



## SHOT BLAST TECHNOLOGY

- THM continuous belt machines

# THE THM CONTINUOUS SHOT BLAST MACHINE ...



## CONTINUOUS SHOTBLASTING ...

... where the parts are continuously fed into the machine offers many advantages:

- the shotblast process is easily integrated into continuous production operations
- it facilitates automation at reasonable cost

The **THM** toughed belt shot blast machine from **Trowal** offers the ideal solution for continuous shotblasting

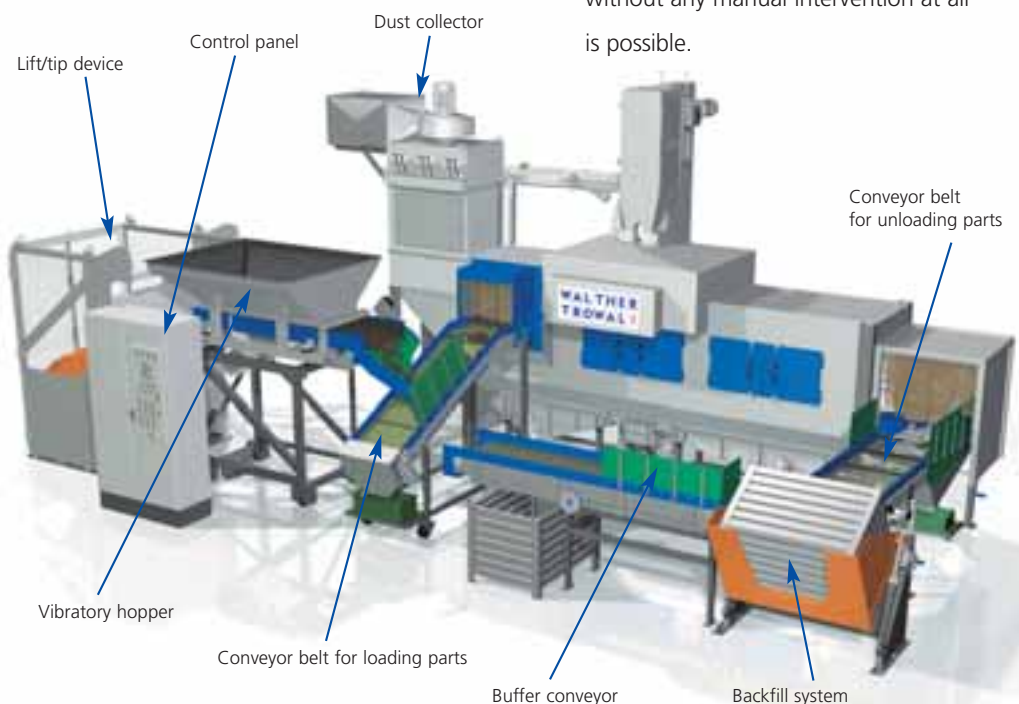
of all kinds of parts of different shapes and sizes.

## THE INNOVATIVE PARTS TRANSPORT SYSTEM

The revolutionary, **patented**, workpiece transport device provides a through-feed system that allows processing parts of all sizes, irrespective of their geometry, weight, length or fragility. While moving forward, the parts are simultaneously rotating. This ensures an optimum coverage by the blast pattern.

## PARTS HANDLING

Loading of the parts into the **THM** and unloading it is simple and effective. There are a wide range of loading and unloading systems to choose from reducing labour cost to an absolute minimum. For certain applications a fully automatic shotblast operation without any manual intervention at all is possible.





# ... A TRULY UNIVERSAL SYSTEM

## AREAS OF APPLICATION

The **THM** troughed belt machine is truly universal: It produces perfect shotblast results for mass produced bulk parts as well as for delicate, large components with complex geometry. With their high productivity and excellent blasting results, **THM** systems frequently replace conventional batch tumblast and even rockerbarrel shotblast machines. Because of the much easier parts handling **THM** systems are often used in place of spinner-hanger shotblast machines.



Chisel



Hinged bearings



Valve plates for automatic transmissions



Bulk parts



Connecting rods



Clutch pedals

## BULK PARTS

Smallest parts dimensions:

**App. 20 x 20 x 10 mm**

## SINGLE PARTS

Largest parts dimension:

**App. 650 x 450 x 450 mm  
(THM 700)**

**Max. weight of single part 50 kg  
(THMS 700 heavy duty version)**

# VALUABLE TECHNICAL FEATURES ...



Optimum rotational parts movement in the blast chamber

## GENTLE PARTS TRANSPORT

The patented transport system guarantees a gentle moving of the parts through the machine without impingement.

## OPTIMUM USE OF ENERGY

Optimum use of energy  
The short distance between turbines and parts allows an optimum use of the blasting energy without any energy loss: For a comparable throughput other shotblast machines like spinner-hanger system require turbines with 50 - 80 % more power!

## EXCELLENT SHOTBLAST RESULTS

The continuous rotation of the parts in the machine and the high-energy shotblast process produce absolutely homogeneous surfaces of highest quality.

The **THM** also allows the shotblasting of parts with thin walls without any distortion.

## PARTS THROUGHPUT

Considering the low capital investment, low energy consumption and excellent blasting results, **THM** machines offer an amazing throughput.

e.g. bulk parts made from Al or Zn:  
4 to 6 Euro-bins  
per hour

e.g. forged steel parts:  
Up to 10 tons per hour  
(**THMS 700**).



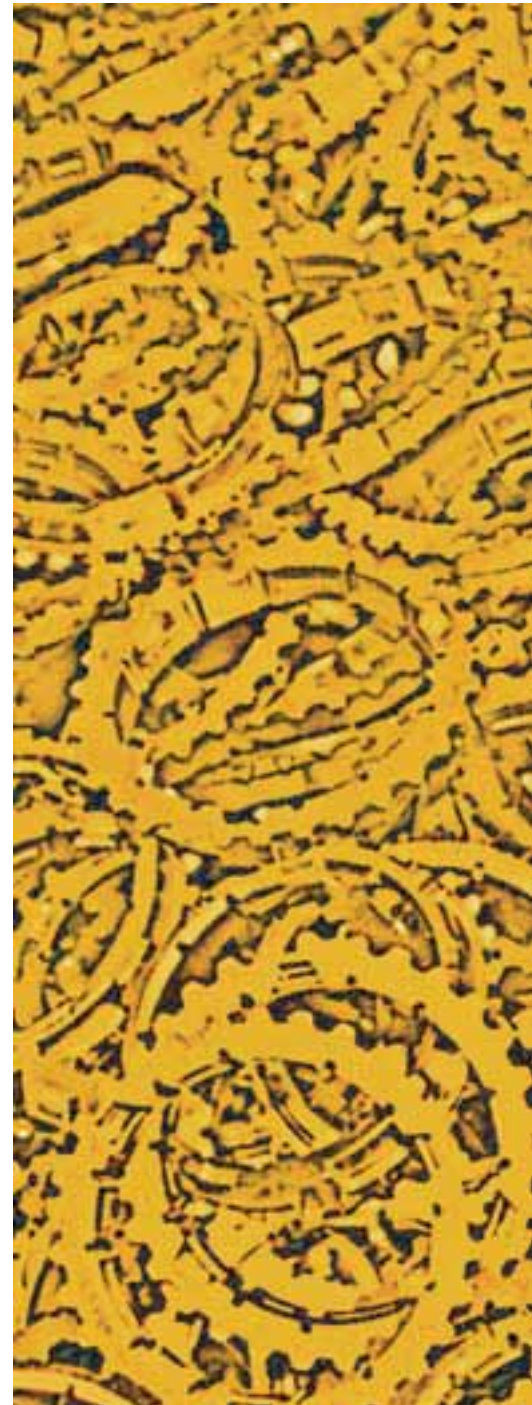
Short distance between turbines and parts ensures optimum energy utilization

## Shot blasting with compressed air

Both **THM 200** and **300** are available with oscillating injector nozzles (optional). These are especially suitable for non-metallic blast media like:

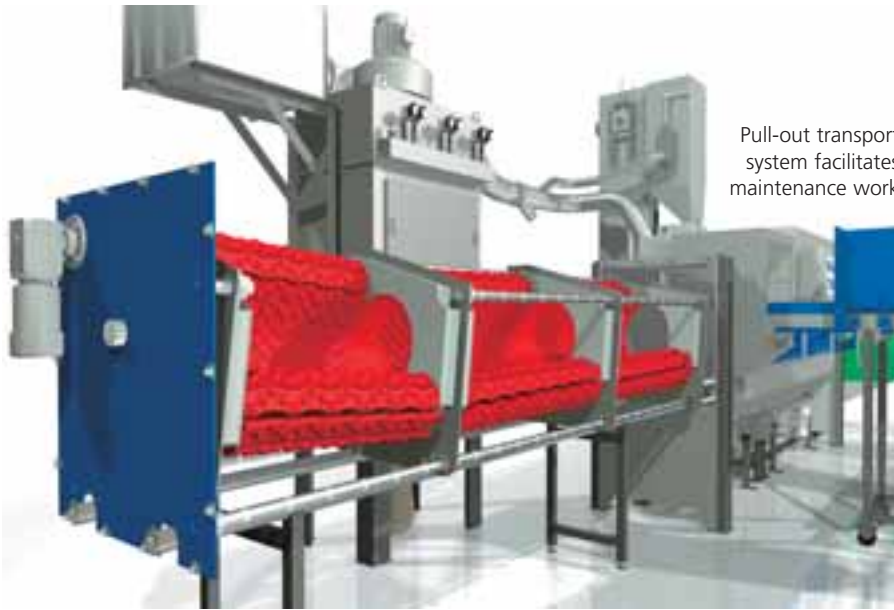
- aluminium oxide
- glass beads
- ceramic beads

More detailed information is available upon request.





# ... AT FAVORABLE COSTS



Pull-out transport system facilitates maintenance work

## EASE OF MAINTENANCE

The **THM** transport system can easily be pulled out of the machine housing on rails. This allows easy access to all areas of critical wear.

Maintenance work in conventional shotblast machines may take several days. The same maintenance work **can be completed in the THM in a matter of a few hours!**

## NO SPECIAL FOUNDATIONS

**THM** systems of the range **THM 300** up to **THM 700** do not require a special foundation  
Exception: **THMS 700** (heavy-duty).

## TECHNICAL HIGHLIGHTS

### • Variable operating process parameters:

- Programmable processing times with variable speed drive of the parts transport system
- Variable throwing speed of the shot with variable speed drive of the turbines
- Automatic flow control for the shot via the PLC (option)

### • The right turbine!

- Turbines from 7,5 up to 22 kW drive power
- Special turbines for aluminium and other – also non-metallic – media

### • The blast chamber

The rods forming the troughed belt in the blast chamber are made from polyurethane or manganese steel **Polyurethane** for gentle transport of delicate parts like

diecastings Manganese steel for heavy-duty operation with bulk parts made from steel

### • Wide range of loading and unloading equipment

- Hydraulic lift and tip systems for different size parts bins and weight loads
- Vibratory buffers and transport systems
- Special conveyor belts for loading, unloading and intermediate storage of parts
- Rotating buffer tables for intermediate storage of parts
- Loading systems with minimum drop heights to gently load finished parts into waiting parts bins without impingement



Transport rods made from PU (red) or manganese steel (grey)

### • Dust collectors

Suitable dust collectors for various applications. Also for explosive dust

# HEAVY-DUTY THMS 700

## AREAS OF APPLICATION

The **THMS 700** was designed especially for heavy-duty operation in foundries and forge.

## HEAVY PARTS?

This robust machine allows the shotblasting of single parts with a weight of up to 50 kg.



Transport system with rods made from manganese steel



THMS 700/4/E

The **THMS 700**, however, is also ideal for shotblasting of mass produced bulk parts.

## HIGH THROUGHPUT!

Hourly throughput with casting or forged parts made from steel of up to 10 tons per hour.

## ROBUST DESIGN

- **Transportsystem:** The rods forming the troughed belt are made from manganese steel with a thickness of 15 mm
- **Turbines:** 4 high performance turbines with a power of 4 x 22 kw
- **Steel shot:** Use of round shot, grit and cut wire
- **Protective lining:** The blast chamber is lined with exchangeable protective plates made from manganese steel
- **Parts temperatures:** Up to 100 °C
- **Maintenance:** The transport system can be pulled out of the machine housing with a power winch. This allows easy access to all critical machine areas and guarantees quick maintenance and replacement of wear parts
- **Total weight:** App. 35 tons.



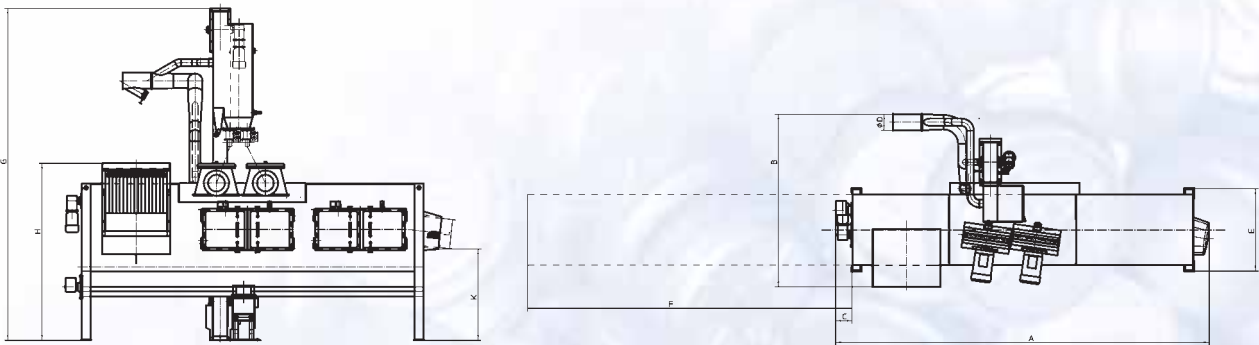


# TECHNICAL DATA

Technical Data	THM 300/2	THM 400/2	THM400/2/E	THM 500/2/E	THM 500/4/E	THM 700/4/E	THMS 700/4/E
<b>Operating tunnel</b>							
Diameter (mm)	300	400	400	500	500	700	700
Length infeed chamber (mm)	/	/	1.040	1.040	1.400	1.600	1.600
Length blast chamber (mm)	1.600	1.600	1.400	1.400	1.400	1.600	2.500
Length shakeout chamber (mm)	1.400	1.400	1.400	1.400	1.400	1.400	1.600
Number of rods (pc)	43	53	53	63	63	79	43
<b>Turbines</b>							
Quantity (pc)	2	2	2	2	4 (3)	4	4
Drive	direct	direct	direct	direct	direct	direct	direct
Power (kw)	7.5	7.5	7.5	7.5 (11)	11 (15)	11	15 (22)
Adjustable rpm	Frequency converter						
<b>Minimum parts size</b>							
Measured diagonally (mm)	25	25	25	25	25	25	40
Minimum thickness (mm)	3	3	3	3	3	3	10
<b>Maximum parts size</b>							
Length (mm)*	200	200	650	650	650	650	650
Diameter (mm)	100	120	250	350	350	450	450
Air volume dust collector (Bm <sup>3</sup> /h)	2.500	3.000	3.600	3.600	5.000	7.500	10.000
Total installed power (kVA)**	28	28	28	28 (35)	65 (72)	76	138

\* The max. parts length is determined by the length of the infeed chamber. Special infeed chamber length upon request.

\*\* without peripheral equipment



	THM300/2	THM400/2	THM400/2/E	THM500/2/E	THM500/4/E	THM700/4/E	THMS 700/4/E
A	4106	4135	5160	5330	6510	6000	9090
B	1840	1840	1984	2130	2321	3240	3856
C	265	265	265	265	80	300	-
D	224	224	224	224	355	300	450
E	1044	1136	1136	1232	1310	1730	2564
F	3855	3855	4800	5000	6010	5730	8800
G	4300	4600	4600	4600	6705	4550	7600
H	2150	2400	2454	2521	3016	2543	4020
K	1150	1250	1250	1250	1604	1035	2112
L	300	400	400	500	500	700	700

Dimensions (in mm)

MASS FINISHING • SHOT BLASTING  
COATING OF SMALL PARTS • EFFLUENT TREATMENT

**WALTHER**  
**TROWAL!**

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