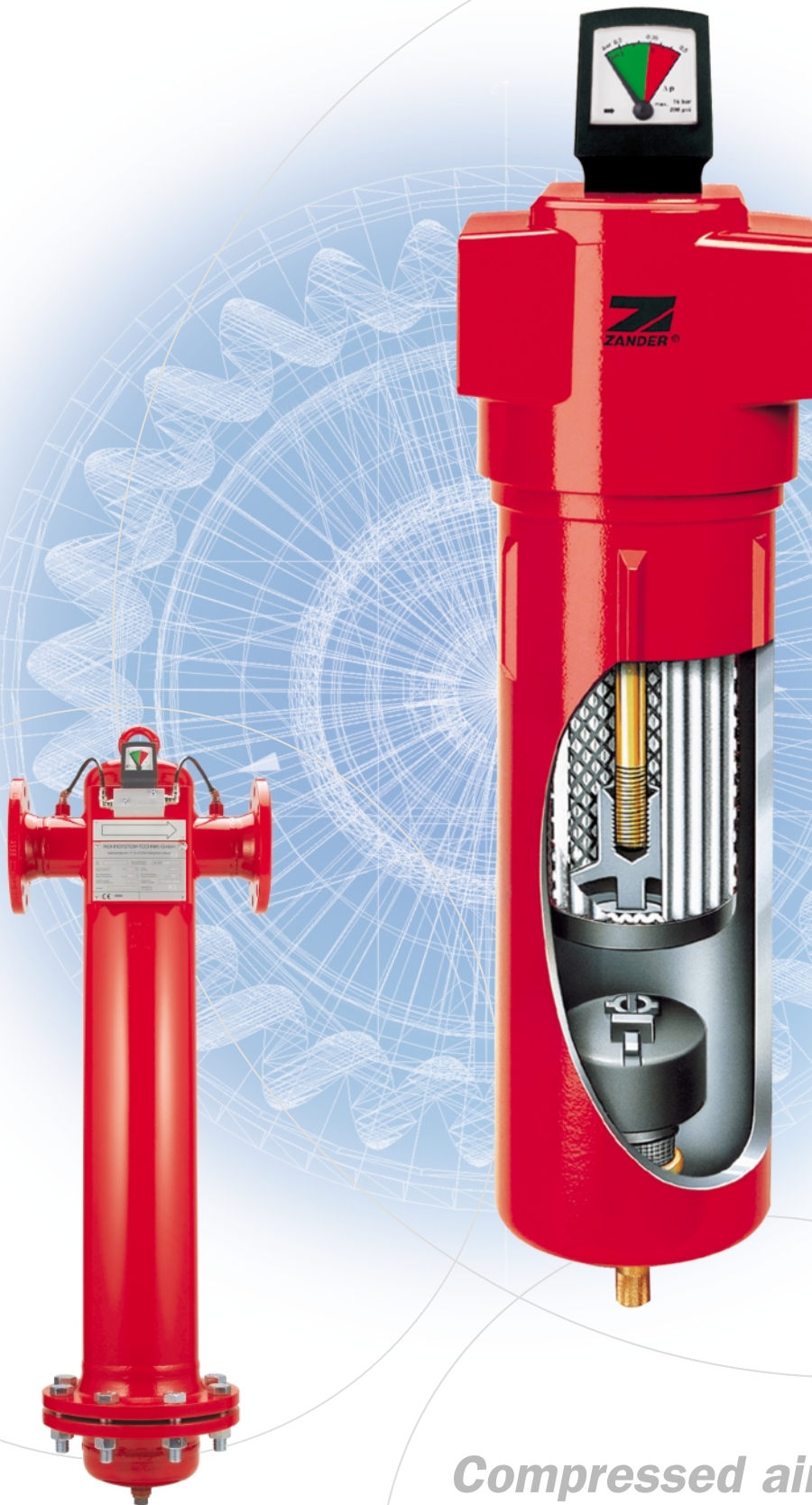


Microfilter



*Compressed air, gas
and vacuum filters*



Microfilter – Compressed air, gas and vacuum filters

Compressed air filters are now recognised as being an integral part of any system. Few, if any, compressed air systems can operate successfully without high efficiency filters. Production and process standards demand the finest quality air and components are now manufactured to such tight tolerances that no contamination is permitted.

ZANDER is one of the leaders in the purification of compressed air, gas and vacuum flows. Their pro-

duct development is lead by strong partnerships with compressed air and gas users to ensure the best available product for increasingly demanding applications.

Dust, dirt and oil mist filtration is common enough today. ZANDER emphasises, not only the filtration efficiency but, importantly, links this to energy costs in terms of pressure differential, product consistency and reliability.



ZANDER Filter Housings

ZANDER supplies Microfilters in two housing formats:

G-Housings with threaded connection from G 1/4 to G3

- High grade aluminium casting
- Alu-chromed in and outside to prevent corrosion
- Powder coated to ensure top quality finish

F-Flanged housings DN 80 to DN 300

- Welded mild steel vessels
- Sand blasted, cleaned and degreased
- Polyester primed in and outside
- Acrylic paint outside

Both types of housings are built to the highest quality standards and have a double surface protection. The aluminium housings with alu-chrome and epoxy powder coating

and the steel housings with intensive cleaning, polyester priming and acrylic paint.

Thanks to the attention to quality surface treatment, ZANDER offers



Untreated and Alu-chromed filter bowls after a salt spray test to DIN 50021 SS > 250 hours



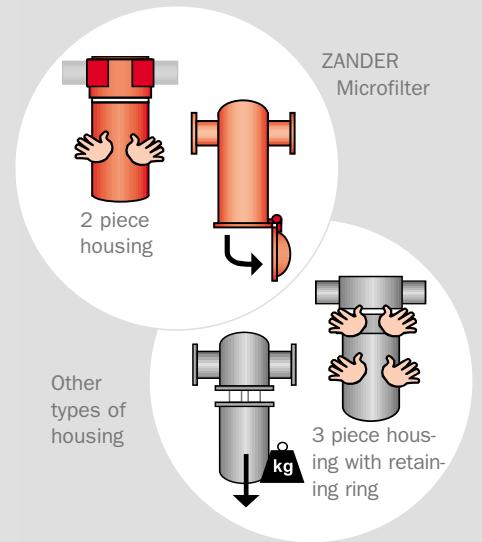
a **10 year** guarantee on the filter housings. This gives confidence to the user!

Microfilter Housing Construction

All ZANDER Microfilter housings are two piece. This means that, no matter what the size is, one person can change the filter elements. This saves having to employ a helper!



The F flanged filter housings, which can weigh up to a ton, have a hinged lower cover, which one person can open and close, when it is time to change the elements.

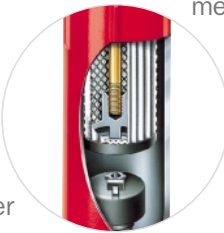


Microfilter Tie Rod

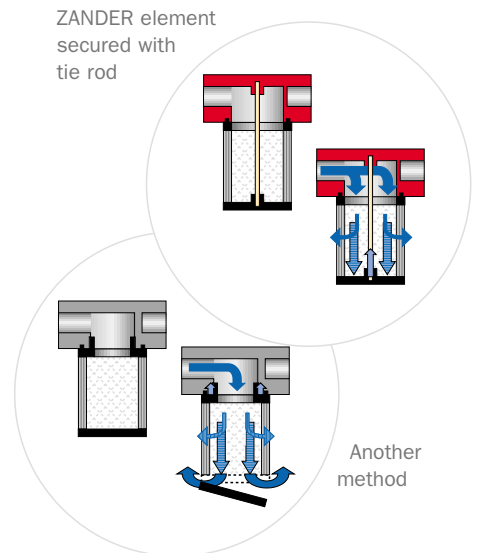
The tie rod fixing of the element to the housing ensures that the element sits in the housing without any possibility of movement and therefore leakage between the dirty and clean side.

The lower end cap of the element is firmly secured to the tie rod. This eliminates any possibility of the end cap flying off under severe shock conditions.

Equally, the tie rod makes the ele-

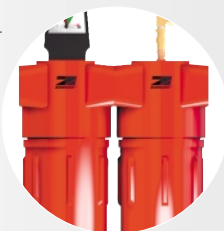


ment easier to change. There is no risk of the element end cap corroding. This does occur when aluminium threads on the element corrode into the housing. This means an expensive new housing instead of a simple element replacement. A small difference with large cost savings!

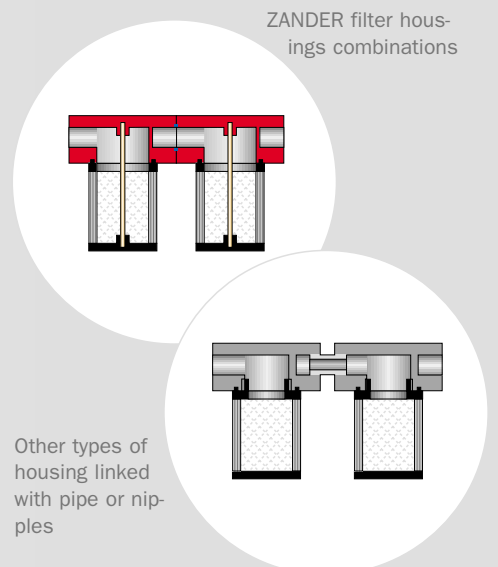


Microfilter Modular Concept

The user can install simply and economically ZANDER Microfilters in modular units up to the G13 size. Using a filter combination kit, the installer can link together up to three filters in a set. This lowers the conse-



quential pressure drop. These filter combinations can be easily wall mounted with brackets.





Microfilter Construction and user choice chart

1 Connections



G 1/4 - G3



DN80 - DN300

5 Combination kits



Standard combination kits
(up to G13 size only)



Combination kits and wall brackets G2 - G13



3 Filter head accessories

(Available from G3 size)



Standard

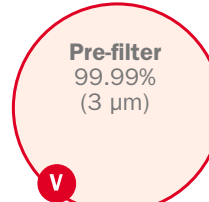
Screwed plugs



D

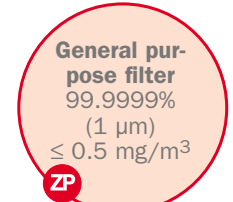
Pressure differential gauge

2 Filter element



Pre-filter
99.99%
(3 μm)

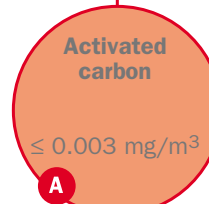
V



General purpose filter
99.9999%
(1 μm)
≤ 0.5 mg/m³

ZP

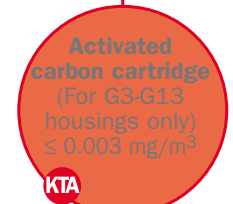
Advanced TECHNOLOGY



Activated carbon

≤ 0.003 mg/m³

A



Activated carbon cartridge
(For G3-G13 housings only)
≤ 0.003 mg/m³

KTA

4 Condensate drains



K

Automatic condensate drain

Standard on V-XP4
No need to specify!



H

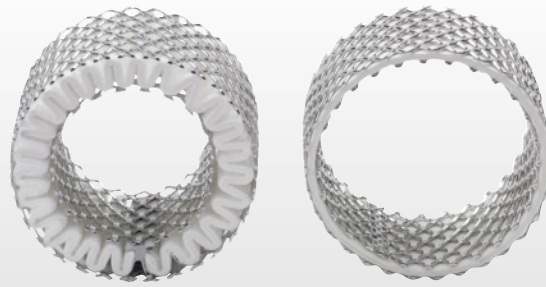
Hand drain

Standard on A-KTA
No need to specify!

Connection
Filter size
Element
Head accessory
Drain
Comb. Kit

1	2	3	4	5	Examples
G	7	ZP			Filter with G1/2 thread connection, plug in head and automatic condensate drain (Standard on V-XP4)
G	11	XP	D	LS	Filter with G1 thread connection, oil removal element, differential pressure gauge and electronic "no-loss" condensate drain LS range.
G	14	A		W	G2 connection with activated carbon filter, plug in head, hand drain (Standard for A & KTA filter). Wall brackets

ZANDER pleated filter elements



ZANDER filters use machine pleated elements, which form the heart of the filter. These pictures well illustrate the benefits of a pleated filter. They have 3 to 4.5 times the filter surface area of a wrapped filter and have a consistent and reproducible quality.

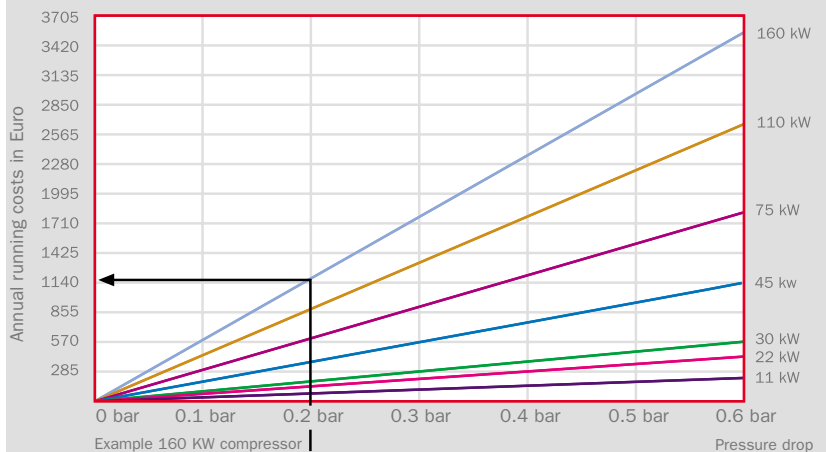
- higher dirt holding capacity
- longer service life
- lower operating costs

The advantages quickly pay for themselves. No matter what the installed capacity of the system, the pleated filter elements save considerable electrical costs. The graph gives an example of 160 KW compressor. ZANDER pleated filters can save Euro 1140 per annum compared to a conventional wrapped element!

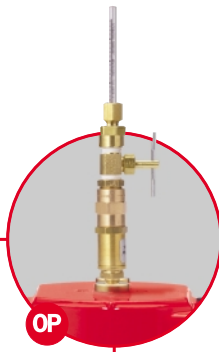
Pleating means the following benefits:

- lower velocity
- lower differential pressure
- better separation

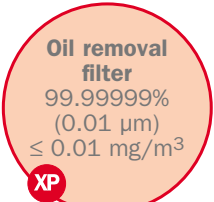
Annual Differential Pressure Energy Costs
(based on 8000 running hours per year and € 0.07 per kWh)



DE
Pressure differential gauge with potential-free contact

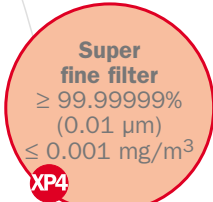


OP
Oil indicator



XP
Oil removal filter
99.99999%
(0.01 µm)
≤ 0.01 mg/m³

Advanced TECHNOLOGY



XP4
Super fine filter
≥ 99.99999%
(0.01 µm)
≤ 0.001 mg/m³

HIGH Advanced TECHNOLOGY



LS
Electronic level sensing capacitance drain
(LS range) up to F20



LC
Electronic level sensing drain ED range

Connection
Filter size
Element
Head accessory
Drain
Comb. Kit

1	2	3	4	5	Examples
G	9	KTA	OP		Filter with G 3/4 connection, activated carbon cartridge, oil indicator and hand drain (standard).
G	5	XP4KTA	DOP	LS	Filter with G 3/8 connection, - with super fine filter element XP 4, differential pressure gauge and LS drain - combined with KTA cartridge filter with oil indicator and hand drain (standard)
F	200	XP	DE	LC	Flanged filter with 300 mm connection, oil removal filter XP, electronic differential pressure gauge and eodrain ED condensate drain.



Microfilter

Technical Data

ZANDER Type	Capacity*1 nominal	Connection	Max. pressure	Dimensions				Weight	Filter element
	m ³ /h			G/DN	bar	mm A	mm B		
G 2	30	G 1/4	16	60	165	14	60	0,6	1/1030
G 3	50	G 1/4	16	87	215	21	75	1,0	1/1050
G 5	70	G 3/8	16	87	215	21	90	1,0	1/1070
G 7	100	G 1/2	16	87	285	21	160	1,2	1/1140
G 9	180	G 3/4	16	130	325	43	135	3,8	1/2010
G 11	300	G 1	16	130	425	43	235	4,5	1/2020
G 12	470	G 1 1/2	16	130	525	43	335	5,0	1/2030
G 13	700	G 1 1/2	16	130	725	43	525	6,4	1/2050
G 14	940	G 2	16	164	825	48	520	9,6	1/3050
G 17	1450	G 2	16	164	1075	48	770	12,3	1/3075
G 18	1940	G 2 1/2	16*2	250	1050	74	600	24,6	1/5060
G 19	2400	G 3	16*2	250	1200	74	750	27,0	1/5075
<hr/>									
F 17	1450	DN 80	16	380	1280	175	530	52,0	1/3075
F 19	2400	DN 80	16	440	1320	205	530	79,0	1/5075
F 20	2900	DN 100	16	500	1440	230	550	106,0	2/3075
F 30	4350	DN 100	16	500	1440	230	550	106,5	3/3075
F 40	5800	DN 150	16	640	1590	280	550	148,0	4/3075
F 60	8700	DN 150	16	790	1650	300	550	208,0	6/3075
F 80	11600	DN 200	16	790	1730	340	550	230,0	8/3075
F 100	14500	DN 200	16	840	1780	360	550	368,0	10/3075
F 120	17400	DN 250	16	940	1940	420	600	450,0	12/3075
F 160	23200	DN 250	16	940	1940	420	600	460,0	16/3075
F 200	29000	DN 300	16	940	1970	450	600	520,0	20/3075

*1 Calculated at 1 bar a and 20°C at 7 barg working pressure

*2 In Germany, the pressure regulations indicate a maximum pressure of 8 bar working pressure. Elsewhere local rules apply.

Filter Element Performance Tables

Pre-filter element V	- 0.02 bar (dry) - 0.07 bar (saturated)	- 99.99% (3μ)
General Purpose Filter ZP	- 0.03 bar (dry) - 0.10 bar (saturated)	- 99.9999% (1μ) - ≤ 0.5 mg/m ³ (1 bar a and 20°C)
Oil Removal Filter XP	- 0.06 bar (dry) - 0.15 bar (saturated)	- 99.99999% (0.01μ) - ≤ 0.01 mg/m ³ (1 bar a and 20°C)
Super Fine Filter XP4	- 0.12 bar (dry) - 0.28 bar (saturated)	- ≥ 99.99999% (0.01μ) - ≤ 0.001 mg/m ³ (1 bar a and 20°C)

Activated Carbon Filter A - 0.03 bar - ≤ 0.003 mg/m³ (1 bar a and 20°C) with an inlet concentration of ≤ 0.01 mg/m³

Activated Carbon Cartridge KTA - Depending on size 0.15-0.4 bar - bar (Oil Removal as A grade)

Conversion factor f for other operating pressures*3

Operating pressure bar e	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
f=	0.25	0.38	0.50	0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00	2.13

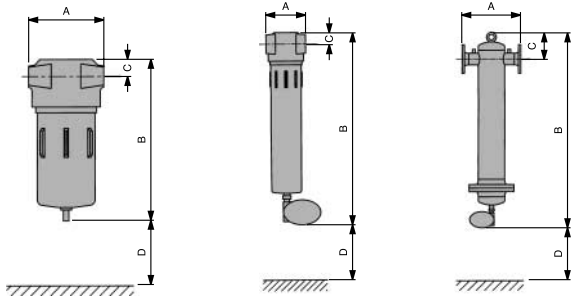
*3 calculated for constant velocity and 20°C

Example 1: If you have a flow of 1300 m³/h (1 bar a and 20°C) -) at a minimum working pressure of 10 bar e, what size filter do you require? Answer: Flow ÷ f = 1300 m³/h ÷ 1.38 = 940 m³/h => **G14 size**

Example 2: What is the nominal flow through a G14 filter with a minimum working pressure of 10 bar e? Answer: Flow: · f = 940 m³/h · 1.38 = 1300 m³/h (1 bar a and 20°C)

Dimensions

Pre-filter, General purpose filter and Superfine filter
V, ZP, ZX, XP4
Standard format with automatic condensate drain

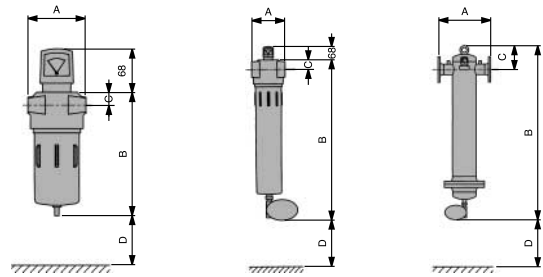


G2_ - G13_

G14_ - G19_

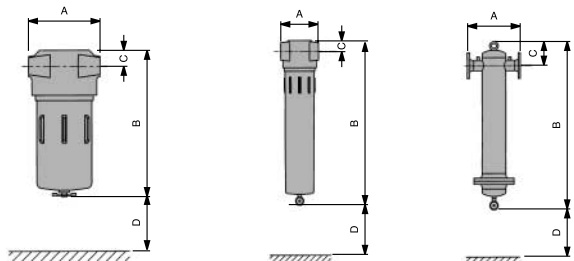
F17_ - F200_

Grades VD (E), ZPD(E), XPD(E) and XP4(E)
Complete with automatic drain and differential pressure gauge
(E with volt-free contact)



G3_D(E) - G13_D(E) G14_D(E) - G19_D(E) F17_D(E) - F200_D(E)

Activated carbon filter A & KTA
Standard format with hand drain

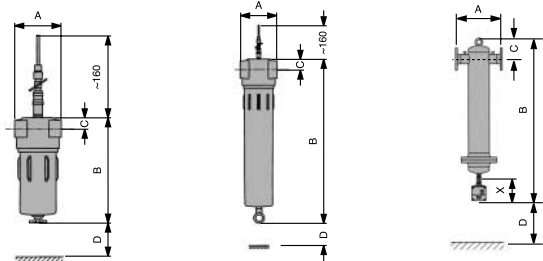


G2A, G3_ - G13_

G14A - G19A

F17A - F200A

Activated carbon filter AOP & KTAOP
Complete with hand drain and oil indicator



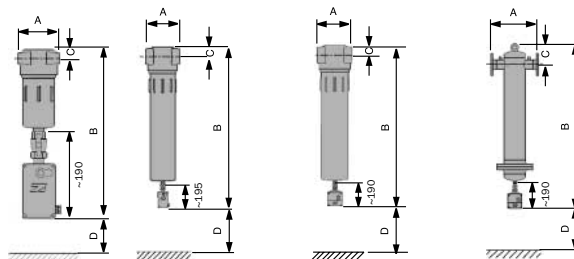
G3_OP - G13_OP

G14AOP - G19AOP

F17AOP - F200AOP

Dimensions with electronic condensate drains

LS range



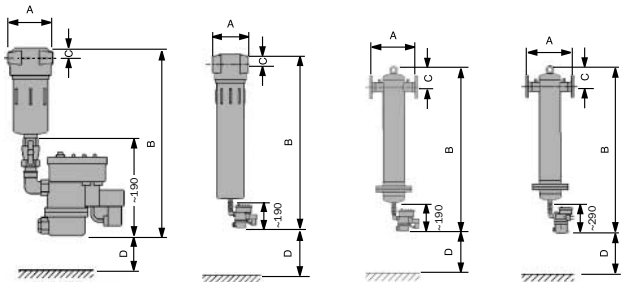
G2 - G13
LS5
BFLS03

G14 - G17/F17
LS5
BFLS02

G18 - G19/F19
LS11
BFLS02

F20
LS11
BFLS04

LC range



G2 - G13
ED2010
BFED01

G14 - G19/F19
ED2010
BFED02

F20 - F40
ED2010
BFED08

F60 - F200
ED2020
BFED03

Filter Technology

Filter elements



Process filters



High pressure filters



Dryer Technology



Refrigeration Dryers



Membrane dryers Sunsep

Adsorption dryers WVM



Adsorption dryers KEN



Adsorption dryers KM/KMA

Condensate Technology



Condensate drains ecodrain LS



Condensate drains ecodrain ED



Oil/water separators. ecosep SL

Emulsion separator

We reserve the right to change design and dimensions.



ZANDER Aufbereitungstechnik GmbH & Co.KG

Im Teelbruch 118, D-45219 Essen
Postfach 185524, D-45205 Essen
Telefon (02054) 934 - 0
Telefax (02054) 934 - 164
Internet: <http://www.zander.de>