Donaldson.
FILTRATION SOLUTIONS

COMPRESSED AIR AND PROCESS FILTRATION

Solutions backed by experience, know-how and responsibility

Our passion is to add value to our customers by providing future-oriented compressed air and process filters and systems that are optimized from standpoints of energy consumption, efficiency and cost effectiveness. We are certain that our state of the art facilities, coupled with our extensive technical experience and engineering expertise, will guarantee excellence in the solutions we deliver.

As a technology-driven organization we've been strongly investing in research and development serving as incubator for the development of all products marked with the "Turbo D".

Our global network of scientists and engineers is continuously developing next-generation products and services. While continuously pursuing innovation and new technologies in design, manufacturing and delivery, we are also sharply focused on environmental issues, energy and resource management as well as corporate health and safety. We believe in sustainability that pays off!

Let us guide you through the specification and development of energy-efficient and cost-effective filtration solutions.

Feel free to contact us on CAP-europe@donaldson.com

ABOUT DONALDSON

Everything from one single source

More than 100 years of filtration experience

Donaldson is a leading worldwide provider of filtration solutions and media manufacturer covering the entire process chain. From development through production to distribution and maintenance – you can get everything from one single source.

Since 1915, our innovative technologies improve people's lives, enhance equipment performance and help to protect the environment. We are a technology-driven company that promises no less than the best solutions for high quality compressed air purification, sterile air, steam and liquid filtration.

Our products are engineered to

- improve filtration efficiency
- extend filter lifetime
- guarantee a maximum of energy savings
- ensure a high product quality

This is included in our first class service:

- Total customer care commitment
- Service for compressed air purification
- Leading filtration expertise
- Local presence

Worldwide service

Total filtration service for compressed air.

Versatile filtration solutions for compressed air applications

The Ultra-Filter was developed on the basis of worldwide experience and innovative designs for highly efficient and economic filtration technology.

- A flow-optimised filter design guarantees minimum pressure loss
- The innovative filtration technology ensures high separation efficiency
- An intelligent overall concept for unrivalled efficiency
- New filtration technology UltraPleat™ reduces the differential pressure and this with consistently high filtration performance
- Validated performance data acc. to ISO 12500-1 (oil aerosols), 12500-2 (oil vapors) and 12500-3 (particles)
- Reliable achievement of the compressed air quality to suit the application acc. to ISO 8573-1
- 1935/2004/EC approved for indirect food contact

Success factors of the UltraPleat™ technology

The proven UltraPleat™ technology is available for filter elements S and M.

PURIFICATION OF COMPRESSED AIR, GASES AND LIQUIDS

Tailor-made solutions for your application

Compressed air purification

Donaldson delivers a complete system of filtration and separation products for compressed air systems. Donaldson's technology in the field of compressed air, gas and liquid separation extends from the compressor room to all points of use in the factory. Components are designed and matched for optimal performance.

Donaldson's engineering service leads new products from concept to implementation. The product portfolio covers industrial filters, refrigeration and adsorption dryers as well as condensate treatment.

Adsorption dryer and system solutions

Processing concepts consisting of filtration and drying are an integral part of various compressed air applications. Donaldson designs and manufactures complete solutions that are tailor-made to individual customer requirements. This guarantees high reliability and simultaneously efficient operation.

Process filtration

Where quality requirements are exceptionally high, Donaldson has a selection of process filters which will enable you to reach maximum purity standards. For these purposes Donaldson supplies pre- and sub-micro filters for liquids, for compressed air, gases and sterile air systems.

Filter housings

Filter housings for the aeration on storage tanks.

Ultrapac™ Smart

Ultrapac™ Smart heatless regenerated adsorption dryer for pure air.

How can we meet your filtration needs? Please contact us on CAP-europe@donaldson.com

PRODUCT HIGHLIGHTS

Innovation in Compressed Air Purification & Liquid, Sterile Air and Steam

Ultrapac™ Smart

The very quiet adsorption dryer Ultrapac™ Smart offers a stable pressure dew point at minimal regeneration air requirements and innovative UltraPleat™ filtration technology.

More information on page 18.

Quiet, modular, Industry 4.0 ready

Ultra-Filter DF

The UltraPleat™ filtration technology reduces the differential pressure and this with consistently high filtration performance.

More information on page 14.

UltraPleat™ Technology

LifeTec™

The LifeTec™ liquid filtration range: High flow rate for sterile grade-filtration and high particle retention capacities for prefiltration.

More information on page 17.

Excellent flow rate

LifeTec™ (P)-SRF C/V/X

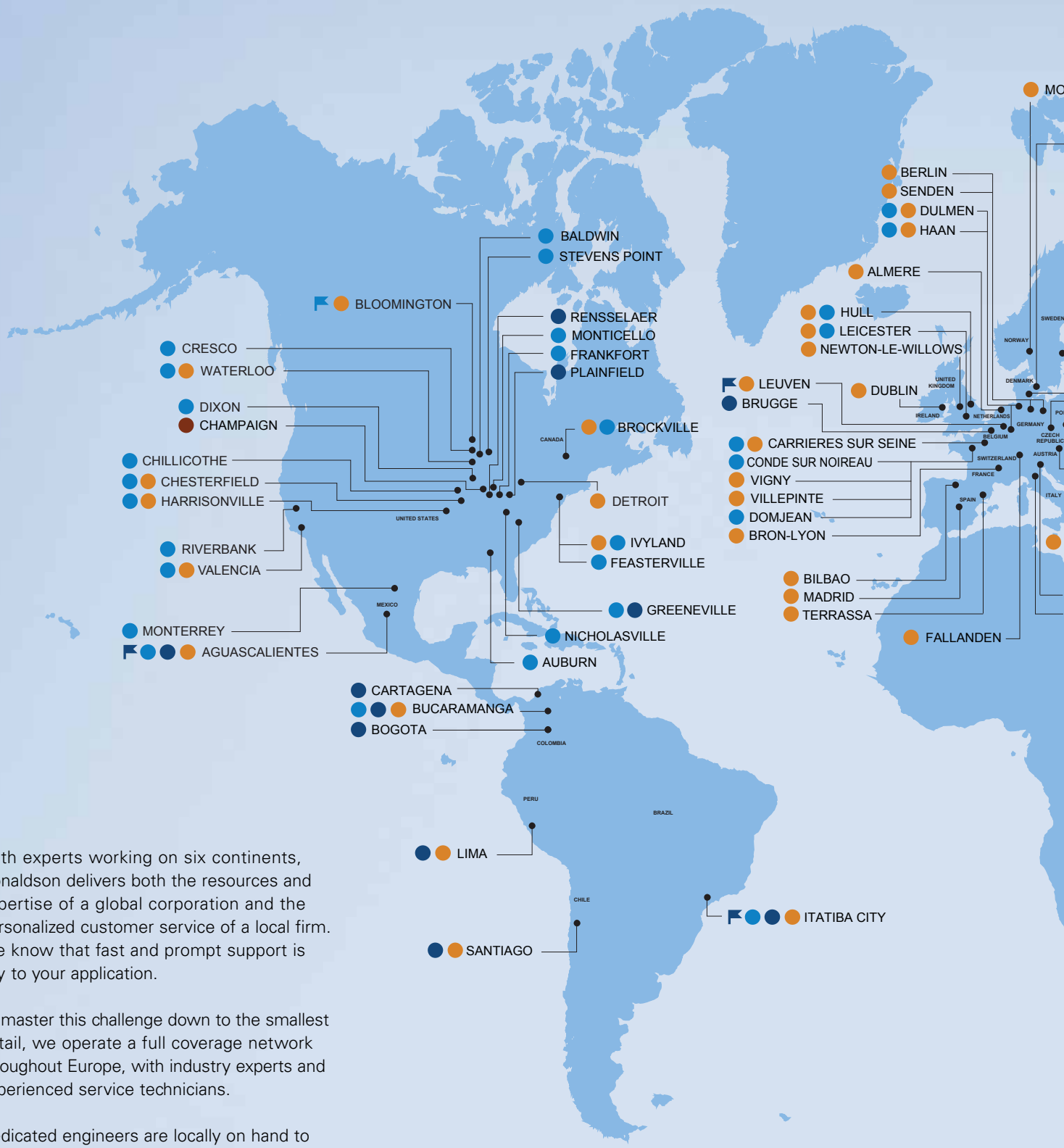
LifeTec™ sterile air filters offer a high retention rate down to 3 nm (nanometers) and are reliable even under extreme conditions.

More information on page 17.

Suited for the use in applications with VPHP and ozone sterilization

DONALDSON WORLDWIDE

Donaldson is where you are



With experts working on six continents, Donaldson delivers both the resources and expertise of a global corporation and the personalized customer service of a local firm. We know that fast and prompt support is key to your application.

To master this challenge down to the smallest detail, we operate a full coverage network throughout Europe, with industry experts and experienced service technicians.

Dedicated engineers are locally on hand to assist or plan application specifications, implement system installation and look after ongoing maintenance.

Legend:

- World Headquarters
- Regional Headquarters
- Manufacturing
- Distribution Centers
- Joint Ventures
- Sales

INDUSTRIES AND APPLICATIONS

You are committed to manufacturing excellence – so are we

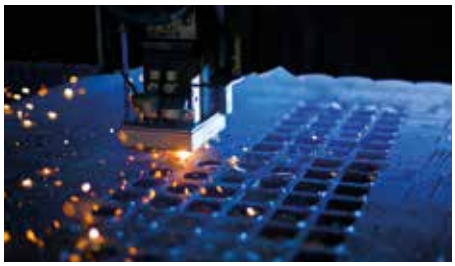
We offer a wide variety of tailor-made services for these applications. For example a complete filtration portfolio of innovative solutions for air & gas, steam and liquids. All products are designed to reach maximum purity standards and fulfil highest quality requirements.

Reliable product quality

All filter elements are produced, packaged and shipped under strict controls in an exact manner and meet the quality and performance data that are stored in the product specification.

Industrial machinery

Electrical machinery



Automotive

Oil and gas

Industrial gases

Paints and coatings

Energy

Environment

Medical and hospitals

Feel free to send your request to CAP-europe@donaldson.com

Regardless of the filtration application you are responsible for: Donaldson is your partner! In decades of close cooperation with our customers, we have gathered expert knowledge in nearly all fields of industrial production.

Food processing

Food manufacturing

Dairies

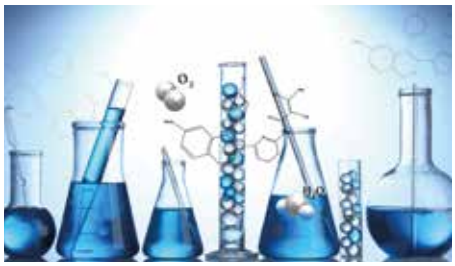
Soft drinks and water

Wineries

Breweries

Pharmaceutical

Chemical



Medical

Packaging and bottling

Bottled water

Breathing air

COMPRESSED AIR PURIFICATION

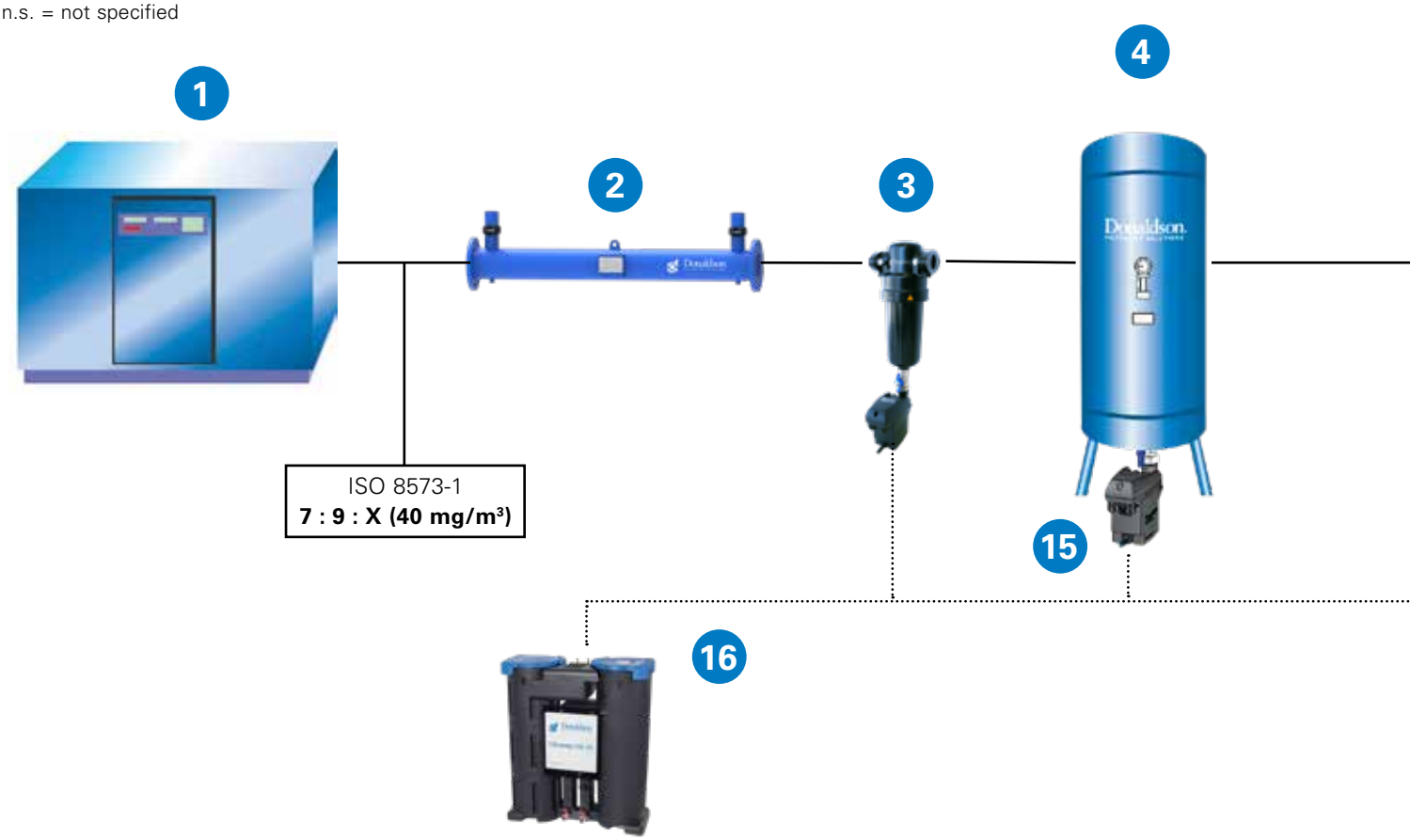
Tailor-made solutions for compressed air purification

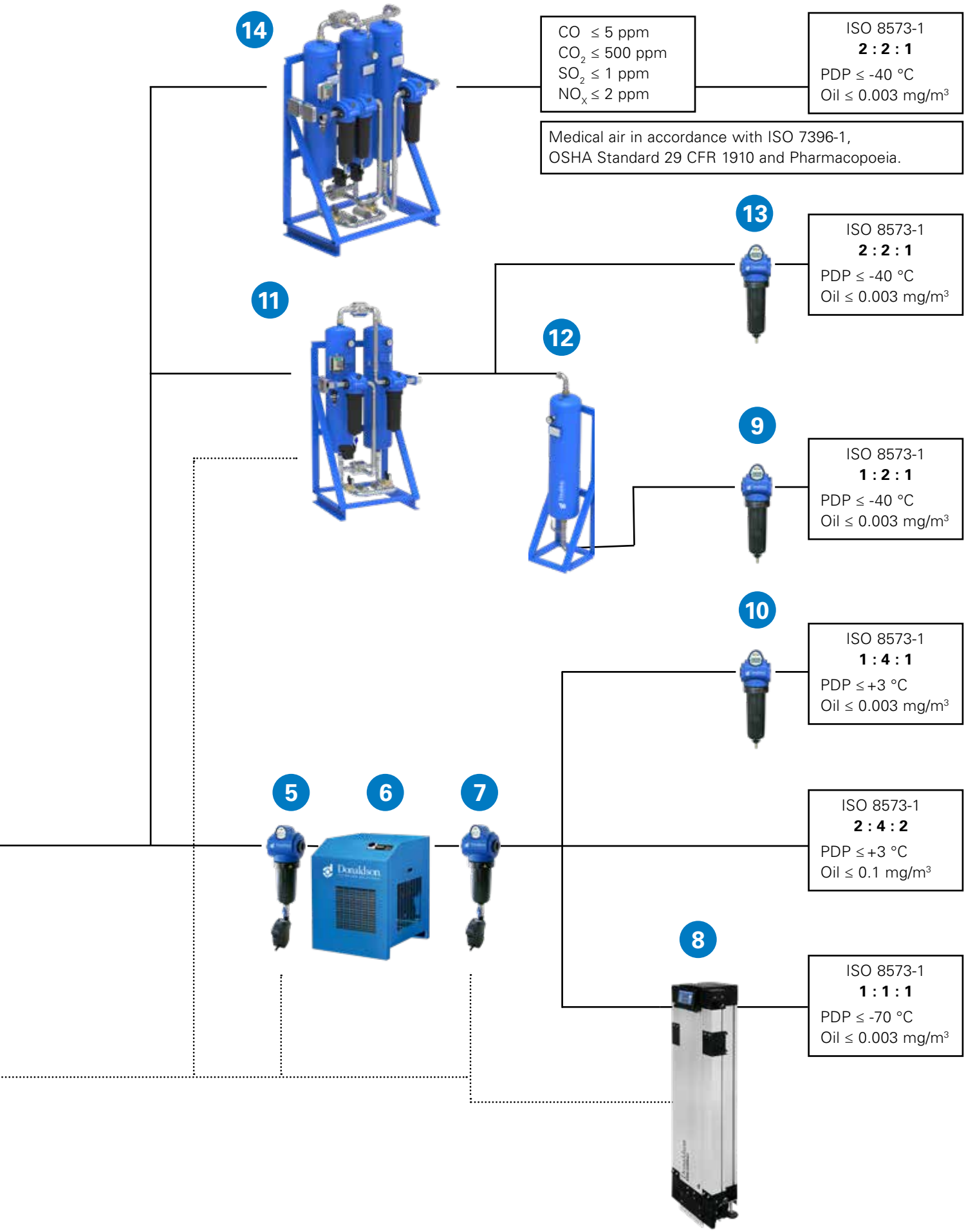
1 Compressor
2 **UFK-W** Aftercooler (water cooled)
3 **DF-C** Cyclone Separator
4 Air Receiver Vessel
5 **DF-V** Coalescence Filter (included in Buran DC)
6 Refrigeration Dryer (Buran DC incl. pre- and afterfilter)
7 **DF-M** Coalescence Filter (included in Buran DC)
8 **Oilfreepac™ Smart OFP** Adsorption Dryer with Oil Vapour Adsorber
9 **DF-S** Particulate Filter
10 **DF-T** Three-Stage Filter (Coalescence Filter, Oil Vapour Filter, Particulate Filter)
11 **Ultrapac HL-ALD** Adsorption Dryer (incl. pre- and afterfilter)
12 **Ultrasorp AKC** Oil Vapour Adsorber
13 **DF-A** Oil Vapour Filter
14 **Ultrapure HL-ALG** Breathing Air Unit
15 **UFM-D** Condensate Drain
16 **Ultrasep US** Oil/Water Separator

Legend: — Compressed Air ····· Condensate

Compressed air quality class	**Dirt (solid particles) Maximum particle number per m³ particle size, d in µm**			**Water Pressure dewpoint °C**	**Oil Concentration mg/m³**
	0.10 < d ≤ 0.5	**0.5 < d ≤ 1.0**	**1.0 < d ≤ 5.0**		
0	Specified acc. to application and better than Class 1				
1	20,000	400	10	≤ -70	≤ 0.01
2	400,000	6,000	100	≤ -40	≤ 0.1
3	n.s.	90,000	1,000	≤ -20	≤ 1
4	n.s.	n.s.	10,000	≤ +3	≤ 5
5	n.s.	n.s.	100,000	≤ +7	> 5

Compressed air quality acc. to ISO 8573-1
n.s. = not specified




14
CO ≤ 5 ppm
CO_2 ≤ 500 ppm
SO_2 ≤ 1 ppm
NO_X ≤ 2 ppm
ISO 8573-1
2 : 2 : 1
PDP ≤ -40 °C
Oil ≤ 0.003 mg/m³
Medical air in accordance with ISO 7396-1,
OSHA Standard 29 CFR 1910 and Pharmacopoeia.
13
ISO 8573-1
2 : 2 : 1
PDP ≤ -40 °C
Oil ≤ 0.003 mg/m³
11
12
9
ISO 8573-1
1 : 2 : 1
PDP ≤ -40 °C
Oil ≤ 0.003 mg/m³
10
ISO 8573-1
1 : 4 : 1
PDP ≤ +3 °C
Oil ≤ 0.003 mg/m³
5
6
7
ISO 8573-1
2 : 4 : 2
PDP ≤ +3 °C
Oil ≤ 0.1 mg/m³
8
ISO 8573-1
1 : 1 : 1
PDP ≤ -70 °C
Oil ≤ 0.003 mg/m³

PRODUCT FINDER

Industrial Gases

Water-free	Particle-free	Oil-free	Drying	Odour-free
UFK-W	DF	DF	Buran	Ultrapure Smart ALG
UFK-L	SG	SG	Boreas	Ultrapure HL-ALG
DF-C	EG	HD	Bora	Oilfreepac™ Smart OFP
SG-C	HD	EG	SPN	Oilfreepac™ HL-OFP
	B	DF-T	Ultrapac™ HL-ALD/ HL-MSD	Ultrasorp Smart AKC
	V	A	Ultrapac™ Smart	Ultrasorp AKC
	M	V	Ultradryer HLP	DF-T
	S	M	Ultradryer HRS+/ HRS-L+/ HRE+	A
	CF	S		
	FF	CF		
	MF	FF		
	SMF	MF		
		SMF		

Process Filtration

Condensate	Steam	Sterile Air	Liquids
UFM-D	P-EG	P-EG	PF-EG
UFM-P	P-EGS	PG-EG	P-KG
Ultrasep US	PG-EG	P-BE	P-SM N
	LifeTec™ P-GSL N	LifeTec™ PT N	LifeTec™ PES-WN PES-WH
	P-GS VE	LifeTec™ P-SRF V/C/X	LifeTec™ PP100 N
		Sterile Air Junior PF-PT-T	LifeTec™ PP 100 CN
		R-EG	LifeTec™ PP N
		UFTD	LifeTec™ PP-TF N
		PFTE Capsule Filters	LifeTec™ PES-BN PES-BN A
			PP-FC PP-FC 100
			LifeTec™ P-GSL N
			PP/PES Capsule Filters

COMPRESSED AIR FILTRATION AND PURIFICATION

Compressed air filter Ultra-Filter DF

UltraPleat™ Technology

Ultra-Filter DF

- Flow rate from 35 m³/h to 1,450 m³/h
- Flow-optimised filter housing and filter element design
- Validated performance acc. to ISO 12500-1 (oil aerosols), ISO 12500-2 (oil vapors) and ISO 12500-3 (particulates)
- Outer and inner surfaces protected against corrosion
- Compact, service-friendly design due to bayonet-fixing, low space requirement and simple handling during filter element exchange
- Economizer function with digital differential pressure gauge

High pressure filter housing HD

- Working pressure 20 bar to 400 bar
- Suitable for compressed air and technical gases

Silicone free filters

- Specifically designed for use in the automotive and paint industries

Three stage filter DF-T

DF -T (three) stage filter

- This unique filter element combines three high efficiency purification stages in one single element
- Sub-micro coalescence filter
- Activated carbon adsorbent
- High efficiency particle filter
- Nominal flow rates up to 110 m³/h @ 7 bar
- Economizer offers control filter lifetime and differential pressure
- Compact space saving solution for point of use application
- Service advantages vs. multiple housing combination

Up to 60% installation space can be reduced in comparison to a three filter combination

Cyclone Separator DF-C

Cyclone Separator DF-C

- Cyclone Separator will remove bulk water, oil droplets as well as solid particulates from the compressed air stream
- Innovative spin insert ensures low differential pressure and simultaneously lowered requirements of energy, the cyclone separator offers substantial cost savings
- High retention rates over large flow range
- Bayonet fixing between housing head and bowl for ease of inspection and cleaning
- DF-C Superplus including UFM-D condensate drain

MEDICAL AND BREATHING AIR SYSTEMS

Ultrapure Smart ALG

Ultrapure Smart ALG

- Compact and space saving all-in-one design: Prefilter, afterfilter and cartridges, removing particulates, liquid oil, oil vapour, CO, CO_2, NO_x and SO_2.
- Breathing Air Purity acc. to EN ISO 7396-1, PhEur, EN 12021 and other international breathing air standards
- Flow rate 5 to 100 m³/h
- Stable dew point -40 to -70 °C

UltraSilencer reduces sound level down to 60 dB(A)

Ultrapure HL-ALG

Ultrapure HL-ALG

- Breathing air system with adsorption dryer
- CO, CO_2, SO_2, NOX precipitation to meet all relevant international breathing air specifications
- Pre- and afterfilters included; zero-loss condensate drain on prefilters
- Optimal adaption and generous dimensioning of all components for long lifetimes of processing stages and low differential pressure
- Controller including operating status LED, alarm and service messages

COMPRESSED AIR FILTRATION

Compressed air filter housings

SG filter housings

- Flow rate from 1,080 m³/h to 38,400 m³/h
- Low pressure drop
- Include differential pressure gauge
- Available with ATEX specification
- Maximum working pressure 16 bar

SG-C Cyclone Separators

- Flow optimised filter housing design
- Cyclone Separator will remove bulk water, oil droplets as well as solid particulates from the compressed air stream
- Retention rate > 99% for particle size of 10 µm and larger

Compressed air filter elements

Filter elements

- Available as prefilter and activated carbon filter
- UltraPleat™ filtration technology
- Low differential pressure
- High dirt holding capacity
- Longer service life
- Lowest filtration costs
- Validated performance acc. to ISO 12500-1 (oil aerosols), ISO 12500-2 (oil vapors) and ISO 12500-3 (particulates)

Replacement filters

Replacement filter elements

- Improved filtration efficiency
- Lower differential pressure
- Longer service life
- Lower filtration costs
- Higher efficiency
- Better energy savings
- Lower initial and operational costs
- Hundreds of varieties to choose from stock

FILTERS FOR LIQUIDS, STERILE AIR AND STEAM

Sterile air filters

LifeTec™ (P)-SRF C/V/X

- High retention rate down to 3 nm (nanometers)
- High temperature and mechanical resistance
- Reliable under extreme conditions
- Last for more than 160 sterilization cycles
- Suited for the use in applications with VPHP and ozone sterilization

Suitable for temperatures up to +200 °C

Steam filters

LifeTec™ (P)-GSL N

- High dirt holding capacity at a low differential pressure and a high flow rate
- Can be regenerated by back washing and ultrasonication
- Retention rate > 99.996 % at 0.01 µm
- Suitable for temperatures from -20 °C up to +200 °C
- Also available as 5 µm grade for culinary steam
- Suitable for food contact use acc. to CFR Title 21 & 1935/2004/EC

Retention rate down to 0.01 µm in saturated steam

Liquid filters

LifeTec™

- LifeTec™ PES-WN sterile filters with retention rates of 0.2, 0.45 and 0.6 µm
- LifeTec PP100 N series with absolute retention rates of 0.6, 0.8, 1.0, 2.4, 5 and 10 µm
- Outstanding flow rate
- Highly resistant materials
- Extremely low adsorption of proteins
- High thermal stability, permanently hydrophilic
- Approved for food contact use acc. to CFR Title 21 & 1935/2004/EC
- A selection of stainless steel housings for your application are available

Food approved

ADSORPTION DRYERS

Heatless regenerated adsorption dryers

Ultrapac™ Smart
- Compact design with integrated pre- and afterfilter
- Exceptionally quiet
- Modular and space-saving design
- Flow rate 5 to 100 m³/h
- Stable dew point -40 to -70 °C

Ultrasorp Smart AKC
- Integrated oil indicator
- Flow rate 5 to 100 m³/h
- Residual oil vapor content ≤ 0,003 mg/m³

Oilfreepac™ Smart OFP
- Compact and space saving all-in-one design with prefilter, afterfilter and activated carbon cartridges
- Flow rate 5 to 100 m³/h
- Residual oil vapor content ≤ 0,003 mg/m³

Heatless regenerated adsorption dryers

Ultrapac HL-ALD/HL-MSD
- Complete and compact purification package with pre- and afterfilter
- Flow rate 100 m³/h to 1,000 m³/h
- PDP -40 °C/ -70 °C

Heat regenerated adsorption dryers

Ultradryer HRE+
- All climate zones
- Very flexible solutions
- Low investment costs
- Easy maintenance

Ultradryer HRS-L+
- All climate zones
- Energy-saving (zero purge)
- Low operating costs
- Easy maintenance
- Pressure dew point up to -70 °C

Ultradryer HRS+
- High energy-saving (zero purge, low desorption temperature)
- Low operating costs
- Easy maintenance

Further adsorption dryer concepts for natural gas, biogas, hydrogen, coarbon dioxide and other industrial gases are available on request.

REFRIGERATION COMPRESSED AIR AND MEMBRANE DRYERS

Refrigeration compressed air dryers

Buran
- Flow rate 20 m³/h to 1,175 m³/h
- Reliable pressure dew point +3 °C
- Corrosion resistant aluminium heat exchanger
- Plug & play solution; with integrated filters for 20 m³/h – 1,000 m³/h range

Refrigeration compressed air dryers

Boreas
- Volume flow 1,260 -21,000 m³/h
- Variable speed control (energy savings under partial load conditions)
- Electronic-level-controlled condensate drain on the heat exchanger
- Available with R-513A refrigerant

Bora
- Flow rate 25 - 6,060 m³/h
- Working pressure up to 45 bar
- Ideal for PET applications
- Hot gas bypass control

Membrane dryers

VarioDry SPN
- Very low purge air
- Lightweight design
- Nine types with 3.0 m³/h up to 63 m³/h
- Dew point reduction down to -40 °C or variable reduction
- Diagonal cross wrapped fibres
- Maintenance free and easy to install
- No electrical supply required
- Almost noiseless operation
- SPN Superplus including prefilter

SUPERIOR FILTRATION. SOPHISTICATED SERVICES.

Your partner for a wide variety of service solutions

To enhance and complement our field services, we provide highly sophisticated in-house laboratory services to validate oil aerosols, oil mist, particle size or concentrations.

- Integrity Test Membranes (Membra-Check)
- Integrity Test Depth Filtration (Filter Test Center)
- Differential Pressure Measuring
- Particle Spectrum Analysis for Liquids
- Test Filtration for Compressor Condensate

Membra-Check

Filter Test Center (FTCi)

CE FDA

Donaldson. LifeTec™ LIQUID AIR STEAM

Donaldson. FILTRATION SOLUTIONS

donaldson.com/process

Donaldson Company, Inc.
Minneapolis, MN

Contact us

Important Notice: Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, specifications, availability and data are subject to change without notice, and may vary by region or country.

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