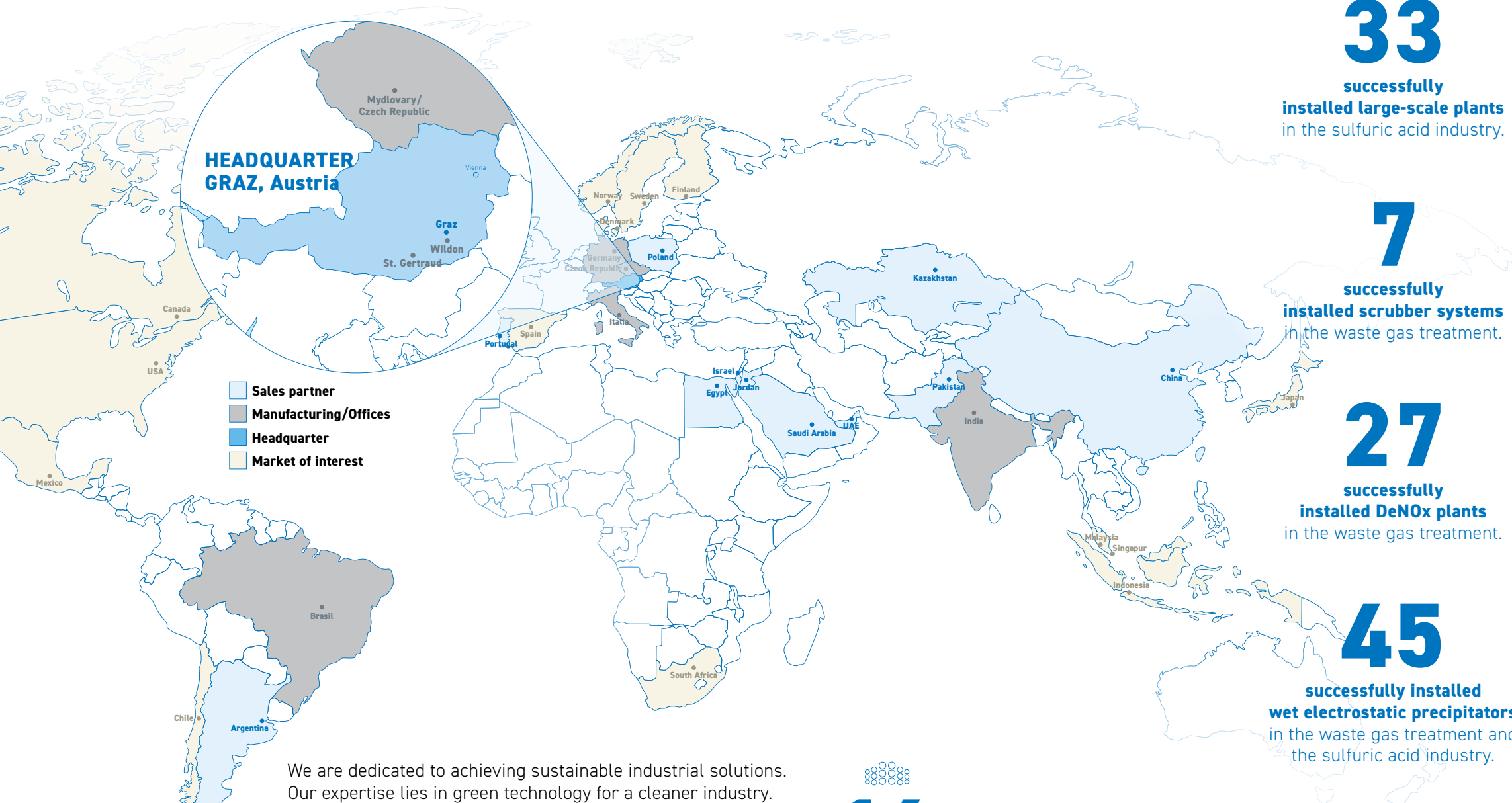




Precious metal catalysts

Closing the Cycle

That's how we are closing the cycle to sustainable industrial solutions.



We are dedicated to achieving sustainable industrial solutions. Our expertise lies in green technology for a cleaner industry.

With over 20 years of global experience, we offer a range of products and plant systems for waste gas treatment, sulfuric acid technology, precious metal catalysts, hydrogen applications, as well as comprehensive engineering solutions. Our track record of delivering customized and sustainable solutions sets us apart. Our success is underpinned by our competence, entrepreneurial spirit, and profound passion for ecotechnological advancements.

Vision and mission

We are committed to integrating the circular economy into various aspects of industrial process engineering, contributing to a habitable planet for future generations.

Our enterprise is characterized by aiming for highest customer satisfaction, invests in continuing education and development of our employees and upholding corporate social responsibility.

14
sales partners in different
countries all over the world.
200+
employees.

33
successfully
installed large-scale plants
in the sulfuric acid industry.

7
successfully
installed scrubber systems
in the waste gas treatment.

27
successfully
installed DeNOx plants
in the waste gas treatment.

45
successfully installed
wet electrostatic precipitators
in the waste gas treatment and
the sulfuric acid industry.

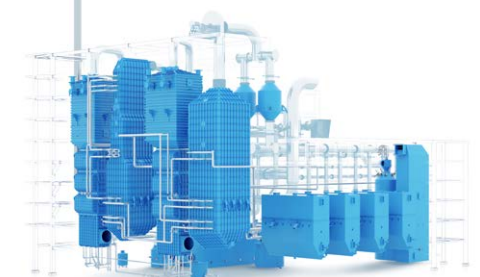
100+
total plant
installations.
Status: 2023
... and many more current
projects!

OUR SOLUTIONS AND UNITS



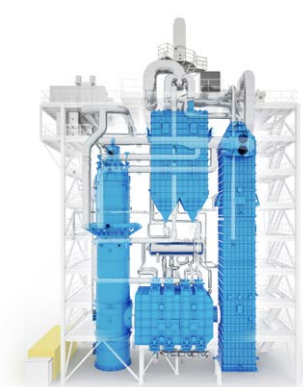
PRECIOUS METAL CATALYSTS

Durable, sturdy, customized. These are the attributes of P&P's catalysts.



SULFURIC ACID TECHNOLOGY

Make – consume – recycle – reuse:
the perfect cycle for sulfuric acid.



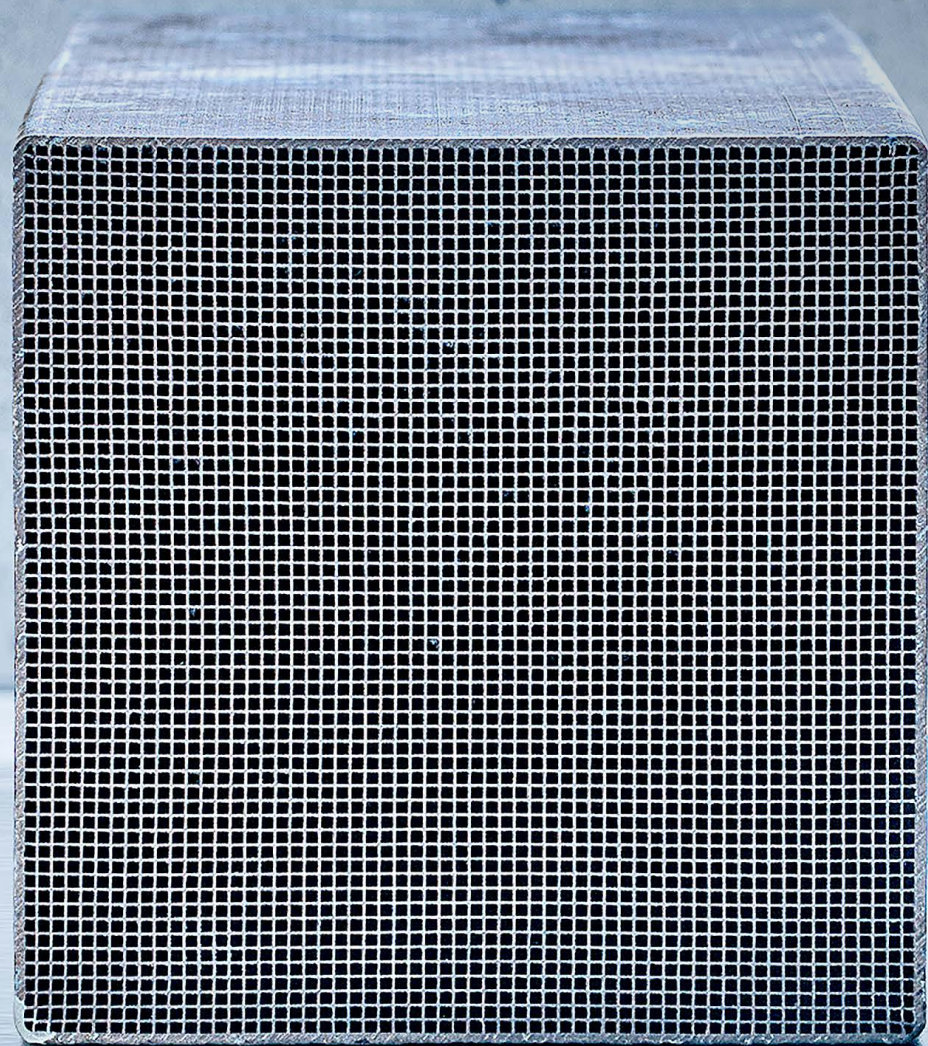
WASTE GAS TREATMENT

Emissions are unavoidable but
we mitigate the risks.

Oxidation of
SO₂ to SO₃

Reference
running for over
10 years

Ceramic
honeycomb
support



Everything
from a single source:
the PP-team installs
the bricks on site



VividOx

Applications	Sulfuric acid production / Regeneration	Oxidation of SO ₂ to SO ₃	
	Waste gas treatment	Removal of carbon monoxide (g) from a gas stream, by oxidation to CO ₂ hydrocarbons / VOCs	
		Removal of hydrocarbons (g) from a gas stream, by oxidation to CO ₂ + H ₂ O hydrocarbons / VOCs	
		Removal of chlorinated hydrocarbons (g) from a gas stream, by oxidation to CO ₂ , H ₂ O and HCl	
General	Durable, sturdy & tailored. These are the attributes of P&P's catalysts.		
Technical description	VividOx is a honeycomb total oxidation catalyst on a ceramic extrudate support with a washcoat. The base washcoat recipes can be adapted to your needs.		
	This catalyst can also be used in the presence of traces of hydrofluoric acid HF (max. 5 ppm). It is also a chlorine tolerant catalyst.		
	Number of cells	60 × 60, 43 × 43	
	Dimension	150 x 150 x 300 mm	
		150 x 150 x 150 mm	
		150 x 150 x Y mm (Y according to customer specification)	
Catalyst composition	Proprietary, platinum based.		
Typical industries	All industries dealing with sulfuric components including: fertilizer, petrochemical, viscose fibres, metal refining, chemical, mineral refining, cement, pigment manufacturing, pulp & paper, power, animal feed		
Options	1	VividOx-7850 high platinum load	
	2	VividOx-7825 low platinum load	
	3	VividOx-7800 ignition catalyst	
Performance	Oxidation of SO ₂	Conditions very close to the thermodynamic equilibrium can be reached with P&P's design.	
	Removal of carbon monoxide	Up to 95%	
	Removal of hydrocarbons	Up to 98%	
Operating range	Temperature	T ₅₀ – ignition for SO ₂ oxidation at about 370°C	
	Pressure	Theoretical without limit, up to +-500 mbar	
	Flowrate	Depends on application	
Figures	Typical ranges are as follows:		
	Application examples	Inlet specification	Range
	SO ₂ oxidation	6 Vol.% SO ₂ , 12 Vol.% O ₂ @ 500 °C	≈90%
	CO abatement	2000 ppm CO, 13 Vol. % O ₂ @ 250 °C	>95%
Considerations	Catalyst poisons according to internal list.		
	Operation outside of defined operation window.		
Estimated lifetime	Up to 10 years depending on application and in use acc. P&P operation manual.		

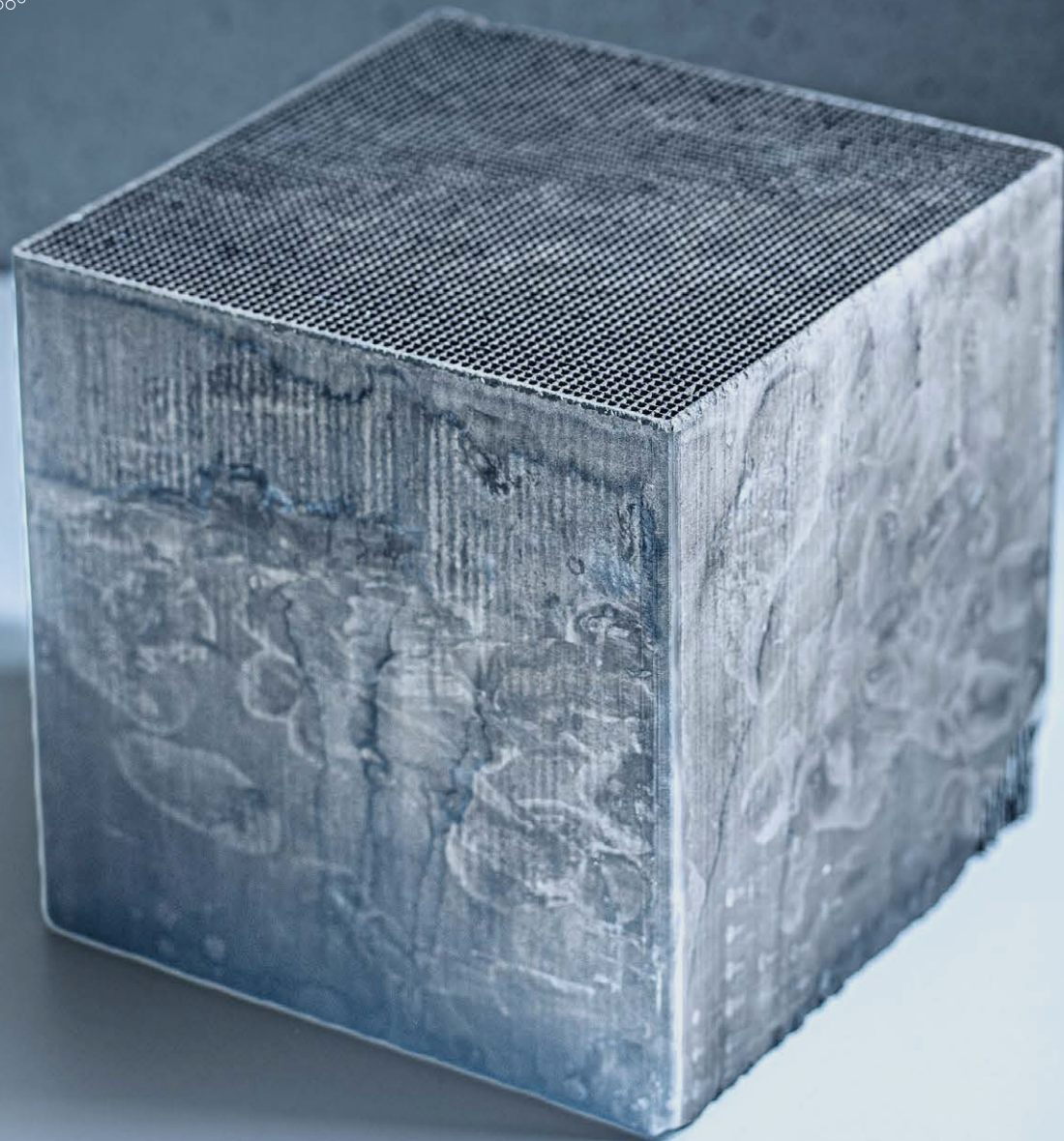

Total oxidation of carbon monoxide (CO) and hydrocarbons (C_xH_y) to CO₂ and water



Tailor-made washcoats



Adjusted platinum load


We are driven by the desire to develop outstanding catalysts



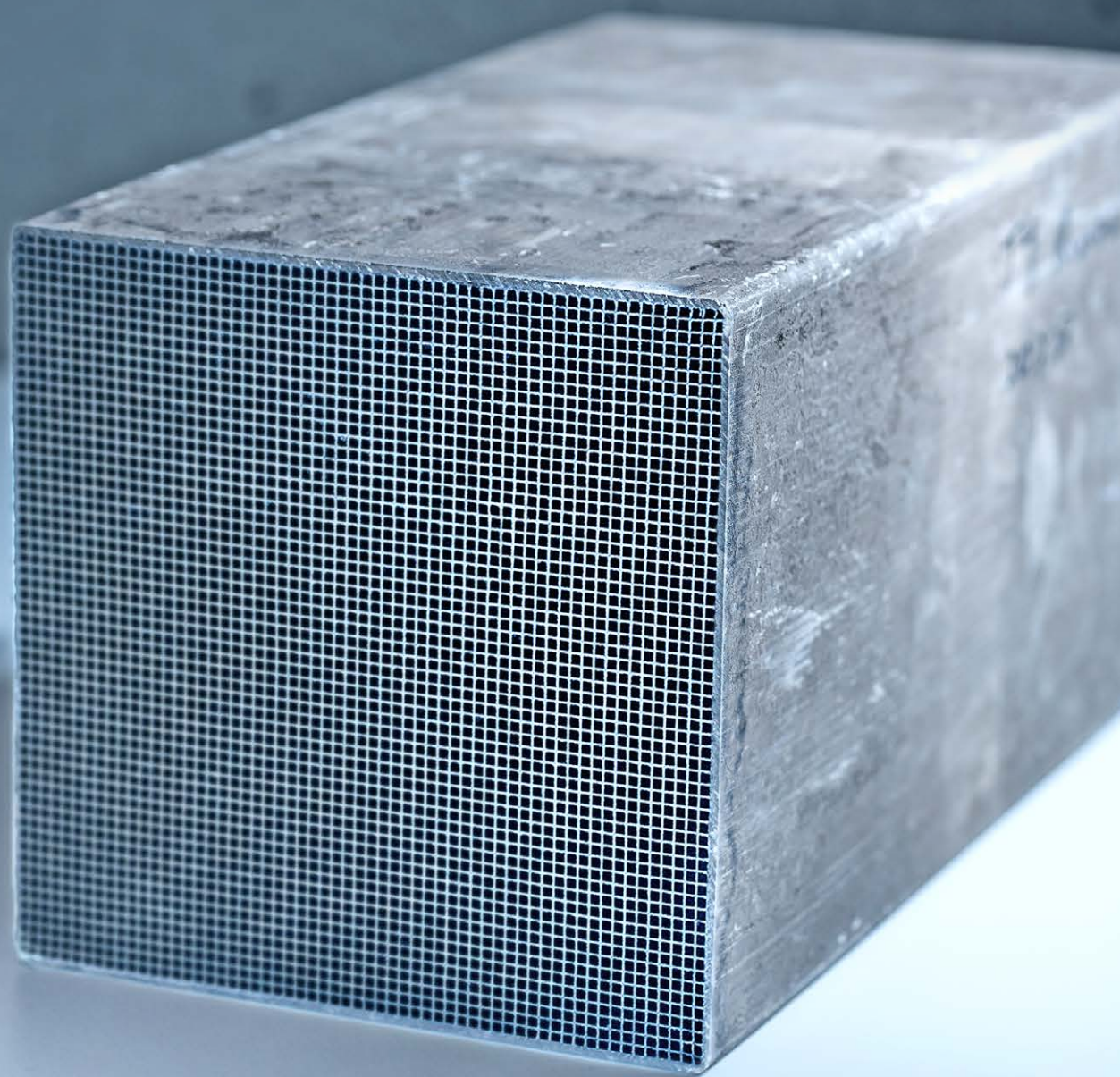

AeroClear

Applications	Waste gas treatment	Removal of carbon monoxide (g) from a gas stream, by oxidation to CO ₂	
		Removal of hydrocarbons (g) from a gas stream, by oxidation to CO ₂ + H ₂ O	
General	Durable, sturdy & tailored. These are the attributes of P&P's catalysts.		
Technical description	AeroClear is a honeycomb total oxidation catalyst on a ceramic extrudate support with a washcoat. The base washcoat recipes can be adapted to your needs.		
	Number of cells	60 × 60, 43 × 43	
	Dimension	150 x 150 x 300 mm	
		150 x 150 x 150 mm	
		150 x 150 x Y mm (Y according to customer specification)	
	Catalyst composition	Proprietary, platinum based.	
Typical industries	All with industrial waste gas treatment systems, typically including: fertilizer, petrochemical, metal refining (tungsten, steel...), semiconductor manufacturing, food & beverage industry		
Options	1	AeroClear-7850 high platinum load	
	2	AeroClear-7825 low platinum load	
	3	AeroClear-7800 ignition catalyst	
Performance	Removal of carbon monoxide	Up to 99,5% or better - depending on application.	
	Removal of hydrocarbons	Up to 99,5% or better - depending on application.	
Operating range	Temperature	T ₅₀ – ignition for CO-oxidation at about 180°C	
	Pressure	Theoretical without limit, up to +-500 mbar	
	Flowrate	Depends on application	
Figures	Typical ranges are as follows:		
	Application examples	Inlet specification	Range
	CO abatement	2400 ppm CO, 13 Vol. % O ₂ @ 200 °C	>99%
Considerations	Catalyst poisons according to internal list.		
	Operation outside of defined operation window.		
Estimated lifetime	Up to 6 years depending on application and in use acc. P&P operation manual.		

Ammonia
slip removal

Durable, sturdy,
customized

Ultra low
pressure drop



We guide and
support you beyond
the order

PrimePurity

Applications	Waste gas treatment	Ammonia slip removal	
		Removal of carbon monoxide (g) from a gas stream, by oxidation to CO ₂	
General	Durable, sturdy & tailored. These are the attributes of P&P's catalysts.		
Technical description	PrimePurity is a honeycomb total oxidation catalyst on a ceramic extrudate support with a washcoat. The base washcoat recipes can be adapted to your needs.		
	Number of cells	60 × 60, 43 × 43	
	Dimension	150 x 150 x 300 mm	
		150 x 150 x 150 mm	
		150 x 150 x Y mm (Y according to customer specification)	
	Catalyst composition	Proprietary, platinum based.	
Typical industries	All with industrial waste gas treatment systems utilizing selective catalytic reduction (SCR) technology.		
Options	1	PrimePurity-7850 high platinum load	
	2	PrimePurity-7825 low platinum load	
	3	PrimePurity-7800 ignition catalyst	
Performance	Removal of ammonia	Up to 99%, with up to 99% selectivity for N ₂ formation	
	Removal of carbon monoxide	Up to 98%	
Operating range	Temperature	T ₅₀ – ignition for CO oxidation at 180°C	
		T ₅₀ – ignition for NH ₃ oxidation at 300°C	
	Pressure	Theoretical without limit, up to +-500 mbar	
	Flowrate	Depends on application	
Figures	Typical ranges are as follows:		
	Application examples	Inlet specification	Range
	CO abatement	2400 ppm CO, 13 Vol. % O ₂ @ 200 °C	95% to 98.9%
	Ammonia slip removal	140 ppm NH ₃ @ 350°C - 450°C	80% - 100% turnover at 75% to 95% selectivity
Considerations	Catalyst poisons according to internal list		
	Operation outside of defined operation window		
Estimated lifetime	Up to 6 years depending on application and in use acc. P&P operation manual.		



P&P as your partner

Where excellence meets innovation – your ideal partner for customized, sustainable and proven solutions. With a track-record of success, we offer tailored excellence for your unique needs, all while prioritizing environmental responsibility.



Customized

We precisely tailor our solutions to meet your needs, leveraging our in-house production, advanced testing facilities, and cutting-edge equipment to ensure the highest quality.



Sustainability

We are renowned for sustainable processes, products, and in-house production technologies, actively promoting environmental protection and ecological responsibility.

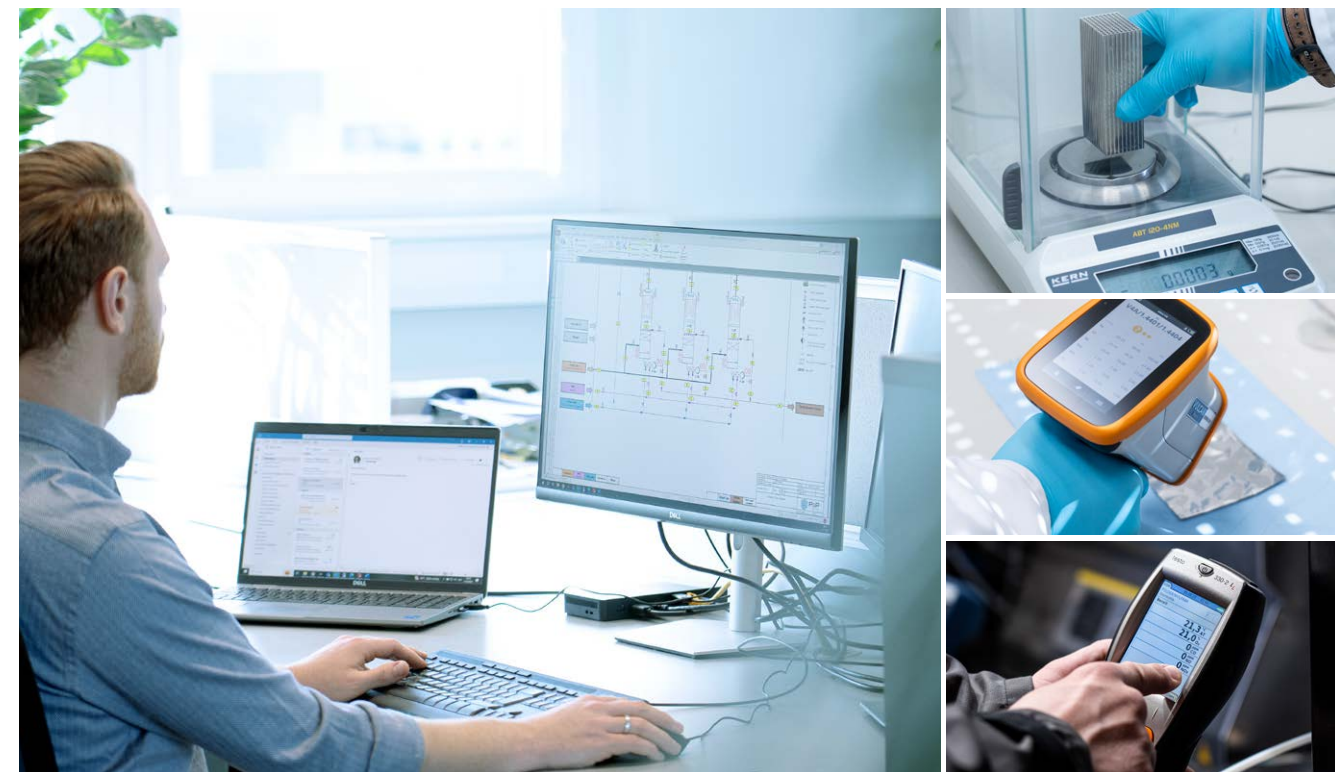


Proven

Our products enjoy global recognition, stemming from years of experience, knowledge, and innovation. Trust our equipment to give your enterprise a competitive edge while minimizing environmental impact.



Research & Development



Our R&D continually improves methods, addresses material engineering challenges, and explores new technologies. We focus on catalyst design, testing, and the development of hydrogen burners, electrolytic systems, high-density energy storage, and materials analysis for sulfuric acid plants.

Analysis

Utilize our onsite catalyst performance testing, surface analysis, throughput tests, toxic substance detection, and thermal degradation assessments.

Low NO_x Hydrogen Burner

In a government-funded research project, we designed and patented a new burner geometry fit for burning green hydrogen and for making use of carbonless fuels such as hydrogen sulfide and ammonia.

This technology will not only enhance the safety of hydrogen burners but also reduce nitrogen oxide emissions by producing the flame from premixed gases.

The method is based on mixing both the fuel gas and the combustion air upstream before the actual combustion process and a swirl generator that stabilizes the flame by making the fuel gases rotate. Our technical center successfully tests the performance parameters of this technology.



Clean emissions demand accurate processes. We provide such processes and that's how P&P close the cycle to sustainable industrial solutions.

Is our catalyst right for your system? Contact us today on:



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