve bed, which allows the nitrogen to pass through as a product gas, but adsorbs other gases. The sieve releases the adsorbed gases to the atmosphere, when the outlet valve is closed and the bed pressure returns to ambient pressure. Subsequently the bed will be purged with nitrogen before fresh compressed air will enter for a new production cycle.
In order to guarantee a constant product flow N-GEN nitrogen generators use two molecular sieve beds, which alternatively switch between the adsorption and the regeneration phase.

STANDARD EQUIPMENT

- Set of External Feed Air Filters
- Adsorber Vessels in Carbon Steel
- Long life Pneumatic and Solenoid Valves
- Internal Piping & Fittings zinc plated carbon steel
- Product Pressure Transmitters
- Nitrogen and Air flow Regulation
- Pressure Regulator
- Control System with SIEMENS PLC
- WebControl

OPTIONAL EQUIPMENT

- Oxygen Analyser
- Electronic Product Flow Meter
- Feed Air / Product Moisture Analyser
- Feed Air / Product Temperature Transmitters
- Nitrogen Sterile Filters
- Nitrogen Booster
- Nitrogen Cylinder Filling System
- Touch screen Interface
- Serial communications



Type	Connection		Dimensions [mm]			Mass
	In	Out	A	B	C	kg
N-GEN 03	1/2"	1/2"	1085	550	1616	126
N-GEN 05	1/2"	1/2"	1093	550	1734	160
N-GEN 10	1/2"	1/2"	1070	550	1641	205
N-GEN 15	1/2"	1/2"	1079	550	1760	255
N-GEN 20	1"	1/2"	1132	550	1913	335
N-GEN 25	1"	1/2"	1297	760	2048	585
N-GEN 35	1"	1/2"	1453	760	2055	725
N-GEN 50	1"	1/2"	1450	760	2102	845
N-GEN 65	2"	1/2"	1688	860	2184	1170
N-GEN 80	2"	1"	1688	860	2334	1290
N-GEN 100	2"	1"	1848	1010	2267	1675
N-GEN 150	2"	1"	2060	1160	2378	2260
N-GEN 200	2"	1"	2293	1325	2396	2877
N-GEN 250	2"	1"	2605	1425	2500	3950
N-GEN 300	2"	2"	2815	1625	2605	4660
N-GEN 400	3"	2"	3070	1675	2735	6850

For nitrogen flow capacity at other conditions please contact manufacturer. Performance +/- 5%. All flow rates valid for generator operation at compressed air temperature 35 °C.

NC-GEN SERIES

COMPACT PSA NITROGEN GENERATORS

6 - 10 bar
operating pressure

5 to 50 °C
operating temperature range

< -45 °C
dew point (at ambient pressure)

0,14 to 14,2 Nm^3/h
N_2 capacity

up to 99,999 %
N_2 purity

DESCRIPTION

The NC-GEN compact nitrogen generators extract the available nitrogen in the ambient air from the other gases by applying the Pressure Swing Adsorption (PSA) technology.

During the PSA process compressed, cleaned ambient air is led to a molecular sieve bed, which allows the nitrogen to pass through as a product gas, but adsorbs other gases. The sieve releases the adsorbed gases to the atmosphere, when the outlet valve is closed and the bed pressure returns to ambient pressure. Subsequently the bed will be purged with nitrogen before fresh compressed air will enter for a new production cycle.

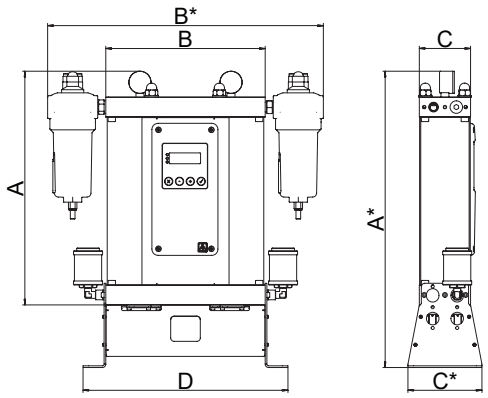
In order to guarantee a constant product flow nitrogen generators use two molecular sieve beds, which alternatively switch between the adsorption and the regeneration phase.

STANDARD EQUIPMENT

- Set of external feed air filters
- Adsorber vessels in carbon steel
- Long life solenoid valves
- Internal piping
- Nitrogen and air flow regulation
- Product pressure transmitters

OPTIONAL EQUIPMENT

- Nitrogen Sterile Filters
- Nitrogen Booster
- Nitrogen Cylinder Filling System



Type	Connection		Dimensions [mm]							Mass
	In	Out	A	A*	B	B*	C	C*	D	kg
NC-GEN 0,5	G 3/8"	G 3/8"	573	715	280	480	100	130	354	13,5
NC-GEN 1,0	G 3/8"	G 3/8"	1041	1105	280	480	100	130	354	19,0
NC-GEN 1,5	G 3/8"	G 3/8"	1364	1495	280	480	100	130	354	27,5
NC-GEN 2,5	G 3/8"	G 3/8"	972	1105	370	570	148	170	434	45,0
NC-GEN 3,5	G 3/8"	G 3/8"	1167	1300	370	570	148	170	434	53,0
NC-GEN 4,5	G 3/8"	G 3/8"	1567	1700	370	570	148	170	434	70,0
NC-GEN 7,0	G 3/8"	G 3/8"	1345	1440	440	725	198	240	570	170,5
NC-GEN 9,0	G 3/8"	G 3/8"	1538	1655	440	725	198	240	570	182,2

(1) For concentrations at higher purity please contact manufacturer. All flow rates valid for generator operation at compressed air temperature max 35°C. Performance ±5 %.

NM-GEN SERIES

MEMBRANE NITROGEN GENERATORS

NM-GEN 75-500

5 - 24 bar
nitrogen pressure

35 to 55 °C
operating temp. range (feed air)

< -50 °C
dew point (at ambient pressure)

0,8 to 780 Nm³/h
N_2 capacity

up to 99,5 %
N_2 purity

DESCRIPTION

The NM-GEN membrane nitrogen generators extract the available nitrogen from the compressed air. Generator use hollow fibre membrane technology to separate nitrogen from other components in compressed air. The membrane uses the principle of selective permeation to produce purity nitrogen. Each gas has a characteristic permeation rate, which is a function of its ability to diffuse through a membrane. Oxygen is a fast gas and is selectively diffused through the membrane wall, while nitrogen is allowed to travel along the inside of the fibre, thus creating a nitrogen-rich product stream. The oxygen-enriched gas, or permeate, is vented from the membrane separator at atmospheric pressure.
Most of the slow gases and a very small amount of the fast gases continue to travel through the fibre until they reach the end of the membrane separator, where the product nitrogen gas is piped to the application.

STANDARD EQUIPMENT

- Set of external feed air filters
- Electric heater
- Supporting frame or cabinet
- Pressure regulator
- Internal piping
- Nitrogen and air flow regulation

OPTIONAL EQUIPMENT

- Nitrogen sterile filters
- Nitrogen booster
- Nitrogen cylinder filling system

Type	Connection			Dimensions [mm]			Mass	No. of membranes
	In	Out	Purge	Height	Width	Depth	kg	kg
NM-GEN 2	1/2"	1/2"	1/2"	1.325	428	530	51	1
NM-GEN 4	1/2"	1/2"	1/2"	1.325	428	530	52	1
NM-GEN 6	1/2"	1/2"	1/2"	1.325	428	530	55	1
NM-GEN 10	3/4"	3/4"	3/4"	1.925	558	630	103	1
NM-GEN 25	3/4"	3/4"	3/4"	1.925	558	630	112	1
NM-GEN 50	3/4"	3/4"	3/4"	1.925	558	630	130	2
NM-GEN 75	2"	2"	2"	2.253	960	1.000	291	3
NM-GEN 100	2"	2"	2"	2.253	960	1.000	310	4
NM-GEN 125	2"	2"	2"	2.253	960	1.000	520	5
NM-GEN 150	2"	2"	2"	2.253	960	1.000	539	6
NM-GEN 175	2"	2"	2"	2.253	960	1.000	557	7
NM-GEN 200	2"	2"	2"	2.253	960	1.000	576	8
NM-GEN 225	2"	2"	2"	2.253	960	1.000	594	9
NM-GEN 250	2"	2"	2"	2.253	960	1.000	613	10
NM-GEN 275	2"	2"	2"	2.253	960	1.000	631	11
NM-GEN 300	2"	2"	2"	2.253	960	1.000	650	12
NM-GEN 325	2"	2"	2"	2.253	960	1.000	860	13
NM-GEN 350	2"	2"	2"	2.253	960	1.000	879	14
NM-GEN 375	2"	2"	2"	2.253	960	1.000	897	15
NM-GEN 400	2"	2"	2"	2.253	960	1.000	916	16
NM-GEN 425	2"	2"	2"	2.253	960	1.000	934	17
NM-GEN 450	2"	2"	2"	2.253	960	1.000	953	18
NM-GEN 475	2"	2"	2"	2.253	960	1.000	971	19
NM-GEN 500	2"	2"	2"	2.253	960	1.000	990	20

For nitrogen flow capacity at other conditions please contact manufacturer. Performance +/- 3%. All flow rates valid for generator operation at compressed air temperature 55 °C and compressed air pressure 9 barg

SKID N-GEN

SKID BASED SOLUTIONS FOR N_2 PRODUCTION

DESCRIPTION

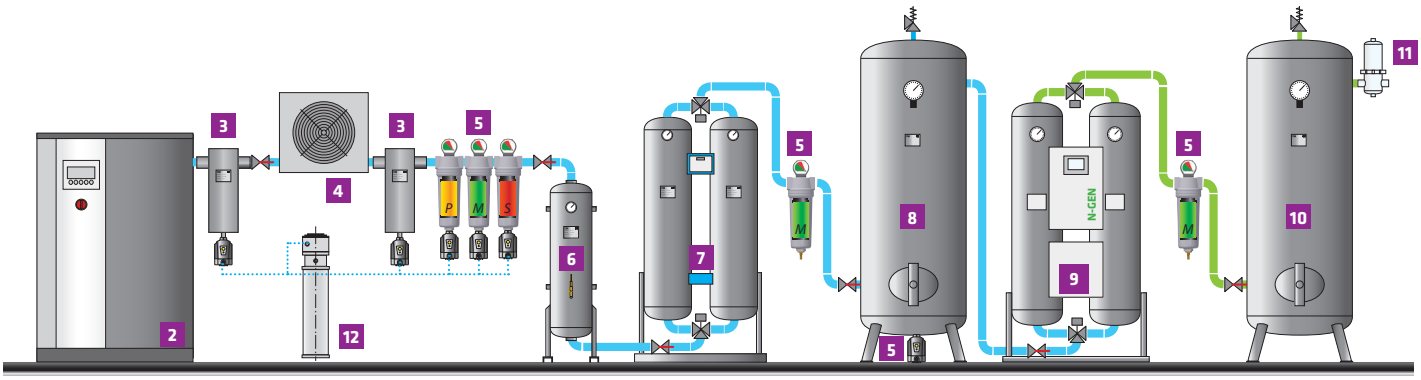
OMEGA AIR manufactures wide range of compressed air and gas treatment products (cyclone separators, filters, dryers, condensate drains, gas generators, pressure vessels...).

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 ...).

Higher purity rates (99,9999%) are available with purifier introduction. Please contact producer for more information.

EN 13445

Design code for pressure vessels



TECHNICAL DATA			
Modele	Connection	Total power	Outlet flow*
	In/Out	kW	Nm^3/h
SIZE 1	G 3/4"	5,5	40
SIZE 2	G 3/4"	7,5	57
SIZE 3	G 3/4"	11	90
SIZE 4	G 3/4"	15	120
SIZE 5	1"	18,5	150
SIZE 6	1"	22	177
SIZE 7	1"	30	251
SIZE 8	G 1 1/4"	37	339
SIZE 9	G 1 1/4"	45	366
SIZE 10	G 2"	55	570
SIZE 11	G 2"	75	636
SIZE 12	G 2"	90	828
SIZE 13	on request	up to 315 kW	on request

*Refers to 1bara and 20°C for compressor outlet flow at 10barg. Final compressed air/nitrogen/oxygen supply depend on speciffic configuration. For detailed specification please contact us.

INSTALLED COMPONENTS

1 Steel base construction
2 Screw compressor
3 Condensate separator
4 Aftercooler
5 Compressed air filters
6 Activated carbon tower
7 Adsorption compressed air dryer
8 Compressed air receiver
9 Nitrogen generator
10 Nitrogen receiver
11 Process filter
12 Water/oil separator
13 Main electric box

REFERENCES

N-GEN 300 - NITROGEN GENERATOR

Quantity:	1 pc
Application:	Coffee production
End client:	Atlantic grupa Beograd
Year of production:	2018
N_2 purity:	99,5 %
Capacity:	256 Nm^3/h

Serbia

SKID F-DRY 2000 + ACA 094

Quantity:	6 pcs
Application:	N_2 drying
Year of production:	2018
Inlet pressure:	5 bar
Nominal flow:	975 Nm^3/h
Pressure dew point:	down to -40°C

Russia

SKID N-GEN 10

Quantity:	2 pcs
Application:	N_2 production - Testing and promotional SKID
End client:	Omega Air
Year of production:	2017
Operating pressure:	7 bar
Capapcity:	10,5 Nm^3/h
Purity:	99%

Slovenia

CNG HPR-DRY 8000 - CNG HIGH PRESSURE DRYER

Quantity:	1 pc
Application:	Filling of busses
End client:	RATP Group
Design Code:	PED
Approval:	CE, ATEX
Year of production:	2019
Operating pressure :	40 bar
Nominal flow:	8000 Nm^3/h
Inlet pressure dew point:	-5°C
Operating gas:	Methane

France

REFERENCES

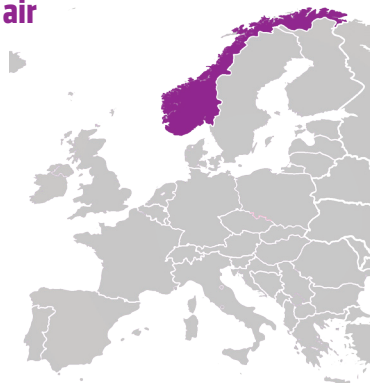
CARBON STEEL FILTERS

Quantity:	8 pcs
Project:	Midyan gas processing facilities
End client:	Saudi Aramco
Design Code:	ASME Sec.VIII Div.1
Approval:	ASME-U
Year of production:	2015
Operating pressure :	9 bar
Material:	Carbon Steel SA-106 Gr. B

Saudi Arabia

HP-DRY 650 - HIGH PRESSURE ADSORPTION DRYER - Heatless regeneration - Purge air

Quantity:	1 pc
Application:	Dryer for oil rick in Norwegian sea
Design Code:	PED, CE
Year of production:	2015
Operating pressure :	270 bar
Nominal flow:	650 Nm^3/h
Inlet temperature:	1,5 to 50 °C



Norway

HIGH PRESSURE FILTER 300 bar

Quantity:	150 pcs
Project:	LNG project
End client:	PSN Kazstroj
Design Code:	ASME Sec.VIII Div.1
Approval:	ASME-U
Year of production:	2014-2016
Operating pressure :	300 bar
Material:	Stainless steel SA-479 gr. 304

Kazakhstan

R-DRY 10000 BP - ADSORPTION COMP. AIR DRYER - Heat regener. - purge air cooling

Quantity:	1 pc
Project:	Custom made dryer for Paper ind.
Design Code:	PED
Approval:	CE
Year of production:	2017
Operating pressure :	6 barg
Nominal flow:	5.100 m3/h
Inlet temperature:	40°C
Dew point :	-40°C

Thailand

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Air and Gas

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