

...for high-powered and
economical cleaning

Flue gas cleaning and dedusting technology

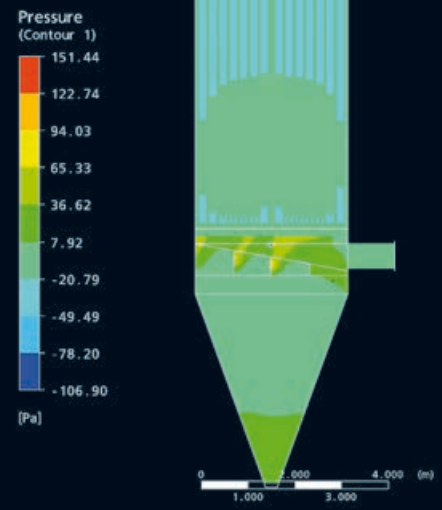


HELLMICH

So that the air stays clean!

Hellmich has been developing clever solutions for dedusting and flue gas cleaning, for pipelines and apparatus engineering for over 45 years.

Our expertise in development results in tailor-made, economic equipment for the purification of large surfaces and machines in addition to air purification.



Flue gas cleaning and dedusting technology

So that the air
stays clean!

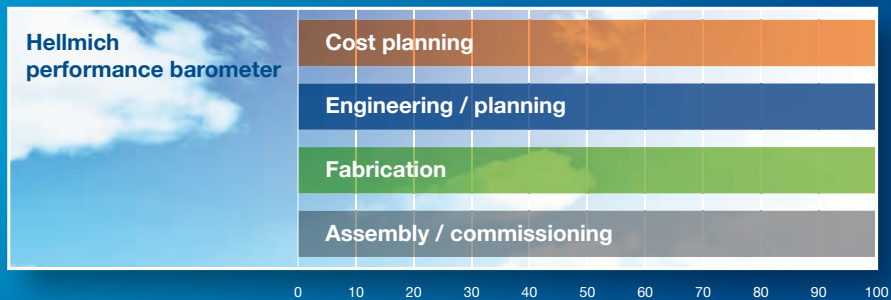




Hellmich potential

We are your experts for dedusting engineering, flue gas cleaning, pipelines and apparatus engineering. We will advise and support you individually from the tender right up to commissioning. We can react to your requirements quickly and flexibly. Challenge our knowledge and our experience:

- during planning
- during system selection
- in the approvals process
- during equipment operation



Enterprise clean air

Our successful, development-friendly family company has been dealing with environmental engineering since its founding in 1963 by Friedrich Hellmich. Our focus in this context is always on technically well thought-out, practical and inexpensive solutions for all sectors of air purification. We place emphasis on high-quality, heavy-duty technology which proves itself in practice day after day.

Hellmich products in operation worldwide

The Hellmich range of products is versatile and extensive. Whether central vacuum cleaner, dedusting equipment, silo add-on filters or pneumatic conveying systems, we can develop just the right equipment for all possible applications. Complete flue gas cleaning systems with piping, flues and heat exchangers round off the range of products.

More than 500 flue gas cleaning units and over 1000 dedusting plants being operated worldwide are proof of the high-quality, long service life and economic efficiency of our products.



Experience



Know-how



Solutions



So that the air stays clean!

...fabrication and installation
from under one roof

Pipelines, apparatus engineering, chimneys

To ensure that the air stays clean, we at Hellmich go that one stage further and design, fabricate and erect ventilation equipment such as: pipelines, chimney flues, screw conveyors, exhaust ducts, cyclones, platforms, structural steel structures

Pipelines / apparatus engineering / chimneys

The functional principle

The benefits

- Measurement, fabrication and assembly from under one roof
- Rapid implementation of customer requirements
- Huge manufacturing spectrum



We can deal with everything you need in the flue gas cleaning and dedusting engineering sectors. We fabricate pipelines in boiler pipe or sheet steel pipelines up to a diameter of 2200 mm.

We can also manufacture all pipeline components from A to Z for you, whether in wall thicknesses of 5 mm or fittings such as bends, connecting pieces or cones, throttle valves, stop valves or rectangular ducts. In doing so, all working operations from

measurement through engineering up to fabrication and assembly will be carried out by qualified employees.

Hellmich performance barometer
Pipelines / apparatus engineering / chimney flues

Cost planning

Engineering / planning

Fabrication

Assembly / commissioning

0 10 20 30 40 50 60 70 80 90 100

We can deliver chimneys as double-walled, single-walled or even divided versions, and we produce cyclones in all possible variations. We offer tried-and-tested and inexpensive solutions which have all been put into practice many times for the entire periphery around flue gas cleaning or dedusting equipment.

Hellmich fabricates in our own workshop allowing us to react flexibly and quickly and fulfil almost all customer requirements. A smooth erection sequence is guaranteed by our committed and experienced assembly team.



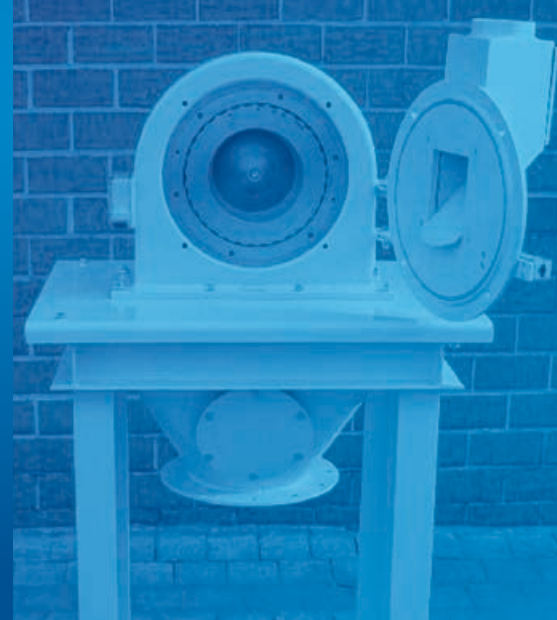
HELLMICH

So that the air stays clean!

... for re-bricking
the reaction product

Turbo mill

Flue gas cleaning is a demanding field of duties which we have been addressing with great success for many years. As a result, we have introduced the turbo mill to the market so that the resulting reaction product can be added to raw materials.



Pipelines / apparatus engineering / chimneys

The functional principle

In order to return the reaction product occurring after flue gas cleaning back to the raw material, we have developed a mill with which the reaction product can be crushed down to the necessary grain size of between 150 and 200 microns.

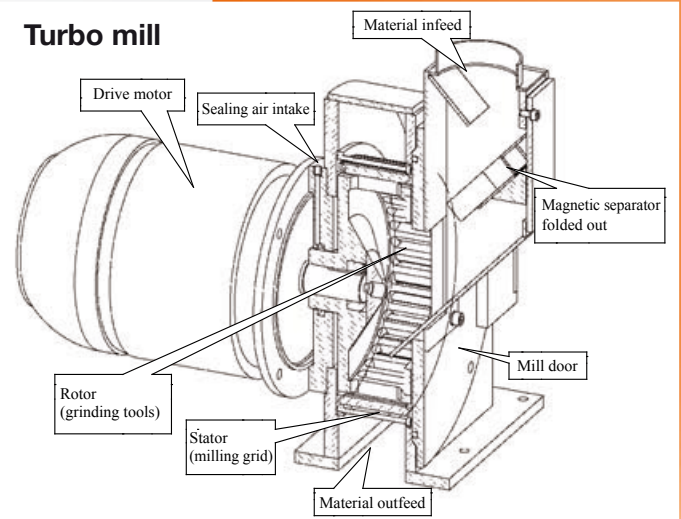
The mill housing has welded steel construction with an infeed (Ø 120 mm and an outfeed flange at 486 x 95 mm. It is fitted with a mechanically processed, hinged door section with ring seal and flanged material feed connection. A solenoid switch and a motor standstill monitoring device secure the door against unintentional opening. The turbo mill is fitted with an inclined feed and a hinged permanent magnet for separation of metal components.

The drive motor is flanged onto the mill housing and takes up the rotor directly. The motor bearing is kept free of dust by blowing of low-volume compressed air in between the motor flange plate and the mill housing. The milling unit itself consists of a solid, machined rotor (Ø 300 mm) made of special steel. The stator, which also consists of special steel, is a pulveriser grid with an insert in milled steel. The milled goods are fed continually to the mill using a metering screw. The rotating milling tool (approx. 4000-5000 rpm) disintegrates the milled goods and presses it through the milling grille, after which it falls into the hopper mounted underneath the mill. The milled material is fed out via a chamber lock (two opposing locked flaps) or a cellular wheel sluice.

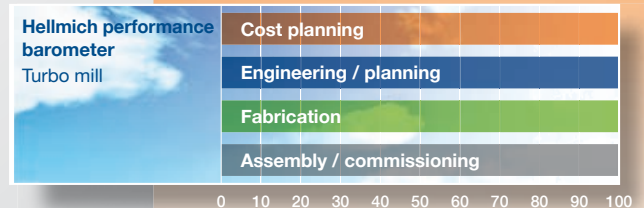
The benefits

- Heavy-duty construction
- Specially adapted to grinding stock

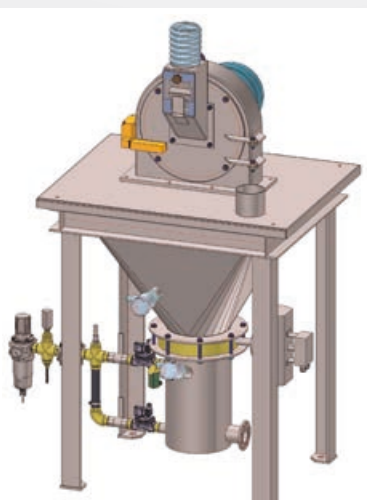
Turbo mill



Hellmich performance
barometer
Turbo mill



The drive motor (5.5 kW) is fitted with a frequency converter so that the rotor speed can be adapted to the necessary final grain size. 500-600 m³/h of rinsing air is sucked through the mill to ensure optimum milling processing (connection to filter unit). The air intake is regulated by a manual butterfly valve at the material infeed. The material through flow is around 150-200 kg/hour.



HELLMICH

So that the air stays clean!

...to lower
heat energy costs

WT heat exchanger / heat recovery

Energy costs play an increasingly important role in any production operation. In order to reduce heat energy costs, we at Hellmich have developed a heavy-duty and low-maintenance system for recovery of heat from thermal processes.

Pipelines / apparatus engineering / chimneys

The benefits

- Heavy-duty construction
- No moving parts in flue gas flow
- No agglomeration on exchanger walls
- Low maintenance costs
- Compact and space-saving construction

The functional principle

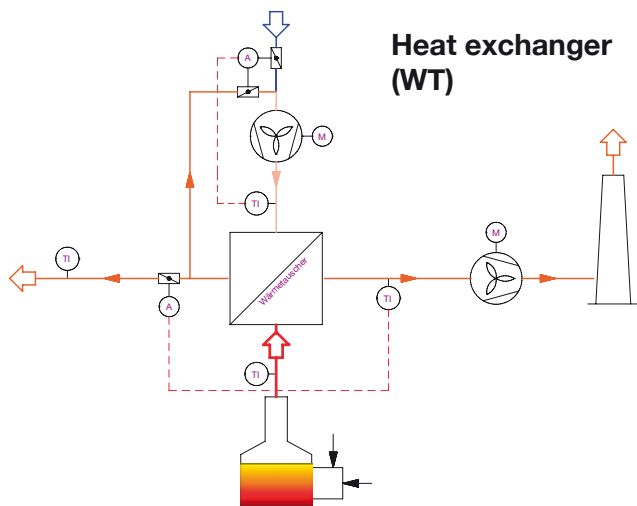
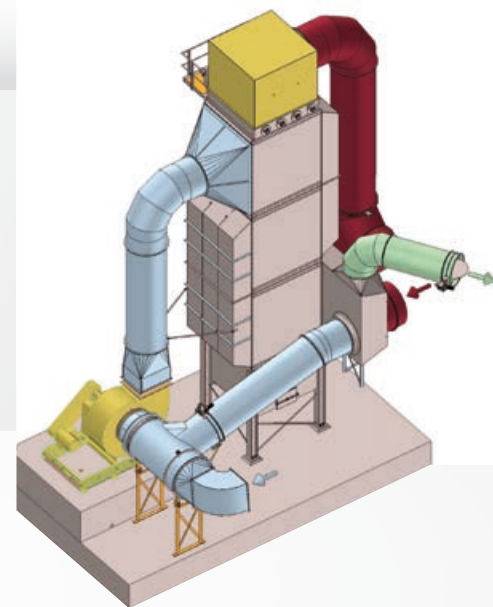
The flue gas air heat exchanger works on the cross and counterflow principle. Flue gases flow through right-angled tubes built into the exchanger block, and in doing so pass their heat energy to the cold air flowing in the opposite direction via the pipe walls.

The process is controlled using a resistance thermometer so that the heat exchanger operation always takes place above the acid dewpoint.

This takes place by mixing part of the

extracted hot air with cooling air which effectively prevents any condensate formation. Any soiling occurring on the process gas side is removed by a mechanical system of cleaning chains. Agglomerations which often form on piping walls with problematic flue gases therefore do not pose any problems for the exchanger system. The arrangement of the blocks to each other enables a compact, rational and space-saving heat exchanger construction even if the exchanger surfaces are very large.

Our manufacturing programme includes much more than just plate exchangers. Classical tube bundle exchangers are also designed, manufactured and fitted at Hellmich. The heat energy extracted can be used for many production processes or used for building heating.



HELLMICH

So that the air stays clean!

Hellmich performance
barometer
WT heat exchanger /
heat recovery

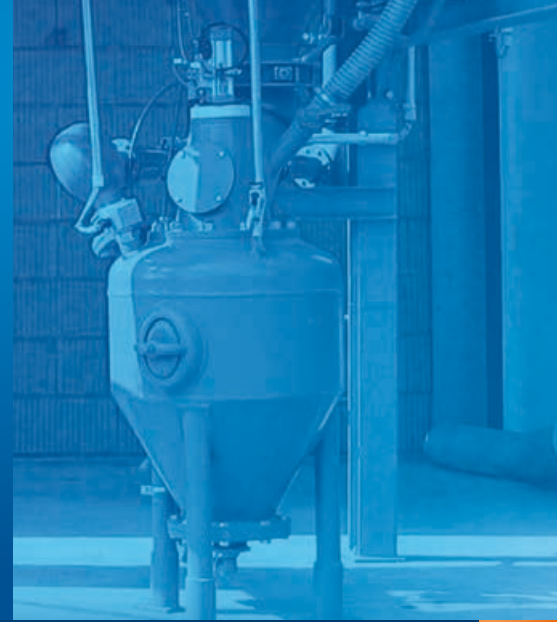


0 10 20 30 40 50 60 70 80 90 100

...for automation
of dust transport

DGF pneumatic vessel conveyor

Extraction out of production facilities is an important subject in dust disposal. Our high-powered pressure vessel transport system with its pneumatic ball valve for transporting the collected dust allows us to show our strengths in this sector as well.



Pipelines / apparatus engineering / chimneys

The functional principle

The transport system is started up automatically once the dedusting equipment is operating, or by a reception silo request. The conveyed material is transported to the pressure vessel via conveying equipment (pipe screw conveyor, rotary gate valve or similar).



The conveying equipment switches off once the built-in level indicator indicates maximum fill level. After a delay period, the cone valve or flap closes off the filling opening. The vessel is pressurised by two compressed air connections with upstream solenoid valves. The transport process starts immediately after compressed air is introduced. The pressure switch is activated after a delay period, which then stops the conveyor process when the pressure falls. Both compressed air solenoid valves are then closed. After a further delay period which can be set to match the appropriate conveyor route, the pneumatic cone valve or the pneumatic flap opens. The residual pressure needs to be fed back to the filter unit. The transport system is switched on by a limit position switch at the cylinder, and the new filling process starts. The transport route can be up to 150 m long, even longer if injector nozzles are used.

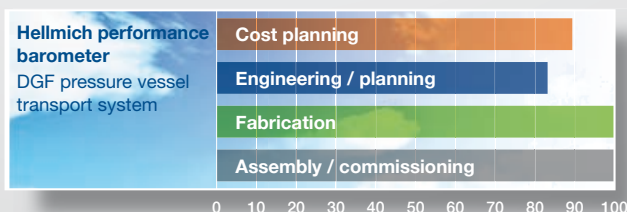
Pressure vessel type DGF	DGF 20 litres with flap	DGF 99 litres with cone valve
Size approx.	Ø 267.0 x 435	Ø 609.1 x 1050
Weight approx.	40 kg	200 kg
Content approx.	20 l	99 l
Compressed air required per thrust	approx 1.25 Nm ³	approx 5 Nm ³

The benefits

- Continuous automation of dust transport
- Low maintenance costs
- Simple, space-saving construction
- Dust-free transport process
- Transport also to difficult-to-access locations

The connected loads

Compressed air connection:	min. 6 bar
Electrical connection level indicator:	24 V, DC
Electrical connection solenoid valve:	24 V, DC
Connection level indicator:	G 1 ½"
Transport pipeline:	63.5 Ø x 5 or 76.1 Ø x 5
Compressed air connection:	G 1"
Pressure switch:	0.5 – 8 bar
Transport pressure:	1.5 – 1.8 bar



HELLMICH

So that the air stays clean!



Flue gas cleaning

- ➔ FKA
- ➔ MILL pneumatic conveying
- ➔ HKD-R
- ➔ SGA

Dedusting technology

- ➔ EE-D
- ➔ HKD
- ➔ HS-D
- ➔ SAF

Pipelines / apparatus engineering / chimneys

- ➔ WT heat exchanger
- ➔ DGF pneumatic conveying system
- ➔ TOW tunnel kiln car cleaning
- ➔ Turbo mill
- ➔ Pipelines, apparatus engineering, chimneys, steel construction

Flue gas cleaning and dedusting technology

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