



YOUR STRONG PARTNER FOR CLEAN AIR

DIPL.-ING. JIŘÍ DRCMAN – SALES ENGINEER



Scheuch – A Success Story...

100,000,000 Nm³/h with „EMC-Technology“

550,000 Laser Components p.a.

10,000 t Sheet Metal p.a.

7,000 Customer Orders p.a.

4,000 Loaded Trucks p.a.

730 Employees

6 Business Units



ONE COMPANY

VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



Scheuch GmbH

Facts & Figures

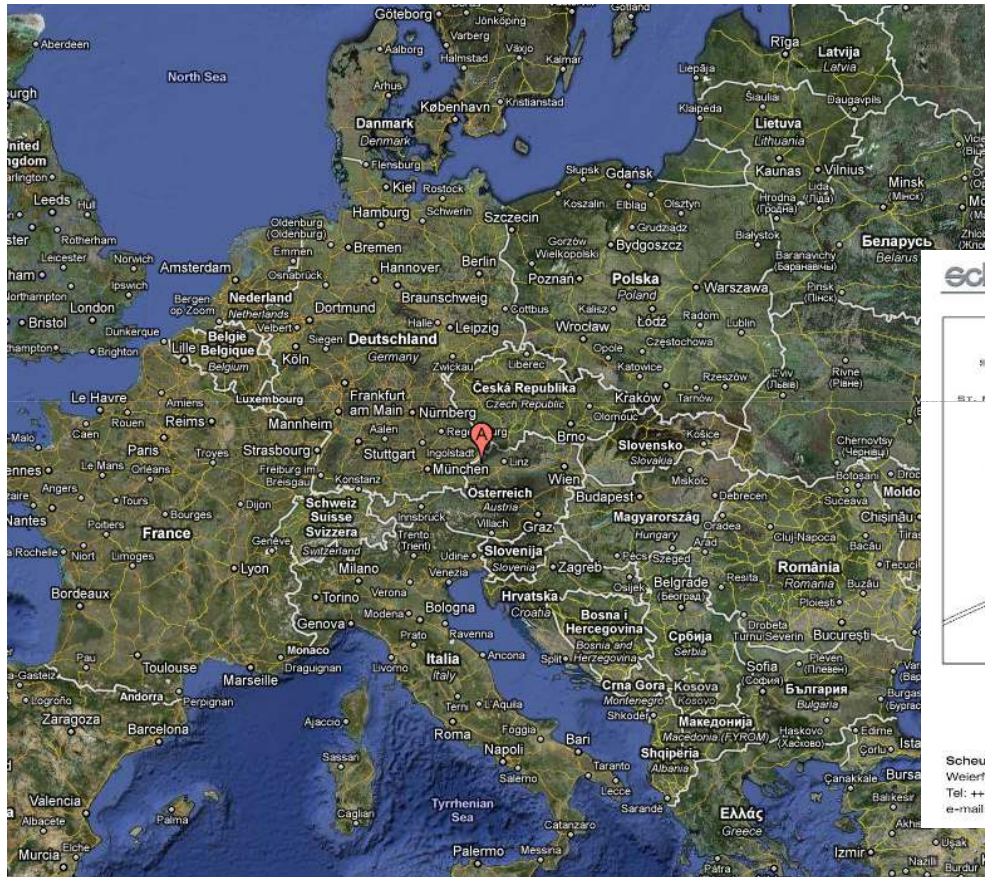
Ownership	Scheuch Private Foundation
Managing Directors	DI Stefan Scheuch (Technical Executive) DI Jörg Jeliniewski (Commercial Executive)
Employee	620 in Auroldmünster 815 Scheuch Group
Turnover	EUR 130 Mio.
R&D	EUR 3 Mio. p.a.
Export	75 %



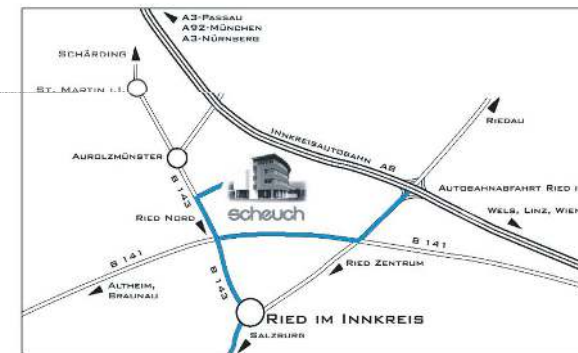
Mr. Stefan Scheuch (le),
Mr. Jörg Jeliniewski (ri)



VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



scheuch - DER RICHTIGE WEG ZUR LUFT- UND UMWELTECHNIK



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VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



Austrian Headquarter in Aurolzmünster



VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



Scheuch worldwide ...



VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



Know-how transfer of the industrial sectors

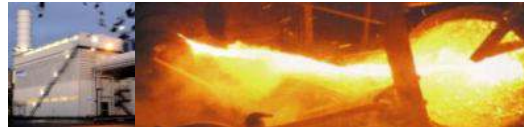
Wood Processing Industry



Wood Based Panels Industry



Metals Industry



Minerals Industry



Energy Industry



Equipment and Components



VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



Bag Filter



Electrostatic Precipitator



Biological Filter

VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



Production

Aurolzmünster / AUT

Production Area ~18,000 m²
Storage Area ~ 4,800 m²
Office Area ~ 7,400 m²

90 % In-House Production

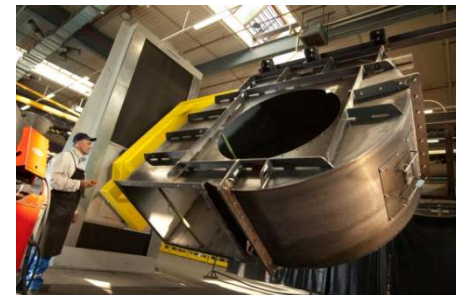
Production of our product program

Scrubbers, Fans, Classifiers, Bag filters, ...

Performance

Material Consumption

Sheet	10,000 t/a
Bars	1,000 t/a
Varnish	250 t/a



VENTILATION AND ENVIRONMENTAL TECHNOLOGY FOR INDUSTRIAL PRODUCTION PROCESSES



Production

Prievidza / SK

Production Area

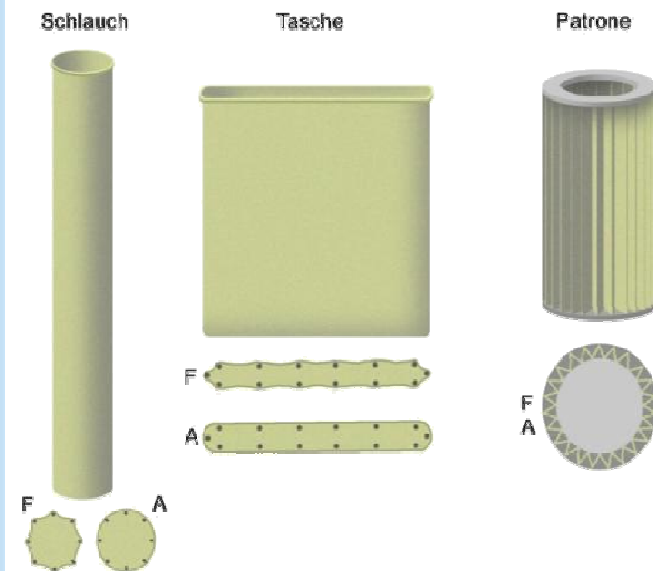
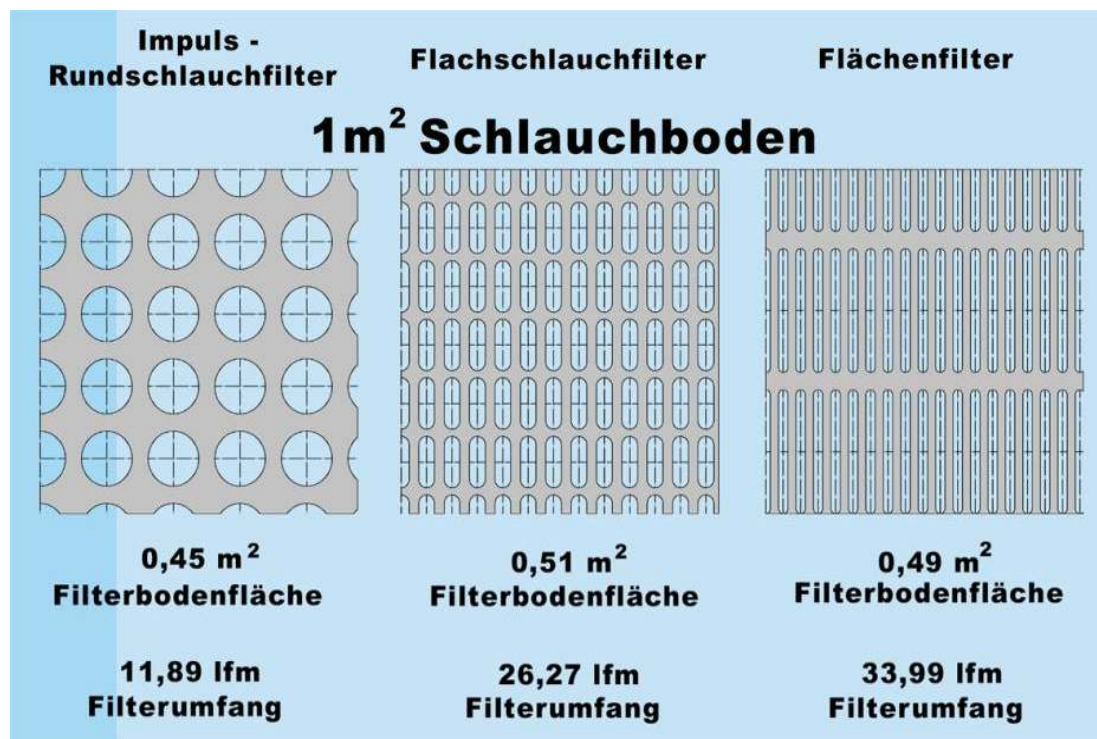
~ 6,200 m²

Steel construction, Platforms, ..



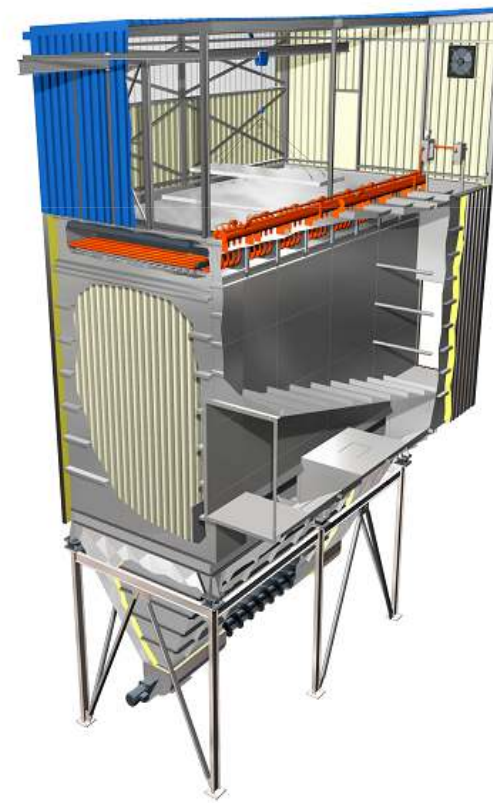
IMPULS BAG FILTER

Filter Bag Pattern and Media



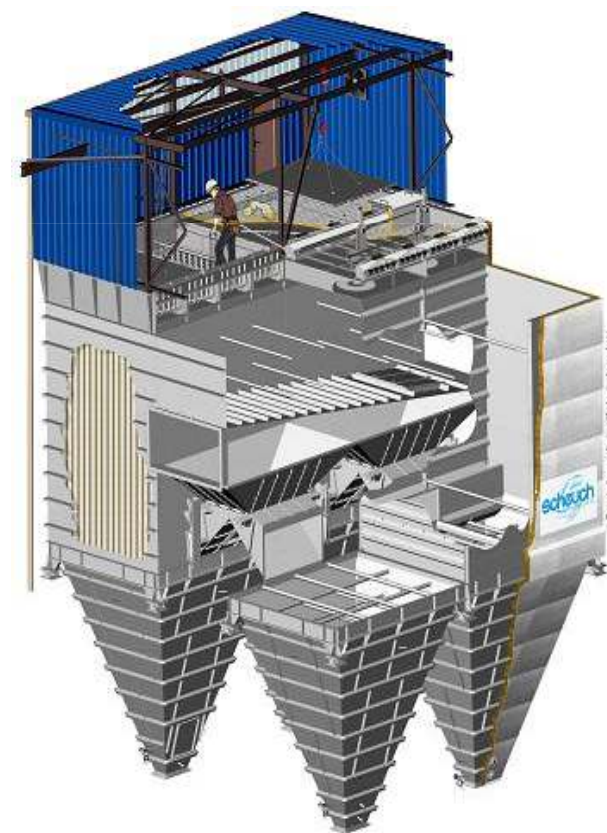
IMPULS BAG FILTER

Plants < 10 MW / Single Compartment Filter



IMPULS BAG FILTER

Plants > 10 MW / Multi-Compartment Filter



IMPULS BAG FILTER



Filter Bag

Diameter:	100 mm / 160 mm
Lengths:	1,125 up to 10,000 mm
Material:	Pe, PAN, PP, PPS, PI, PTFE, m-Aramid, PTFE-Membrane

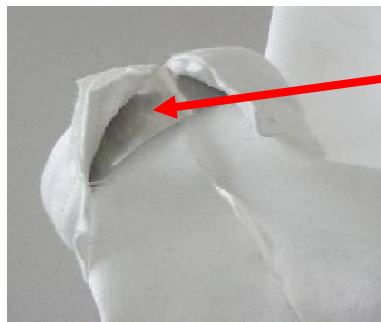


Support Cage

Diameter:	100 mm / 160 mm
Lengths:	1,125 up to 10,000 mm
Design:	single-piece / split-cage w/ coupling
Material:	stainless or mild steel w/ coating

IMPULS BAG FILTER

Snap Band Seal



Filter bag with sewn-in stainless Snap Band Seal (cut for demonstration)

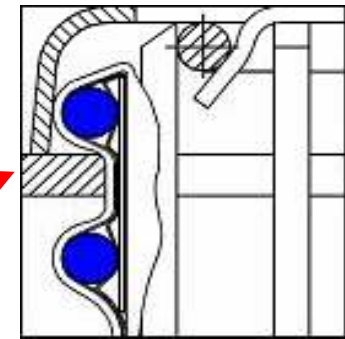


Bag tube sheet (t=5mm)



Tube sheet Seal

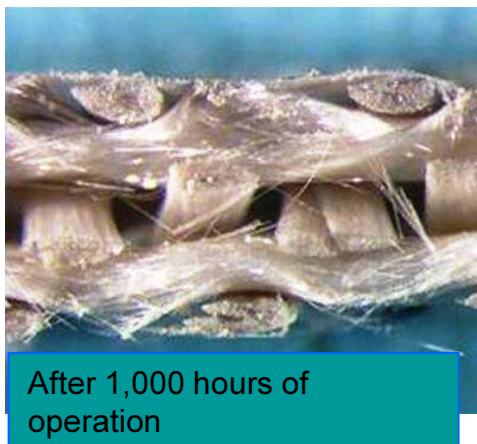
Snap band Seal (double-ring)



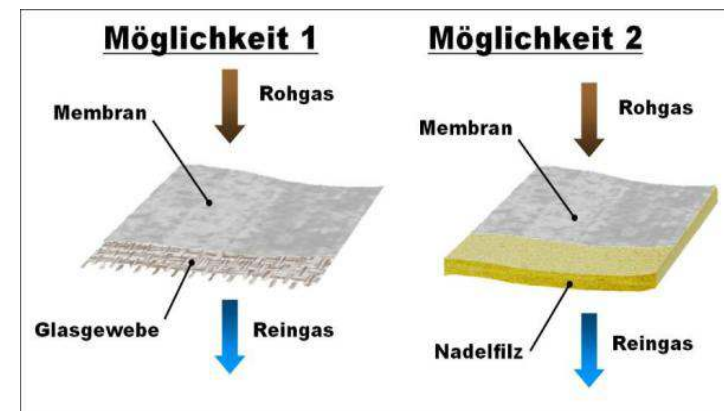
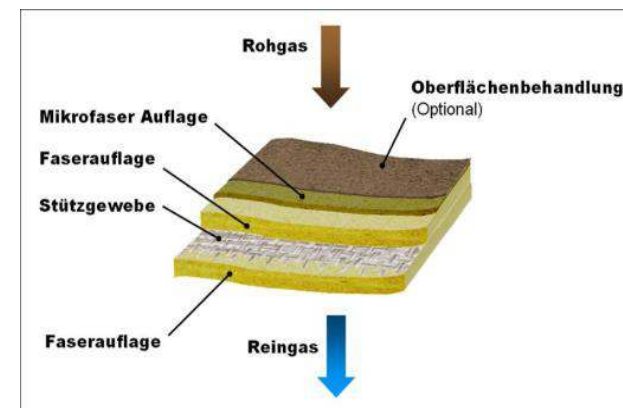
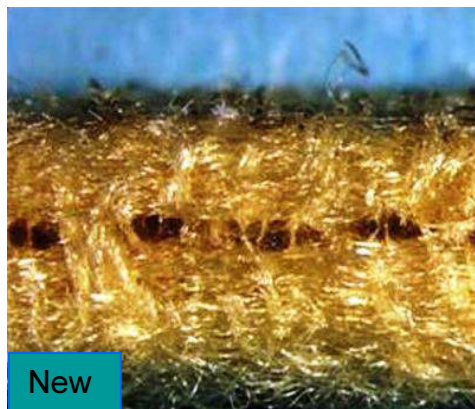
IMPULS BAG FILTER

Qualities of filter bags

ePTFE membrane



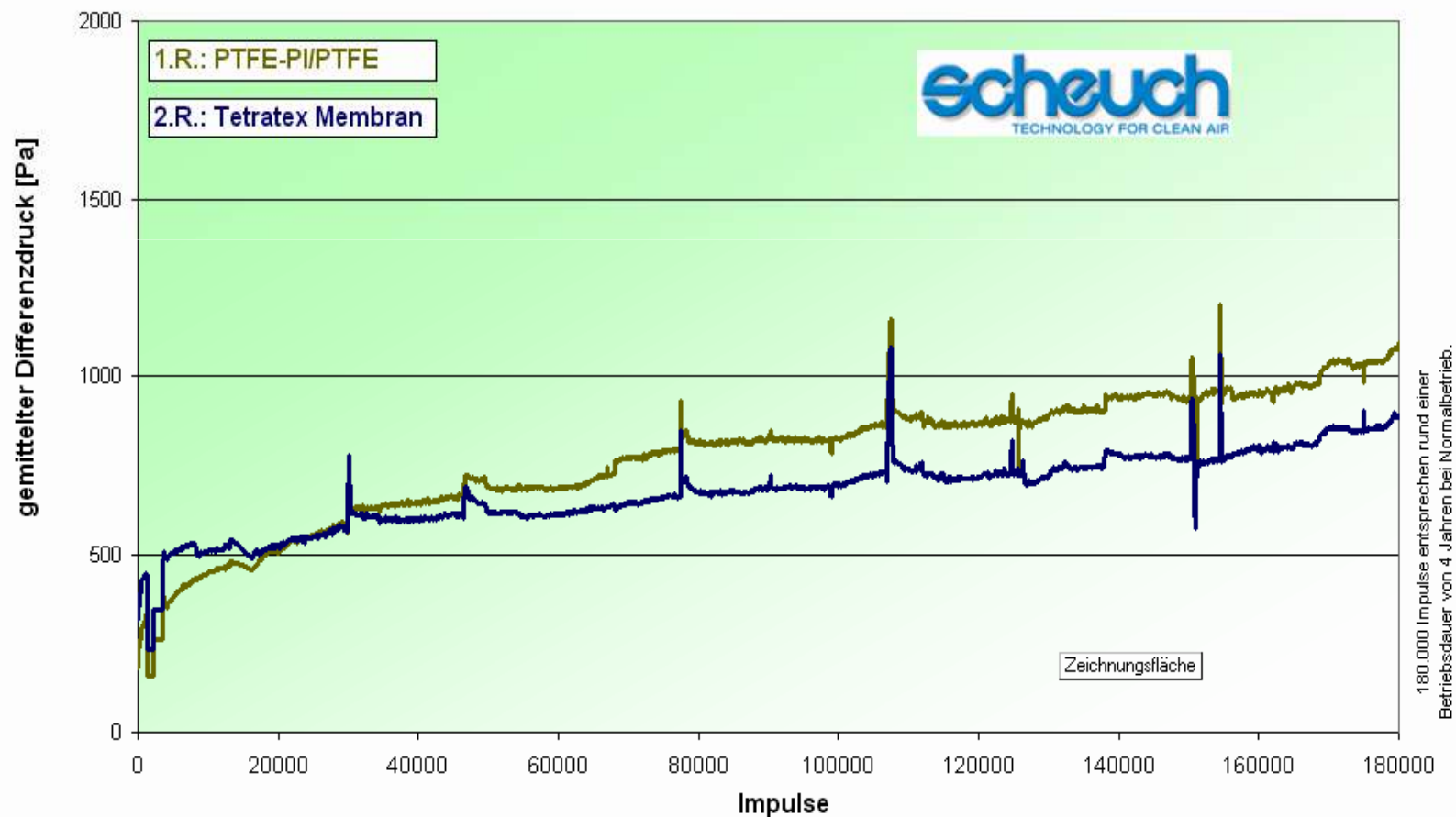
P84 needle-felt



IMPULS BAG FILTER

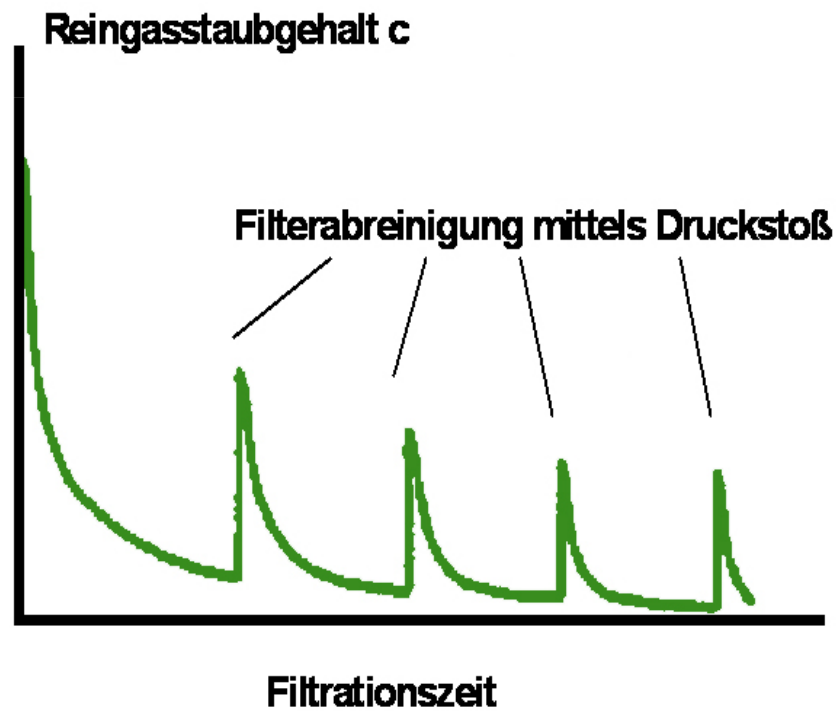
- Darstellung des Druckverlustes -

Schlauchtestanlage III (L = 4500 mm)



IMPULS BAG FILTER

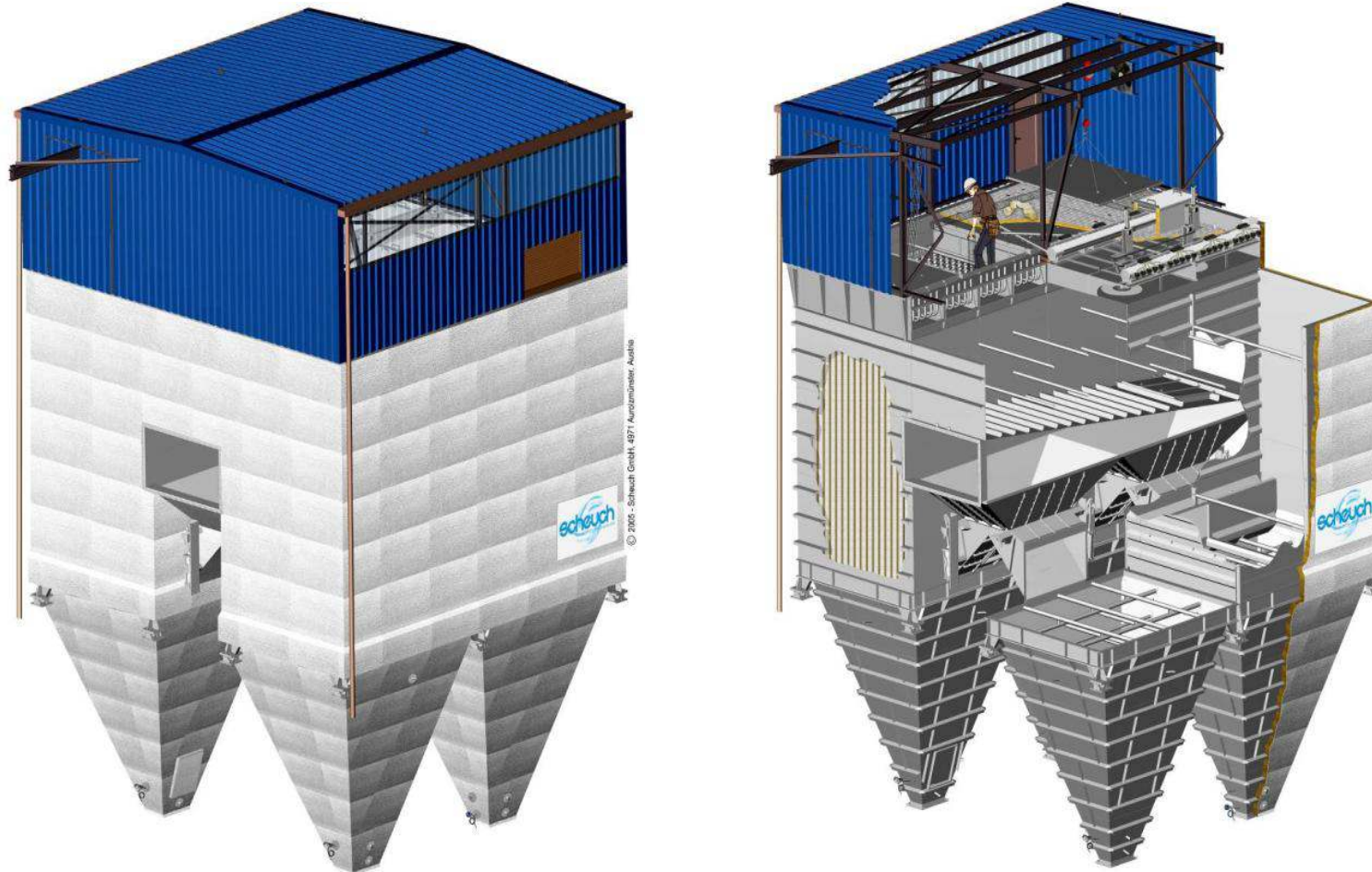
Filter Bag Cleaning



- Compressed Air Pulse Cleaning ON-/OFF-Line
- Filtration from outside to inside
- Cleaning Modes
 - dynamic
 - differential pressure
 - continuous

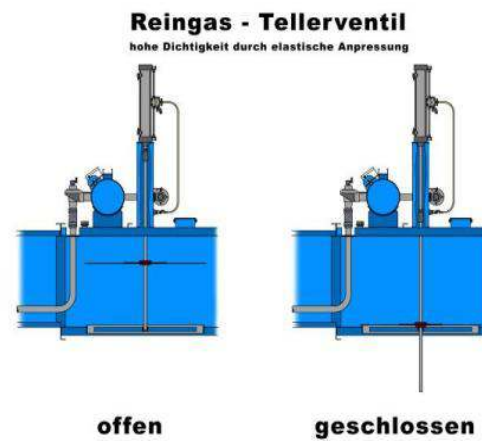
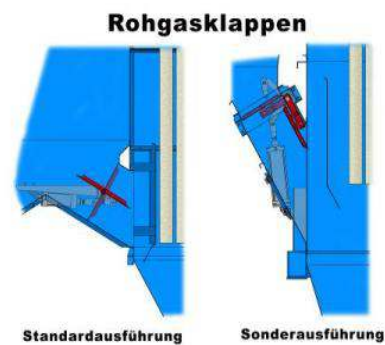
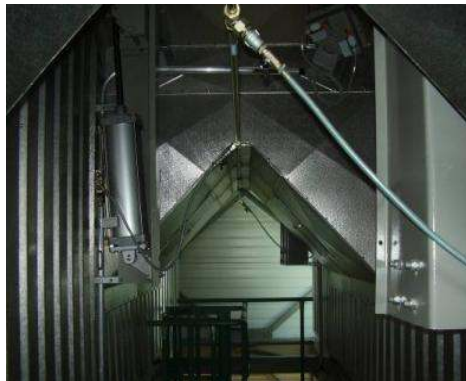
IMPULS BAG FILTER

Multi-Compartment IMPULS bag filter



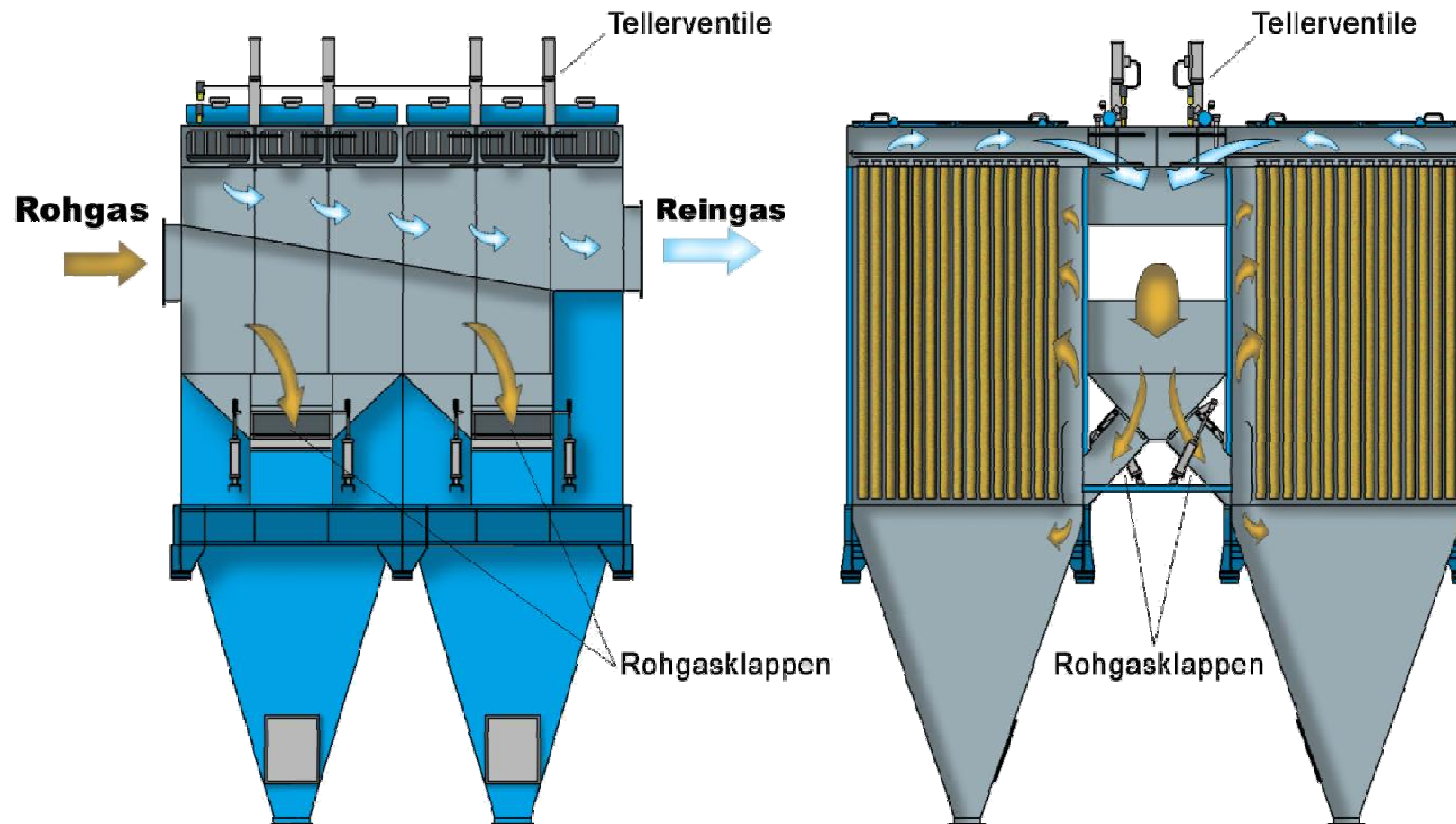
IMPULS BAG FILTER

Plants > 10 MW / Multi-Compartment IMPULS bag filter



IMPULS BAG FILTER

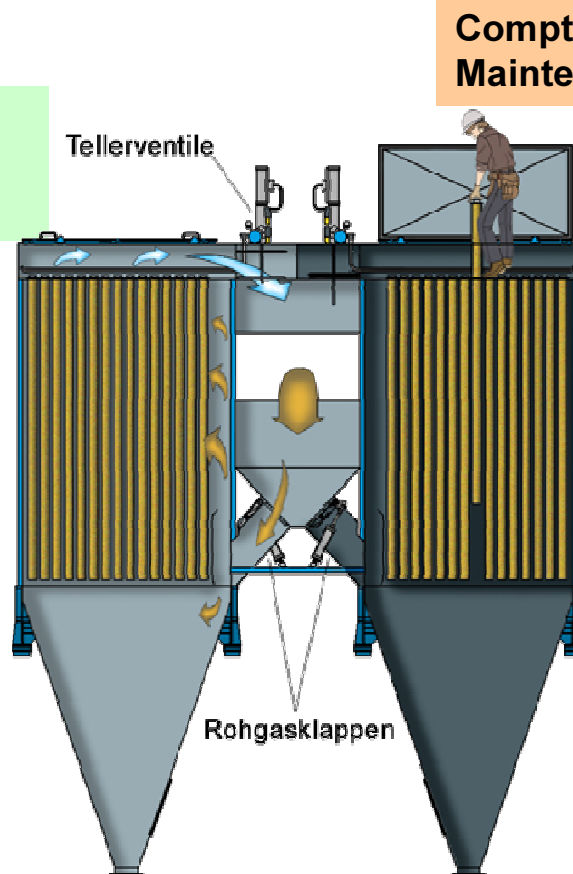
Plants > 10 MW / Multi-Compartment IMPULS bag filter



IMPULS BAG FILTER

Plants > 10 MW / 1 Compartment in Maintenance

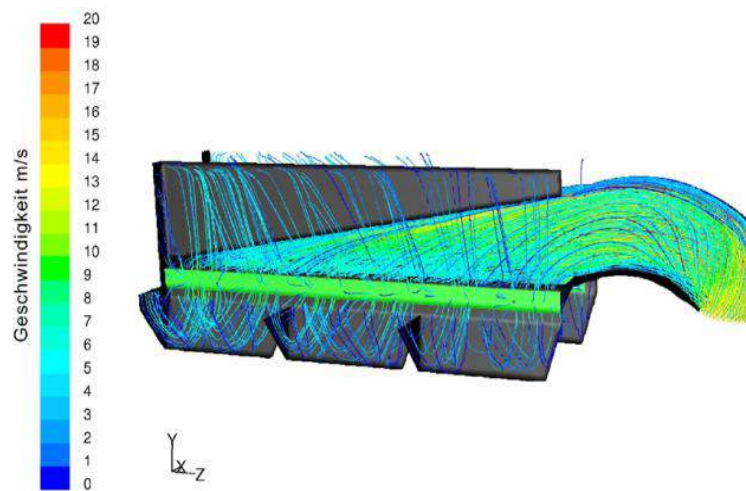
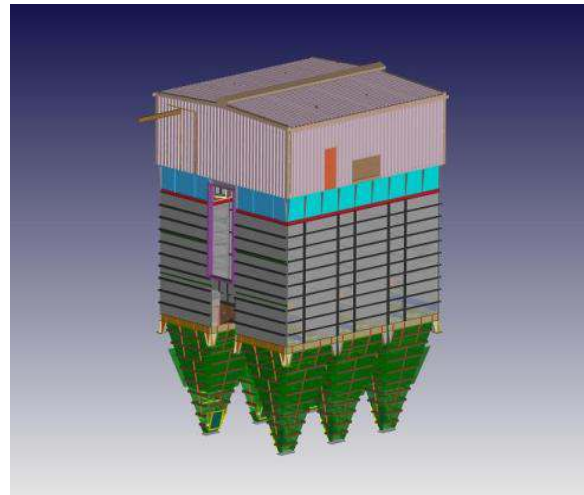
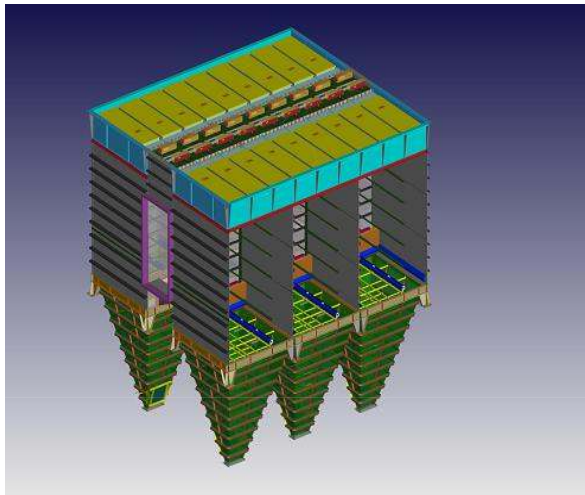
Remaining
Compt.
in Filtration



Filter Bag Change during Operation
(Availability)

N₂-Flushing of Compartments for Fire
Prevention

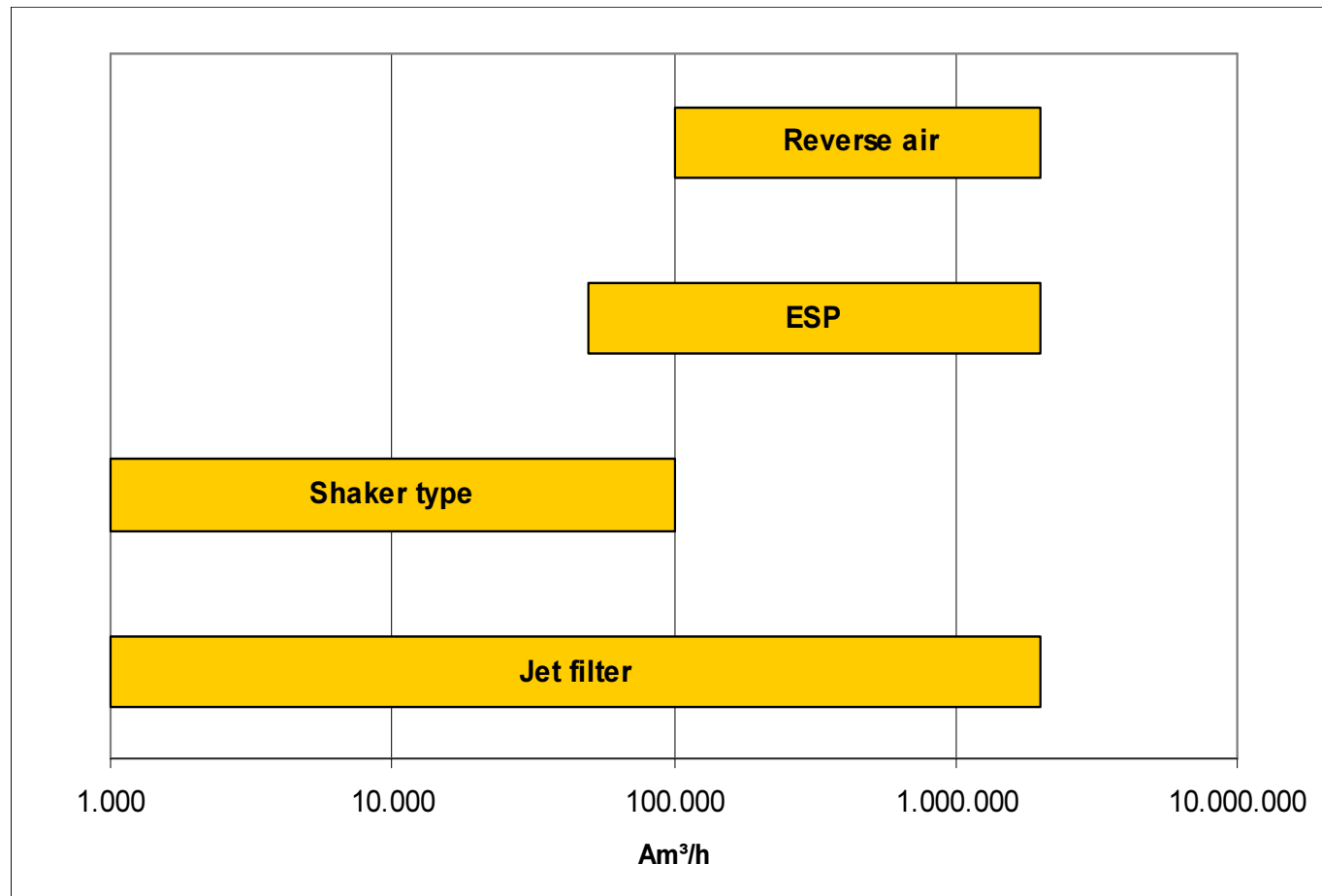
COMPUTER-AIDED DESIGN IN 3D





ECONOMICAL CONVERSION FROM ESP TO BAG FILTER IN THE CEMENT INDUSTRY

FILTER TECHNOLOGIES USED IN THE CEMENT INDUSTRY



EUROPEAN EMISSION STANDARDS

DAILY MEAN VALUES IN MG/NM³

Components	Guideline 2000/76/EC*	Current range
Total dust	30 (10 **)	1 – 80
TOC	10	1 – 20
HCL	10	1 – 20
HF	1	0 – 5
SO ₂	50***	20 – 2,500
NO _x as NO ₂	500 (200 **)	200 – 1,500

* For cement kilns with secondary fuel burning

** > 40 % secondary fuel rate

*** exemptions, if SO₂ from raw material

Advantages

- Temp. up to 400 °C
- Low pressure drop
- Low maintenance costs
- Simple operation

Disadvantages

- Emission mostly > 20 mg/Nm³
- High investment costs for low emission limits
- High dust emission during transient operation and CO-switchoff
- Kiln stop during maintenance required
- Separation degree depends on operating conditions
- Gas conditioning required

NORMAL PULSE-JET FEATURES

Advantages

- Emission < 10 mg
- No CO-problems
- Maintenance also possible during operation (Off-line)
- Constant degree of separation also during transient operating conditions
- Low weight
- Low investment costs

Disadvantages

- Limit of temp.: < 260 °C
- Higher pressure loss (compared to ESP)
- Higher maintenance costs
- Composition of gas influences lifetime of filter bags

SCHEUCH EMC FEATURES

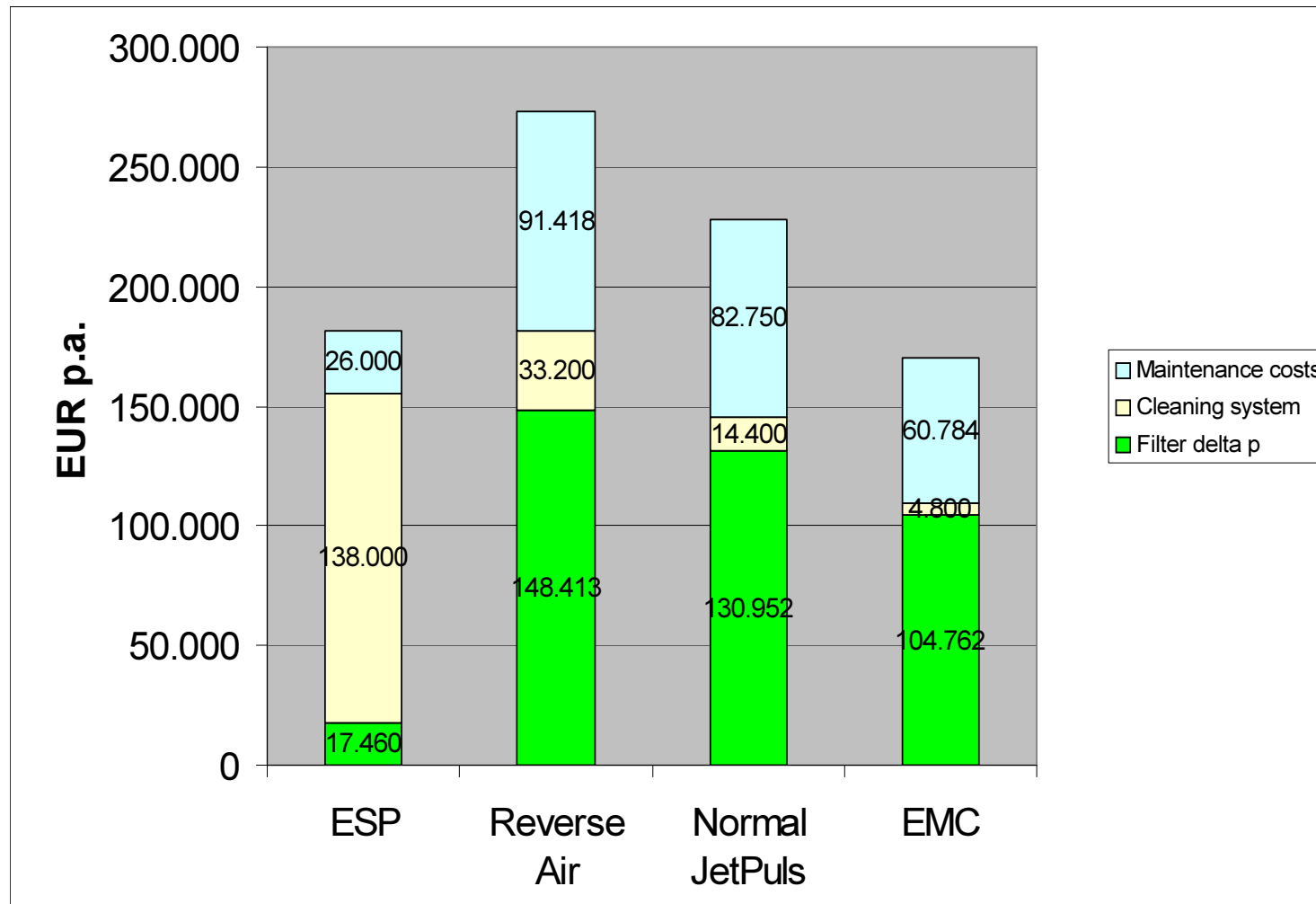
- Combines the advantages of all 3 filter designs
- Low pressure pulse jet technology
- Low footprint and filter volume
- Extreme low dust and noise emissions
- Lower Δp and compressed air consumption
- Constant separation efficiency
- No CO switchoff-problems
- Long bag lifetime
- Bag length up to 8m possible

COMPARISON TABLE FILTER TECHNOLOGIES

Feature	ESP	Reverse air	Pulse-Jet High pressure	Pulse-Jet Scheuch EMC Low pressure
Possible A/C ratio resp. required filter area	n. a.	--	+	++
Filter volume/footprint	--	--	+	++
Dust emission	-	+	+	++
CO-switchoff problems	--	++	++	++
Pressure drop	+++	-	+	++
Operating costs for				
– filter fan	++	+	+	++
– system cleaning	+	--	+	++
– wear parts	+	+	+	++
– parts replacement labour	+	-	+	++
Investment costs	-	+	+	+
Gentle bag cleaning	n.a.	++	-	++
Partial Offline operation possible	--	++	++	++
Max. electrode resp. bag length	14	10 m	6 m	8 m
Cleaning system noise level	-	+	+	++

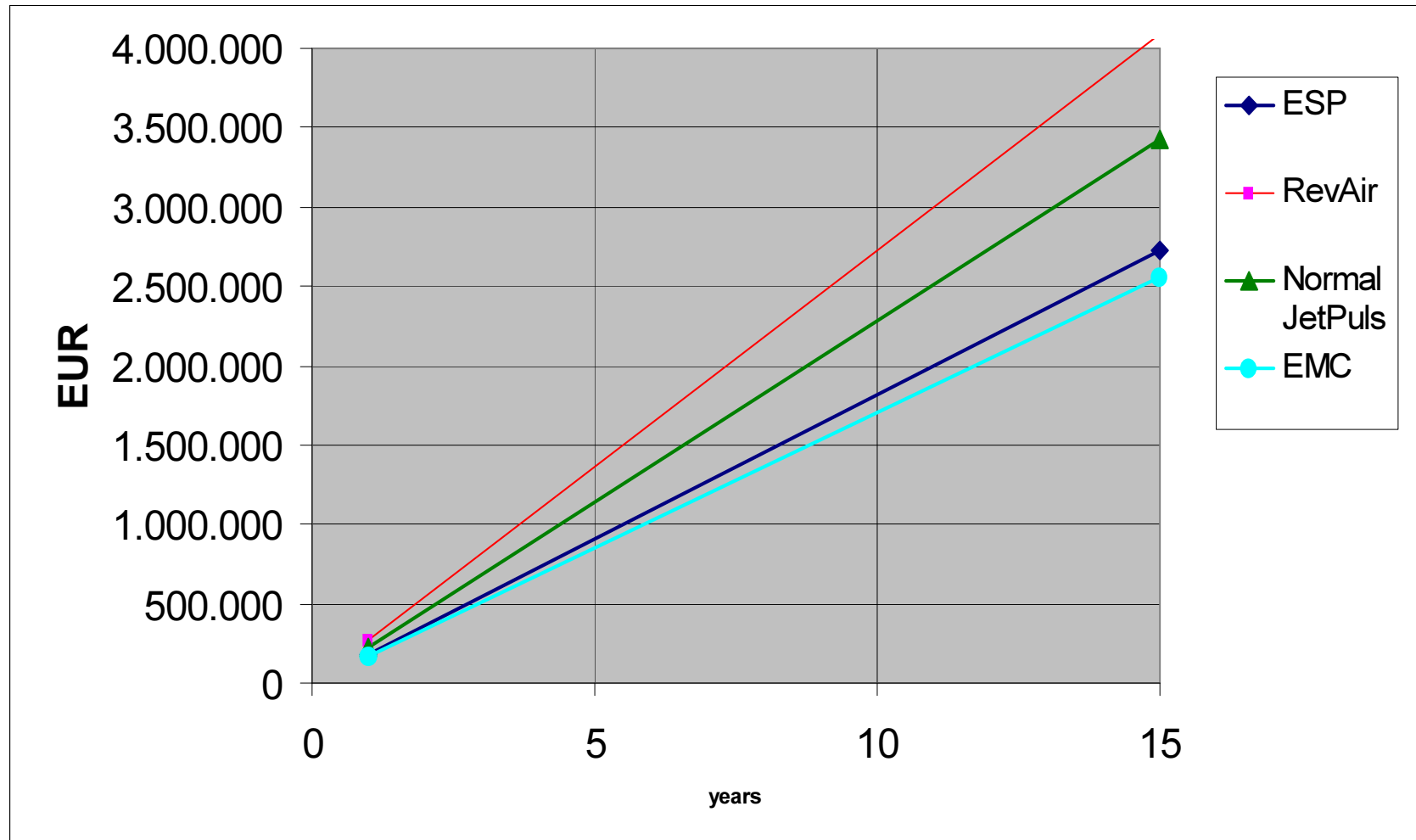
++ = *excellent*
+ = *good*
- = *average*
-- = *not satisfactory*

COMPARISON OPERATING COSTS P.A. KILN/RAW MILL FILTER 660,000 Am/h

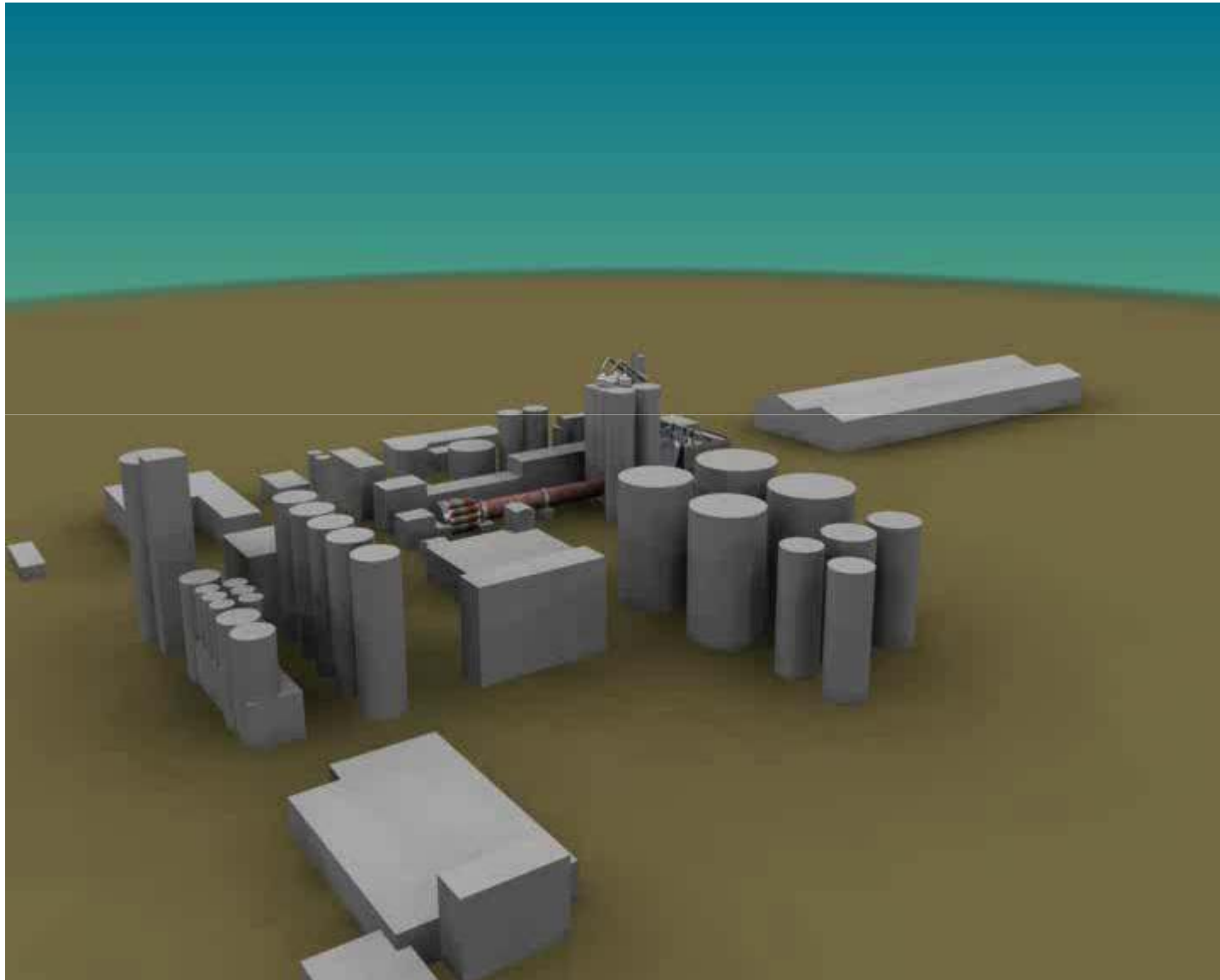


OPERATING COSTS OVER 15 YEARS

KILN/RAW MILL FILTER 1,550,000 Am/h



PLANT SCHELKLINGEN





MANY THANKS FOR YOUR ATTENTION!

DIPL.-ING. JIŘÍ DRCMAN – SALES ENGINEER

