

**WE CUSTOMIZE
THE PROCESS
FOR YOU.**

You receive a perfectly
documented process for
each machine



Torrautomation[®] Systems Pvt. Ltd.
Delivering Innovative Solutions.

Mass finishing technology for finishing mass.
Special Purpose Machine with the latest technology.



About Torr :

We introduce ourselves as one of the leading & innovative automation Solution provider as M/s TORR AUTOMATION SYSTEMS. We are in the field of making Special purpose machines, customized automation systems, Dry and Dip type Leak Test equipments, Mass finishing solutions & Robotic solutions and other material handling solutions. Mass Finishing solutions and its consumables being used in industries like Auto sector, Power sector, Hand Tool, Electronics, Whitegoods industries, Imitation Jewelry & General Engineering sector.

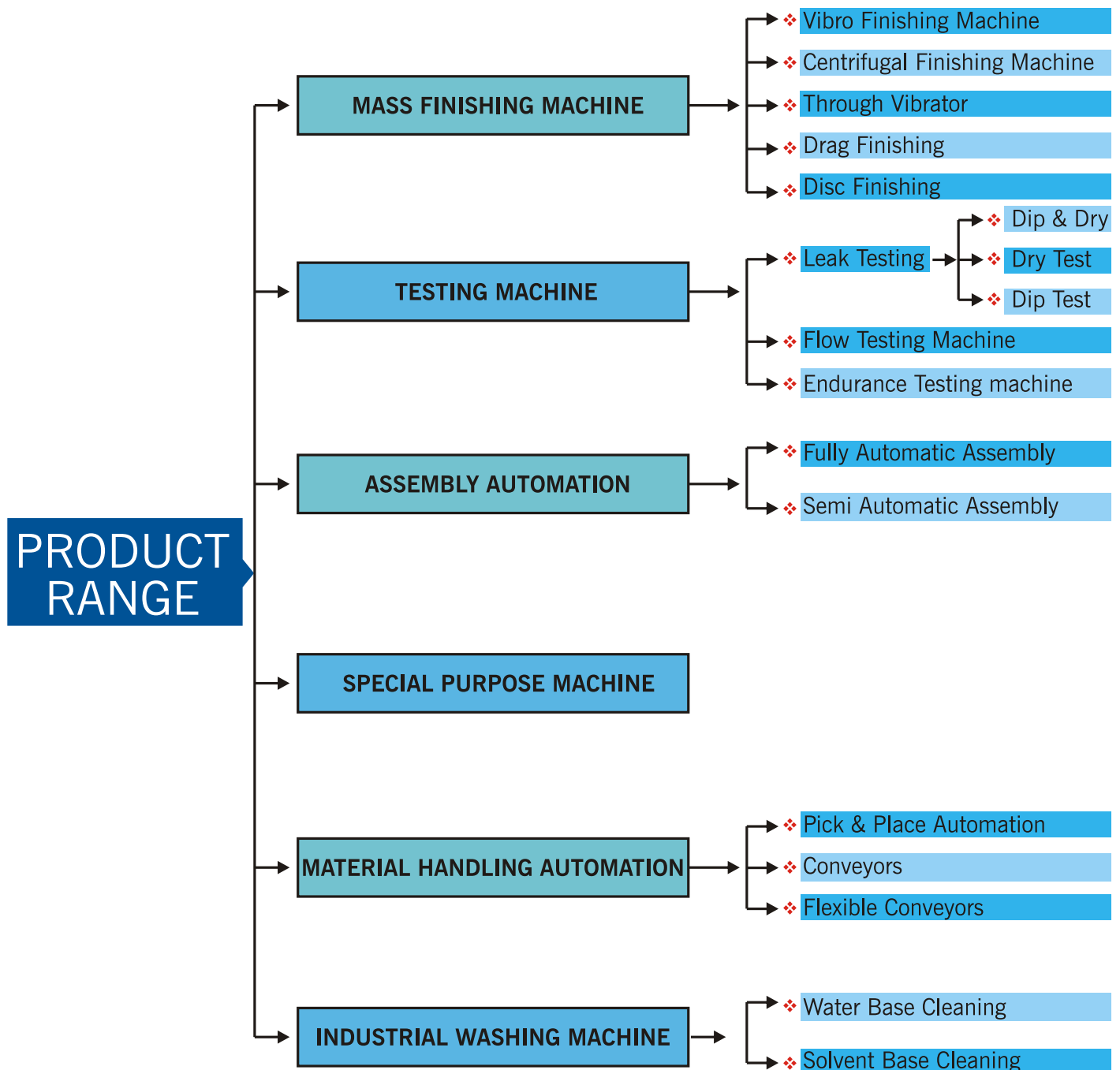
We also have process lab where we use to take the trials of the components for de burring Polishing, Edge radiusing, De scaling, De-rusting, Ra value improvement etc for the customers.

At present we have data base 300+ applications.

Leak testing machines being served to industries like Automotive, Medical, white Good and General Engineering, we offer both type of leak testing like Dry & Wet type testing .

We have expertise in pneumatics, hydraulics, servo & stepper systems, PLC logics, linear motion systems and other advance systems integrate as per the requirement of concept & design. Our team is capable of absorb and enhance new Technologies.

We are a team of young, energetic, innovative & capable engineers with cumulative work experience of 60 men years in the field of SPM's and automation for designing, development, manufacturing, erection & commissioning to meet the customer's requirements. We are associated with Hi-tech tool room with Milling, Hydraulic Surface grinder, Lathe machine, Drill machine & supporting tools. We would like to emphasize that due to dedicated & intelligent efforts of our team, we could achieve excellent performance of subject mentioned machines. Our design team is equipped with latest design tools with working experience of more than decade.





MASS FINISHING MACHINES

VIBRO FINISHING MACHINE :

Vibro Finishing is a type of mass finishing manufacturing process used to deburr, radius, descale, burnish, clean, and brighten a large number of relatively small work pieces.

In this batch-type operation, specially shaped pellets of media and the work pieces are placed into the tub of a vibratory tumbler. The tub of the vibratory tumbler and all of its contents are then vibrated. The vibratory action causes the media to rub against the work pieces which yield the desired result. Depending on the application this can be either a dry or wet process.

Unlike tumbling this process can finish internal features, such as holes. It is also quicker and quieter. The process is performed in an open tub so the operator can easily observe if the required finish has been obtained.



*In these type of machines components / mass to be loaded manually and also unloading of components from these type of machines will be manual.

STANDARD FINISHING MACHINE MODEL

Manual Unloading

Model (STD)	Outside Dia (mm)	U Section Width (mm)	Height (mm)	Motor (HP)
TVFM 40	672	140	810	0.25
TVFM 80	902	210	855	0.5
TVFM 150	1044	250	880	1.5
TVFM 250	1195	285	1085	2.0
TVFM 350	1315	345	985	2.0
TVFM 450	1630	412	1095	3.0
TVFM 600	1715	455	1075	5.0
TVFM 800	1750	460	1250	7.5
TVFM 1000	1885	510	1095	10.0
TVFM 1200	2020	600	1160	10.0
TVFM 1500	2060	615	1315	12.0
TVFM 2000	2250	675	1255	15.0

AUTOMATED VIBRATORY FINISHING MACHINE



*In these type of machines components / mass to be loaded automatically and also unloading of components from these type of machines will be automatically.

ADVANCE SEPARATION SERIES : Small and medium size parts in large quantity mix with media. In this type machines bowl has inbuilt screen hinged with flapper resting on the bump provided to the bowl. Parts and Media climb on inserted flapper & proceed towards screen. Media fall through the screen in bowl & parts exit from screen.

With Automatic Unloading

Model (STD)	Outside Dia (mm)	U Section Width (mm)	Height (mm)	Motor (HP)
TVFM 40	672	140	810	0.25
TVFM 80	902	210	855	0.5
TVFM 150	1044	250	880	1.5
TVFM 250	1195	285	1085	2.0
TVFM 350	1315	345	985	2.0
TVFM 450	1630	412	1095	3.0
TVFM 600	1715	455	1075	5.0
TVFM 800	1750	460	1250	7.5
TVFM 1000	1885	510	1095	10.0
TVFM 1200	2020	600	1160	10.0
TVFM 1500	2060	615	1315	12.0
TVFM 2000	2250	675	1255	15.0

BB MODEL FINISHING MACHINE :

This Machine is strongly build with extra gussets on bowl, higher hp motor & heavy duty spring to withstand four times heavier load of steel media as compare to ceramic media.



Model	Outside Dia (mm)	Bowl 'U' Width (mm)	Bowl Volume (Liters)	Motor (HP)
TBB - 40	672	140	40	0.50
TBB - 80	902	210	80	1.50
TBB - 150	1150	256	160	2.00
TBB - 250	1195	285	250	3.00
TBB - 350	1350	340	350	5.00
TBB - 450	1540	375	450	5.00
TBB - 600	1630	412	600	7.50
TBB - 800	1750	460	1250	7.50
TBB - 1000	1885	510	1000	10.0



VIBRATORY DRYER

Vibro finishing Dryers are designed for stain free drying and polishing of components, immediately after vibratory/ centrifugal finishing. Heated Maizorb / Corncob is used as the drying media. The rubbing action of the mass eliminates the calcarious residuals of the evaporated water deposited on the surface of the parts. The equipment is offered in, both, batch and continuous operations. This Machine is Strongly build with extra Gussets on bowl, higher hp motor & heavy duty spring to withstand four times heavier load of steel media as compare to ceramic media.

Model	Outside Dia (mm)	U Section Width (mm)	Height (mm)	Motor (HP)	No. of Heater
TVFD-40	680	168	760	0.25	2
TVFD-80	910	230	955	0.5	2
TVFD-150	1052	284	1075	1.5	4
TVFD-250	1218	322	1110	2.0	4
TVFD-350	1316	380	1175	2.0	5
TVFD-600	1540	410	1290	3.0	6
TVFD-800	1730	502	955	5.0	6
TVFD-1000	1900	562	1050	7.5	6
TVFD-1200	2020	600	1150	12.0	8
TVFD-1500	2100	615	1250	12.0	10
TVFD-2000	2300	675	1350	15.0	12



LONG RADIUS FINISHING MACHINE

The LR concept offers a high degree of flexibility. Long radius machines can be used for in-line continuous processing and for batch processing. In batch processing, the machines are equipped with a pneumatic separation flap. Batch processing in LR machines allows the processing of larger parts, with a minimum of part-on-part contact.

Their main application is in-line, continuous-feed operation. Continuous-feed operation allows the LR machines to be placed directly into an in-line manufacturing process without having to invest in expensive batch loading equipment. In the continuous, single lap process, the Long Radius flow systems are ideal for fast deburring, edge breaking and radiussing. Parts made of zinc, aluminium or cast steel can be processed immediately after clipping or casting. Processing times of 4 to 16 minutes in a single-pass cycle are possible.

Model	Outside Dia (mm)	'U' Section Width (mm)	Depth U Section		Bowl Volume (Liters)	Motor (HP)
			Lowest (mm)	Highest (mm)		
TVFM-80 LR	1026	136	93	407	80	1.0
TVFM-160 LR	1145	170	114	456	160	2.0
TVFM-350 LR	1766	250	275	865	350	5.0

SEGMENTED TYPE VIBRATOR

1. First time design and develop SEGMENTED TYPE VIBRATORY FINISHING MACHINE to process components individually in different segments avoid part to part hitting.
2. Developed NEW DE-BURRING MEDIA which wears very less compares to conventional Media.
3. The wear rate of this New Media is 2 gms./kg. in 24 working hours in comparison to 12gms/kg in 24 hours for conventional media.
4. First time designed and develop our OWN LEAK TESTER being used in leakage testing machine to check leakage on positive pressure method.





CENTRIFUGAL FINISHING MACHINE

Centrifugal Finishing Machine - Technology Series is composed of a number of barrels mounted on the periphery of a turret. The turret rotates at high revolutions per minute (RPM) in one direction while the barrels are rotated in the opposite direction. Parts to be deburred and finished are placed in each of the barrels, normally together with media, water and some form of compound. Turret rotation creates a high centrifugal force of up to 50 times earth gravity, thus compacting the load within the drums into a tight mass.

The counter rotation of the barrels causes activity of this tightly packed mass. The media slides against the parts being processed, removing burrs and improving surfaces. The Abrading action during the high centrifugal force results in a very short process cycle.

The inclined axis barrel rotation generates unique SUPER-EIGHT motions, which causes additional rubbing and polishing effect.



Achieving the impossible finishing in ULTRA SHORT TIME

Several results which were not possible so far in rotary barrel and vibratory finishing machine can now be achieved in Centrifugal Finishing Machine. Our sound experience in establishing successful vibro finishing processes & extensive trials conducted on Centrifugal Finishing Machine in our Laboratory has gained us a confidence to claim following comparison for the time taken by Rotary Barrel (RB), Vibratory Finishing Machine (VFM) and Centrifugal Finishing Machine (CFM)

BURNISHING, LUSTERING AND MIRROR-LIKE FINISHING

The raw steel with roughness of 10 micron can be improved to 1 micron in 30-60 minutes, while the conventional burnishing and lustering can be obtained in 15 to 30 minutes.

HEAVY CUTTING

Take 20 - 30 minutes for major deburring, descaling of black skin of casting and forging, finishing of tiny parts. The cutting action is similar to center less grinder.

ELIMINATION OF ENTANGLEMENT AND DISTORTION

No distortion found in thin plates (up to 0.4 mm thick), Small thin flat parts, which easily stick to each other and used to be impossible to process can be perfectly processed e.g. valve reeds etc.

CONSISTENCY AND UNIFORMITY

Once the processing parameters are set the consistent results are obtained making this equipment suitable for mass finishing.

Choice of Models

Model	Total Capacity (Ltr.)	Floor Space L x W x H (mm)	Motor HP	PU Lining Thickness (mm)	No. of Barrels	Barrel Arrangement
TCFM 20	20	1250 x 1150 x 1150	2.0	10	4	Removable/Fix
TCFM 40	40	1300 x 1250 x 1450	5.0	10	4	Fix
TCFM 60	60	1200 x 1450 x 1650	5.0	10	4	Fix
TCFM 100	100	2000 x 1600 x 1900	10.0	10	4	Fix
TCFM 160	160	2250 x 3200 x 2300	10.0	15	4	Fix
TCFM 200	200	2270 x 3300 x 2700	15.0	20	4	Fix



TROUGH VIBRATOR



Trough Vibrator is suitable for processing large parts.

It is a high-performance vibrator which is especially gentle in operation and yet provides very intensive finishing. The result is much shorter processing times than with conventional tub vibrators.

Areas of application

- This type of Vibrator especially suitable for long, thin work pieces

Core markets

- Mechanical engineering (e.g. broaches)
- Medical devices (e.g. bone plates)



Model	U Section Length	U Section Width	Motor HP	PU Thickness	Over all Dimension (L x W x H)
TTV 12	410	180	0.25 x 1 No.	10	506 x 400 x 700
TTV 35	550	350	0.5 x 1 No.	10	730 x 380 x 700
TTV 250	1170	475	0.5 x 2 No.	15	2000 x 650 x 1000
TTV 500	1200	650	2.0 x 2 No.	15	2500 x 760 x 1300
TTV 1200	2000	800	3.0 x 2 No.	15	3200 x 900 x 1300
TTV 2400	2400	1200	7.5 x 2 No.	15	4310 x 1400 x 1500

*All dimension are in mm











CHEMICAL COMPOUNDS

COMPOUNDS		PROCESS												INDUSTRIES	
TYPE	DESCRIPTION	Ferrous	Non Ferrous	Acid	Alkaline	Natural	De-Burring	De-Scaling	De-Greasing	Polishing	Burnishing	Protection	Smoothing	Neutralising	RECOMMENDED CATEGORY
POWDERS															
10010LD	Descaling / Pickling		●						●						Aluminium
10012LD	Descaling	●	●						●						Steel
10050L	General Purpose	●	●		●		●			●		●	●		Available with Modification for Applications
10015L	Low Foam		●										●		Aluminium
10016L	Burnishing	●	●	●							●				Bright Surfaces with Steel Media
10022P	Heavy Descale	●	●	●				●	●						Steel / Brass Forging
10040L	Polishing		●	●						●	●		●		Brass / Aluminium / Copper
10070L	De-Greasing	●	●	●					●	●			●		Steel / Non Ferrous
10060L	Polishing		●	●			●			●	●				Aluminium
10080L	Polishing	●	●	●					●	●			●		Steel / Aluminium / Stainless Steel
100RP	Inhibitor	●			●							●			Steel

MASS FINISHING CONSUMABLES



FOR DEBURRING APPLICATIONS

Ceramic Base		Plastic Base		LWFF (Non wearable)	
	Triangle D		Star ST		Triangle F
ACT Size	5mm x 5mm 8mm x 8mm 10mm x 10mm 15mm x 15mm 20mm x 20mm 40mm x 40mm 60mm x 60mm	Parabolic Size	10mm x 10mm 15mm x 15mm 20mm x 20mm 40mm x 40mm 45mm x 50mm	ACT Size	15mm x 15mm 30mm x 30mm 40mm x 40mm
	Angle Cut Triangle S		Ellipse E		Angle Cut Triangle ES
SC Size	5mm x 10mm 10mm x 15mm 15mm x 20mm 20mm x 25mm 30mm x 35mm 25mm x 40mm	Cone Size	15mm x 20mm 20mm x 25mm 38mm x 40mm 45mm x 50mm	SC Size	15mm x 10mm 30mm x 20mm 40mm x 30mm
	Cylinder Z		Angle Cut Cylinder ZS		Rhomboid R
ELLIPTICAL Size	10mm x 10mm 15mm x 15mm 20mm x 20mm 25mm x 25mm 30mm x 30mm	Angle Cut Size	5mm x 5mm 8mm x 8mm 10mm x 10mm 15mm x 15mm 20mm x 20mm 40mm x 40mm 60mm x 60mm	Cylindrical Size	15mm x 15mm 20mm x 20mm 40mm x 40mm 60mm x 60mm
	Cone K		Arrowhead W		Tri-Star DZ
Cylindrical Size	2mm x 8mm 4mm x 8mm 8mm x 12mm 12mm x 16mm 20mm x 40mm				

FOR POLISHING APPLICATIONS

Ceramic Base		Steel Media		Porcelain	
	Angle Cut Tri-Star DZS				
CYC Size	2mm x 8mm 4mm x 8mm 4mm x 10mm 8mm x 12mm 12mm x 16mm	Ball Size	Ø 2mm Ø 3mm Ø 4mm Ø 5mm	Ball Size	Ø 2mm Ø 3mm Ø 4mm Ø 5mm
ACT Size	5mm x 5mm 10mm x 10mm 15mm x 15mm 20mm x 20mm	Satellite	3mm x 5mm 5mm x 7mm 4mm x 8mm		Pyramid P
ELLIPTICAL Size	10mm x 10mm 15mm x 15mm 20mm x 20mm 25mm x 25mm 30mm x 30mm	Taper Cut Pin Size	Ø 1mm x 10mm (L) Ø 2mm x 10mm (L) Ø 1.5mm x 10mm (L)	Cylindrical	Ø 2mm x 8mm (L) Ø 4mm x 8mm (L) Ø 8mm x 10mm (L)
			Paraboloid PA		Spheres G

Please inquire about available Shapes, Sizes and Compositions

COMPOUNDS FOR APPLICATIONS AS GIVEN BELOW

☞ Deburring & Edge Radiusing

☞ Prior Plating, Painting & Powder Coating Finish

☞ Descaling & Derusting

☞ Polishing

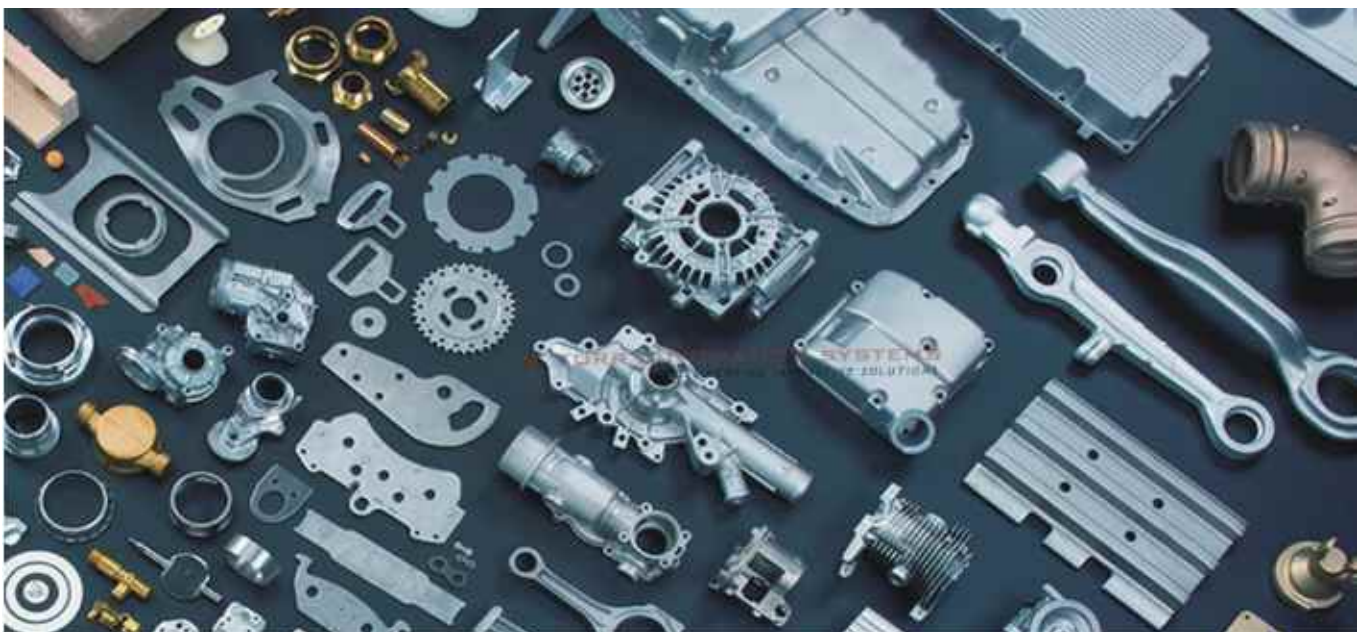
☞ Matt Finish

☞ Ra Value Improvement



MASS FINISHING APPLICATIONS & INDUSTRIES

Aluminium Extrusion and Die Casting	Brass Casting & Hardware	Sintered Components
Compressor Components	Automobile Components	Bicycle Parts
Pressed Components	Watch Parts	Spectacle Frames and Components
Cutlery	Hand Tools and Forgings	Lock Parts and Components
Buckles, Bags and Shoe Fittings	Turbine Blades	Bearing Cages, Cases and Rollers
Plastic Components	Gold, Silver and Imitation Jewellery	Platinum Parts
Aircraft Components	Ceramic Components	Light and Lamp Fittings
Home Decor Items such as Bathroom Fittings, Railings	Switchgear Fittings	Gas Regulator Components
Surgical and Orthopaedic Items	Clutch Plates	Piston Rings and Brake Parts
Diesel Generator Components	Fasteners	Horse Shoe Nails





Standard Accessories

1. All barrels are lined with hot casted Polyurethane lining (Shore 'A' hardness of PU lining is 80 to 85°).
2. Timers and Electro-Magnetic Circuit breaker.
3. Centralized Control panel with following features :
 - a) In processing cycle option of operating in Automatic mode with motorized timer or manually with on/off control.
 - b) In loading / unloading cycle, control for jogging of turret and barrels for its exact position in front of the door. (Not applicable to CFM 10)
4. Vibrating table arrangement for separating media and components along with ON - OFF control for starting and stopping of Vibrating table in centralized control panel. (for Non - Detachable Barrel Machine - For CFM 40 onwards models).
5. Simple Manual Separation arrangement (for CFM 10)

Optional Accessories

1. Variable speed drive from 10 to 100% to adjust the speed on the turret rotation for achieving optimum results.
2. Spare Barrels suitable for the above models.
3. Vibro Drier for stains free drying of components.
4. Washing Unit.
5. Replaceable PU Liners.
6. Media and Component loading system.

STANDARD ACCESSORIES



LOADING CONVEYOR



BELT TYPE DRIER



MAGNETIC SEPARATOR



BIN TYPE LOADING SYSTEM



HORIZONTAL TRANSFER
CONVEYOR



SOME OF OUR SUPPLIED INTEGRATED SYSTEM





TESTING MACHINE

LEAK TESTING MACHINES

Dry Type Leak Testing Machine :

Differential Sensor based Leak testing machine to measure pressure drop up to 0.1 Pascal. These machines are multi channel to test various chambers at different pressures and reject levels. Fully automatic Quality control machines for proper traceability



Dry and Dip Type Leak Testing Machine :

Machines for automatic quality control with bubble test option.

Machines are built with proper fixturing design to suit profile area of components.

Dry Type Leak Testing Machine :

These machines work on air bubble test carried out at specific pressure. Operator locates the leakage area of rejected Components for process improvement or rework.



Vacuum Leak Testing Machine

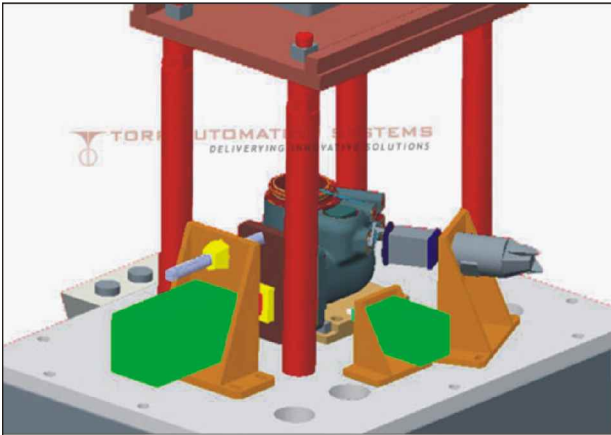


High Pressure Leak Testing Machine



FLOW TESTING MACHINE

This system allows to measure in a direct way the flow rate or airflow generated by the leak. At the end of the filling and settlement phases the test time is the only factor which is necessary in order to obtain a stable measure about this flow: this time is generally very short (ex.: 0,1 Sec.).



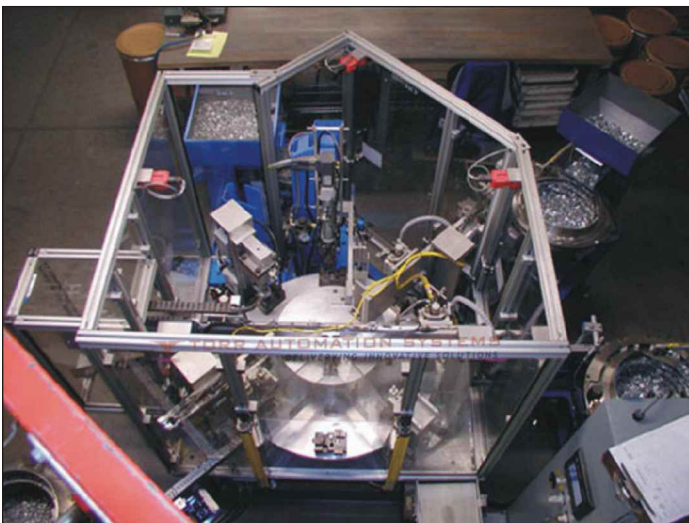
ENDURANCE TESTING MACHINE

These machines are used to check fatigue is the weakening of a material caused by repeatedly applied loads. It is the progressive and localised structural damage that occurs when a material is subjected to cyclic loading.



ASSEMBLY AUTOMATIONS

Torr has delivered many assembly automation line which are used to deliver the product without manual intervention. We give space saving solutions, money saving solutions, fatigue free solutions, user friendly solutions and customer delighted solutions.





SPM (SPECIAL PURPOSE MACHINE)

Silent Features

- ❖ Maintenance Free Machine
- ❖ As theistic world class machines
- ❖ All display in front of machine for easy analysis.
- ❖ All machines manufacture considering safety and protection of operator.
- ❖ 3D design of Machines.
- ❖ All Poka Yoke and ergonomics considered during designing.
- ❖ Date Restoration.
- ❖ Designed machine on minimum cycle time.



FLUSHING & FREE ROTATION
TESTING MACHINE



BUSH PRESSING M/C

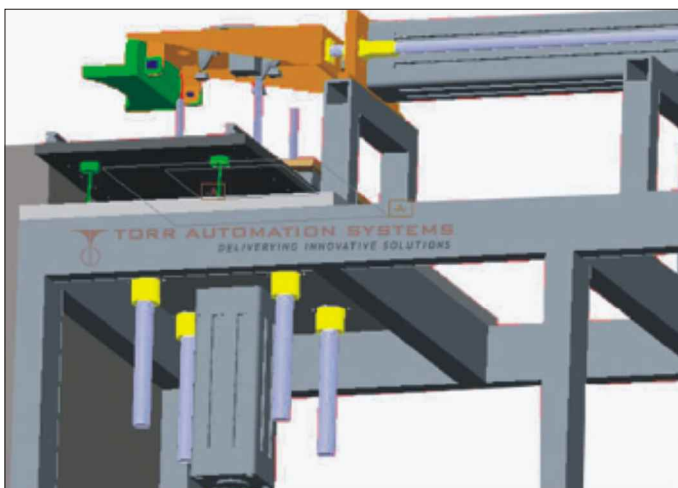
MATERIAL HANDLING AUTOMATION

Torr Systems has developed itself in Material Handling Automation. These include Roller Conveyor, Belt Conveyor, Slat Conveyor, Split Conveyor, Flexible Conveyor, Pick & Place Arrangement, and Machine Tending Application.

We have highly skilled people who work on the Material Handling Automation and have developed such tools which are really fast.



FLEXIBLE CONVEYOR



PICK & PLACE ARRANGEMENT

FLEXIBLE CONVEYOR

Flexible Conveyor systems allow quick and efficient transportation for a wide variety of materials. The flexible conveyor is based on a conveyor beam in aluminium or stainless steel, with low friction slide rails guiding a plastic multi-flexing chain. Products to be conveyed travel directly on the conveyor, or on pallets/carriers. These conveyors can be worked around obstacles and keep production lines flowing. They are made at varying levels and can work in multiple environments. They are used in food packaging, case packing, and pharmaceutical industries but also in retail stores.



INDUSTRIAL WASHING MACHINE

CONVEYORISED SPRAY WASHING SYSTEM

- ❖ These are high productivity conveyorisised part washers for continuous cleaning of parts.
- ❖ The part movement is on continuous conveyor using SS chain-sprocket mechanism.
- ❖ Honey comb chain conveyor / slatted chain conveyor can be used as per part geometry and requirement.
- ❖ Spray wash, spray rinse, compressed air chop and hot air dry process can be adopted.
- ❖ Spray rust inhibition can be added.
- ❖ Fixed or pneumatically operated spray manifolds can be provided.
- ❖ Start -stop of parts at required location can be provided.
- ❖ PLC based control panel with fully automatic operation.
- ❖ All wet parts in SS 304.



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- ❖ Start -stop of parts at required location can be provided PLC based control panel with fully automatic operation.
- ❖ All wet parts in SS 304



INDUSTRIAL WASHING MACHINE



COMPACT ULTRASONIC CLEANER

Compact Ultrasonic cleaner is a small chamber with ultrasonic transducers mounted at bottom /side as per requirement.

It is very much suitable for the laboratory testing purpose.

Capacity available from 1.5 liter to 100 liters as per requirement.

Inbuilt filtration and re-circulation of the media can be provided for chamber bigger than 50 liters

Continuous filtration to increase the bath life Suitable for small productivity / batches Inbuilt safety features for the liquid level and temperature Easy to handle and movement.

TOP LOADING ROTARY TABLE

- ❖ These machines are generally used for general cleaning applications before going to next machining operation
- ❖ Continuous rotation of basket during all processes
- ❖ High pressure spray with dedicated nozzle are provided inside the chamber
- ❖ The basket containing the components rotates at fixed speed of 3-5 RPM
- ❖ The spray nozzles are fixed at a particular position so that all the surfaces are exposed to the spray
- ❖ High pressure spray wash and compressed air drying facility
- ❖ All the safety features included liquid level, liquid temp etc.
- ❖ Properly sealed front lid
- ❖ Continuous as well as inline filtration for better cleaning results and more bath life
- ❖ Single frame mounted unit with easy maintenance features
- ❖ All wet parts in SS 304
- ❖ Can handle load upto 100 kgs
- ❖ Filtration with bag filter and SS mesh filter to increase the life of filtration
- ❖ Mist collector to avoid fumes coming out of system (Optional)



OUR ESTEEMED CUSTOMERS

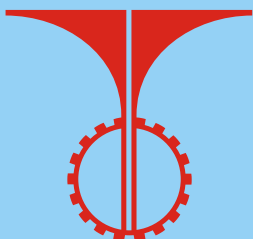
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- Ask Automotive
- Kiran Udyog
- Steel Strip Wheels India Ltd.
- Atop Products
- Micro Turners
- Omaxe Auto
- Tata Steels
- Bajaj Motors
- and many more

LEAKAGE TESTING MACHINE



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