ULTRAFILTER
THE FILTRATION MANUFACTURER

Kronsbein ultrafilter ®

PORTFOLIO

Kronsbein ultrafilter ®

ULTRAFILTER
THE FILTRATION MANUFACTURER

Kronsbein ultrafilter ®

AIR

ICON GUIDE | TECHNICAL DATA

Materials
For filter elements describing the filter media.

Surface Roughness
Roughness of filter housing surface. Described in µm.

Inlet / Outlet Connection
Refer to table if filter housing has various connection sizes.

Certificates
FDA or PED.

Dimensions
Describes the length of filter elements.

Diameter
The cartridge diameter of filter elements.

Flow
Recommended max. Flow unless described otherwise.

Filtration Rate
Micron rating of the filter element.

Effectivity
Describes retention of particles equal to micron rating.

GUIDES

ICON GUIDE | TECHNICAL DATA

O-Ring Material
Describes standard O-Ring.
Different materials can be supplied.

End Cap
See guides for overview of end caps.

Mounting
Describes how to mount

Temperature
Recommended max. Temperature unless described otherwise.

Pressure
Recommended max. Pressure unless described otherwise.

Electricity
Describes the amount of electricity needed

Dew Point
Describes the achievable dew points.

Differential Pressure
Recommended max. Diff. Pressure unless described otherwise.

User
Describes the amount of User.

ULTRAFILTER
THE FILTRATION MANUFACTURER

Kronsbein ultrafilter ®

Ultrafilter products are manufactured to a specification rather than a price. Only when we achieve the best result will it satisfy ourselves and our customers.

In our core competence, we focus on high-efficiency filters and dryers for the purification of compressed air, technical gases and liquids. Filtration solutions are necessary to make everyday life possible. Whether in the food and beverage industry, pharmaceutical industry or any other producing industry - our filtration solutions are required.

Quality is at heart of any Ultrafilter product. It starts with an innovative, efficient design followed by the sourcing of the best raw materials and completed by state of the art manufacturing facilities and an extensive quality management system. All Ultrafilter products are manufactured by experienced manufacturing experts in Germany and are distributed worldwide.

Our goal is to achieve the best possible purification result for every application. The Ultrafilter Team is experienced and dedicated to ensuring superior performance. In addition, our filter systems are designed to the state-of-the-art. All of our products are reliable and manufactured to the highest quality standards where every single detail is of greatest importance. Only when we achieve the best result will it satisfy ourselves and our customers.

To obtain this first-class result, we utilise the highest quality of raw materials to produce our products. In combination with our manufacturing expertise, we create what our customers appreciate about Ultrafilter GmbH - An excellent purification result with a convincing price-performance ratio.

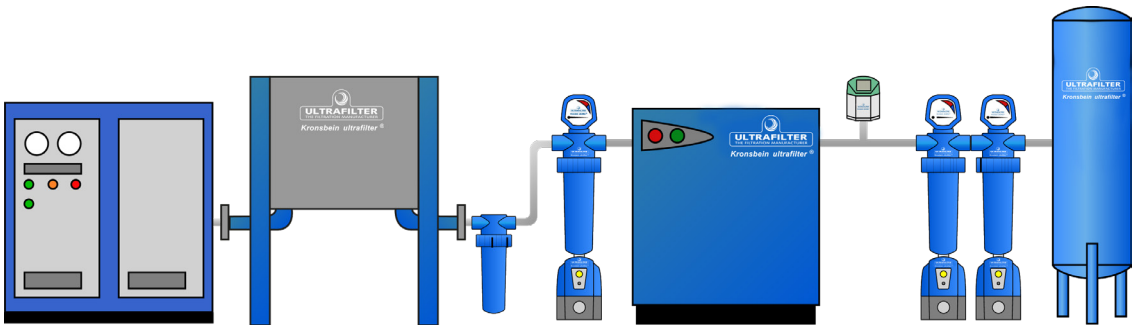
All of our products are manufactured in accordance with ISO 9001 and ISO 14001 standards.

ISO 9001:2015

ISO 14001:2015

EHEDG EUROPEAN HYGIENIC ENGINEERING & DESIGN GROUP

COMPRESS



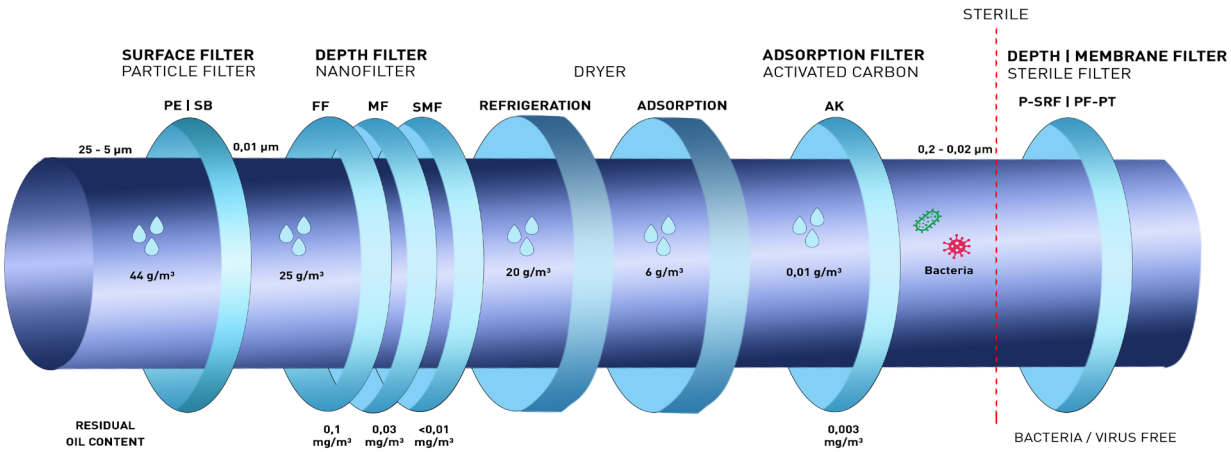
COMPRESSED AIR

The air around is always contaminated with particles. In 1 cubic meter of air, we can find over 190 million particles. These particles range from biological and non-biological particles to bacteria, viruses, oils and water. After being processed by a compressor to 8 bar, we will find our compressed air has a concentration of 8 times the particles found in atmospheric air (1.5bn particles). Due to the substantial contamination, the compressed air has to be filtered to protect manufacturing processes and machinery.

When purifying compressed air, there is a distinction to be made upon the quality of the compressed air. In production, the required quality depends on the intended use of the compressed air.

At Ultrafilter, we manufacture all types of compressed air and technical gas filtration. We have extensive experience with compressed air and compressed air filters. We stand ready to draw on this experience if you need advice and guidance in connection with compressed air. We help you find the air filter to suit your compressed air system, and which comply with industry and customer requirements.

To achieve compressed air, the highest quality we need to remove the oil, water and particles from the air. The illustration below displays how the different filters affect the compressed air.



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ISO 8573 - 2010

All Ultrafilter filter products are compliant with ISO 9001 and ISO 14001

The ISO 8573-2010 guideline is a reference to choose the compressed air filters and identifies which level is necessary to clean the compressed air.

We use ISO 8573-2010 as a reference when choosing compressed air filters, and to find out to which level it is necessary to clean the air. ISO 8563-2010 contains particles class, water class and oil class. When referring to an ISO class, the classes are written in that order.

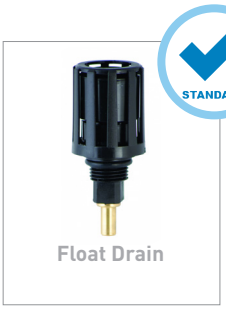
Class	Particles pr. m^3			Dew Point	Residual Oil Content
	0,1 - 0,5 µm	0,5 - 1 µm	1 - 5 µm		
1	⩽ 20.000	⩽ 400	⩽ 10	-70°C	⩽ 0,01 mg/m^3
2	⩽ 400.000	⩽ 6.000	⩽ 100	-40°C	⩽ 0,1 mg/m^3
3		⩽ 90.000	⩽ 1.000	-20°C	⩽ 1 mg/m^3
4			⩽ 10.000	+3°C	⩽ 5 mg/m^3
5			⩽ 100.000	+7°C	
6				+10°C	

Application	Particle Class	Water Class	Oil Class
General automatic	2-5	3-4	2
Blown air	5	5	2
Laser cutting	1	1-2	1
Paints	1	2-3	1
Machines with automation	2-3	2-3	1-2
Surface	1-3	3-4	1
Sandblasting	3-5	3-5	4
Breathing air	1	3	1
Process Industry			
Automatic (cylinders, solenoid valves)	1-5	3-4	1-3
General compressed air	3-5	4-5	2
Measurement & control engineering	1	2-4	1
Process air	1-3	2-3	1
Blasting / powder transport	1-3	2-4	1
Food Industry			
Automatic (cylinders, solenoid valves)	1-3	3-4	1-2
Wrappers	1-3	3-4	1-2
Tapping columns	1-3	3-4	1-2
Air tools in the production room	1-3	3-4	1-2
Air tools in workshop	4-5	4-5	4

COMPRESSED AIR FILTER

AG

Energy Monitor



Float Drain

Level Controlled Drain

Time Controlled Drain

TECHNICAL DATA

- 16 bar
- Aluminium
- 65°C
- Perbunan Gasket
- SB, PE, FF, MF, SMF, AK & AKK

Features & Benefits

BSP or NPT connection

DESCRIPTION:

The Ultrafilter AG filter housing is engineered for the purification of compressed air and technical gasses in industrial operations.

The Ultrafilter AG housings optimised construction allows for lower differential pressure at high flow rates. Its innovative 3 part design allows easy service access. It gives warnings if the housing is still under pressure ensuring safe and pure compressed air filtration.

The AG housing series offers 14 different housings ranging from volume flows of 20 m3/h to 2880 m3/h (related to 1 bar and 20°C).

Model	Flow m³/h	Connection in/out	Filter Element
AG 0002	20	¼"	02/05
AG 0004	40	⅜"	03/05
AG 0006	60	⅜"	03/10
AG 0009	90	½"	04/10
AG 0012	120	½"	04/20
AG 0018	180	¾"	05/20
AG 0027	270	1"	05/25
AG 0036	360	1 ¼"	07/25
AG 0048	480	1 ½"	07/30
AG 0072	720	2"	10/30
AG 0108	1080	2"	15/30
AG 0144	1440	2 ½"	20/30
AG 0192	1920	3"	30/30
AG 0288	2880	3"	30/50

Correction factor:

Operating pressure	bar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor	K1	0,25	0,36	0,5	0,6	0,75	0,9	1	1,1	1,2	1,4	1,5	1,6	1,75	1,9	2	2,1

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COMPRESSED AIR FILTER

SG

TECHNICAL DATA

- 16 bar
- Steel
- 120°C
- Perbunan Gasket
- SB, PE, FF, MF, SMF, AK & AKK

Features & Benefits

Flange DN / ANSI connection

STANDARD

Energy Monitor

Level Controlled Drain

Time Controlled Drain

Zero Loss Drain

DESCRIPTION:

The Ultrafilter SG housing series is equipped with a bottom opening which allows for easy maintenance and exchange of the filter elements.

The SG housing's engineered improved flow technology allows for minimal pressure losses, and it´s resin coating and automatically controlled level float drain extend the SG's useful life extensively.

The Ultrafilter SG housing is equipped with flange connections from DN50 to DN300.

Model	Flow m³/h	Connection in/out	Filter Element	
			Size	Qty
SG 0108	1080	DN 50	15/30	1
SG 0144	1440	DN 65	20/30	1
SG 0192	1920	DN 80	30/30	1
SG 0288	2880	DN 80	30/50	1
SG 0432	4320	DN 100	20/30	3
SG 0576	5760	DN 100	30/30	3
SG 0768	7680	DN 150	30/30	4
SG 1152	11520	DN 150	30/30	6
SG 1536	15360	DN 200	30/30	8
SG 1920	19200	DN 200	30/30	10
SG 2304	23040	DN 250	30/30	12
SG 3072	30720	DN 250	30/30	16
SG 3840	38400	DN 300	30/30	20

Correction factor:

Operating pressure	bar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor	K1	0,25	0,36	0,5	0,6	0,75	0,9	1	1,1	1,2	1,4	1,5	1,6	1,75	1,9	2	2,1

HIGH PRESSURE FILTER HOUSING

HD

Time Controlled
Drain Optional

TECHNICAL DATA

- 25. 40, 64, 100, 250, 400bar
- Aluminium, carbon steel
- -10° to 80°C
- Perbunan Gasket
- SB, PE, FF, MF, SMF, AK & AKK

DESCRIPTION:

The Ultrafilter HD filter housing is engineered for the purification of compressed air and technical gasses in industrial operations.

The Ultrafilter HD housing's optimized modular design allows for the use of different filter elements.

The Ultrafilter HD housing series offers eight different housings ranging from volume flows of 30m3/h to 720m3/h in pressure ranges from PN25 to PN400 (related to 7 bar (g) and 20°C)

Model	Flow at 7 bar m³/h	Connection in/out	Pressure PN	Filter Element
HD 0003	30	¼"	25-400	03/05
HD 0006	60	3/8"	25-400	03/10
HD 0012	120	½"	25-400	04/20
HD 0018	180	¾"	25-400	05/20
HD 0027	270	1"	25-400	05/25
HD 0036	360	1¼"	25-400	07/25
HD 0048	480	1½"	25-400	07/30
HD 0072	720	2"	25-400	10/30

Correction factor:

Operating pressure	bar	7	25	40	64	100	250	400
Correction factor	K1	1	3	5	8	12	12	12

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PRE FILTER ELEMENTS

SB | PE

TECHNICAL DATA

- PE: 25 µm SB: 1, 5, 25 µm
- PE: Polyethylene SB: Stainless Steel
- PE: -20°C to 80°C SB: 120°C
- Perbunan Gasket
- 99%
- Aluminium
- Max, 2 bar at 20°C

DESCRIPTION:

Ultrafilter offers filtration solutions for all compressed air applications. The Ultrafilter pre-filters are made with high-quality aluminium endcaps, and its unique design allows for extremely low differential pressure.

The Ultrafilter PE element is manufactured from sintered polyethene with guaranteed retention rates. Through the use of various filtration mechanisms – such as direct impact, inertia and sieve effect – contaminants down to the size of 25µm are retained.

The Ultrafilter SB pre-filter is engineered for the retention of particles and liquids from compressed air. Its unique composition of sintered stainless steels allows the SB to provide superior performance even in high-temperature environments.

RECCOMENDED FILTER HOUSINGS:

Aluminium Housing AG

Steel Housing SG

High Pressure Housing HD

MICRO FILTER ELEMENTS

FF | MF | SMF

Aluminium Housing
AG

Steel Housing
SG

High Pressure
Housing
HD

TECHNICAL DATA

- 0,01µm
- Borosilicate, cerex & polyurethane
- 80°C, available up to 180°C
- Perbunan Gasket
- 99%
- Aluminium
- Max, 5 bar at 20°C

DESCRIPTION:

Ultrafilter offers filtration solutions for any compressed air application. The Ultrafilter industrial range is manufactured with Ultrafilter's pleated oleophobic nanofiber technology and aluminium endcaps which substantially reduces differential pressure while providing an exceptional filtration result.

Advanced pleating technologies combined with nanofiber technology, makes the Ultrafilter more efficient than any other standard filters. By providing 450% larger filtration surface area and large a particle retention capacity, the Ultrafilter offers lower differential pressure and up to 70% lower energy costs over the lifetime of the filter.

Type	Filtration Rate	Efficiency	Residual Oil Content	Start-up Differential Pressure
FF	0,01 µm	99,999%	0,1 mg/m³	0,04 bar
MF	0,01 µm	99,99998%	0,03 mg/m³	0,08 bar
SMF	0,01 µm	99,99999%	<0,01 mg/m³	0,09 bar

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ACTIVATED CARBON ELEMENTS

AK | AKK

TECHNICAL DATA

- max. 2bar at 20°C
- Activated Carbon & Borosilicate
- 10-40°C
- Perbunan Gasket
- Aluminium

Residual oil content:
< 0,003mg/m³
Lifetime: AK |1000-2000hrs
AKK | 2000-4000hrs

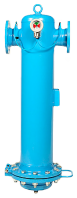
DESCRIPTION:

Ultrafilter provides filtration solutions for any compressed air application. The Ultrafilter industrial range is manufactured with Ultrafilter's pleated oleophobic nanofiber technology and aluminium endcaps which substantially reduces differential pressure while providing an exceptional filtration result.

The AK filter elements consist of a two-stage filtration. All particles are kept in a nanofibre depth filter media, while the activated carbon adsorbs all oil vapours and gaseous hydrocarbons.

RECCOMENDED FILTER HOUSINGS:

Aluminium Housing AG



Steel Housing SG

High Pressure Housing HD

THIRD PARTY ELEMENTS

Domnick Hunter Evolution

Domnick Hunter Oil-X

Hiross

Atlas Copco

Zander

Hankison

Deltech

Walker

Donaldson

Kaeser

Stenhøj

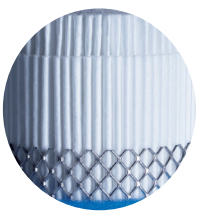
BEKO

DESCRIPTION:

Ultrafilter offers a wide range of replacement filters which allows you to enjoy the same Ultrafilter quality filters in filter housings from different manufacturers. Manufactured with the same technology and quality as the Ultrafilter industrial you can enjoy cost savings without significant investments in housings.

BY REQUEST ALSO:

Compair | Ceccato | Ingersoll Rand | ALUP | ALMiG Pneumatec | Chicago Pneumatic | MARK | BOGE



PLEATED MEDIA TECHNOLOGY

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THIRD PARTY ELEMENTS

	Prefilter	Prefilter	Microfilter	Submicrofilter	Activated Carbon
ISO Class (8573-2010)	**6**	**3**	**2**	**1**	**1***
Ultrafilter	**PE**	**FF**	**MF**	**SMF**	**AK**
Domnick Hunter Evolution	-	AR, AO	AAR	AA	ACS
Domnick Hunter Oil-X	-	AO	AA	AX	AC, ACS
Hiross	Q	P	S	-	C
Atlas Copco	-	DD	PD	-	QD
Zander	V	Z	Y	X	A
Hankison	E9	E7	E5	E3	E1
Donaldson	PE	FF	MF	SMF	AK
Deltech	-	DFD	PFD	HFD	CFD
Walker	X25, X5	X1	XA	-	AC
CompAir	-	B+E	C+F	-	D
Ceccato	-	P	G	C	V
Kaeser	E-B	E-C	E-E	E-F	E-G
Stenhøj	PE	FF	MF	SMF	AK
ALUP	-	P	G	C	V
ALMiG	AFP	AFM	AFS	-	AFC
Pneumatech	-	P	G	C	V
Chicago Pneumatic	-	P	G	C	V
BEKO	G	F	S	-	A
MARK	-	P	G	C	V
BOGE	V	-	FP	-	A

Type	Particle Filtration Rate	Efficiency	Residual Oil Content	Max. Differential Pressure
PE	25 µm	99%	N/A	2 bar at 20°C
SB	25 µm	99%	N/A	2 bar at 20°C
FF	0,01 µm	99,999%	0,1 mg/m³	5 bar at 20°C
MF	0,01 µm	99,99998%	0,03 mg/m³	5 bar at 20°C
SMF	0,01 µm	99,99999%	<0,01 mg/m³	5 bar at 20°C
AK	Activated Carbon	N/A	0,003 mg/m³	2 bar at 20°C

ACTIVATED CARBON TOWER

ULTRA-SORP AKC

TECHNICAL DATA

- 4-16bar
- max 50°C
- 50-9500m³h

Residual oil content:
< 0,003ppm
Lifetime: 8000hrs

DESCRIPTION:

The Ultrafilter activated carbon tower is engineered to ensure oil and odour free compressed air.

Compressed air is lead through an active carbon bed and reduced the residual oil content to < 0,003 ppm.

The residual oil content depends on the inlet conditions. A residual oil content of < 0,003 ppm is related to an operating pressure of 7 bar (g), 35°C inlet temperature, and pre-dried compressed air with a dewpoint of -40°C, as well as a prefiltration of particles < 0,03 mg/m3.

Model	Flow m³/h	Connection in/out	Dimensions (mm)		
			Height	Width	Depth
AKC 0050	50	¾“	320	350	1200
AKC 0080	80	¾”	320	350	1550
AKC 0100	100	1”	320	350	1500
AKC 0150	150	1”	440	450	1850
AKC 0175	175	1”	440	450	1760
AKC 0225	225	1½”	440	450	1760
AKC 0300	300	1½”	440	450	1750
AKC 0375	375	1½”	550	600	2050
AKC 0550	550	2”	550	600	2000
AKC 0650	650	2”	550	600	2010
AKC 0850	850	2”	750	600	2020
AKC 1000	1000	2”	750	600	2060

Correction factor:

Operating pressure	bar	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor	K1	0,63	0,75	0,88	1,00	1,10	1,20	1,35	1,44	1,50	1,60	1,75	1,86	2,00
Inlet temperature	°C	35	40	45	50									
Correction factor	K2	0,80	1,00	1,25	1,50									

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MEASURING INSTRUMENTS

DEW POINT SENSORS:

UF220
-100°C to 0°C

UF201
-60°C to +20°C

UF212
-50°C to +20°C

UF215
-20°C to +50°C

FLOW SENSORS:

UF400
Insertion Type

UF420
Inline Type

Oil Vapour Sensor

Laser Particle Counter

DESCRIPTION:

As energy-conscious production becomes more critical for consumers, it becomes more important for producers. Ultrafilter's range of high-tech sensors enables you to monitor your compressed air line adequately, giving you the power of insight, the possibility to anticipate downtime, identify leakages in the system, control your consumption and the quality of compressed air. Providing you with the opportunity to reduce energy and maintenance costs substantially. Please scan the QR code to receive more information about Ultrafilter's line of high tech measuring equipment.

OIL / WATER SEPERATOR

UAS

TECHNICAL DATA

ABS or PE

LGA 5361301-01

Features & Benefits

Up to 12m³/min compressor capacity
3-Stage filtersystem
Compact design

DESCRIPTION:

When compressed air is produced, condensate is formed as a byproduct. The amount of condensate depends on the compressors size and the number of operating hours and can range from 10 to 10.000 litres of condensate per month. The condensate from oil-lubricated compressors may contain up to 2.000 mg/l of oil.

Environmental protection legislation requires condensate water to be cleaned from the oil before it is discharged into the public sewage system. In countries with such legislation for Water Resources Conservation, the limit-value is set at 20 mg oil per litre of condensate water.

The Ultrasep removes oil from the condensate water efficiently and reliably - by calming the water and utilising a series of coalescence- and activated carbon filters.

The condensate water is then clean so that it can be discharged into the public sewage system. The oil is collected in an oil-container and can be disposed of separately and safely.

Type UAS	Compressor Capacity m³/h [1)2)]	Discharge Quantity l/h [1)]	Oil Adsorption g	Connection	Dimensions A mm	B mm	C mm
005	240	3	2	G 1/2	416	243	411
015	480	7	5	G 1/2	730	343	680
030	1200	17	12	G 1/2	820	366	940
060	2100	30	21	G 1/2	960	386	1137
120	4200	60	43	2 x G 1/2	2 x 960	2 x 386	2 x 1137
240	8400	119	85	4 x G 1/2	4 x 960	4 x 386	4 x 1137

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CARE PACKS

DESCRIPTION:

Ultrafilter offers service kits and care packs for all our products ranging from oil/water separators to adsorption and fridge dryer. Please enquire with our sales team for more information.

Producer	Suitable for			
BEKO (BOGE)	Atlas Copco	Kaeser	Ecoair	Schneider
Öwamat 1/2	OSW 5/11	Aquamat 1/2	-	Owatec 10/40
Öwamat 3	-	Aquamat 3	TS 3	-
Öwamat 4	OSW 30	Aquamat 4	TS 4	Owatec 130
Öwamat 5	-	Aquamat 5	TS 15	-
Öwamat 5R	OSW 55	Aquamat 5R	-	Owatec 175
Öwamat 6	OSW 110	Aquamat 6	TS 16	Owatec 250
Öwamat 8	OSW 315	Aquamat 8	-	-
Öwamat 10	-	-	-	-
Öwamat 11	-	-	-	-
Öwamat 20	-	Aquamat 20	TS 60	-

Producer		Suitable for			
Wortmann	Zander	Wortmann/ Kaeser	Hankison		Zander
Drukomat 1/MINI	Ekolog 1/Mini		HS1	HS 60, 70, 120	Ecosep S1/MINI
Drokumat 2	Ekolog 2	WOI-II	HS2	HS 140-480	Ecosep S2
Drukomat 4	Ekolog 4	WOI-II	HS3	HS 140-900	Ecosep S4
Drukomat 8	Ekolog 8	WOI-II	HS4	HS 140-900	Ecosep S8
Drukomat 15	Ekolog 15	WOI-II*	HS5*	HS 140-900*	Ecosep S15
Drukomat 30	Ekolog 30	WOIII	HS6	HS 1800	Ecosep S30
Drukomat 61	Ekolog 61	WOIV	HS7	HS 3600	Ecosep S61

REFRIDGERATING DRYER 50Hz

ULTRA-PULSE UD

TECHNICAL DATA

- Standard: 16bar
- max. Ambient: 50°C
  max. Inlet: 70°C
- 25-1650m³h
- 3-9°C
- 230/1/50 or 400/3/50

Refridgerant fluids:
R134a or R404A

DESCRIPTION:

We are proud to introduce ultra.dry, a new generation of energy-saving refrigeration dryer.

The innovative ultra.pulse technology offers significant advantages in terms of energy savings, reliability and operating costs by adapting itself to the actual needs of the compressed air system.

The regulation system of the dryer controls grants the most efficient method of compressed air drying, achieving high energy saving and at the same time ensuring an excellent dew point stability, also in dynamic condition.

High maximum inlet temperature up to +70°C (ultra.dry UD 0025 - 0600) +60°C (ultra.dry UD 0850 - 1650) and maximum ambient temperature (+50°C) ensure a fail-safe operation at all times. The standard ultra. dry refrigeration dryer has a high operational pressure limit of 16 bar.

Model	Flow m³/h	Connection in/out	Power V/ph/Hz
UD 0025	25	3/8"	230/1/50
UD 0035	35	3/8"	230/1/50
UD 0054	54	3/8"	230/1/50
UD 0075	75	½"	230/1/50
UD 0110	110	½"	230/1/50
UD 0150	150	1"	230/1/50
UD 0190	190	1"	230/1/50
UD 0230	230	1"	230/1/50
UD 0300	300	1"	230/1/50
UD 0350	350	1 ½"	230/1/50
UD 0450	450	1 ½"	230/1/50
UD 0500	500	1 ½"	230/1/50
UD 0600	600	1 ½"	230/1/50
UD 0850	850	2"	230/1/50
UD 1050	1050	2"	230/1/50
UD 1175	1175	2 ½"	230/1/50
UD 1350	1350	2 ½"	400/3/50
UD 1650	1650	2 ½"	400/3/50

Based on specific operation conditions. For accurate dimensioning see our guide page 43.

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REFRIDGERATING DRYER 60Hz

ULTRA-PULSE UD

TECHNICAL DATA

- Standard: 16bar
- max. Ambient: 50°C
  max. Inlet: 70°C
- 25-552m³h
- 3-9°C
- 115/1/60 or 230/1/60

Refridgerant fluids:
R134a or R404A

DESCRIPTION:

Some industries and countries use higher frequency power as their standard – 60 Hz instead of the European standard, 50 Hz. For the most critical industrial machinery, a set frequency and voltage on the equipment are required to guarantee the stability of the production with the machine.

Such industries count many marine and off-shore installations, and projects in or from North America, and we have a complete range of refrigeration dryers for 60 Hz installations.

These refrigeration dryers come with the usual benefits of our standard range of refrigeration dryers.

Model	Flow m³/h	Connection in/out	Power V/ph/Hz
UD-60Hz 0015	25	½"	115/1/60
UD-60Hz 0025	42	½"	115/1/60
UD-60Hz 0050	85	½"	115/1/60
UD-60Hz 0075	127	1"	115/1/60
UD-60Hz 0100	170	1"	115/1/60 or 230/1/60
UD-60Hz 0125	212	1"	115/1/60
UD-60Hz 0160	270	1"	115/1/60
UD-60Hz 0250	425	1"	230/1/60
UD-60Hz 0325	552	1"	230/1/60

Based on specific operation conditions. For accurate dimensioning see our guide page 43.

HIGH PRESSURE REFRIDGERATING DRYER

ULTRA-DRY HP

TECHNICAL DATA

- Standard: 50bar
- max. Ambient: 45°C
  max. Inlet: 70°C
- 45-7300m³h
- 3-9°C
- 230/1/50 or 400/3/50

Refridgerant fluids:
R134a or R404A

DESCRIPTION:

UD-HP has been specifically engineered for the needs of the high-pressure dryer User, offering working pressures of up to 50 bar (g). The extremely reliable design ensures that UD-HP operates flawlessly at all times and in all conditions. UD-HP automatically adapts its operation to the airflow and ambient conditions, offering energy savings of up to 80% compared with traditional dryers. UD-HP forms part of a complete range of Ultrafilter products for higher pressures, ensuring all user needs are entirely satisfied.

Model	Flow m³/h	Connection in/out	Nominal absorbed power (kW)
UD0045HP	45	½"	0,17
UD0090HP	90	½"	0,25
UD0240HP	240	½"	0,46
UD0370HP	370	1"	0,71
UD0480HP	480	1"	0,76
UD0600HP	600	1"	0,97
UD1100HP	1100	1½"	1,78
UD1450HP	1422	2"	2,20
UD1530HP	1530	1½"	3,09
UD1960HP	1960	1½"	4,29
UD2700HP	2700	2"	4,44
UD3700HP	3700	2"	5,39
UD4500HP	4500	2"	8,72
UD6100HP	6100	3"	10,42
UD7300HP	7300	3"	13,16

Based on specific operation conditions. For accurate dimensioning see our guide page 43.

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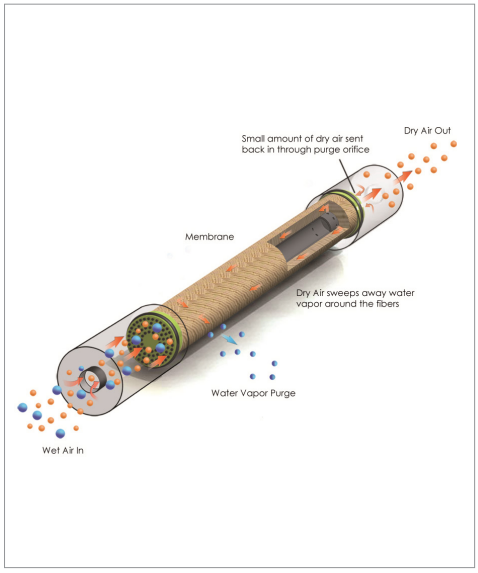
MEMBRANE DRYER

ULTRA-DRY UFM

TECHNICAL DATA

- max. 12,5 barg
- max. 60°C
- 1-180m³h
- 15-40°C



DESCRIPTION:

UFM membrane dryers are well suited for point of use applications, and small volume flows.

Designed with ease-of-installation and operation in mind, the inlet and outlet are provided as easy-to-installl BSP thread connections.

The compressed air flows through a bundle of hollow fibres. As the humid compressed air flows down the bore of the fibres, water vapour diffuses through the walls of the fibres.

At the outlet of the unit, a small volume of the dry compressed air is expanded and released into the space surrounding the outside of the fibres. The dry air sweeps the moisture away from the outside of the fibres and exhausts it to the atmosphere as a humid air stream.

Each membrane dryer is equipped with a calibrated purge air blend. No further adjustments are necessary. The UFM membrane dryer doesn't release any fibres and is suitable for medical air applications.

Our membrane dryers are incredibly efficient due to their new, improved hollow fibre technology. Even with low-pressure dewpoints, only a relatively small purge air requirement is necessary.

Model	Purge air (m³/h)	Connection in/out	Flow at15°C DP (m³/h)		Flow at 3°C DP (m³/h)		Flow at -20°C DP (m³/h)		Flow at -40°C DP (m³/h)	
			In	Out	In	Out	In	Out	In	Out
UFM 0003	0,3	¼"	3,0	2,7	2,2	1,9	1,4	1,1	1,0	0,7
UFM 0006	0,6	¼"	6,0	5,4	4,3	3,7	2,8	2,2	2,0	1,4
UFM 0009	0,96	¼"	9,0	8,04	6,4	5,44	4,3	3,34	3,1	2,14
UFM 0012	1,14	¼"	12,0	10,86	8,5	7,36	5,7	4,56	4,1	2,96
UFM 0018	1,74	½"	18,0	16,26	12,8	11,06	8,5	6,76	6,2	4,46
UFM 0024	2,28	½"	24,0	21,72	17,1	14,82	11,3	9,02	8,2	5,92
UFM 0036	3,42	½"	36,0	32,58	25,6	22,18	17,1	13,68	12,4	8,98
UFM 0048	4,56	½"	48,0	43,44	34,1	29,54	22,7	18,14	16,4	11,84
UFM 0064	6,18	½"	64,0	57,82	44,8	38,62	29,8	23,62	21,6	15,42
UFM 0090	9	½"	90,0	81	67,2	58,2	43,8	34,8	31,5	22,5
UFM 0125	12,5	½"	125,0	112,5	91,8	79,3	58,8	46,3	42,6	30,1
UFM 0180	18	1"	180,0	162	128,1	110,1	85,5	67,5	61,5	43,5

Based on specific operation conditions. For accurate dimensioning see our guide page 43.

HEATLESS ADSORPTION DRYER

HEATLESS HL

TECHNICAL DATA

- ABS or PE
- 50-9500m³h
- max. inlet 50°C
- -40°C up to -70°C
- 230V 50Hz (115V 60Hz optional)

Features & Benefits

Pre- and after filter included
Galvanised

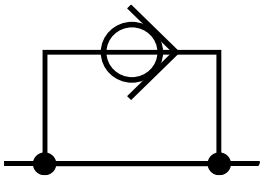
DESCRIPTION:

As a complete filtration and drying system the HeatLess HL adsorption dryer comes equipped with a prefilter (with automatic condensate drain), silencers and an integrated dust filter, Providing you with maximum efficiency and operational safety.

The HeatLess HL adsorption dryer can be used in a wide range of applications and are delivered ready to connect and with easy installation. The HeatLess HL standard design is engineered for pressures of 16 bar however pressures up 25 bar are available.

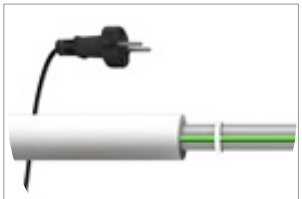
DRYER OPTIONS:

Dewpoint Measurer



Bypass

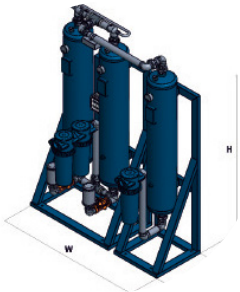
ATEX



Anti Freezing Trace Heating

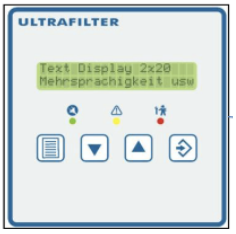
DRYER OPTIONS:

Cabinet Version



Oil Free Version

Breathing Air Version



UPEC Control

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HEATLESS ADSORPTION DRYER

HEATLESS HL

Model	Flow m³/h	Connection in/out	Dimensions (mm)		
			Width	Depth	Height
HL 0050	50	G¾	580	380	1200
HL 0080	80	G¾	580	380	1550
HL 0100	100	G1	580	380	1480
HL 0150	150	G1	800	450	1850
HL 0175	175	G1	800	450	1700
HL 0225	225	G1 ½	800	480	1760
HL 0300	300	G1 ½	800	480	1720
HL 0375	375	G1 ½	1000	600	2020
HL 0550	550	G2	1000	600	1960
HL 0650	650	G2	1000	600	2000
HL 0850	850	G2	1300	800	2200
HL 1000	1000	G2 ½	1300	800	2300
HL 1400	1400	DN80	1200	900	2200
HL 1700	1700	DN80	1300	950	2300
HL 2000	2000	DN80	1400	1000	2300
HL 2500	2500	DN100	1600	1100	2400
HL 3000	3000	DN100	1700	1200	2400
HL 3500	3500	DN100	1800	1250	2450
HL 4000	4000	DN150	1900	1400	2700
HL 5000	5000	DN150	2100	1400	2800
HL 6000	6000	DN150	2300	1500	2900
HL 7000	7000	DN150	2500	1600	2900
HL 8200	8200	DN150	2700	1700	2900
HL 9500	9500	DN200	2900	1900	3100

Based on specific operation conditions. For accurate dimensioning see our guide page 43.

COMPACT ADSORPTION DRYER

ULTRA-DRY COMPACT UDC

TECHNICAL DATA

- 4-16bar
- 12-24 VDC, 100-240 VAC
- max.: 50°C
- 7-620m³h
- 40-70°C

DESCRIPTION:

Our most compact dryer, the UDC, is equipped with an integrated pre-filter for the retention of particles and oils and an integrated condensate drain.

The adsorption dryer removes moisture from the compressed air up to a pressure dewpoint of -40°C (optionally -70°C). Regeneration and drying occur in two parallel installed vessels. Dust particles out of the desiccant are retained by the integrated after filter.

Model	Flow m³/h	Connection in/out	Dimensions (mm)			Prefilter MF Size
			Height	Width	Depth	
UDC 007	7	3/8"	445	281	92	03/05
UDC 010	10	3/8"	504	281	92	03/05
UDC 014	14	3/8"	565	281	92	03/05
UDC 017	17	3/8"	635	281	92	03/05
UDC 026	26	3/8"	815	281	92	03/05
UDC 038	38	3/8"	1065	281	92	03/05
UDC 056	56	3/8"	1460	281	92	03/05
UDC 076	76	¾"	700	520	164	05/20
UDC 093	93	¾"	800	520	164	05/20
UDC 110	110	½"	900	520	164	05/20
UDC 144	144	1"	1100	520	164	05/20
UDC 178	178	1"	1410	520	164	05/20
UDC 229	229	1¼"	1610	520	164	07/25
UDC 297	297	1¼"	2010	520	164	07/25
UDC 365	365	1½"	1410	520	328	07/30
UDC 467	467	1½"	1610	520	328	07/30
UDC 620	620	2"	3010	520	328	10/30

Based on specific operation conditions. For accurate dimensioning see our guide page 43.

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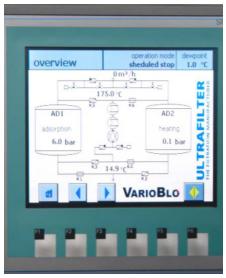
HEAT REGENERATED DRYER

VARIOBLO

TECHNICAL DATA

- 4-10bar (25bar option)
- 380V- 480V, 50-60 Hz
- max. 43°C
- PED
- 400-9500m³h
- 20-70°C



DESCRIPTION:

The VarioBlo adsorption dryer is a heat regenerated dryer which does not require compressed air for regeneration but instead utilises a frequency-controlled blower to regenerate by heat.

The dryer is equipped with a Siemens PLC and is highly customisable. The standard operating pressure is 8 bar; however, pressures up to 25 bar are available.

3 Standard Versions:

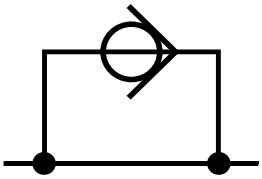
-HRE

-VarioBlo

-Compheat

DRYER OPTIONS:

Dewpoint Measurer



Bypass

ATEX

Anti Freezing Trace Heating

HEAT REGNERATED DRYER

VARIOBLO

Model	Flow m³/h	Connection in/out	Dimensions (mm)			Installed Power kW
			Width	Depth	Height	
VarioBlo 0400	400	DN50	1750	1030	2260	8
VarioBlo 0700	700	DN50	1800	1150	2310	11
VarioBlo 1000	1000	DN80	1920	1280	2390	14
VarioBlo 1400	1400	DN80	1920	1320	2420	20
VarioBlo 1700	1700	DN80	2120	1450	2480	23
VarioBlo 2000	2000	DN80	2160	1470	2550	30
VarioBlo 2500	2500	DN100	2260	1600	2630	36
VarioBlo 3000	3000	DN100	2320	1740	2630	42
VarioBlo 3500	3500	DN100	2750	1810	2790	55
VarioBlo 4000	4000	DN150	2800	1890	2890	55
VarioBlo 5000	5000	DN150	2910	2010	2870	70
VarioBlo 6000	6000	DN150	3400	2380	2910	87
VarioBlo 7000	7000	DN150	3500	2400	2990	96
VarioBlo 8200	8200	DN150	3600	2500	3100	118
VarioBlo 9500	9500	DN200	3700	2600	3300	131

Based on specific operation conditions. For accurate dimensioning see our guide page 46.

Molecular Sieve

Activated Alumina

Activated Carbon

Silica Gel

DESCRIPTION:

We offer a range of desiccants for our adsorption dryers, activated carbon towers as well as vent filters. Our high-quality desiccants ensure the best performance of your compressed air treatment. Contact us to find the best solution for your application.

Type	Size (mm)	Amount pr. barrel	Minimum amount
Molecular Sieve	1,2-5,0	140-150 kg	1 kg
Activated Alumina	1-8	160 kg	1 kg
Activated Carbon	2-8	N/A	1 kg
Silica Gel	2-5	20 kg	1 kg

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COMPRESSED AIR RECEIVER

TECHNICAL DATA

- 11 or 16bar (23 & 24 optional)
- Painted, galvanised or SS304
- SPVD 2009/105/EC
  PED 97/23/EC
  ASME Sect. VIII Div. 1/ Div. 2
  ISO 9001:2008
  Dir. 2014/68/EU (CE 003)
  AD 2000 Merkblaetter

DESCRIPTION:

Our compressed air receivers are designed to store compressed air. The vessels are manufactured in Germany to the highest quality standards. On request, we can also deliver vessels designed for any other technical gas.

The vessels are availed in three materials: Galvanised painted and stainless steel. We offer receivers for pressures of 11, 16, 23 or 41 bar.

Finding the right receiver, based on airflow

Airflow Capacity	m³/h	170	340	510	680	850	1275	1700	2550	3400
Recommended receiver voume	litres	500	900	1500	1500	2000	3000	4000	6000	8000

Compressed Air Vessel Volumes													
Litres	**5**	**10**	**15**	**24**	**50**	**90**	**100**	**150**	**200**	**250**	**270**	**350**	**500**
Painted 11 bar H	•	•	•	•	•		•	•	•		•		•
Painted 11 bar V					•	•	•	•	•		•		•
Painted 16 bar H				•			•		•		•		•
Painted 16 bar V							•	•			•		•
Galvanised 11 bar H					•			•		•		•	•
Galvanised 11 bar V					•			•		•		•	•
Galvanised 16 bar H					•	•		•		•		•	•
Galvanised 16 bar V					•	•		•		•		•	•
SS304 11 bar V					•		•		•				•

H = Horizontal. V = Vertical

COMPRESSED AIR RECEIVER

OPTIONS FOR AIR RECEIVERS:

Safety Valves

Complete Receiver Kit

Manometer

Vent Filter

Compressed Air Vessel Volumes														
Litres	**720**	**750**	**900**	**1000**	**1500**	**2000**	**3000**	**4000**	**5000**	**6000**	**7000**	**8000**	**9000**	**10000**
Painted 11 bar H	•		•											
Painted 11 bar V	•		•											
Painted 16 bar H				•		•								
Painted 16 bar V				•	•	•	•	•	•	•				•
Galvanised 11 bar H		•		•	•	•	•	•	•	•	•	•	•	•
Galvanised 11 bar V		•		•	•	•	•	•	•	•	•	•	•	•
Galvanised 16 bar H		•		•	•	•	•	•	•	•	•	•	•	•
Galvanised 16 bar V		•		•	•	•	•	•	•	•	•	•	•	•
SS304 11 bar V				•	•									

H = Horizontal. V = Vertical

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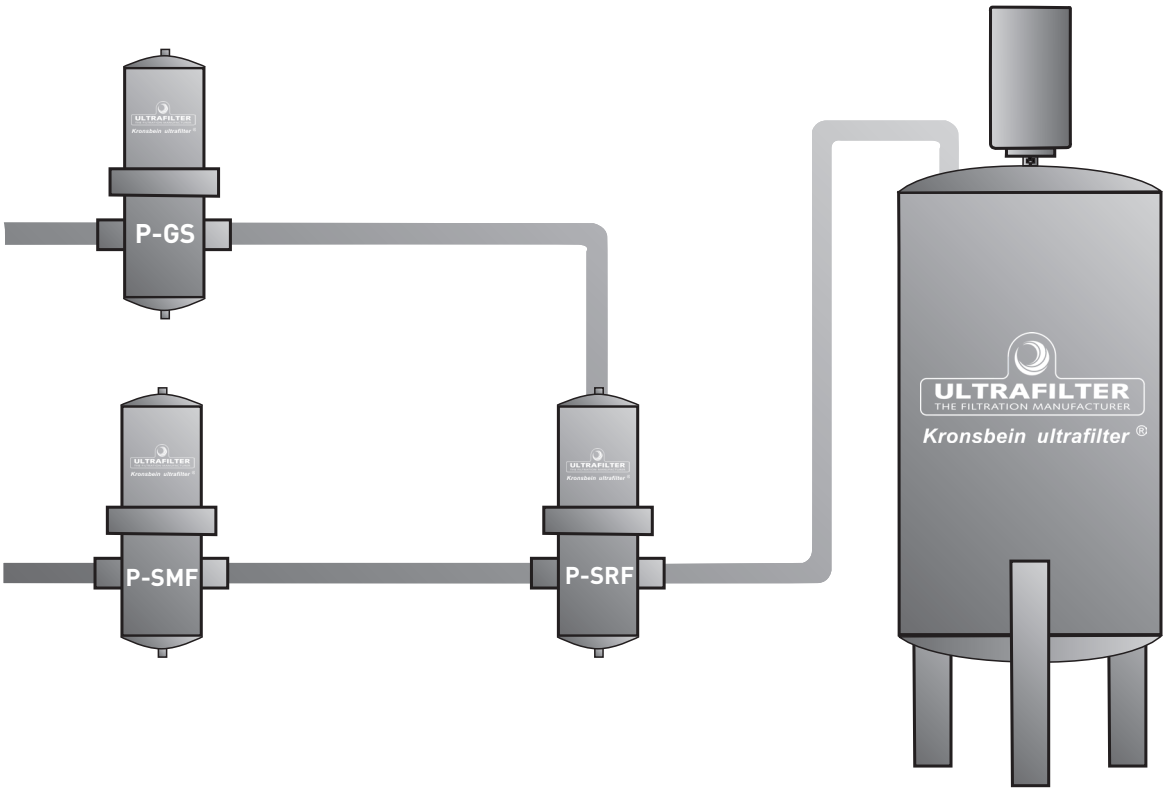
PROCESS AIR

The air around us is always contaminated with particles. In 1 cubic meter of air, we can find over 190 million particles. These particles range from biological and non-biological particles to bacteria, viruses, oils and water. After being processed by a compressor to 7 bar g, we will find our compressed air has a concentration of 8 times the particles found in atmospheric air (1.5bn particles). Due to the substantial contamination, the compressed air has to be filtered to protect manufacturing processes and machinery.

Process filtration of compressed air is the most critical filter application. When filtering sterile air, the most vital aspect is process security, which is enhanced by our process filter line.

At Ultrafilter, we manufacture all types of compressed air and technical gas filtration. We have extensive experience with compressed air and compressed air filters. We stand ready to draw on this experience if you need advice and guidance in connection with compressed air. We help you find the air filter to suit your compressed air system, and which comply with industry and customer requirements.



PROCESS

PROCESS AIR

Our sterile filters are all FDA CFR article 21 / EC 1935/2004 validated and approved. “Sterile” means “free of microorganisms that are capable of reproducing themselves”.

A more scientific definition of sterile is that a filter is defined as a sterilising filter when exposed to a concentration of 107 microorganisms (Brevundimonas diminuta) per. cm2 filter area and the filtrate is 100% sterile and therefore not containing microorganisms, such as bacteria.

Coli and streptococci typically have a size between 0,3 microns and 9 microns, resulting in that the sterile filter has a Filtration of 0,2 microns or better.

DEPTH FILTER:

A depth filter typically consists of multiple layers of metallic, polymeric or inorganic material. This type of filter is distinguished by a high filtration capacity and a high degree of security during use and sterilisation. It utilizes various filtration mechanisms, such as inertia and Brownian motion, to increase its filtration efficiency.

MEMBRANE FILTER:

A membrane filter is made of polymeric plastic film - typically polypropylene, these filters have less particle retention capacity, which can be solved by pre-filtration. The membranes have a 99,999998% retention rate and are available in several filtration degrees.

For the food industry, the recommended standard is a depth filter, and

for use in the pharmaceutical, fine chemical or biotech industries, we recommend membrane filters. Both filters are installed at the point of use.

It is recommended to install a central desiccant dryer as well as a coalescing microfilter and activated carbon filter, to ensure dry, oil and particle-free compressed air at the sterile filters, thereby extending the life of the filter.

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PROCESS AIR PREFILTER ELEMENT

P-FF | P-MF | P-SMF | P-AK

TECHNICAL DATA

- 0,2µm
- Borosilicate
- 20°C, available up to 200°C
- Silicone (others available)
- 99,99998%
- Stainless Steel SS304
- Max. 5 bar

DESCRIPTION:

All our standard coalescing, particulate and activated carbon filters are available as pre-filters for our stainless-steel filter housings designed for the most critical installations.

Thanks to the unique combination of binder-free, non-woven nanofiber filter media and our special pleating techniques, we can achieve a reduction of energy costs up to 70%, at a higher than regular efficiency.

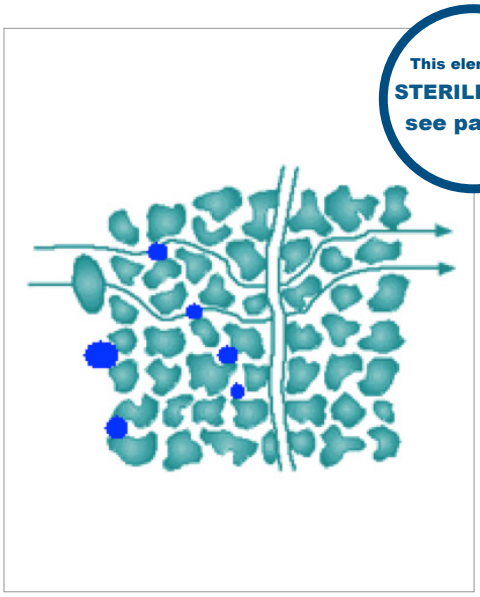
The new nanofiber material from Ultrafilter is oleophobic, which means that the oil and water particles are actively rejected to keep a low differential pressure drop. Consequently, the operating costs are reduced to a minimum compared with a conventional filter element.

All metal components on the prefilter elements are constructed of stainless steel.

Type	Filtration rate	Efficiency	Residual oil content	Max. differential pressure
P-FF	0,01 µm	99,999%	0,1 mg/m³	5 bar at 20°C
P-MF	0,01 µm	99,99998%	0,03 mg/m³	5 bar at 20°C
P-SMF	0,01 µm	99,99999%	<0,01 mg/m³	5 bar at 20°C
P-AK	Activated Carbon	N/A	0,003 mg/m³	2 bar at 20°C

STERILE DEPTH FILTER ELEMENT

P-SRF | P-SRF-N



This element is **STERILISABLE** see page 44

TECHNICAL DATA

- 0,2µm
- Borosilicate
- 20°C, available up to 200°C
- Silicone (others available)
- 99,99998%
- Stainless Steel SS304
- Max. 5 bar

DESCRIPTION:

The P-SRF is a depth filter with inner and outer guard end caps made of stainless steel. Consisting of a three-dimensional borosilicate depth media, the P-SRF achieves a void volume of 95%, ensuring a high containment capacity at high flow rates and low differential pressures. A retention rate of >99.99998% related to 0.2 µm is achieved during operation. The P-SRF N is available as a pleated sterile air filter.

DEPTH FILTER:

A depth filter typically consists of multiple layers of metallic, polymeric or inorganic material. This type of filter is distinguished by a high filtration capacity and a high degree of security during use and sterilisation. It utilises various filtration mechanisms, such as inertia and Brownian motion, to increase its filtration efficiency.

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PROCESS AIR FILTER HOUSING

P-EG

TECHNICAL DATA

- SS304 or SS316L
- PED, ASME CRN
- 200°C (250°C as option)
- EPDM seals (others on request)
- 0006-0192: 16bar
  0288: 12bar
  0432-1920: 10 bar at 200°C
  25 bar on request


BSP


ASA / Weld


DIN / ANSI


NPT

DESCRIPTION:

P-EG filter housings in stainless steel are designed for the purification of compressed air technical gases and steam.

The Ultrafilter P-EG housing is engineered for low differential pressures at high flow rates. It is available in 18 different sizes from 60 to 19200 Nm3/hour.

The P-EG is the first-choice housing for process air applications. Such as pre-filtration, sterile filtration and steam filtration.

Model	Flow m³/h	Connection in/out			Filter Element	
		BSP	ASA	DIN	Size	Qty
P-EG 0006	60	R ¼"	DN10	DN10	03/10	1
P-EG 0009	90	R 3/8"	DN10	DN10	04/10	1
P-EG 0012	120	R ½"	DN15	DN15	04/20	1
P-EG 0018	180	R ¾"	DN20	DN20	05/20	1
P-EG 0027	270	R 1"	DN25	DN25	05/25	1
P-EG 0036	360	R 1¼"	DN32	DN32	07/25	1
P-EG 0048	480	R 1½"	DN40	DN40	07/30	1
P-EG 0072	720	R 2"	DN50	DN50	10/30	1
P-EG 0108	1080	R 2"	DN50	DN50	15/30	1
P-EG 0144	1440	R 2½"	DN65	DN65	20/30	1
P-EG 0192	1920	R 3"	DN80	DN80	30/30	1
P-EG 0288	2880	R 3"	DN80	DN80	30/50	1
P-EG 0432	4320	N/A	N/A	DN100	20/30	3
P-EG 0576	5760	N/A	N/A	DN100	30/30	3
P-EG 0768	7680	N/A	N/A	DN150	30/30	4
P-EG 1152	11520	N/A	N/A	DN150	30/30	6
P-EG 1536	15360	N/A	N/A	DN200	30/30	8
P-EG 1920	19200	N/A	N/A	DN200	30/30	10

Correction factor:

Operating pressure	bar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor	K1	0,25	0,36	0,5	0,6	0,75	0,9	1	1,1	1,2	1,4	1,5	1,6	1,75	1,9	2	2,1

STERILE MEMBRANE FILTER

ULTRA-MEM PF-PT | PF-PP

This element is STERILISABLE see page 44

TECHNICAL DATA

- 0,02µm, 0,1µm 0,2 µm, 0,45 µm
- ePTFE & Polypropylene
- -20°C to 80°C
- Silicone (others available)
- 99,99998%
- Code 7 (others available)
- Max. 6 bar at 20°C

DESCRIPTION:

For critical applications in sterile filtration, use of a hydrophobic PTFE membrane is recommended, especially in applications such as pharmaceutical industry and biotechnology.

For certain chemicals and applications, polypropylene membranes are available.

MEMBRANE FILTER:

A membrane filter is made of polymeric plastic film - typically polypropylene, these filters have less particle retention capacity, which is solved by pre-filtration. The membranes have a 100% retention rate and are available in several filtration degrees.

Model	PF-PT	PF-PP
Filtration rates	0,02 to 0,45 µm	0,1 to 0,2 µm
Material	ePTFE	Polypropylene
Applications		
Sterile process gases	•	•
Fine chemicals and solvents		•
Photoresists and developers		•
Biotechnology	•	
Powder handling and tabletting	•	•

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SANITARY AIR FILTER HOUSING

PG-EG

TECHNICAL DATA

- 304 or 316L
- PED
- Ra 0,8 (0,4 optional)
- EPDM (others available)
- 200°C
- Code Y (UF) or Code 7
- 0006-0192: 16bar
  0432-1920: 10 bar

Tri-clamp ASME

Dairy Union DIN 11851

Flange EN1092-1

Weld End

DESCRIPTION:

PG-EG stainless steels have been developed for the purification of compressed air and other technical gases in pharmaceutical, biotechnology and chemical industries.

PG-EG houses are the first choice in critical applications in sterile filtration.

All PG-EG filter housings to a specific size have been etched and passivated on the inner surface to quality of Ra 0,8.

Model	Flow m³/h	Connection (clamp)	Filter Element	
			Size	Qty
PG-EG 0032	45	DN25	05/30	1
PG-EG 0072	90	DN40	10/30	1
PG-EG 0108	135	DN50	15/30	1
PG-EG 0144	180	DN65	20/30	1
PG-EG 0192	270	DN80	30/30	1
PG-EG 0432	540	DN100	20/30	3
PG-EG 0576	810	DN100	30/30	3
PG-EG 0768	1080	DN150	30/30	4
PG-EG 1152	1620	DN150	30/30	6
PG-EG 1536	2160	DN200	30/30	8
PG-EG 1920	2700	DN200	30/30	10

Correction factor:

Operating pressure	bar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor	K1	0,25	0,36	0,5	0,6	0,75	0,9	1	1,1	1,2	1,4	1,5	1,6	1,75	1,9	2	2,1

STEAM FILTER

P-GS

Viton Seal
-15 / +200°C

PTFE Seal
-200 / +260°C

Silicone Seal
-55 / +200°C

Welded End Caps

TECHNICAL DATA

- 1µm, 5µm or 25 µm
- Sintered steel SS316L
- -20°C to 210°C
- EPDM (others available)
- 98% (steam) 100% gases
- Stainless steel SS304 Code Y (UF), DOE or Code 7 (others available)
- Max. 5 bar

DESCRIPTION:

The Ultrafilter P-GS filters are designed for removal of particles from steam liquids and gases.

The P-GS consists of a weldless filter pipe made from sintered stainless steel. The filter is well suited for culinary steam – where contact with production machines and the end product is needed.

The P-GS is suited for use in temperatures ranging from -20°C to 210°C and has a maximal differential pressure tolerance of 5 bar.

Applications	1 µm	5 µm	25 µm
Food Contact	•		
General use of steam		•	
Pre-filtration of steam			•

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STERILE TANK FILTER

P-BE

This element is STERILISABLE see page 44

TECHNICAL DATA

- 0,2µm
- Borosilicate, stainless steel housing
- -20°C to 200°C
- Silicone (others available)
- 99,999%
- Stainless steel SS304

DESCRIPTION:

P-BE filters are used to ensure 100% sterility in the storage vessels of pharmaceutical products, chemicals, food or of fermenters. The filter acts as a sterile breather for the content of the vessel. The P-BE is a depth filter and works both ways, and protects the surrounding area from exposure to the contents of the vessel.

The two-part housing is user-friendly designed and has splash protection to prevent liquids coming in contact with the filter media.

The filter element can be sterilised for continuous use up to 100 times. Regeneration is done by in-line steam or externally in an autoclave.

Model	Flow (m³/h)		Connection*	Filter Element	
	Δp = 20 mbar	Δp = 40 mbar		Size	Qty
P-BE 0006	5	9	DN32	03/10	1
P-BE 0027	12	24	DN40	05/25	1
P-BE 0032	17	35	DN50	05/30	1
P-BE 0072	35	70	DN50	10/30	1
P-BE 0144	70	140	DN80	20/30	1
P-BE 0192	105	210	DN80	30/30	1
P-BE 0432	210	420	DN100	20/30	3
P-BE 0576	315	630	DN100	30/30	3
P-BE 0768	420	840	DN150	30/30	4
P-BE 1152	630	1260	DN150	30/30	6
P-BE 1536	840	1680	DN200	30/30	8
P-BE 1920	1050	2010	DN200	30/30	10

*Milk Pipe fitting acc. DIN 11851 or flange acc. DIN 2633

PROCESS MESH FILTER

P-SM

TECHNICAL DATA

- 5 bar
- SS mesh 1.4301
- -20°C to 200°C
- EPM (others available)
- Stainless steel SS 1.4301

DESCRIPTION:

Pre and final filter with absolute retention rate for particle removal from ageous solutions, water and other liquids, as well as gases.
The P-SM consists of a regenerable stainless steel mesh, with stainless steel outer guard and end caps.
The retention rate extends from 5 µm up to 250 µm. Larger retention rates upon request.

Dimensions					
Element Size	A mm	B mm	Ø C mm	Ø D mm	Correction Factor
03/10	76	12	3/4"	42	0,12
04/10	104	12	3/4"	42	0,17
04/20	104	14	1"	52	0,19
05/20	104	14	1"	52	0,19
05/25	128	14	1"	62	0,32
05/30	128	16	2"	86	0,46
07/25	180	14	1"	62	0,47
07/30	180	16	2"	86	0,68
10/30	254	16	2"	86	1,00
15/30	381	16	2"	86	1,55
20/30	508	16	2"	86	2,10
30/30	762	16	2"	86	3,28
30/50	762	16	2"	140	5,89

STERILISATION

STERILISATION PROCEDURE

Both depth and membrane sterile filters can be sterilised in-line with steam or externally by autoclave. It is recommended to sterilise a sterile filter after every production batch or at least after 14 days.

Sterilisation temperature is between 110°C - 140°C, respectively for 30 and 10 min.

1. Valve (1) and valve (4) closes.

2. Drain valve (2) opens.

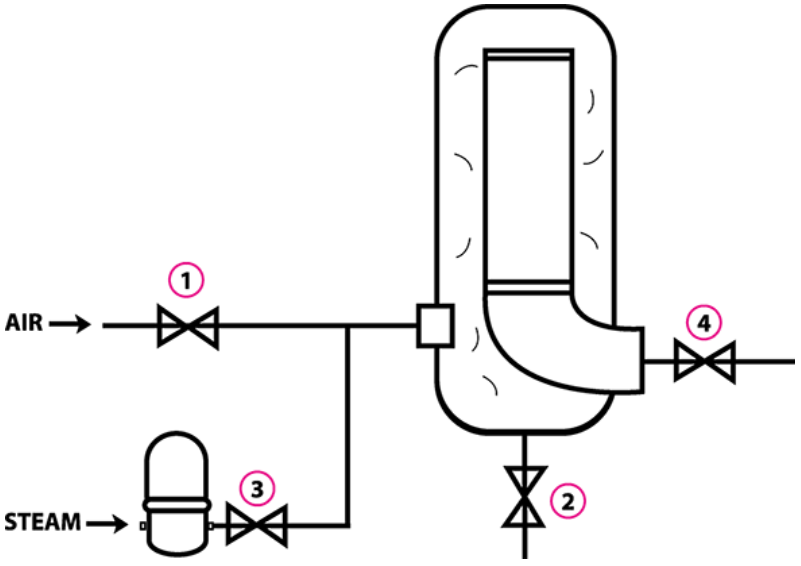
3. Valve (3) opens and steam flow into the filter housing.

4. After reaching a temperature of 100 ° C, the steam begins to condense at the same time that there is only opened to the valve (2), the pressure being built up to the desired steriliation temperature.

5. After reaching the steam, the temperature starts the actual sterilisation within the ages:

- Saturated steam 121 ° C - 30 minutes
- Saturated steam 131 ° C - 20 minutes
- Saturated steam 141 ° C - 10 minutes

When sterilisation rounded cast of valve (2), after which valve (3) & (1) open slowly and valve (4) closes gradually - and then start the process over again.



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FINDING THE RIGHT SIZE DRYER

The flows mentioned in the dryer tables are based on specific operating conditions. To calculate the right size dryer you should use the correction factors below.

Refrigeration Dryers

The formula below can be used to calculate the correct capacity of both the UD 50Hz and UD 60Hz.

Flow x K1 x K2 x K3 x K4

Operating Pressure bar (g)	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor K1	0,71	0,82	0,90	0,96	1,00	1,04	1,07	1,09	1,11	1,13	1,15	1,16	1,18	1,19

Compressed Air Inlet Temperature	30	35	40	45	50	55	60	65	70
Correction factor K2	1,23	1,00	0,81	0,66	0,57	0,52	0,48	0,44	0,40

Ambient Temperature	20	25	30	35	40	45	50
Correction factor K3	1,05	1,00	0,95	0,89	0,84	0,78	0,72

Dewpoint	3	5	7	9
Correction factor K4	1,00	1,24	1,38	1,40

High Pressure Refrigeration

The formula below can be used to calculate the correct capacity of both the UD 50Hz and UD 60Hz.

Flow x K1 x K2 x K3 x K4

Operating Pressure bar (g)	25	30	35	40	45	50
Correction factor K1	0,94	0,97	0,99	1,00	1,01	1,01

Compressed Air Inlet Temperature	35	45	70
Correction factor K2	1,00	0,77	0,46

Ambient Temperature	20	25	30	35	40	45	50
Correction factor K3	1,05	1,00	0,90	0,90	0,84	0,79	0,73

Dewpoint	3	5	7	9
Correction factorK4	1,00	1,12	1,25	1,41

FINDING THE RIGHT SIZE DRYER

Membrane Dryer

The formula below can be used to calculate the correct capacity of the UFM Membrane Dryer both the UD 50Hz and UD 60Hz.

Flow x K1

Operating Pressure bar (g)	4	5	6	7	8	9	10	11	12
Correction factor K1	0,41	0,56	0,76	1,0	1,22	1,48	1,76	1,86	2,22

HeatLess HL

For calculating capacity on our HeatLess HL adsorption dryer, use the correction factor below.

Flow x K1

Correction factor K1		Operating Pressure (bar g)												
		4	5	6	7	8	9	10	11	12	13	14	15	16
Inlet temp. (°C)	35	0,63	0,75	0,88	1,00	1,13	1,25	1,38	1,50	1,55	1,60	1,65	1,70	1,76
	40	0,55	0,66	0,77	0,88	0,99	1,10	1,21	1,32	1,43	1,54	1,65	1,70	1,76
	45 *	0,42	0,50	0,59	0,67	0,76	0,84	0,92	1,01	1,09	1,17	1,26	1,34	1,42
	50 **	0,35	0,41	0,48	0,55	0,62	0,69	0,76	0,83	0,90	0,96	1,03	1,10	1,17

* PDP -25°C **PDP -20°C

VarioBlo

The capacity of the VarioBlo heat regnerated adsorption dryer can be calculated with the formula below.

Flow x K1

Correction factor K1		Operating Pressure (bar g)						
		4	5	6	7	8	9	10
Inlet temp. (°C)	30	0,71	0,86	1,00	1,15	1,18	1,25	1,37
	35	0,62	0,75	0,87	1	1,12	1,25	1,37
	40	0,38	0,54	0,67	0,82	0,92	1,07	1,21
	43	-	0,33*	0,45**	0,54**	0,61***	0,72	0,80

* PDP -20°C **PDP -25°C ***PDP -30°C

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WATER CONTENT IN AIR

The table below shows the water content in compressed air at different temperatures. This is useful for calculating the capacity of dryers.

Dew Point °C	g/Nm³	ppm
-100	0,0000111	0,0138
-90	0,0000767	0,0953
-80	0,000434	0,54
-70	0,0027	2,57
-60	0,00857	10,7
-55	0,0166	20,6
-50	0,0317	39,4
-48	0,0399	49,6
-46	0,0507	69,0
-44	0,0642	80,1
-42	0,0816	101,5
-40	0,102	126,9
-38	0,127	158
-36	0,159	197,8
-34	0,197	245
-32	0,244	303
-30	0,301	374
-28	0,371	461
-26	0,454	564
-24	0,554	689
-22	0,675	840
-20	0,816	1015
-19	0,899	1118
-18	0,989	1231
-17	1,09	1356
-16	1,19	1480
-15	1,31	1630
-14	1,43	1779
-13	1,57	1953
-12	1,72	2140
-11	1,80	2338
-10	2,06	2562
-9	2,25	2798
-8	2,45	3047
-7	2,68	3333
-6	2,92	3632
-5	3,18	3955
-4	3,46	4303
-3	3,77	4690
-2	4,10	5100
-1	4,46	5547

Dew Point °C	g/Nm³	ppm
0	4,84	6020
1	5,21	6480
2	5,59	6953
3	6,02	7487
4	6,45	8022
5	6,91	8595
6	7,41	9216
7	7,94	9875
8	8,51	10584
9	9,10	11318
10	9,74	12114
11	10,4	12935
12	11,1	13806
13	11,9	14800
14	12,7	15796
15	13,5	16791
16	14,4	17885
17	15,4	19030
18	16,4	20396
19	17,4	21641
20	18,5	23020
21	19,7	24502
22	21,0	26120
23	22,3	27736
24	23,7	29477
25	25,1	31219
26	26,7	33209
27	28,3	35200
28	30,0	37312
29	31,8	39551
30	33,6	41791
35	44,6	55472
40	58,5	71761
45	76,0	94527
50	97,8	120399
55	125	155472
60	158	196652
70	247	307212
80	376	467662
90	556	691542

COMPRESSOR CAPACITY

You can use this table to find the compressor capacity and size the filtration accordingly.

m³/h	m³/min	l/sec	cfm	kW	HP
5	0,08	1,39	2,9	0,5	0,7
10	0,17	2,78	5,9	1,1	1,5
15	0,25	4,17	8,8	1,5	2,0
20	0,33	5,56	11,8	2,2	3,0
25	0,42	6,94	14,7	3,0	4,0
35	0,58	9,72	20,6	4,0	5,5
50	0,83	13,89	29,4	5,5	7,5
65	1,08	18,06	38,3	7,5	10
80	1,33	22,22	47,1	9,0	
100	1,67	27,78	58,9	11,0	15
125	2,08	34,72	73,6	13,0	
150	2,50	41,67	88,3	15,0	20
175	2,92	48,61	103,0	15,0	25
225	3,75	62,50	132,4	22,0	30
300	5,00	83,33	176,6	30,0	40
375	6,25	104,17	220,7	37,0	50
450	7,50	125,00	264,9	45,0	60
550	9,17	152,78	323,7	55,0	75
650	10,83	180,56	382,6	65,0	85
750	12,50	208,33	441,4	75,0	100
850	14,17	236,11	500,3	90,0	115
1000	16,67	277,78	588,6	90,0	120
1175	19,58	326,39	691,6	110,0	150
1350	22,50	375,00	794,6	132,0	175
1500	25,00	416,67	882,9	160,0	215
1650	27,50	458,33	971,2	160,0	215
1950	32,50	541,67	1147,7	200,0	270
2250	37,50	625,00	1324,3	200,0	270
2750	45,83	763,89	1618,6	250,0	335
3500	58,33	972,22	2060,0	315,0	425
4000	66,67	1111,11	2354,3	400,0	535

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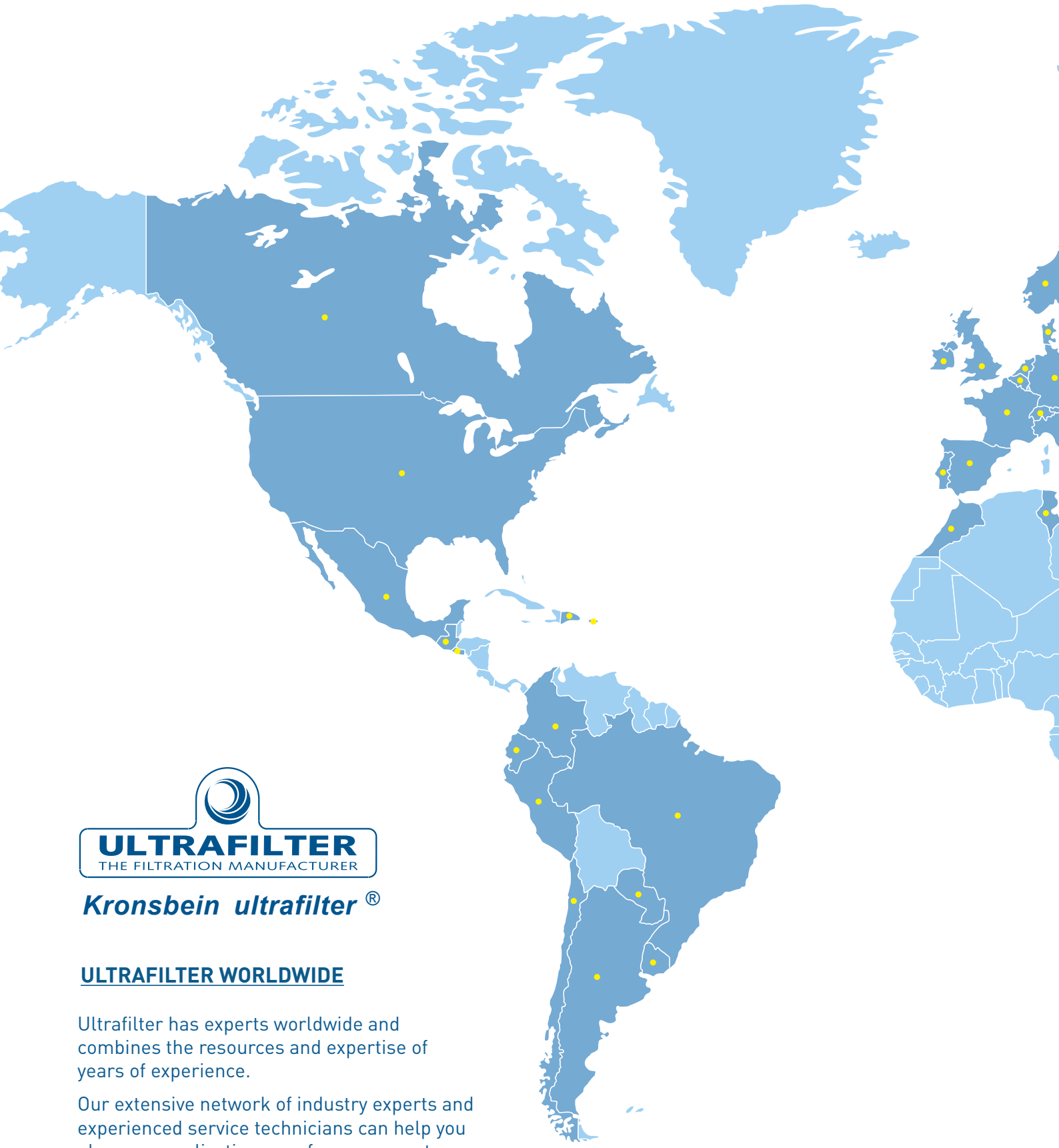

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Ultrafilter has experts worldwide and combines the resources and expertise of years of experience.

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