



## MASS FINISHING

Trough Vibrators  
Series TFM and TMV

# TROWAL TROUGH VIBRATORS ...

## LARGE PARTS?

**Trowal** trough (or tub) vibrators are used for finishing of mid to large size parts.

Normally the parts to processed are placed into the tub loose where they can rotate free with the media mass.

## DELICATE PARTS?

Delicate parts are either

- clamped with special fixturing devices
- or
- processed individually in separate chambers separated by special dividers fitted into the tub.

This type of processing prevents impingement and parts damage during the finishing process.

## UNIVERSAL APPLICATIONS

Trough vibrators are "all-round" mass finishing machines. They are used for

- **Deburring**
- **Radiusing**
- **Surface smoothing**
- **Surface polishing**
- **De-greasing**
- **Surface cleaning**
- **Pickling, de-scaling, de-rusting**

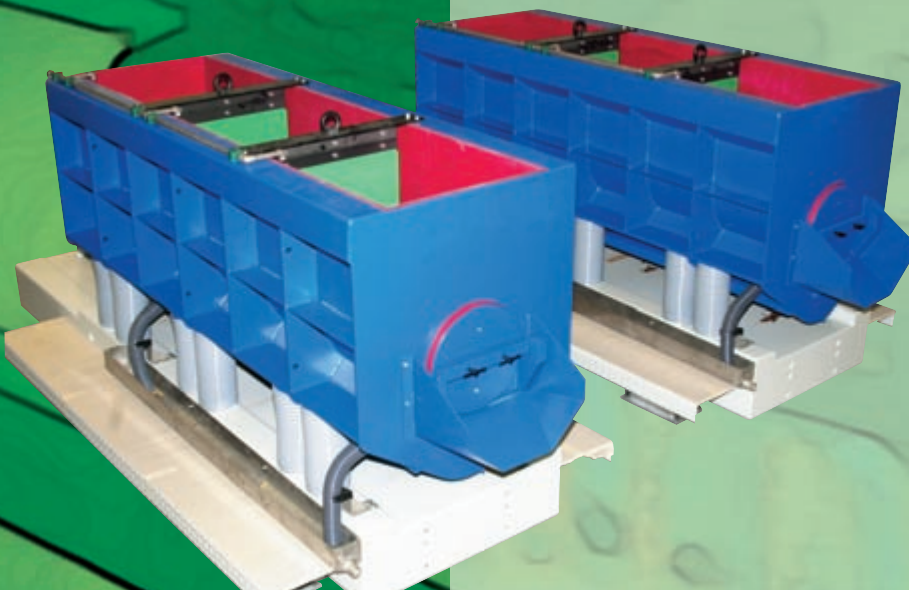
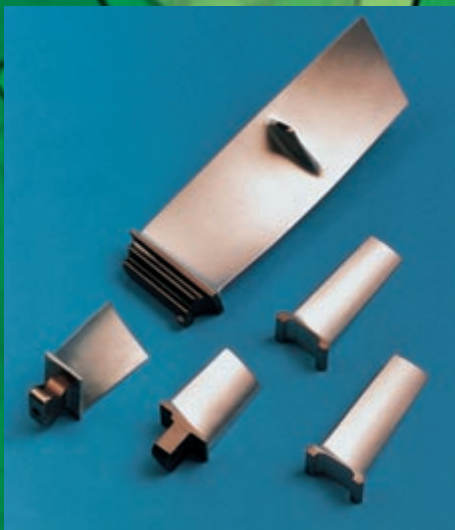
Trough vibrators are frequently used for

- **Ball burnishing and**
- **Pressure deburring with steel media.**

## MACHINERY RANGE

The **Trowal** range of trough vibrators with the **TFM** and **TMV** series comprises many models with different sizes, geometries and performance:

- Work bowl sizes with a usable volume of 15 - 3500 liters
- Work bowls in U - shape with straight walls. A built-in triangular wedge option is available for better movement of the parts/media mass
- Imbalance units: From simple foot-mounted vibratory motors all the way up to the multivib high performance drive system.



# ... FOR STANDARD AND SPECIAL APPLICATIONS



Trough with Partitions

## FEATURES

**Trowal** trough vibrators frequently replace manual grinding and deburring operations on complex, high-value components with

- Drastically reduced processing times,
- Enormous cost savings and, at the same time,
- Significant quality improvements of the surface finish.

Above all, the quality always remains constant and can easily be uniformly reproduced from part to part.

## SPECIAL SOLUTIONS!

### • Troughs with separate processing chambers

The work bowl is divided into separate processing chambers by built-in or clamped dividers. One part is processed per chamber.

This eliminates impingement of parts. Example: Finishing of automotive wheels

### • Clamped parts

The parts or clamped with special fixtures for processing in the trough vibrator.

The fixture is either fixed or rotates freely in the media mass. It

- generates a higher grinding (metal removal) performance
- prevents impingement of the parts against each other

Examples: Fan blades, vane segments, turbine housings.

### • The part itself serves as tub

In special cases the component itself is the trough:

The component is clamped onto a vibrating base plate and is filled with grinding or polishing media.

The resulting movement of media against the inner surfaces of the component induces a smoothing and even a polishing effect.

Example: Pump housings for the pulp and paper industry.



Fixured Fan Blades



Workpiece as the Trough

# ROBUST AND ECONOMICAL ...

## EXCELLENT ECONOMICS!

**Trowal** trough vibrators of the **TFM** series are characterized by their robust design and low purchase price.

## WORK BOWL SHAPE

**TFM** vibrators always have a U-shaped work bowl with straight walls. A built-in triangular wedge for better roll of the media is available as an option.

## DRIVE SYSTEM

The vibration in trough vibrators of the series **TFM** is generated with proven foot-mounted vibrators motors.

Depending on the size of the work bowl **TFM** vibrators are equipped with either one or two vibratory motors. The vibratory motors are lifetime lubricated.

## LINING OF THE WORK BOWL

Both machine types, the **TFM** and the **TMV** series are lined with highly wear-resistant polyurethane with different grades of "shore hardness" to suit the application. Optional rubber lining.



## BALL BURNISHING

Smaller machine sizes within the **TFM** series also can be used for ball burnishing or pressure deburring with steel media.

Characteristics:

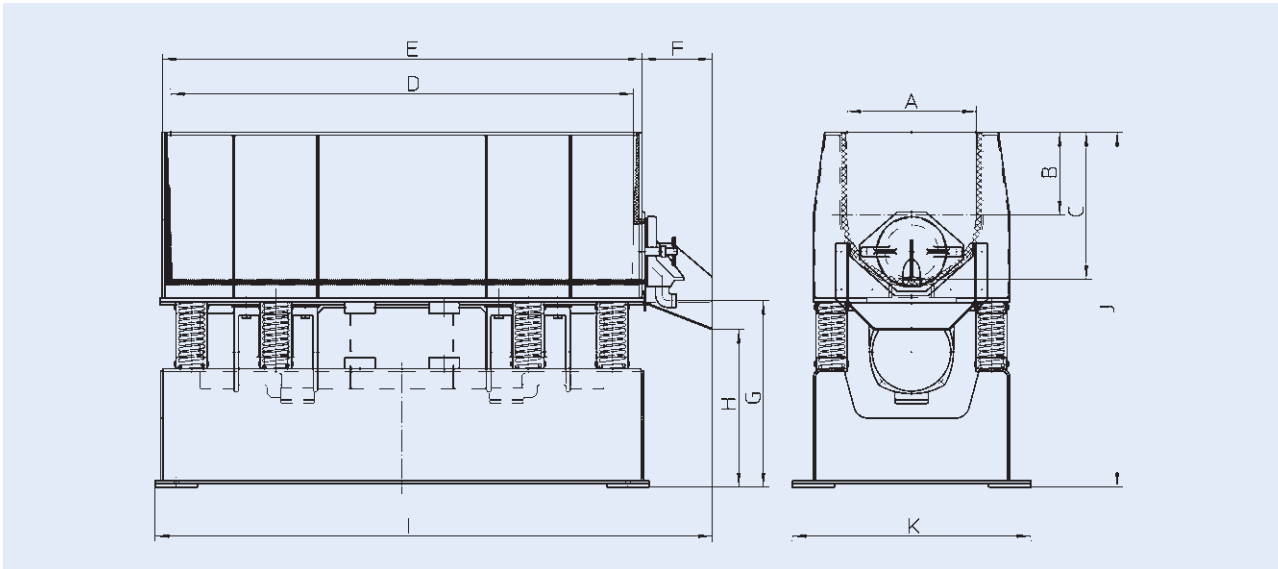
- Re-enforced work bowl
- Stronger imbalance drive system
- Optional acid-resistant lining of the work bowl and acid-resistant paint



Engine casing



# ... SERIES TFM



TFM										
	49 / 21	58 / 32	83 / 37	110 / 46	165 / 46	120 / 56	220 / 56	120 / 91	150 / 125	210 / 150
A	210	320	370	460	460	560	560	910	1250	1500
B	140	190	210	295	295	360	360	455	625	450
C	245	350	395	525	525	640	640	910	1250	1200
D	490	580	830	1100	1650	1200	2200	1200	1500	2100
E	520	616	880	1160	1710	1260	2264	1274	1580	2180
F	100	100	200	250	250	235	250	260	260	260
G	650	650	650	665	665	680	665	720	850	1050
H	560	560	530	560	560	594	560	650	750	930
I	640	730	1100	1410	1960	1525	2514	1555	1860	2500
J (empty)	938	1010	1130	1285	1280	1413	1400	1675	2175	2330
K	400	620	730	850	850	970	950	1350	1650	2150
Outlet- Ø	100	100	140	200	200	200	200	320	320	320
No of Outlets	1	1	1	1	2	1	2	1	2	2

All Dimensions in mm

TFM										
	49 / 21	58 / 32	83 / 37	110 / 46	165 / 46	120 / 56	220 / 56	120 / 91	150 / 125	210 / 150
power (kW) standard version	1 x 0,25	1 x 0,25	1 x 1,0	1 x 2,0	2 x 2,0	1 x 3,5	2 x 3,5	1 x 4,5	1 x 7,0	2 x 7,0
power (kW) ball burnishing version	1 x 0,75	1 x 0,75	1 x 1,0	1 x 3,0	2 x 4,5	1 x 7,0	2 x 7,0	n.a.	n.a.	n.a.
Lining thickness (mm)	10	12	15	20	20	22	22	25	25	25
Usable volume (l)	15	42	80	165	250	270	485	700	1650	3300

n.a.= not available  
Standard Speed 1500 min-1  
Optional Infinitely Variable Speed Control

# HIGH PERFORMANCE TROUGH VIBRATORS ...

## TOP PERFORMANCE!

The specially developed Multivib drive system offers especially intensive finishing over the complete work bowl length without any "dead" areas. No central lubrication required: The imbalance units are lifetime lubricated!

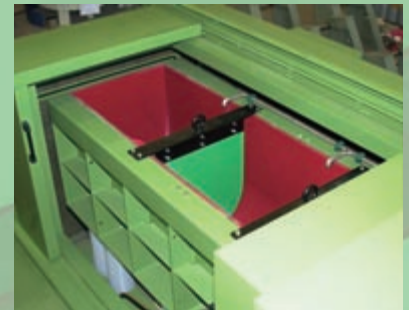
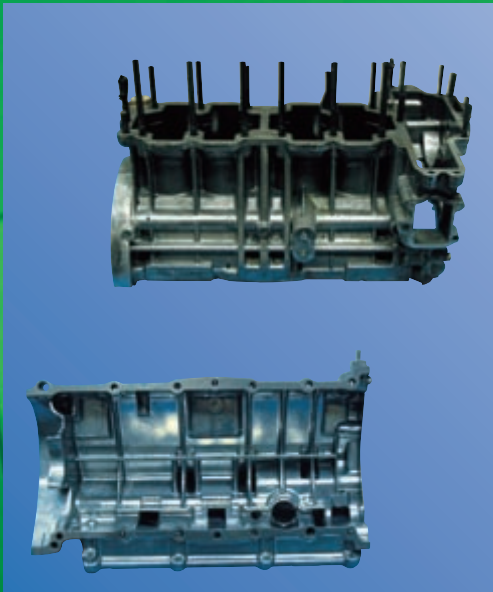
## BALL BURNISHING

Because of their powerful vibratory drive system **TMV** are ideal machines for ball burnishing and pressure deburring with steel media.

## MODULAR MODEL RANGE

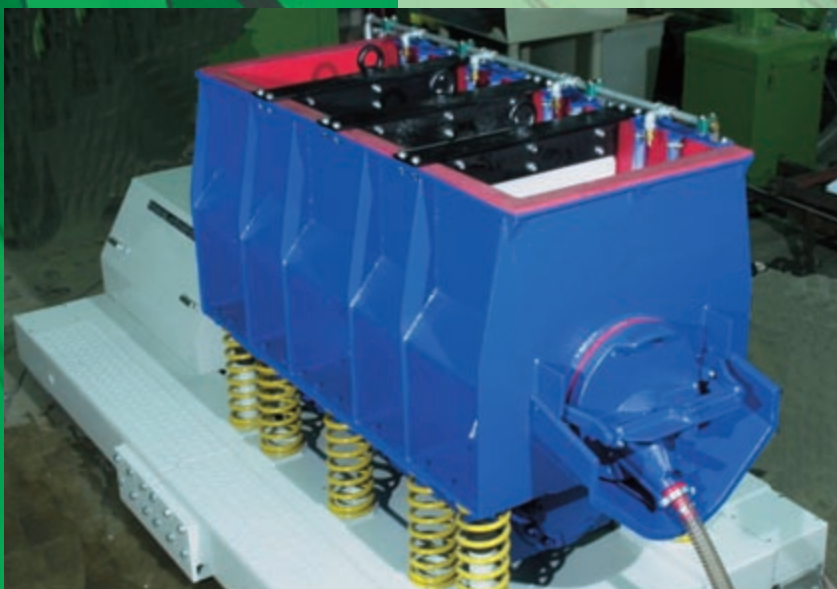
The **TMV** series is designed as a modular system with

- work bowl widths of 410, 550, 650 and 850 mm
- and
- work bowl lengths of 1750, 2600, 3450, 4300, 5150, 6000 and 6850 mm

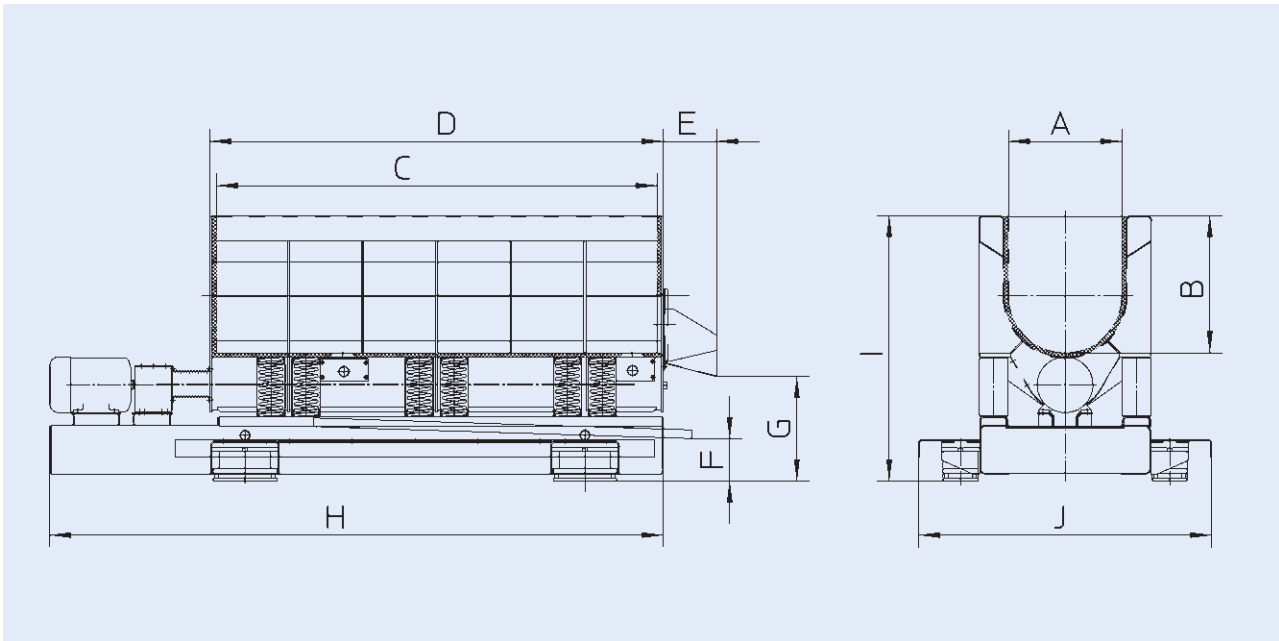


## NOISE PROTECTION

For both, the **TFM** and **TMV** trough vibrators noise reducing lids and complete sound enclosing cabins are available. The sound enclosing cabins tightly fit the trough vibrator with minimum space requirements. With larger trough vibrators the sound enclosing cabins are designed wider for easy access for maintenance.



# ... SERIES TMV



TMV												
	175 / 41	260 / 41	345 / 41	175 / 55	260 / 55	345 / 55	175 / 65	260 / 65	345 / 65	175 / 85	260 / 85	345 / 85
A	410	410	410	550	550	550	650	650	650	850	850	850
B	515	515	515	661	661	661	785	785	785	885	885	885
C	1696	2546	3396	1682	2532	3382	1676	2526	3376	1676	2526	3376
D	1750	2600	3450	1750	2600	3450	1750	2600	3450	1750	2600	3450
E	306	306	306	306	306	306	306	306	306	306	306	306
F	ca. 450	ca. 420	ca. 435	ca. 380	ca. 365	ca. 370	370	350	340	ca. 360	ca. 340	ca. 360
G	670	676	670	471	471	471	583	599	587	580	580	580
H	2685	3535	4385	2685	3580	4430	2670	3520	4435	2685	3535	4385
I	1320	1320	1320	1390	1390	1390	1500	1500	1500	1600	1600	1600
J	1380	1380	1380	1580	1580	1580	1680	1680	1680	1880	1880	1880

All Dimensions in mm

TMV												
	175/41	260/41	345/41	175/55	260/55	345/55	175/65	260/65	345/65	175/85	260/85	345/85
Power (kW) standard version	4	5,5	7,5	5,5	7,5	11	7,5	11	15	11	15	18,5
Power (kW) ball burnishing version	7,5	11	15	11	15	18,5	15	n.a.	n.a.	22	n.a.	n.a.
No. of Fly-weight Housings	2	3	4	2	3	4	2	3	4	2	3	4
Lining thickness (mm)	15	15	15	22	22	22	25	25	25	25	25	25
Usable volume (l)	210	310	410	375	555	735	525	775	1030	895	1175	1760

n.a.= not available  
Standard Speed 1500 min-1  
Optional Infinitely Variable Speed Control



MASS FINISHING • SHOT BLASTING

COATING OF SMALL PARTS • EFFLUENT TREATMENT

WALTHER  
TROWAL!

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