



**DEEP** EXPLO

**2021**  
**Product**  
**Catalogue**





# Solutions Rendered

DEEP EXPLO

MEET  
THE NEW

---

DEEP EXPLO

# Index

## Explosives

### Detonator

#### 13 • Detonator Shells

14 • CupTech

16 • ShellTech

18 • Cleaning Unit - Manual

19 • Cleaning Unit - Automatic

#### 21 • Fuse Head

22 • Single Side Tin Coating

22 • Comb Blanker

23 • FFM - Plastic Fettering

24 • HFM - Head Frame Mounting

24 • PPM - P.P. Strip Fettering

25 • Dipping Unit

25 • Fuse Head Auto Sorter

26 • Fuse Head Grader

#### 29 • Delay

30 • Corning Machine

30 • Composition Mixer

31 • Roll Pointer

32 • Tube Closing

33 • Tube Straightening

34 • Tube End Tapering

34 • Composition Filler - CAM

35 • Tube Draw Bench

36 • Mini Roll Pointer

37 • Delay Element Cutting  
And Consolidating

38 • Delay Element Cutting

#### 41 • Filling & Pressing

42 • Shell Filling - Manual

42 • Delay Filling Machine

43 • Filling & Pressing Unit

44 • PETN Filling Station

44 • ASA Filling Station

#### 47 • Shock Tube

48 • DN - 1

49 • DN - 1C

50 • DN - 2

52 • DN - 500

53 • Composition Filling Machine

54 • Composition Mixing Machine

54 • Dib Insertion Machine

#### 57 • Electric Wire

58 • Wire Twisting Machine

#### 61 • Assembly

62 • TLO - Detonator Testing

- 62 · Fuse Head **Wire Crimping Machine**
- 63 · Fuse Head **Wire Soldering Cassette**
- 63 · Blocker - **6T**
- 64 · Crimping **Station**
- 65 · Crimper
- 69 · Miscellaneous**
- 70 · Shell **Chiseling Machine**
- 71 · Detonator **Cutter**

## **Packaged Explosives**

### **75 · Machines**

- 76 · DCM - **18**
- 78 · SCM - **18**
- 80 · TCM - **19**
- 82 · SL - **P**
- 83 · SFC - **Paper Shell Filling And Crimping**
- 84 · AFM- 32 - **Blow Moulded Tube Filling And Crimping**
- 85 · Distribution **System**
- 86 · DDU - **Automatic Dripleless Dosing Unit**

### **89 · Replacement Parts**

- 92 · Chub - **Pack**

## **Detonator Shells**

## **Consumables**

## **101 · ESD Protection**

- 102 · Anti-Static **Gloves**
- 104 · Anti-Static **Garments**
- 109 · Anti-Static **Finger Cot**
- 110 · Anti-Static **Cap**
- 110 · Anti-Static **Mask**
- 111 · Anti-Static **Mat**
- 112 · Anti-Static **Wrist Strap**
- 112 · Leather **Sheets**
- 113 · Leather **Apron**

## **115 · Spools**

- 116 · General Purpose **Spools**
- 117 · High-Performance **Spools**
- 118 · Cylindrical Barreled **Spools**

## **121 · Clipping Wire**

## **125 · Plastic Connectors**

- 126 · 6 Hook **Connector**
- 126 · Hinge **Connector**
- 127 · MS **Connector**
- 127 · J Hook **Connector**
- 128 · Rubber Bushing **with Stopper**
- 129 · PVC **Plug**

## **Consultation**

## **Upcoming Projects**

# Defence

- 138 • Deep Drawn **Components**
- 140 • Turned **Components**
- 141 • Specialized Hardware **Components**
- 142 • Micro Milling **Components**
- 143 • Assemblies & **Machines**

# Automation

## Machine Design **Methodology**

- 146 • Ease and **Efficiency**
- 146 • Build
- 147 • Modular **Approach**
- 147 • Maintenance

# Manufacturing Services

## Capabilities

- 151 • Management
- 151 • Engineering & **Development**
- 151 • Certification
- 152 • Software

- 152 • Quality
- 152 • Awards

## Equipment

- 153 • Turning
- 153 • Milling
- 153 • Grinding
- 154 • Sheet **Metal**
- 154 • Un-Conventional **Machining**
- 155 • Formed & **Deep Drawn**
- 156 • Welding
- 156 • Surface & **Heat Treatments**
- 157 • Additional **Equipment**

# Industrial Components

- 160 • Services
- 160 • What sets us apart?
- 161 • Our Current Portfolio



# DEEP EXPLO



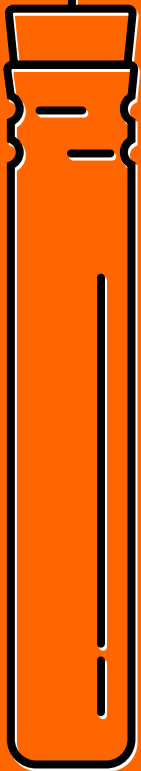
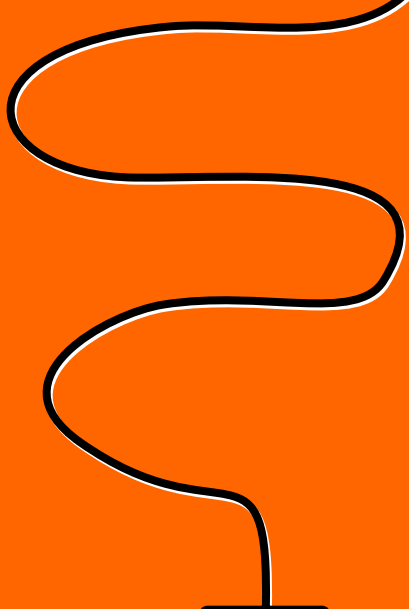




**EXPLOSIVES**



**Detonator**





Detonator

# Detonator Shells

---

**DEEP** EXPLO

**Machine to draw out cups from aluminum and copper to be feed to ShellTech to draw out detonator shells.**

CupTech is a Double Action Vertical Press designed for automatic blanking and drawing operations of ferrous and non-ferrous metal components used in various equipment and appliances. It is wholly tooled up as per the buyer's specifications. We have been using it to produce millions of cups per month at our shell plants for the past 28 years and have updated the machine to make it as trouble-free as possible.



## Benefits

- It can produce 180000 nos. of light cups, 1,50,000 of medium and heavy cups, and 1,20,000 of super heavy cups for extra-long Detonator tubes/shells per shift.
- It has an electro-pneumatic clutch and brake, each working independently of the other to achieve an immediate halt at any phase of the cycle.
- It has an automatic roll feed system coupled with a scissel winding system.
- A Micrometer screw is attached to adjust the pitch.
- The central lubrication system automatically lubricates all the moving parts.
- An indicating light on the panel warns of any faults or insufficient pressure in the lubricating system.
- The flow rate/amount of lubrication is controllable through the given variable timer.
- The machine stops instantly in case of the absence of lubrication.
- The machine is fitted with a micro-control switch for tool safety.

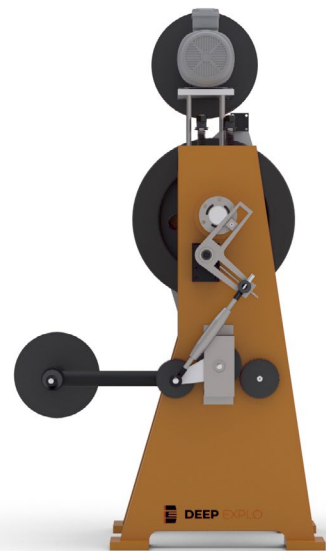
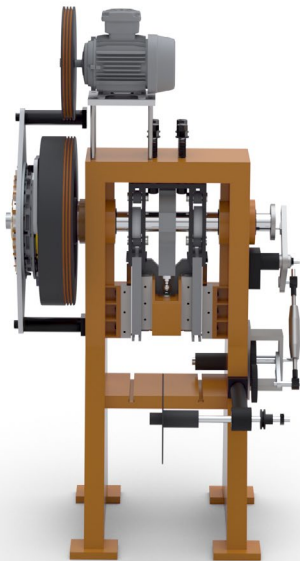
We also offer various options for the gripper feed system, electronic press monitoring system, PLC control systems with industry 4.0 protocols, VFD motor control, mountings, wax sump, and die tools.

The presses are designed and developed to meet the buyer's exact specifications and commissioned after the rigorous testing and trials by the technical staff.

## Specification

<b>Tonnage</b>	90 ton
<b>Motor HP</b>	7.5HP
<b>Input Material</b>	Aluminium / Copper
<b>Size (L*B*H in mm)</b>	2250x2000x2500
<b>Weight (in Kg)</b>	3500 Kg.
<b>Air Pressure Required</b>	6 Kg/Cm Sq.

<b>Production capacity</b>	up to 450 Pcs/min
<b>Operating voltage</b>	According to the customer's requirement
<b>Voltage phases required</b>	3 Phase connection required.
<b>Man Power required</b>	1 semi-skilled workman, 1 unskilled workman.



# ShellTech

**Machine to make detonator shells from aluminum and copper up to 110mm in length.**

ShellTech is designed for an automatic deep drawing of softer materials. It has been designed to produce deep drawn parts with short working strokes and a long stripping stroke. ShellTech enjoys an excellent reputation in the production of shells, cans, tubes, and similar products. We have been using it to produce millions of detonator shells per month at our shell plants for the past 28 years and have updated the machine to make it as trouble-free as possible.



## Benefits

- The frame, toggle levers, and drive unit are given exceptional strength to ensure minimal deflection.
- The frame of the press is box-shaped with heavily ribbed steel fabrication for higher strength.
- The frame, toggle levers and the pneumatic friction clutch are controlled through a control panel. This arrangement permits step-less interruption of the stroke and precise inching of the slide during the setting up of tools.
- The drive units, the slide guideways, and other parts of the press are designed for continuous duty cycles.
- The central lubrication system automatically lubricates all the moving parts.
- An indicating light on the panel warns of any faults or insufficient pressure in the lubricating system.
- The flow rate/amount of lubrication is controllable through the given variable timer.
- The machine stops instantly in case of the absence of lubrication.
- It comes with an Automatic vibrating cup feeding system to feed cups into the machine in the proper orientation.
- Custom Shell end stamping according to the customer's need.
- The machine leaves no marks near the mouth of the shells due to stripper-die during the exit stroke.

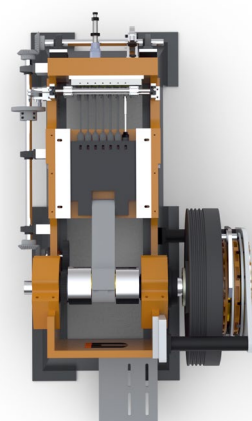
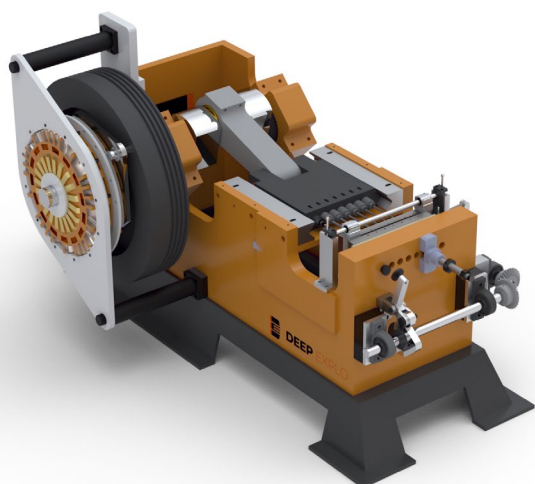
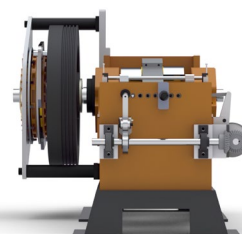
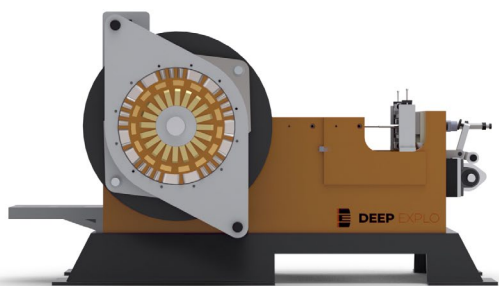
We also offer various electronic press monitoring systems, PLC control systems with industry 4.0 protocols, and VFD motor control.

The presses are designed and developed to meet the buyer's exact specifications and commissioned after the rigorous testing and trials by the technical staff.



## Specification

<b>Tonnage</b>	120 ton
<b>Motor HP</b>	7.5HP
<b>Length of shell</b>	40mm to 105mm (105mm in aluminum only)
<b>Length of Stroke</b>	250mm
<b>Input Material</b>	Aluminium / Copper
<b>Size (L*B*H in mm)</b>	4000x2000x1750
<b>Weight (in Kg)</b>	3500 Kg.
<b>Tolerance</b>	0.02mm
<b>Air Pressure Required</b>	6 Kg/Cm Sq.
<b>Production capacity</b>	up to 60 Pcs/min
<b>Operating voltage</b>	According to the customer's requirement
<b>Voltage phases required</b>	3 Phase connection required.
<b>Workforce requirement</b>	1 semi-skilled workman
<b>Max In-line transfer deep draw stages</b>	7



# Cleaning Unit - Manual

Cleaning unit to clean and degrease detonator shells manually.

After shells are drawn, they need to be cleaned off of the residual oil present on the shells before further processing them. The manual cleaning unit is recommended for low production plants.

## Benefits

- Tanks are made of S.S. to avoid corrosion.
- Tanks are fitted with a Heater for a continuous supply of hot water.
- Heaters can be adjusted to control the temperature of the water.
- Very easy to maintain and clean

## Equipment

The standard manual unit consists of the following four stations. A team is required to move the material from one station to another.

Station 1- Hot Water Bath.

Station 2- Hot water and liquid detergent bath.

Station 3- TCE bath.

Station 4- Polishing station. (Recommended polishing medium is Rice husk sawdust.)

# Cleaning Unit - Automatic

Cleaning unit to clean and degrease detonator shells automatically.

After shells are drawn, they need to be cleaned off of the residual oil present on the shells before further processing them. The automatic cleaning unit is recommended for high production plants.

## Benefits

- Tanks are made of S.S. to avoid corrosion.
- Tanks are fitted with a Heater for a continuous supply of hot water.
- Heaters can be adjusted to control the temperature of the water.
- Very easy to maintain and clean.
- PLC control for the whole operation is also available.

## Equipment

The automatic washing and degreasing plant has a hoist, hexagonal shell carrying bin, and four stations as given below.

Station 1 - MTO, an industrial solvent, or industrial kerosene oil washing unit.

Station 2 - Normal TCE dip (approximately 80% of coolant gets dissolved here)

Station 3 - Hot TCE dip.

Station 4 - Vapor degreasing unit to remove all oil content from the shell.

## Specification

<b>Workforce requirement</b>	1
<b>Recommended batch size</b>	25 kgs per cycle
<b>Total power required</b>	15 kW



Detonator

# Fuse Head

---

**DEEP** EXPLO

# Single Side Tin Coating

To tin coat a single side of the brass strips.

The brass strip needs to be coated with tin for better working parameters of the fuse heads. To do so, one can either coat the strip with tin on both sides or just on the working side and, ergo reducing the wastage of tin. This unit helps in doing just that.

## Benefits

- The unit has a capacity of tinning at the rate of ~2000mm per minute.
- It has an accuracy of close to 5 microns.
- It helps to reduce the wastage of tin.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

# Comb Blanker

To cut out the pattern to form the fuse head combs.

After the brass strips are coated with tin, the strips need to be punched out to get fuse head combs, which, when further processed, would give us ~21 fuse heads each.

## Benefits

- The Comb Blanker has a series of custom made toolings to punch out fuse head combs.
- It has an automatic feeding and scissel winding system.
- The unit has a production rate of ~240 pairs of poles/ minute.
- Ergonomic layout.

# FFM - Plastic Fettering

To fether fuse heads by coating them with PVC.

Fettering Machine is used to hold two poles with some insulator in between to form fuse heads. Conventionally two types of fettering are used for detonator fuse head fettering. In the first type, both poles are held by an insulating paper sandwiched by an outer brass strip cover. In the second type, both the poles are fettered together by hot air welding of polypropylene strip. However, the system's speed can't be increased beyond 60-90 pairs of poles per minute in both processes.

We have developed a state of the art fettering machine based on the PVC molding principle where the bead is directly molded on the fuse head comb strip. The pairs of poles are then cut with a tooling arrangement during the fuse head wire soldering operation.

## Benefits

- Here, the bead is as good as polypropylene welding, but the speed is ~12 times the conventional method.
- A speed of 1000 pairs per minute has already been achieved and can be further increased if required.
- The machine has an automatic feeding arrangement to fed the comb cut strip into the machine through a guide.
- The total operation from start to finish is entirely automated.
- The rate of material dispersion can be controlled easily.
- The machine requires just a single operator to watch and control the operation.
- Very easy to clean and maintain.
- Ergonomic layout.

## Specifications

<b>Total working space required</b>	5' x 5'
<b>Total electric consumption</b>	~4 kW.

# HFM - Head Frame

## Mounting

To weld Nichrome wire on the fuse head.

After fettering the comb strip, we need to weld Nichrome wire on the fuse head. The HFM - head frame mounting machine is used to do just that.

### Benefits

- It has a production rate of ~75 fuse heads/minute.
- Very easy to clean and maintain.
- Ergonomic layout.

### Equipment

The machine consists of the following-

- Several Punches and dies to cut the extra strips.
- Pole bending tools to form the poles along with the Nichrome wire.
- A burning attachment to burn off extra Nichrome Wire
- Cutting arrangement to cut the strip in the desired length.
- A strip feeding attachment.

# PPM - P.P. Strip Fettering

To weld polypropylene strip on the poles of fuse heads.

Fettering Machine is used to hold two poles with some insulator in between to form fuse heads. Conventionally two types of fettering are used for detonator fuse head fettering. In the first type, both poles are held by an insulating paper sandwiched by an outer brass strip cover. In the second type, both the poles are fettered together by hot air welding of polypropylene strip.

### Benefits

- PPM fettering machine feters both the poles by hot air welding of polypropylene strip on the poles.
- It has a production rate of ~75 fuse heads/minute.
- Very easy to clean and maintain.
- Ergonomic layout.



# Dipping Unit

To coat ignition charge on fuse heads.

The dipping unit is a Dipping System designed to dip and coat fuse head with ignition composition. It consists of multiple Fuse head ladles, dipping trays, and driers.

## Benefits

- The Dipping machine can level on its own.
- Our existing system has the capacity of 2 ladles/minute, with each ladle holding 30 Fuse head combs of 21 Fuse heads each.
- The complete unit consists of 5 Dipping stations and Drying Tunnels.
- The dipping unit can easily produce ~5,30,000 Fuse heads in a shift of seven hours, with a possibility of augmenting its production even higher.
- Very easy to clean and maintain.
- Ergonomic layout.

The final product coming out from the drying tunnel needs to be kept on wooden racks for 8 to 10 hours for curing to complete.

# Fuse Head Auto Sorter

To sort fuse heads according to their resistance.

After fuse combs are coated with an explosive charge, the fuse heads on the combs need to be cut out from the comb, checked for their resistance, and sorted accordingly. The fuse head auto sorting machine is used to do so

## Benefits

- The machine has two collection trays to collect out of range and within range fuse heads separately.
- The machine's control panel can be easily set for the desired range of resistance of fuse heads.
- Once loaded on the carrying plate, the combs are tested one by one by the testing probes, checking the resistance, cutting them, and collecting them in the collection bins according to their resistance automatically.
- Out of range fuse heads are rejected and collected in the out of range tray automatically.
- Very easy to clean and maintain.
- Ergonomic layout.

# Fuse Head Grader

To grade fuse heads according to their thickness of ignition charge coating.

The in-range fuse heads from the fuse head auto sorting machine need to be graded and segregated according to the thickness of the explosive coating to remove the fuse head with coating thick enough that it touches the body of the detonator after it is crimped.

## Benefits

- The machine has a feeding hopper to automatically feed the fuse heads onto the machine to be segregated as per their coating thicknesses.
- It has different containers to segregate different grades of fuse heads separately.
- Very easy to clean and maintain.
- Ergonomic layout.





Detonator

**Delay**

---

**DEEP** EXPLO

# Corning Machine

To break down ASA powder into minute particles.

This machine is used to break the ASA Powder into minute particles suitable for Filling and Pressing Units. It also contains a filter that lets you collect appropriate sizes of material as per your needs.

## Benefits

- Particle filter to filter out larger particles.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

# Composition Mixer

To mix delay composition evenly.

The composition mixing machine is used to mix delay composition that would be filled into the lead tubes with proper consistency.

## Benefits

- Anti spark drum to avoid accidents.
- Weighing scale to weigh the raw material more accurately.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

## Equipment

Composition mixer consists of the following to mix the composition to be filled in the delay tube together -

- A 7L Anti Spark Drum to mix ASA composition for the desired amount of time.
- Ovens for drying the raw material
- Blender to mix bags of raw material to maintain composition consistency.
- Weighing scale to weigh the raw material.

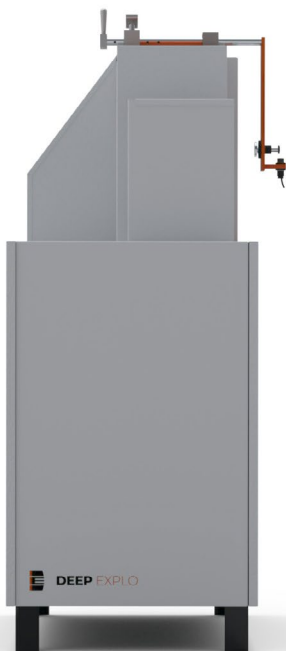
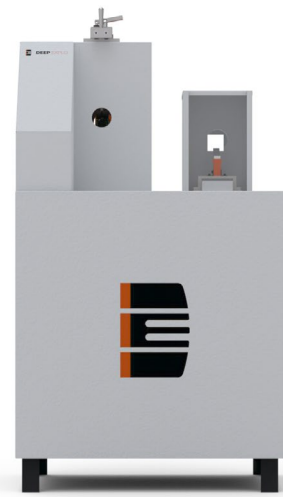
# Roll Pointer

To taper one end of the lead tube.

To feed the delay tube onto the draw bench, one end of the delay tube needs to be perfectly tapered with no burs on it. The Roll Pointer helps in doing just that.

## Benefits

- The machine operates automatically as soon as the tube is fed into the machine and stops as soon as the cycle is complete.
- Tapers the lead tube from 26mm to 6mm.
- Custom designed U shaped blade for efficient deburring.
- Completely covered to reduce the chances of an accident.
- Water tray to contain composition falling out of the lead tube, if any.
- Quick latching taper length adjustment lever.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.



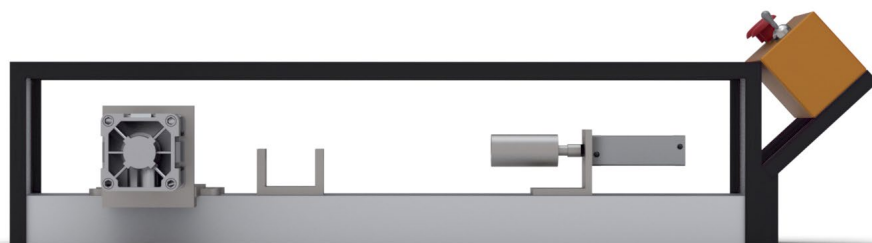
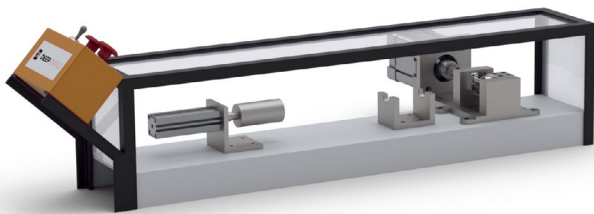
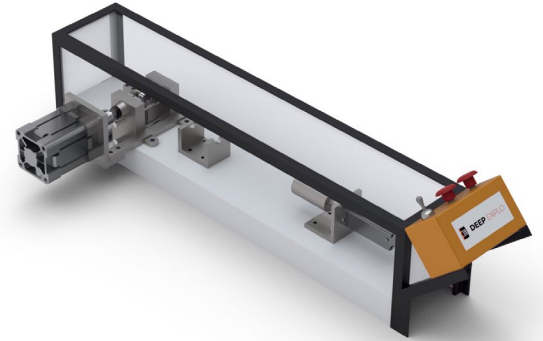
# Tube Closing

To completely close one end of the lead tube.

It is a vertical pneumatic press used to press and close the ends of a lead tube. It has the same function as the tube end tapering machine. It is used in cases when the customer requires a higher pressing force to close the end.

## Benefits

- Custom made pressing dies.
- Safety covers to curb the chances of accidents.
- Much higher pressing force.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Safety switches to avoid accidental injuries.
- Ergonomic layout.





# Tube Straightening

To straighten the lead tube for further processes.

The Lead tubes are often bent due to transportation or packing. The bends are quite obvious as lead is a very soft material. The Tube Straightening machine is used to straighten such lead tubes. A pneumatic cylinder operated straightening rod with or without a taper of required diameter is pushed in the lead tube to correct and smoothen it.

## Benefits

- Custom made pressing rod.
- The rods can be made with an outward taper at the top for easier filling of composition into the lead tube.
- Safety covers to curb the chances of accidents.
- A pneumatic controlled guiding unit is included to maintain proper wall thickness of the lead tube.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Safety switches to avoid accidental injuries.
- Ergonomic layout.



# Tube End Tapering

To close one end of the lead tube.

Tube End Tapering machine is used to close one end of the lead tube so that the composition can be filled in the delay tube.

## Benefits

- Custom made pressing dies.
- Safety covers to curb the chances of accidents.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Safety switches to avoid accidental injuries.
- Ergonomic layout.

# Composition Filler - CAM

To fill delay composition into the lead tube.

CAM based delay composition filler machine is used to fill delay composition in the lead tubes effortlessly.

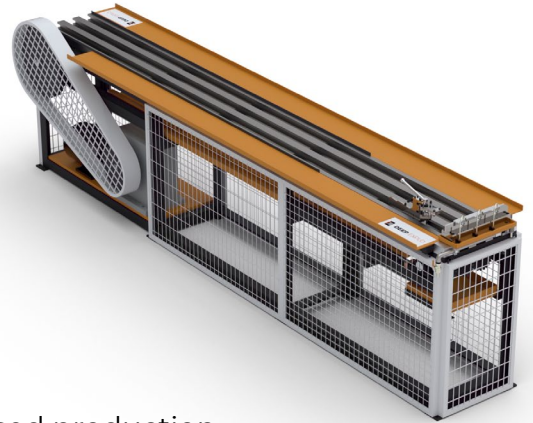
## Benefits

- The machine comes with a hopper to hold the composition and help in filling the composition into the tube through a guide.
- A cam operated tapering mechanism gets the composition deposited into the delay tube effortlessly.
- As the composition gets filled, the guide moves up automatically so that there are no empty spots in the filled composition.
- The machine stops automatically as soon as the guide comes out from the tube.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

# Tube Draw Bench

To draw out the lead tube to the required diameter.

It is used to gradually reduce the delay tube's diameter after the composition filling, in stages up to the required diameter.

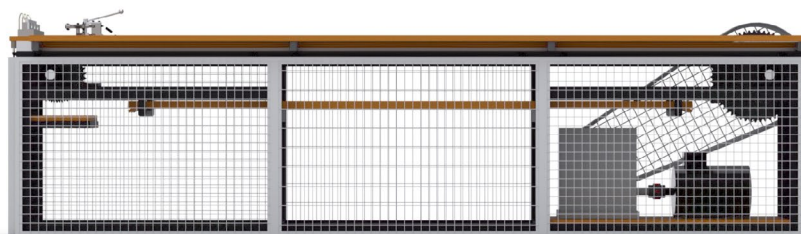


## Benefits

- It comes with 3 consecutively running rails for increased production.
- It comes with multiple gradually reducing die sets.
- Quick and easy die set replacement mechanism.
- Lubrication system to lubricate reducing dies.
- Safety covers to curb accidents.
- Quick remove covers for easier maintenance.
- Simple latching system to grip lead tubes.
- The final Die size for the delay tube can be customized according to the detonator shell used by the customer.
- Heavy-duty motor and chains are used for longer working life.
- Very easy to clean and maintain.
- Ergonomic layout.

## Specification

<b>Size reduction</b>	26mm to 4 mm size reduction.
<b>Power requirement</b>	3 Phase, Voltage as per clients requirement



# Mini Roll Pointer

To taper one end of the lead tube on the Delay Draw Bench itself.

After each draw, the dies are changed, and the lead tube needs to be fed through the next set of reduction dies. The diameter has to be reduced to a certain length so that it can easily pass through the draw die up until the Draw Bench holding jaws could clasp onto it. To automate and ease up the process, a miniature version of the roll pointer can be attached to one end of the Delay Draw Bench. It eliminates the manual process and reduces the operation time to merely 2 seconds.

## Benefits

- The machine operates automatically as soon as the tube is fed into the machine and stops as soon as the cycle is complete.
- Tapers the lead tube from 25mm to 6mm.
- Completely enclosed to reduce the chances of an accident.
- Water tray to contain composition falling out of the lead tube, if any.
- Quick latching taper length adjustment lever.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

# Delay Element Cutting And Consolidating

To cut and compact delay elements.

The machine is used to cut the delay element into precise lengths and compact it from both the sides using a compacting punch so that any distortions in shape at the ends can be corrected.

## Benefits

- It has 4 stations for faster production.
- An indexing plate transfers the elements to the next station.
- The machine is designed to require minimal spare parts and maintenance.
- It produces up to 60 delay elements per minute.
- Only one operator is required to operate the machine.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

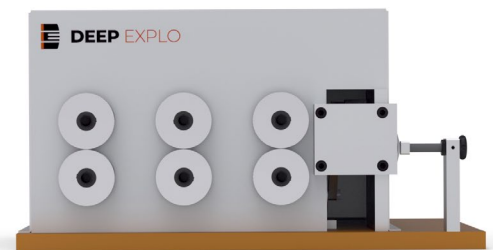
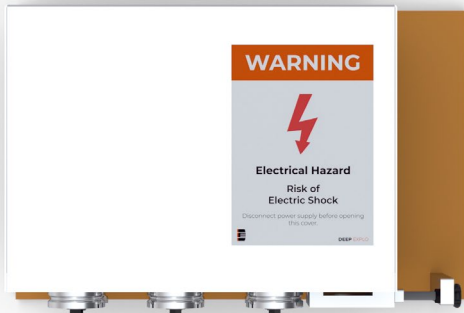
# Delay Element Cutting

To cut the lead tube to the required lengths.

This is a purely electric machine to cut lead delay tubes into the required sizes for delay elements.

## Benefits

- Servo motor controlled feeding for better accuracy.
- A constantly rotating HSS blade is used to get better cuts.
- No pneumatic connection is required.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.









Detonator

# Filling & Pressing

---

**DEEP** EXPLO

# Shell Filling - Manual

To fill detonator shells into the antistatic Ladles.

During the filling and pressing of primary and secondary explosives, the detonator shells need to be filled in an antistatic ladle with the mouth facing the top of the plate. This machine is used for filling empty shells in preferred orientation into the block.

## Benefits

- Can orient and fill up to 136 shells at a time.
- Custom-built according to the shell dimensions.
- Very easy to operate.
- It requires no electrical connection.
- Safety covers to curb the chances of accidents.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

# Delay Filling Machine

To fill delay elements into detonator shells.

This machine is used to fill delay elements into detonator shells with high accuracy of dosage.

## Benefits

- Every part of the machine is made of aluminum or stainless steel to avoid chemical contamination and oxidation.
- The feeding, dropping, pressing, and filled shells removal operations are sequential and interlocked so no mishap can occur during the sensitive process.
- Safety covers to curb the chances of accidents.
- Ergonomic layout.

# Filling & Pressing Unit

To fill and press PETN And ASA composition into the detonator shells.

Filling and Pressing unit consists of everything required to safely fill and press primary as well as secondary explosives into detonator shells and unload the said shells off of the laddles after the completion of entire process.

Filling and Pressing unit includes the following -

<b>S No.</b>	<b>Description</b>
<b>A</b>	<b>FILLING UNITS</b>
1	Filling Stations
<b>B</b>	<b>PRESSING UNITS</b>
1	Pressing Armor Plate with Sliding Door movement attached with press
2	Pressing Press
3	Hydraulic Power Pack
4	Compansating Head
5	Compensating Head Spacers
6	Ladle Holder
7	Ladles (M.S + Hylum)
<b>C</b>	<b>TUMBLING UNIT</b>
1	Complete set of Tumbling Unit with panel board
<b>D</b>	<b>UNLOADING UNITS</b>
1	Unloading Unit with armoured plate
2	Unloading Unit Top Plate

# PETN Filling Station

**PETN Filling Station for the filling and pressing unit.**

This machine is used to fill primary explosives into detonator shells with high accuracy of dosage.

## **Benefits**

- Every part of the machine is made up of aluminum or stainless steel to avoid any chemical contamination and oxidation.
- The sieving, pouring, dosing of media, and filled shells removal operations are sequential and interlocked so no mishap can occur during the sensitive process.
- Safety covers to curb the chances of accidents.
- Ergonomic layout.

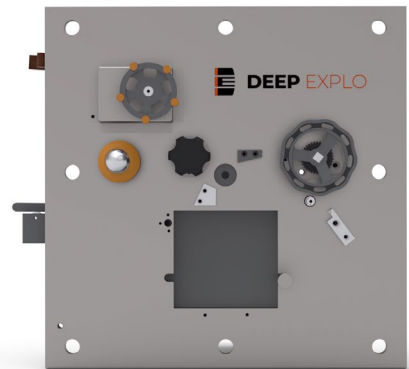
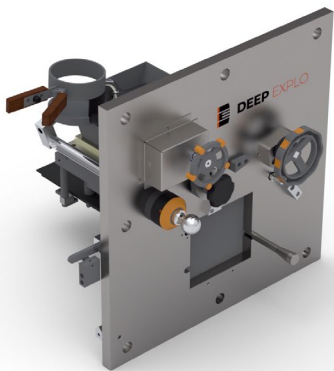
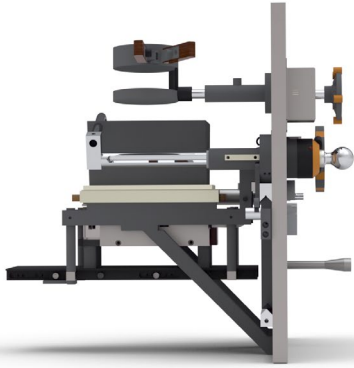
# ASA Filling Station

**ASA Filling Station for the filling and pressing unit.**

This machine is used to fill secondary explosives into detonator shells with high accuracy of dosage.

## **Benefits**

- Every part of the machine is made up of aluminum or stainless steel to avoid any chemical contamination and oxidation.
- The sieving, pouring, dosing of media, and filled shells removal operations are sequential and interlocked so no mishap can occur during the sensitive process.
- Safety covers to curb the chances of accidents.
- Ergonomic layout.





Detonator

# Shock Tube

---

**DEEP** EXPLO

# DN-1

To cut and coil Shock tubes from 50m stocks.

DN-1 is designed to cut and coil shock tubes from 50-meter length stocks to further smaller coils easily.

## Benefits

- Every pneumatic component in the machine is an ISO standard component.
- The machine was further divided into basic modules, which can be replaced by unscrewing just ~4 screws reducing the machine's downtime drastically.
- It comes with a PLC, which controls and keeps tabs on all the present working parameters of the machine.
- The machine comes equipped with a text display mounted inside the electrical panel so that only authorized personnel can change the machine parameters.
- The machine can be equipped with an external text display from Siemens, making it easier to monitor and alter the machine's parameters.
- The electrical panel on the machine is made of an IP65 rated box from Rittal.
- The machine can also be had in Industry 4.0 ready state and with additional safety features.
- The wiring of the electrical panel can be customized for your local wiring code and local off-the-wall voltages.
- The blade of the cutting unit is completely enclosed to curb any chances of an accident.
- Extra emphasis has been paid towards functional ergonomics and repairability.





# DN-1C

To cut and coil Shock tubes from larger stocks to ~50m stocks.

DN-1C is designed to cut and coil shock tubes from larger stocks to 50-meter length stocks so that they can be fed into the composition filling machine to fill the explosive media into the empty tube through a suction process.

## Benefits

- The machine has a collapsible hub since coils as large as 50-meter in length can be hard to pull out off the hub; hence a collapsible drum eases the process drastically.
- The production target can be fixed as per the worker's ability.
- Every pneumatic component in the machine is an ISO standard component.
- The machine was further divided into basic modules, which can be replaced by unscrewing just ~4 screws reducing the machine's downtime drastically.
- It comes with a PLC, which controls and keeps tabs on all the present working parameters of the machine.
- The machine comes equipped with a text display mounted inside the electrical panel so that only authorized personnel can change the machine parameters.
- The machine can be equipped with an external text display from Siemens, making it easier to monitor and alter the machine's parameters.
- The electrical panel on the machine is made of an IP65 rated box from Rittal.
- The machine can also be had in Industry 4.0 ready state and with additional safety features.
- The wiring of the electrical panel can be customized for your local wiring code and local off-the-wall voltages.
- The blade of the cutting unit is completely enclosed to curb any chances of an accident.
- Extra emphasis has been paid towards functional ergonomics and repairability.

# DN - 2

## To cut and coil Shock tubes at any desired length.

It is a State-of-the-art Shock tube cutting and coiling machine surpassing any other concept in this field. This machine has been designed to cut and coil the Shock tube at any desired length. It is very user-friendly and hassle-free from a maintenance point of view and relatively simple to operate. The machine can cut and coil ~20,000 meters a shift, the fastest in this field, with over 60 sold in 7 different countries in just the past 2 years (till December 2019) and an impeccable safety record.

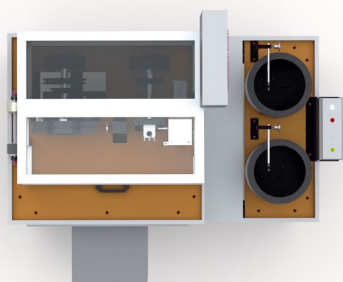


## Benefits

- Every pneumatic component in the machine is an ISO standard component.
- The electrical panel uses connectors instead of standard terminal blocks to ease up replacing the panel if ever needed.
- The machine was further divided into basic modules that can be replaced by unscrewing just ~4 screws, reducing the machine's downtime drastically.
- The machine comes standard with lump detection sensors that stop the machines and notify the operator if the input Shock tube has a lump or a notch, helping reduce wastages and quality issues.
- It comes with a PLC that controls and keeps tabs on all the machine's working parameters to warn of any errors before they cause any issue.
- The machine uses a 7-inch color Touch screen from Siemens making it easier for the operator to monitor and alter the machine's parameters.
- The electrical panel on the machine is made of an IP65 rated box from Rittal.
- It has a Panel Air-conditioner attached over the electrical panel to cool down and maintain internal temperatures and eliminate errors occurring in the panel due to the surrounding environment.
- The machine can also be had in Industry 4.0 ready state and with additional safety features.
- The electrical panel's wiring can be customized for your local wiring code and local off-the-wall voltages.
- The machine has also gone through HAZOP studies and came out with flying colors.
- Extra emphasis has been paid towards functional ergonomics and reparability.

## Specifications

Coiling Accuracy	5 mm
Maximum dia of Shock tube	4.50 mm
Total electrical consumption	2.5 KW
Total air consumption	1.086 CFM
Production capacity	~20,000 meters per shift
The maximum length of the output coil	50 meters



# DN - 500

To cut and coil Shock tubes from larger stocks to ~500m/610m stocks.

DN- 500 is designed to cut and coil filled shock tube from 5000-meter length stocks to 500 / 610-meter coils wound on a plastic spool.

## Benefits

- The compact design of the machine makes it capable of an in-container production layout.
- The Traverse system ensures uniform winding of the shock tube on the output spool.
- The spool stops as soon as the desired length is achieved with the help of electromagnetic brakes.
- The production target can be fixed as per need.
- Every pneumatic component in the machine is an ISO standard component.
- The machine was further divided into basic modules that can be replaced by unscrewing just ~4 screws, reducing the machine's downtime drastically.
- It comes with a PLC that controls and keeps tabs on all the present working parameters of the machine.
- The machine comes equipped with an external text display from Siemens, making it easier to monitor and alter the machine's parameters.
- The electrical panel on the machine is made of an IP65 rated box from Rittal.
- The machine can also be had in Industry 4.0 ready state and with additional safety features.
- The electrical panel's wiring can be customized for your local wiring code and local off-the-wall voltages.
- The blade of the cutting unit is completely enclosed to curb any chances of an accident.
- Extra emphasis has been paid towards functional ergonomics and repairability.

# Composition Filling

## Machine

To fill shock tube composition into shock tubes.

The machine fills shock tube composition into preheated shock tubes by suction pulling the composition using a vacuum pump.

### Benefits

- Every part of the machine is made up of aluminum or stainless steel to avoid chemical contamination and oxidation.
- Anti-static rubber on the work surface reduces the chances of accidents considerably.
- It comes with a 4 stage filtration system to eliminate chances of the explosive composition leaking into the environment.
- Its equipped with easily drainable and refillable arrester tanks.
- Water level indicators on arrester tanks.
- The machine is considerably compact.
- Safety covers to curb the chances of accidents.
- Very easy to clean and maintain.
- Ergonomic layout.

# Composition Mixing Machine

To evenly mix shock tube composition.

The machine is designed to mix up the chemical composition consistently, which will, later on, be filled into shock tubes.

## Benefits

- Every part of the machine is made up of aluminum or stainless steel to avoid chemical contamination and oxidation.
- The machine is relatively compact.
- Slow and steady mixing movements make it the safest machine in the industry so far.
- Safety covers to curb the chances of accidents.
- Very easy to clean and maintain.
- Ergonomic layout.

# Dib Insertion Machine

To insert Dib onto the shock tube.

Shock tube's efficiency can be increased by pressing a special plastic cup and stainless steel perforated sheet or 'DIB' on the delay tube at a specific pre-set pressure. The Dib Insertion Machine helps in doing just that by simplifying the work process and making the process much more effective.

## Benefits

- Safety covers to curb the chances of accidents.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Safety switches to avoid accidental injuries.
- Ergonomic layout.







Detonator

# Electric Wire

---

**DEEP** EXPLO

# Wire Twisting Machine

To twist and wind electrical wire.

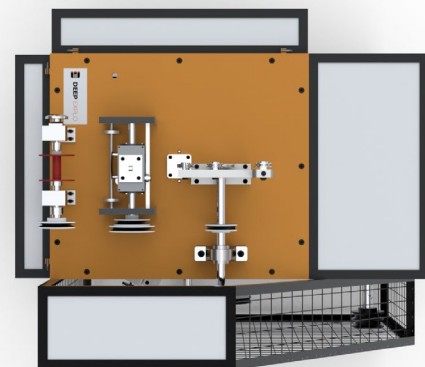
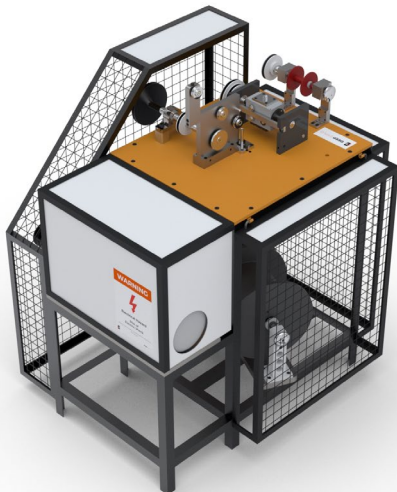
Wire Twisting Machine is an easy to use machine to twist two detonator wires from large spools, one onto another, and spool the output wire onto a smaller spool as per the requirement.

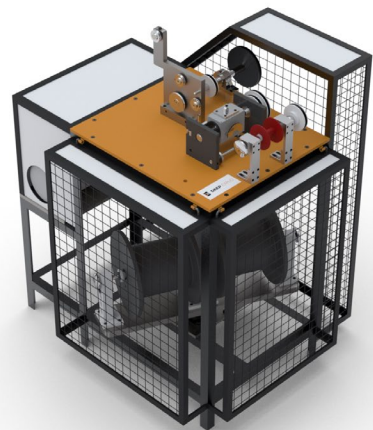
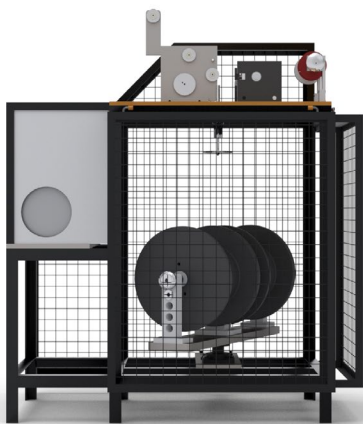
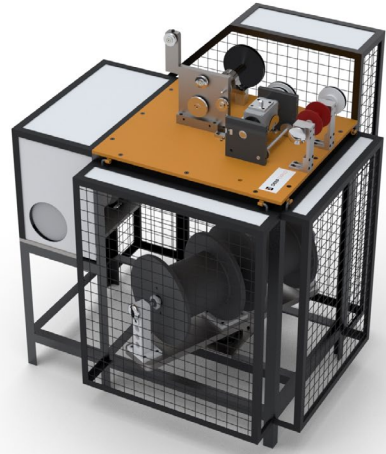
## Benefits

- The twist pitch can be changed as per requirement.
- Winding length can be controlled easily.
- Safety covers to curb the chances of accidents.
- Quick remove covers for easier maintenance.
- The electrical panel on the machine is made of an IP65 rated box from Rittal.
- The electrical panel's wiring can be customized for your local wiring code and local off-the-wall voltages.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.

## Specification

<b>Production Rate</b>	5 Meters per Minute
<b>Max. Wire Diameter</b>	3mm <sup>2</sup>
<b>Power requirement</b>	3 Phase, Voltage as per clients requirement







Detonator

# Assembly

---

**DEEP** EXPLO

# TLO - Detonator Testing

To check the resistance of a detonator before crimping.

TLO is a testing cum operating device attached to Detonator Crimpers. It measures the resistance in the range of 0-10 ohms. If the detonator fuse's resistance value is below or beyond the set values, the TLO will not allow crimping exercise, thus avoiding waste generation and augmenting productivity and safety.

## Benefits

- A custom process is employed for resistance measurement, which yields greater potential accuracy than a pointer (analog) instrument.
- It is unaffected by supply voltage variation and other environmental parameters.
- The Traffic Light Ohm -meter (TLO) is considerably more sensitive than an analog Instrument.
- The least count of 0.02 ohms reduces the rejection rate by a drastic margin compared to 0.1 ohms TLO's available in the market.
- Its principal benefit is increased measuring rate and reduced strain on the operator.

# Fuse Head Wire Crimping Machine

To crimp fuse wires onto fuse heads.

Once we have the fuse heads and wound bundle of detonating wire, we need to attach the two together. We can either solder the two together or crimp them together depending on the requirements.

Fuse Head Wire Crimping Machine is designed to ease the crimping process. It is a pneumatically actuated machine with crimping dies through which the wire is crimped with the fuse heads eliminating the need for solder, flux, and electrical consumption.

# Fuse Head Wire Soldering

## Cassette

To ease soldering fuse wires onto fuse heads.

Once we have the fuse heads and wound bundle of detonating wire, we need to attach the two together. We can either solder the two together or crimp them together depending on the requirements.

Fuse head wire soldering cassette is a specially designed fixture that holds 25 Fuse heads in place while the operator solders the wire and the fuse head together to ensure a speedy soldering exercise.

## Blocker - 6T

To connect 6T plastic connectors onto detonators.

Blocker 6T is a custom-designed machine to block 6T plastic connectors' pins at a much higher speed than any other conventional method with complete safety and security.

### Benefits

- The machine is designed in such a manner that the chances of accidental or incorrect operation are eliminated.
- The Blocker can be customized to fit any type of 6T Plastic connector.
- The speed of the blocking unit is ~45 pcs per minute.
- ISO standard components have been used wherever possible.
- The machine is completely pneumatic.
- Connectors can't be fed in an incorrect orientation.
- Very easy to clean and maintain.
- Safety switches to avoid accidental injuries.
- Ergonomic layout.



# Crimping Station

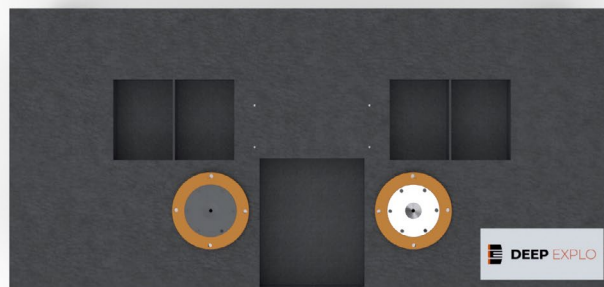
Ergonomic and static-free detonator crimping stations.

Crimping stations are custom-designed crimping tables with leather top with arrangements to mount a single crimper, 2 separate crimpers on the same table, and a combination of 2 crimpers and a plastic connector blocking machine on the same table.



## Benefits

- The ergonomic placing of filled shells, crimped shells, crimping machines, and connector blocking machines provides ease of working and increases productivity.
- A leather top reduces the chances of accidents considerably.
- Custom-designed as per client's requirements.
- Safety covers to protect the operator in case of an accident.
- Very easy to clean and maintain.





# Crimper

## To crimp detonator shells.

A significant disadvantage with the collet type crimper is that it has to be replaced entirely if one segment of the collet is damaged for any reason. The replacement is costly too.

The Jaw crimper was developed to provide a better alternative. In this crimper, several Jaws are fitted in slots all around with one slide bearing roller. The crimping segment is completely adjustable by replacing the roller with a smaller or bigger diameter roller. It is State-of-the-art crimper technology surpassing any other concept in its field.



## Benefits

- The pressure on the tube can be adjusted by adjusting the stopper bolt.
- The consumption of air is minimal.
- Safety is ensured by a baffle plate fitted in between the detonator's explosive zone and the crimping zone.
- The crimper does not crimp if the detonator tube has been fed upside down accidentally.
- It gives a smooth spiral shape crimping profile.
- Very easy to clean and maintain.
- Ergonomic layout.

## 30 Jaw Crimper

- It is considered to be the best from a design and maintenance viewpoint. Just open the upper plate, and the jaws can be replaced without any difficulty whatsoever. The jaws can be kept in inventory for replacement,
- 30 Jaw crimper is a compact device in which the cylinder of 15mm stroke is inbuilt.
- It can be used for crimping Shock tube Detonators. No other crimper has been successful for these detonators. Leading explosives industrial units are now adopting 30 Jaw Crimpers as the only Crimpers for every detonator type.

The crimper comes in 8 jaws, 24 jaws, and 16 jaws variants with single or multiple bulb options as well, depending upon the MOC of shells.

## Crimper Control Panel

The Control Panel consists of the following

- Pressure Sensor to sense pressure built-up in the crimper
- A remote with three buttons Start Stop and Emergency Stop
- PLC controlled Electrical panel
- Pneumatic Solenoid Valve for pneumatic connections to the crimper

## Operating Principal

- The panel has a pneumatic pipe that senses the pressure in the crimper in the operating phase
- The sensor can be set at the desired pressure (usually 6 bar)
- Pressing the start button will start the upward movement of the crimper
- The crimper will automatically begin to retract after the desired pressure as was set in the sensor has been reached
- The panel ensures that the crimper only retracts once the complete crimping has been done
- The automatic panel eliminates improper crimping due to errors like a drop of air pressure in the line, premature retraction of the cylinder by the operator
- The stop button is provided to retract the cylinder manually without full crimping or if in the event of an error
- The emergency stop button is provided to shut down the entire panel in case of an unforeseen accident

The crimper control panel can also be had in pneumatic only or Ex rated specifications as well.

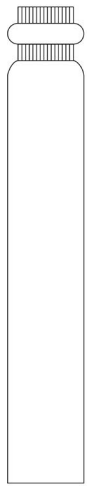
## Crimper Automation Kit

Crimper automation kit is a specially designed completely pneumatic system to automate crimpers. It can be retrofitted to your pre-existing crimpers quite easily. Crimper Automation Kit enables the crimper to automatically crimp and eject crimped detonator automatically as soon as the operator inserts the un-crimped detonator into the crimper and presses it in at a certain pressure instead of a foot pedal that the operator presses to crimp.

**The crimp profile can be designed as per the buyer's specifications.**



## Crimp Profiles



**Single Bulb**  
Crimp



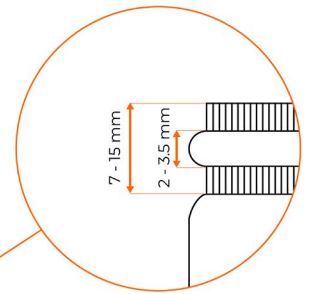
**Double Bulb**  
Crimp



**Delay Holding**  
Single Crimp



**Delay Holding**  
Double Crimp



**DEEP** EXPLO



Detonator

# Miscellaneous

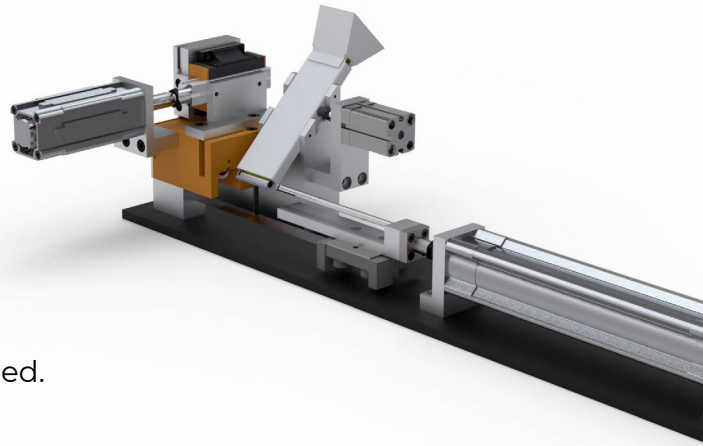
---

**DEEP** EXPLO

# Shell Chiseling Machine

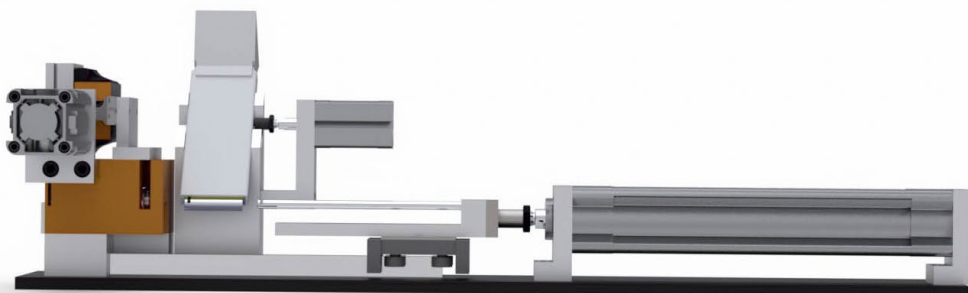
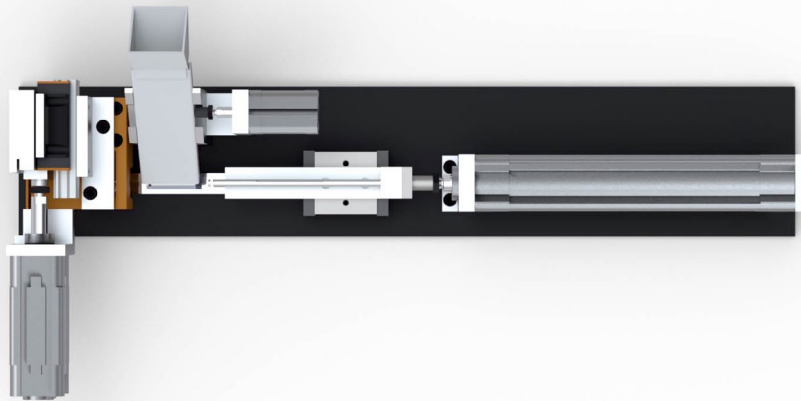
To chisel out a part of detonator shells.

The Shell chiseling machine is explicitly designed to efficiently cut/chisel a part of the shell for safety cord insertion.



## Benefits

- The cut profile can be customized as per your need.
- It can be designed for any shell length.
- Burr-free Cuts.
- The blade can be replaced quickly.
- Custom-designed Chute to hold multiple shells for faster turnaround time.
- Automatic Shell ejection and collection system.
- Linear guides for increased longevity.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Ergonomic layout.



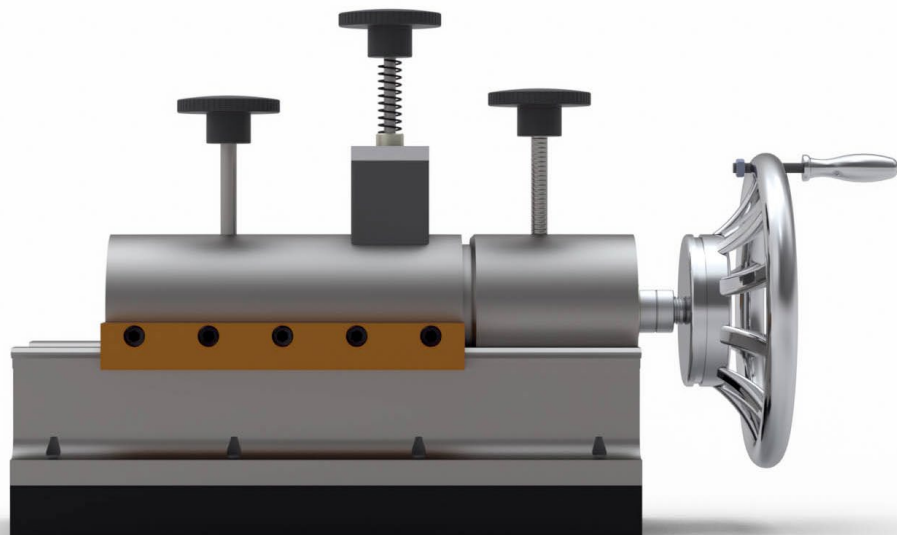
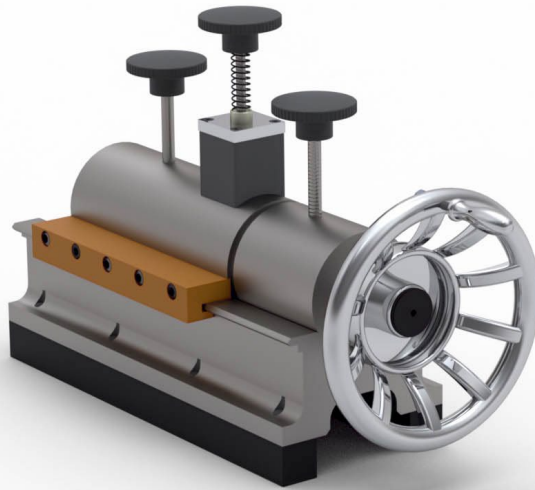
# Detonator Cutter

To cut filled detonators safely.

Detonator cutter is a specialized equipment to easily and safely cut filled detonators.

## Benefits

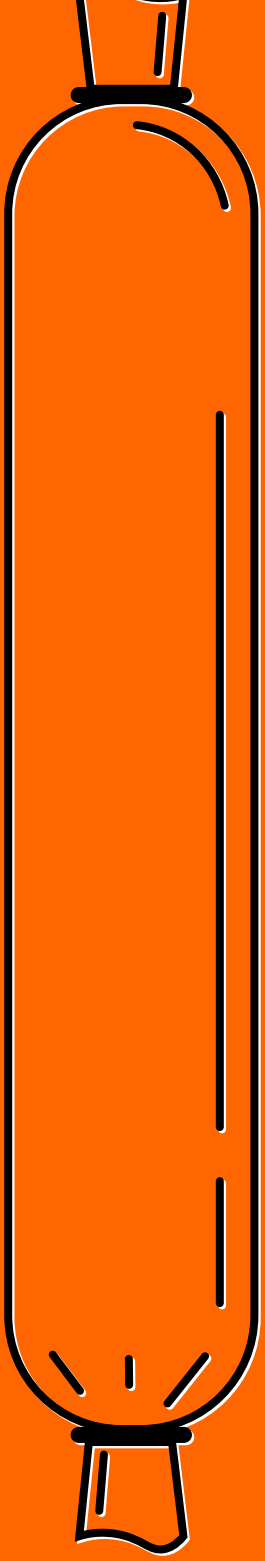
- It is explicitly designed to avoid accidental ignition.
- The body is designed to absorb all the energy, even in the case of ignition.
- Very easy to clean and maintain.
- Ergonomic layout.





# **Packaged** **Explosives**







Packaged Explosives

# **Machines**

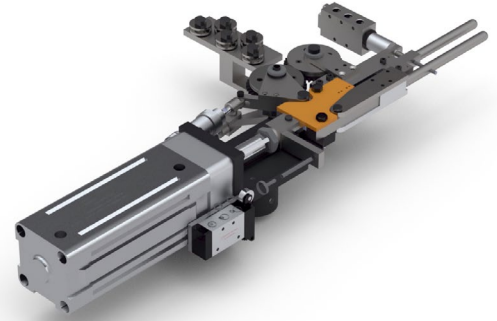
---

**DEEP** EXPLO

# DCM - 18

Clipping machine to pack 25mm to 200mm diameter slurry/emulsion cartridges with metal clips formed from a wire without the need for pre-formed clips.

The fourth iteration of our already established clipping machine, the DCM-18, is the successor to our DCM-3. With over 500 units sold worldwide. It has been a huge commercial success for us as well as our customers. A version of it can be found at every Slurry/Emulsion manufacturing firm in India.



## Benefits

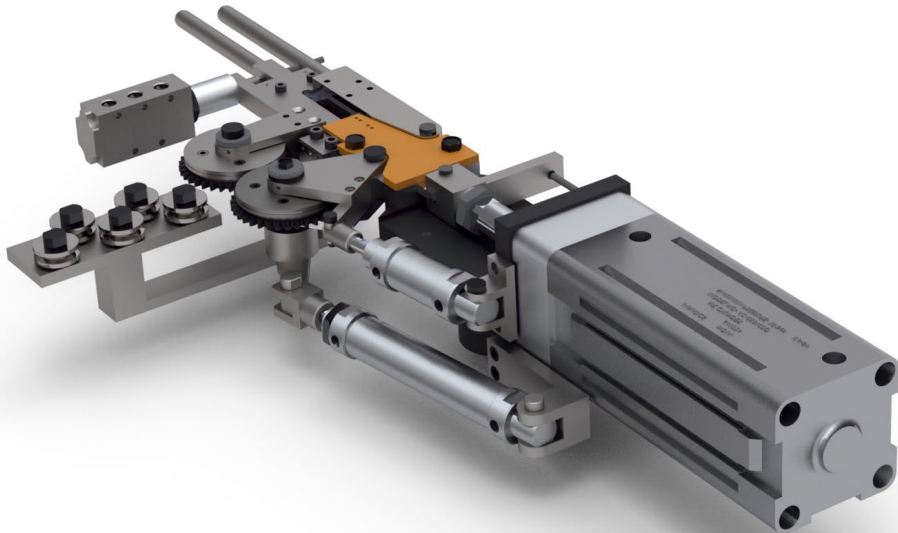
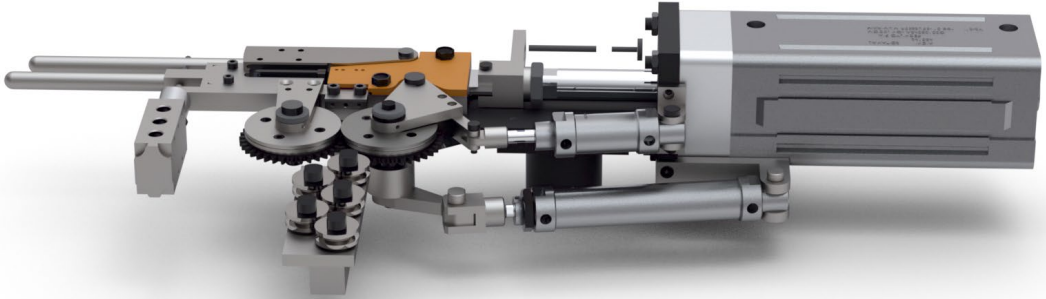
- Clips from rolls of drawn metal wire eliminating the need for pre-formed clips.
- Metal wire can be of varying diameters from 2 sq mm to 3.1 sq mm as per the need.
- It can easily clip slurry/emulsion cartridges from 25mm to 200mm in diameter.
- Clip passes the leak-proof drop tests (If the formed cartridge is dropped from a height of 12 feet, the cartridge might burst, but the clip won't get dislodged.)
- Very easy to maintain.
- ISO standard components have been used wherever possible.
- Improved ergonomics.

## Equipment

- It has an automatic roll feeding unit with an in-built wire straightener.
- FRL unit is fitted to the machine to monitor and regulate the smooth flow of air and lubrication.
- A table with a wire-feeding stand comes standard with the machine.
- Every possible point of contact of slurry/emulsion is made from SS.
- Cutting knives, clip forming dies, and slides are made of HCHCr for a longer machine life.

## Specifications

<b>Air Pressure Required</b>	6 bar.
<b>Clip material</b>	Aluminium
<b>Wire diameter</b>	2 sq mm to 3.1 sq mm.
<b>Standard wire sizes</b>	2 sq mm ,2.3 sq mm ,2.7 sq mm.
<b>Productivity</b>	Up to 45 Pcs/min depending on the quantity of the material to be filled.



# SCM - 18

Clipping machine to pack 25mm to 200mm diameter slurry/emulsion cartridge using pre-formed metal clips.

## Benefits

- Clips from a strip of pre-formed metal clips.
- Metal clips can be of various sizes (100T, 400T, 450T).
- It can easily clip slurry/emulsion cartridges from 25mm to 200mm in diameter.
- Clip passes the leak-proof drop tests (If the formed cartridge is dropped from a height of 12 feet, the cartridge might burst, but the clip won't get dislodged.)
- Very easy to maintain.
- ISO standard components have been used wherever possible.
- Improved ergonomics.

## Equipment

- It has an automatic clip feeding unit built-in.
- FRL unit is fitted to the machine to monitor and regulate the smooth flow of air and lubrication.
- The table comes standard with the machine.
- Every possible point of contact of slurry/emulsion is made from SS.
- Cutting knives and slides are made of HCHCr for a longer life of the machine.

## Specifications

<b>Air Pressure Required</b>	6 bar.
<b>Clip type</b>	450T, 100T.
<b>Clip material</b>	Aluminium
<b>Productivity</b>	Up to 45 Pcs/min depending on the quantity of the material to be filled.
<b>Standard configurations</b>	<ul style="list-style-type: none"><li>• 45TS - For 450T clips with straight punch slot.</li><li>• 45TS - For 450T clips with straight punch slot.</li><li>• 10TS - For 100T clips with a straight punch slot.</li><li>• 10TA - For 100T clips with an angular punch slot.</li></ul>



# TCM - 19

**Dual Clipping and cutting machine to pack 25mm to 32mm diameter slurry/emulsion cartridge using pre-formed metal clips.**

TCM-19 is the updated version of the TCM-97. It is used to clip 25mm or 32mm cartridges of Slurry/Emulsion using pre-made clips of 2.3mm diameter wire.

The lay-flat of 25mm or 32mm is filled with Slurry / Emulsion to the desired length and then fed into the machine manually. The machine clips two pre-made clips of 2.3mm diameter wire at a distance of 24mm and cuts the lay-flat in between.



## Benefits

- Saves length of lay-flats required for rubber banding process.
- Pre-formed clips of Aluminium or Copper can be used.
- Higher production rate.
- Clips from a strip of pre-formed metal clips
- Metal clip of 2.3mm wire diameter.
- It can easily clip slurry/emulsion cartridges from 25mm to 32mm in diameter.
- Clip passes the leak-proof drop tests (If the formed cartridge is dropped from a height of 12 feet, the cartridge might burst, but the clip won't get dislodged.)
- Very easy to maintain.
- ISO standard components have been used wherever possible.
- Improved ergonomics.

## Equipment

- It has an automatic clip feeding unit built-in.
- FRL unit is fitted to the machine to monitor and regulate the smooth flow of air and lubrication.
- Every possible point of contact of slurry/emulsion is made from S.S.
- Cutting knives and slides are made of HCHCr for a longer life of the machine.

## Specifications

<b>Air Pressure Required</b>	6 bar.
<b>Clip material</b>	Aluminium / Copper.
<b>Productivity</b>	Up to 30 Pcs/min depending on the quantity of the material to be filled.





# SL - P

## Semi-automatic Slurry/Emulsion packaging machine.

SL- P is a semi-automatic machine designed to pack Slurry/Emulsion cartridges faster and more efficiently than our manual DCM / TCM series machines. The machine clip's two clips at a time and cut separate the cartridges automatically.

### Benefits

- Significantly increased production rate compared to DCM- 18.
- Clipping and cutting speed of ~110 pieces/minute can be achieved.
- Clips from rolls of drawn metal wire eliminating the need for pre-formed clips
- It can easily clip slurry/emulsion cartridges from 25mm to 200mm in diameter.
- Clip passes the leak-proof drop tests (If the formed cartridge is dropped from a height of 12 feet, the cartridge might burst, but the clip won't get dislodged.)
- PLC and VFD controlled for fuss-free production.
- The electrical panel on the machine is made of an IP65 rated box from Rittal.
- The machine can also be had in Industry 4.0 ready state and with additional safety features.
- The electrical panel's wiring can be customized for your local wiring code and local off-the-wall voltages.
- Safety covers to curb the chances of accidents.
- Very easy to clean and maintain.
- ISO standard components have been used wherever possible.
- Safety switches to avoid accidental injuries.
- Ergonomic layout.

# SFC - Paper Shell Filling And Crimping

Machine to fill paper shells with slurry/emulsion, insert cap over it, and crimp the shell's upper end automatically and easily.

## Benefits

- The machine is fitted with a flow-controlled screw pump to displace a measured amount of slurry/emulsion per rotation.
- The filling mechanism is controlled by a programmable timer and Solenoid Valves.
- The filling mechanism is designed such that the dispensing of material starts when the delivery tube has reached the bottom of the Paper shell, and it gradually moves up to the top of the paper shell.
- The spilling of material during filling is eliminated.
- The discharge of material is blocked if the paper shell is not available at the station.

## Equipment

- ISO standard pneumatic components are used.
- The parts fitted inside the filling shop are made of S.S. and Aluminum, whereas the parts installed outside the explosive building will be epoxy-coated M.S.
- The Flame Proof Motor, Screw pump, Electronic timer, and Solenoid valves can be fitted outside the main explosive shop.

## Specifications

<b>Power Requirement</b>	2 HP
<b>Air Pressure Required</b>	6 bar.
<b>Productivity</b>	Up to 20 Pcs/min depending on the quantity of the material to be filled.

# AFM- 32 - Blow Moulded Tube Filling And Crimping

Machine to fill blow molded tubes with slurry/emulsion, insert and push the cap in to ensure positive closing of the tubes easily.

## Benefits

- The machine is fitted with a flow-controlled screw pump to displace a measured amount of slurry/emulsion per rotation.
- The filling mechanism is controlled by a programmable timer and Solenoid Valves.
- The filling mechanism is designed such that the dispensing of material starts when the delivery tube has reached the bottom of the Paper shell, and it gradually moves up to the top of the paper shell.
- The spilling of material during filling is eliminated.
- The discharge of material is blocked if the blow-molded tube is not present at the station.

## Equipment

- ISO standard pneumatic components are used.
- The parts fitted inside the filling shop are made of S.S. and Aluminum, whereas the parts installed outside the explosive building are epoxy-coated M.S.
- The Flame Proof Motor, Screw pump, Electronic timer, and Solenoid valves can be fitted outside the main explosive shop.

## Specifications

Power Requirement	2 HP
Air Pressure Required	6 bar.
Productivity	Up to 30 Pcs/min depending on the quantity of the material to be filled.

# Distribution System

To distribute Slurry/Emulsion around the packaging plant.

Common problems being faced by every packaged explosives manufacturer -

- The weight variation of the packed cartridges is in the tune of 10-15%.
- The production depends on the efficiency of the worker rather than the productivity of the machine.

We custom design a Slurry/Emulsion distribution system to solve those issues according to your plant layout and requirements. It can be installed as a completely new project or can be incorporated into your existing setup. The distribution system consists of pipelines and a control unit that automatically monitors the input fed rate to divert the input material to various stations according to their needs in measured quantities.

## Benefits

- Entirely Custom made according to your plant layout.
- Monitors and adapts automatically according to the input fed rate.
- It can be completely automatic according to your needs.
- Scalable to include further stations down the line.
- Reduces chemical wastages.
- It helps in increasing the overall efficiency of the plant.
- It can be coupled with a PLC system to monitor, control, and record the production parameters.
- ISO standard components are used wherever possible.

# DDU - Automatic Dripleless Dosing Unit

Machine for automatic filling of slurry/emulsion into the blow-molded tubes.

## Benefits

- It is designed to arrest the spilling of material completely.
- Fills a measured amount of Slurry/Emulsion into the blow-molded tubes.
- The machine fills the tubes with the nozzle starting from the bottom and then moving up, eliminating the chances of air bubbles getting trapped in between.
- It is provided with a timer to enable the filling of B.M.T alternatively at both ends.
- It can achieve a dosing speed of up to 40 pieces per minute.







Packaged Explosives

# Replacement Parts

---

**DEEP** EXPLO

# Replacement Parts

With our immense experience of over 28 years, providing better quality and cost efficient replacement parts for third party imported machinery, our catalogue of replacement parts has grown to over 3000+ SKUs strong over the years with multiple machines under our umbrella.

Few of the machines that we provide solutions for-

- **Chub-Pack 160**
- **Chub-Pack 120**
- **Chub-Pack 50**
- **Chinese Clipping Machine**
- **Filipack Clipping machine**

## Mechanical Parts And Assemblies

### Assemblies

We provide complete assemblies like Clip head, film feed unit, Clip forming block etc.

### Parts

We manufacture a host of different parts for a multitude of machines, just few of them are listed below-

- Film Folders, Mandrel pipe and sizing rings
- Anvil Die, Clipping Die
- Gathering guide plates
- Cut off punches and Knouck out punches
- Spline shafts and gears
- Rubber coated film drive wheels, Cams etc.

### Bearing

We command an extensive catalogue of original bearings and bearing kits ready in stock at our end from Brands like McGill, NBC, SKF and more.

### Pneumatic components

We supply a variety of pneumatic components like -

- Cylinders
- Valves
- Energy saving solutions
- Seal kits and more.

**we currently stock parts from Festo, Janatics, Bimba, Mercury, Techno and more.**

# Electronic components

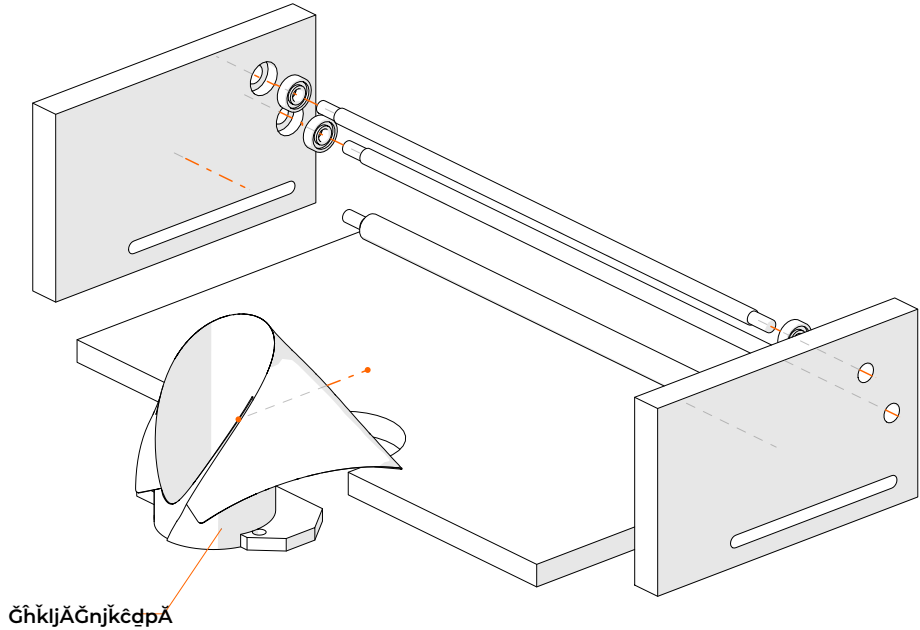
- Heaters For eg. Nose heater. we even develop custom heaters be it band heaters or specialized heater system made as per your requirements.
- Sensors (Namur or standard)
- We can even provide you custom designed electrical control panel.
- Electronics from standard MCBs to PLCs and SCADA systems.

We can even develop custom parts for any of your machines with either just a sample or a hand drawn sketch. And with our Product Database Management system keeping an extensive records of updates through the revisions, makes It possible for you still reference the original design even after years.

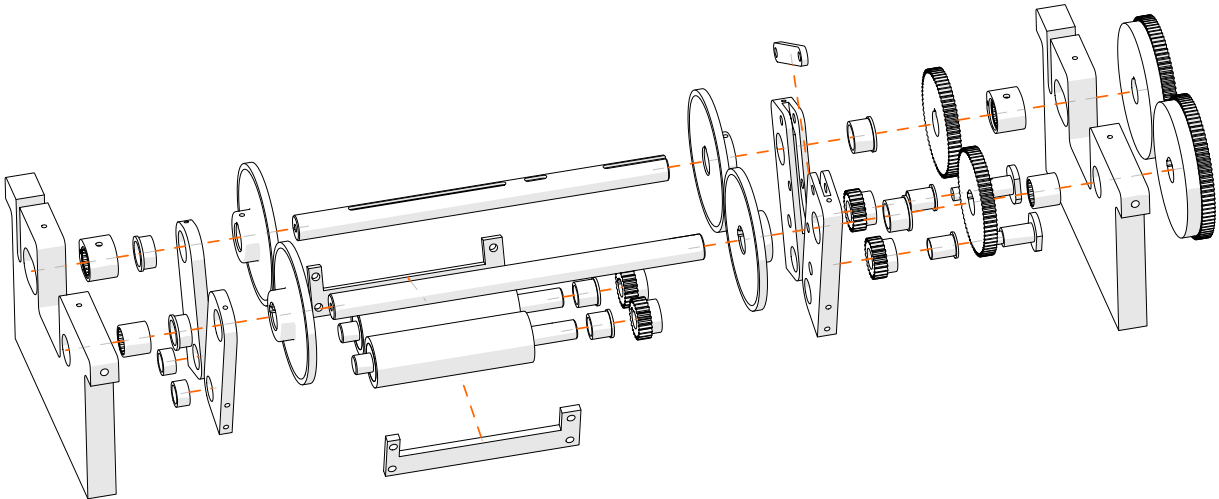
**Please contact us for detailed part list and solutions that we already provide for your machine.**

# Chub - Pack

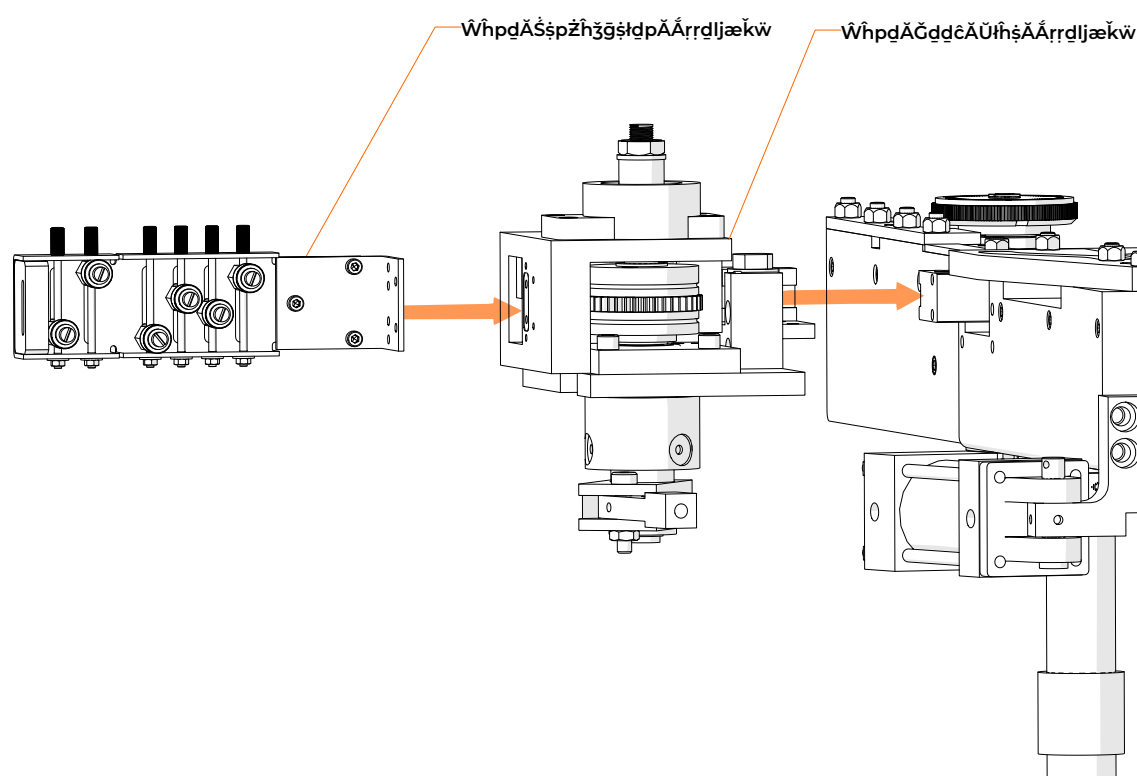
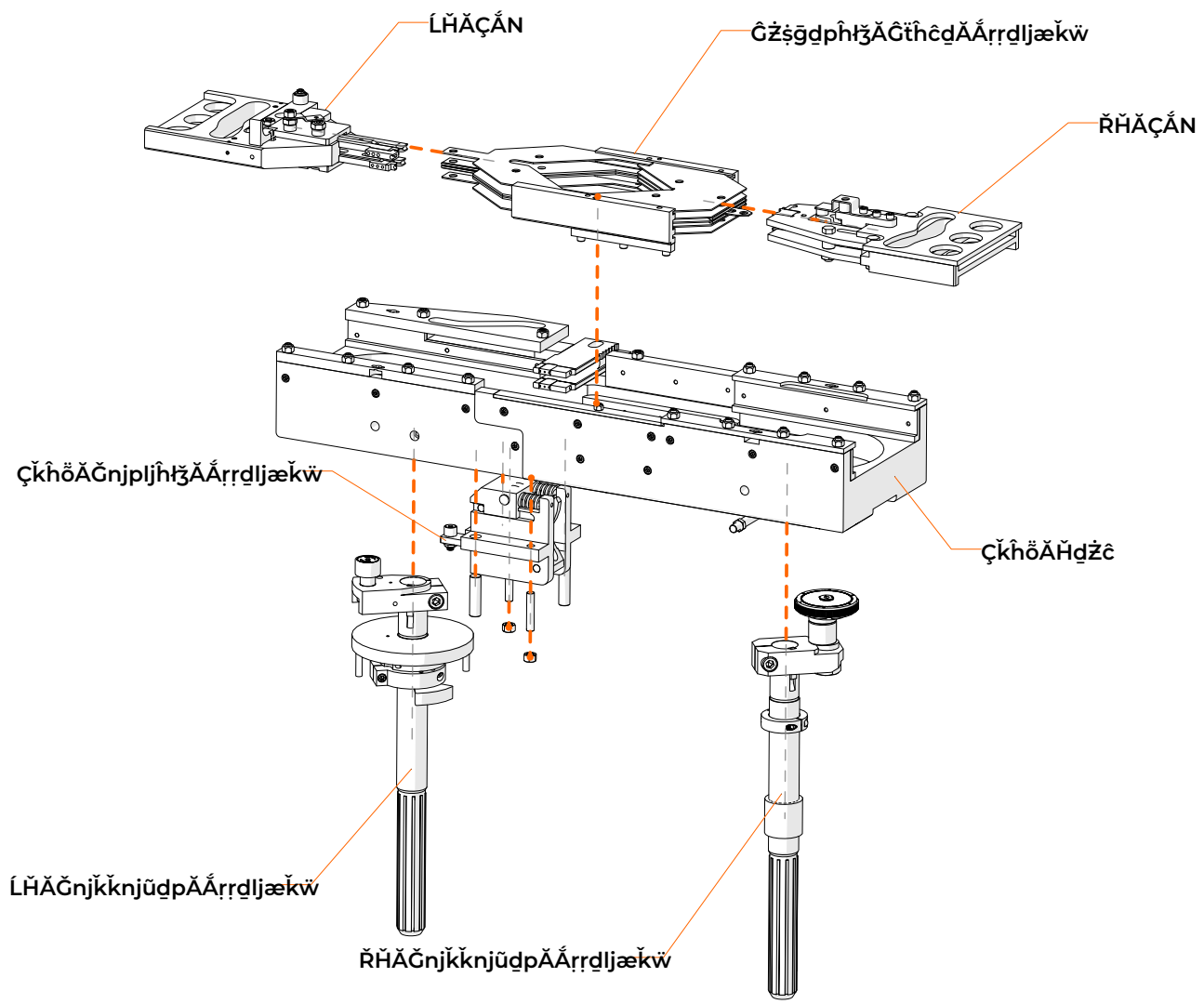
## Sealing Assembly



## Film Feeding And Pressing Assembly

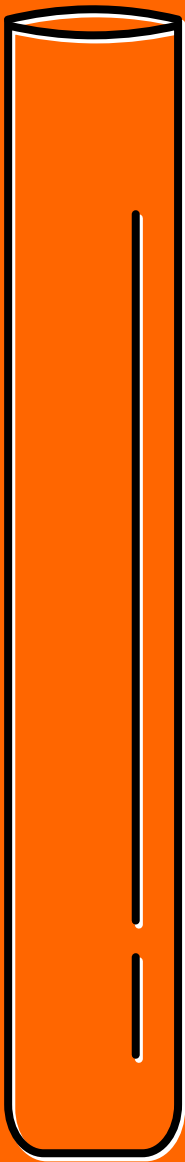


# Clipping Head Assembly





**Detonator** Shells



# Detonator Shells



Detonator Shells have been one of our fortes since the beginning. We have a custom In-House Developed series of patented automated deep draw presses capable of up to 7 stages of transfer deep drawing to cater to a vast and varied drawn component market.

<b>Min. Shell Diameter</b>	5 mm	
<b>Maximum Shell Length</b>	Aluminium Shell	110 mm
	Epoxy-coated Steel Shell	75 mm
<b>Wall Thickness</b>	Min : 0.25 mm	Max : 2.5 mm
<b>Tolerance (+/-)</b>	±0.01mm	
<b>Materials Available</b>	Aluminium	
	Galvanized Steel	
	Copper	
<b>Production Volume</b>	No Minimum volume required	
<b>Finishes and Stamping</b>	Epoxy-Coating	
	Vapor De-greasing	
	De-burring/Tumbling	
	Electro-Plating	
	Custom Shell bottom stamping	

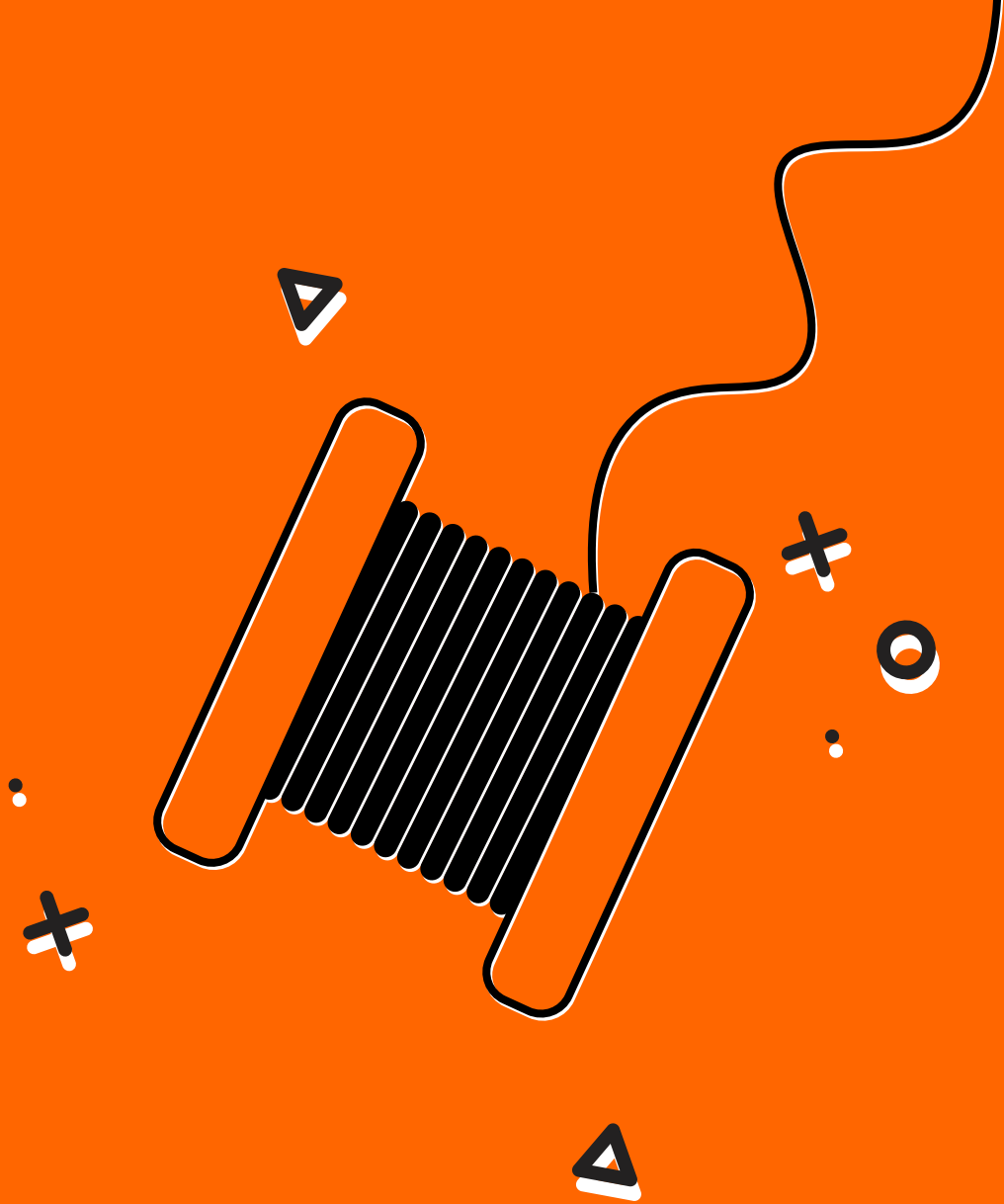
**We even develop custom Metal Drawing Machines.**







**Consumables**





Consumables

# ESD Protection

---

**DEEP** EXPLO

# Anti-Static Gloves

## Carbon Knitted Gloves with PU Coated Tips

### Benefits

- Excellent for handling/assembling small parts and having a good dexterity & grip with
- Excellent fitting from the seamless knit construction.
- PU dipped on the fingertips area only.

### Specifications

Material	Textured Nylon 80%, Carbon Yarn 20%,Coating: Polyurethane
Size	S, M, L

## Anti-Static Lint-free Polyester Gloves

### Benefits

- Non-allergenic polyester fabric
- Static dissipative
- Antistatic glove

### Specifications

Material	Back - 100% polyester with a conductive carbon line every 10mm & PVC dots.
Size	S, M, L, XL
Quantity	10 pairs per set

### Also Available

- Anti-Static Disposable Nitrile Gloves
- Anti-Static Cotton Gloves
- Anti-Static Latex Examination Gloves
- Anti-Static PVC Gloves



Anti-Static Lint-Free Polyester Gloves



Carbon Knitted Gloves with PU Coated Tips



Anti-Static Cotton Gloves



Anti-Static Latex Examination Gloves



Anti-Static Disposable Nitrile Gloves



Anti-Static PVC Gloves

# Anti-Static Garments

## Anti-Static Apron

### Benefits

- Excellent for handling/assembling small parts and having a good dexterity & grip with
- PU dipped on the fingertips area only.
- Excellent fitting from the seamless knit construction.

### Specifications

Material	98% polyester + 2% conductive yarn, 5mm grid
Size	S, M, L
Colour	Blue, White
Surface resistance	$10^6$ - $10^9$ ohm

## Anti-Static Hood

### Benefits

- Sewed with conductive fiber to make sure proper electric continuity of every piece of cloth.

### Specifications

Material	98% polyester + 2% conductive yarn, 5mm grid
Size	S, M, L
Colour	Blue, White
Surface resistance	$10^6$ - $10^9$ ohm

## Anti-Static Coverall

### Benefits

- Sewed with conductive fiber to make sure proper electric continuity of every piece of cloth.



## Specifications

Material	98% polyester + 2% conductive yarn, 5mm grid
Size	S, M, L, XL
Colour	Blue, White
Surface resistance	$10^6$ - $10^9$ ohm

## Also Available

- Anti-Static Fabric



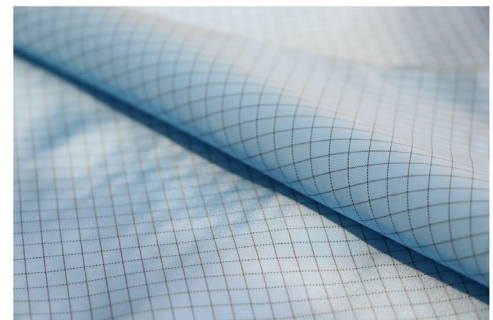
Anti-Static Hood



Anti-Static Apron



Anti-Static Coveralls



Anti-Static Fabric



# Anti-Static Footwear

## Anti-Static Slippers

### Benefits

- Lightweight and comfortable to wear
- 100% static dissipative

### Specifications

Material	98% polyester + 2% conductive yarn, 5mm grid
Colour	Blue, Black
Surface resistance	106Ω~1011Ω

## Anti-Static Shoes

### Benefits

- Very comfortable to wear
- Comfortable for every season.
- 100% static dissipative

### Specifications

Material	PVC PU mix
Colour	White

## Anti-Static Fabric Washable Shoe Cover

### Specifications

Material	98% polyester + 2% conductive yarn, 5mm grid
Colour	Blue, White
Surface resistance	10 <sup>6</sup> -10 <sup>9</sup> ohm

# Anti-Static Heel Strap

## Benefits

- In some special situations, An Anti-static foot grounder can be used instead of an anti-static wrist strap
- Anti-Static Heel Strap is more economical than anti-static shoes.
- The user should wear a foot grounder in each leg and avoid walking on areas without static protection.
- Wearing the conductive ribbon inside the shoe or sock assures proper electrical contact with the user.
- The ribbon connects to the conductive rubber to complete the circuit between the operator and the static controlled floor or mat.

## Specifications

Size	One Size
------	----------



Anti-Static Slippers



Anti-Static Shoes



Anti-Static Fabric Washable Shoe Cover



Anti-Static Heel Strap



# Anti-Static Booties

## Specifications

Material	98% polyester + 2% conductive yarn, 5mm grid
Size	One Size
Colour	Blue, White
Surface resistance	$10^6$ - $10^9$ ohm

## Also Available

- Anti-Static Non-Woven Shoe cover
- Anti-Static Disposable Shoe cover
- Shoe cover dispenser



Anti-Static Disposable Shoe Cover



Shoe Cover Dispenser



Anti-Static Non-Woven Shoe Cover



Anti-Static Booties

# Anti-Static Finger Cot

## Benefits

- It comes in rolled form for easy donning
- Soft, comfortable, good wear-resisting

## Specifications

Material	Latex, powder-free, class 100
Colour	Pink, Yellow, White
Tribo charge	<20 volts
Average Tensile Strength	20 MPa
Length	65mm
Thickness	0.22mm
Size	S, M, L
Quantity	1000pcs/bag



Anti-Static Finger Cots

# Anti-Static Cap

## Specifications

Types	Round, Sport and Crimp cap
Material	98% polyester + 2% conductive yarn, 5mm grid
Colour	Blue, White
Size	S, M, L
Surface resistance	$10^6$ - $10^9$ ohm



Anti-Static Cap with Visor



Anti-Static Crimp Cap



Anti-Static Round Elastic Cap



# Anti-Static Mask

## Type

- Face Mask
- Nose Mask



Anti-Static Face Mask



Anti-Static Nose Mask



# Anti-Static Mat

An anti-static floor mat or ground mat is designed to help eliminate static electricity. It does this by having a low controlled resistance; a metal mat would keep parts grounded but would short out exposed parts, an insulating mat would provide no ground reference at all.

Typical resistance is 105 to 108 ohms between points on the mat and the ground. The mat would need to be grounded (earthed), however. This is usually accomplished by plugging into the grounded line in an electrical outlet. It's essential to discharge at a slow rate; therefore, a resistor should be used while earthing the mat. Some ground mats allow you to connect an antistatic wrist strap to them.

## Conductive Rubber Mats

### Benefits

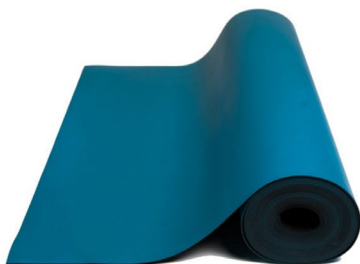
- Retains equipotential between the sensitive device, human bodies and mat.
- Offer excellent resistance to oil, grease, and most common solvents.

### Specifications

Resistance	108 ~ 1010 ohms , Back : 105 ~ 106 ohms
Colour	Green
Size (T x W x L)	2mm X 1m X 10m

### Also Available

- 2 Layer PVC vinyl mat
- 3 Layer Vinyl Mat



Conductive Rubber Mat



3 Layer Vinyl Floor Mat

# Anti-Static Wrist Strap

Anti-static Wrist Straps are used to prevent electrostatic discharge (ESD) by safely grounding a person working with sensitive equipment. It consists of a band of fabric with fine conductive fibers woven into it. The fibers are usually made of carbon or carbon-filled rubber,

The strap is bound with a stainless steel clasp or plate. They are usually used in conjunction with an Anti-Static table mat on the workbench or a special static-dissipating plastic laminate on the workbench surface.

## Specifications

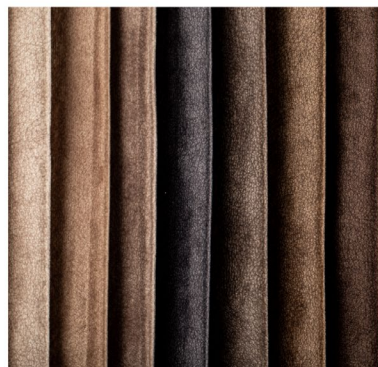
Discharge time	<0.1s
Cord length	2 Meters



Corded Wrist Strap

# Leather Sheets

Antistatic Black Leather sheets are available in various colours and thickness ranging from 0.75mm to 5mm.



Leather Sheets



# Leather Apron

Anti-Static Leather Aprons are available in the following sizes-

- 38x20 inches
- 30x18 inches
- 24x18 inches.



Anti-Static Leather Apron



Consumables

# Spools

---

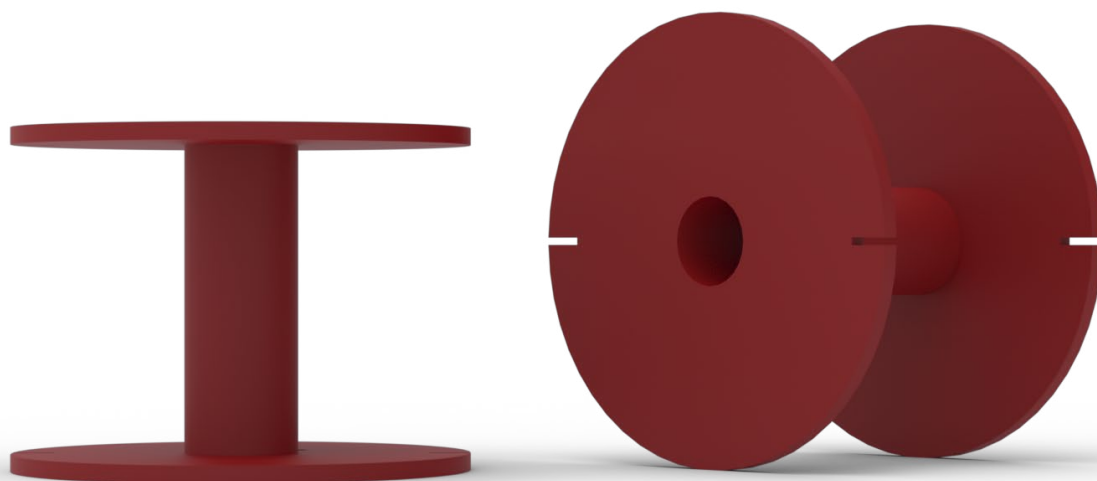
**DEEP** EXPLO

# General Purpose Spools

Spool Code	Flange Dia.	Barrel Dia	Bore Dia	Traverse Length	Overall Length	Material	Weight (gm)	Volume (cm <sup>3</sup> )
VW65	65	35	17	69	79	ABS	60	163
B3	105	55	22	90	112	ABS.PP	120	566
B4	120	50	17	100	120	ABS	195	935
B5	125	65	22	95	120	pp	150	851
P 20	140	55	18	50	58	ABS	120	651
P 5 (PP)	155	70	20	90	112	pp	205	1352
P 5	160	90	20	90	114	ABS	285	1238
B 10	165	95	17/47	88	100	ABS	340	1258
B 20	200	100	46	100	115	ABS	430	2357
3 Kg	170	68	38	220	237	pp	350	4196
14 Kg	335	117	38	215	255	pp	1500	16646

**PP : Polypropylene**  
**ABS : Acrylonitrile Butadiene Styrene**

*All dimensions are in mm*



# High-Performance Spools

## ABS spools for in-house process (as per din 46395) & PP spools for cable despatch

Reinforced with Horizontal and vertical ribs at close quarters Locked with High Tensile Zinc coated tie rods and Lock Tight nuts.

Spool Code	Flange Diameter	Barrel Diameter	Bore Diameter	Traverse Length	Overall Length
------------	-----------------	-----------------	---------------	-----------------	----------------

### High Performance ABS Spools for In-House Process

400mm	400	200/250	25 bis 80	100 bis 300	34
500mm	500	250/315	25 bis 80	100 bis 400	40
545mm	545	160/250	25 bis 56	100 bis 350	54
560mm	560	250/315	56 bis 127	100 bis 400	54
630 mm A	630	250/315	56 bis 127	100 bis 400	54
630 mm B	630	355	56 bis 127	100 bis 400	54
800mm	800	400	56 bis 80	100 bis 500	97
1000 mm	1000	500	56 bis 80	100 bis 500	97

### High Strength PP Spools for Cable Dispatch

VE 615	615	256	70	100 bis 400	50
VE820	820	356	80	100 bis 500	100
VE 915	915	412	80	100 bis 500	100

**PP** : Polypropylene  
**ABS** : Acrylonitrile Butadiene Styrene  
**Barrel** : Mild Steel or PVC

*All dimensions are in mm*



# Cylindrical Barreled Spools

Spool Code	Flange Dia.	Barrel Dia.	Bore Dia.	Traverse Length	Overall Length	Material	Weight (gm)	Volume (cm <sup>3</sup> )
80mm	80	45	20	70	85	PP	70	241
100mm	100	50	20	70	88	PP	95	413
125mm	125	65	20	70	95	PP	115	627
130mm	130	70	20	90	112	PP	140	849
160mm	160	93	38	100	125	PP	240	1332
200mm	200	106	38	120	150	PP	450	2712
250mm	250	110	38	122	150	PP	720	4831
310mm	310	200	36	160	200	PP	1267	7053
355mm	355	224	36	160	200	PP	1450	9535

**PS : High Impact Polystyrene**  
**PP : Polypropylene**

*All dimensions are in mm*









Consumables

# Clipping Wire

---

**DEEP** EXPLO

# Clipping wire

Every high production Slurry/Emulsion packaging machine requires a proper wire spool to keep the machine going.

The wire spool needs to be tangle-less and diameter irregularity free to avoid unnecessary breakdowns.

We offer custom drawn and wound clipping wire as per your requirements so your machines never face breakdowns because of something as simple as clipping wire.

Wire Diameter	1.5 - 3.2mm <sup>2</sup>
Material	Aluminium







Consumables

# Plastic Connectors

---

**DEEP** EXPLO

# 6 Hook Connector

## Specifications

Weight / pc	13 grams
Standard Colours	Blue, Green, Yellow, Red, Black, White

\* Specific sizes and colours can be ordered as per requirement as well.



# Hinge Connector

## Specifications

Standard Colours	White, Yellow, Pink, Black, Violet, Red
------------------	---

\* Specific sizes and colours can be ordered as per requirement as well.



# MS Connector

## Specifications

Weight / pc	16 grams
Standard Colours	Blue, White, Yellow, Red

\* Specific sizes and colours can be ordered as per requirement as well.



# J Hook Connector

## Specifications

Weight / pc	2 grams
Standard Colours	Blue, Orange, Pink

\* Specific sizes and colours can be ordered as per requirement as well.



# Rubber Bushing with Stopper

## Specifications

Weight / pc	0.6 grams
Standard Colours	Black
Length	30 ± 1mm
OD	6.0 ± 0.5mm
ID	3.45 ± 0.5mm
Stopper ID	2.1 ± 0.1mm

\* Specific sizes and colours can be ordered as per requirement as well.





# PVC Plug

## Specifications

Weight / pc	0.6 grams
Standard Colours	Blue

\* Specific sizes and colours can be ordered as per requirement as well.





# Consultation



# From plans to plants

**End to end incorporated  
consultation services to get  
your new plant up and running,  
improving the working  
efficiency of your existing plant  
and everthing in between.**

We offer consultations services to help you in setting up a new plant, government clearances, machine and layout selection to meet the required specification and safety requirements, adding a new product to your product portfolio or with the help of our dedicated engineering team, developing something completely brand new.

**Our team of consultants can help you  
through it all.**

**DEEP** EXPLO



# Upcoming Projects

**DEEP** EXPLO

# DN 50

To cut and coil Shock tubes at any desired length from stocks of 50 meters with similar productivity as DN-2.

## Shell filling Automatic

To fill detonator shells onto ladles before filling and pressing completely automatically.

## Decoiler

To de-coil unrequired shock tube off of the spools automatically onto self-wound 500-meter spools.

## Shell Printing Machine

To print required text (like EXPLOSIVES DANGER etc.) on up to 3 sides of the detonator shell automatically.

# Volumetric Filling Machine

For automated and precise volumetric filling of liquid into one or more vessel at a time.

# Shell Inspection Center

For automated Inspection of detonator shells on various parameters like length, dia marks color (splinter) ovality, etc

# DEEP EXPLO



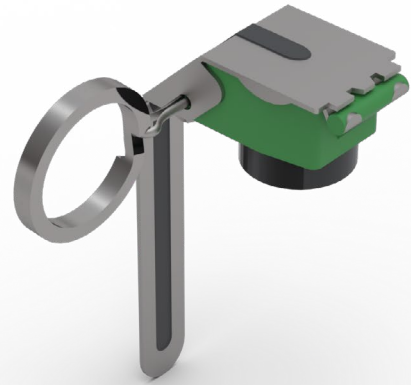




**DEFENCE**

# Defence

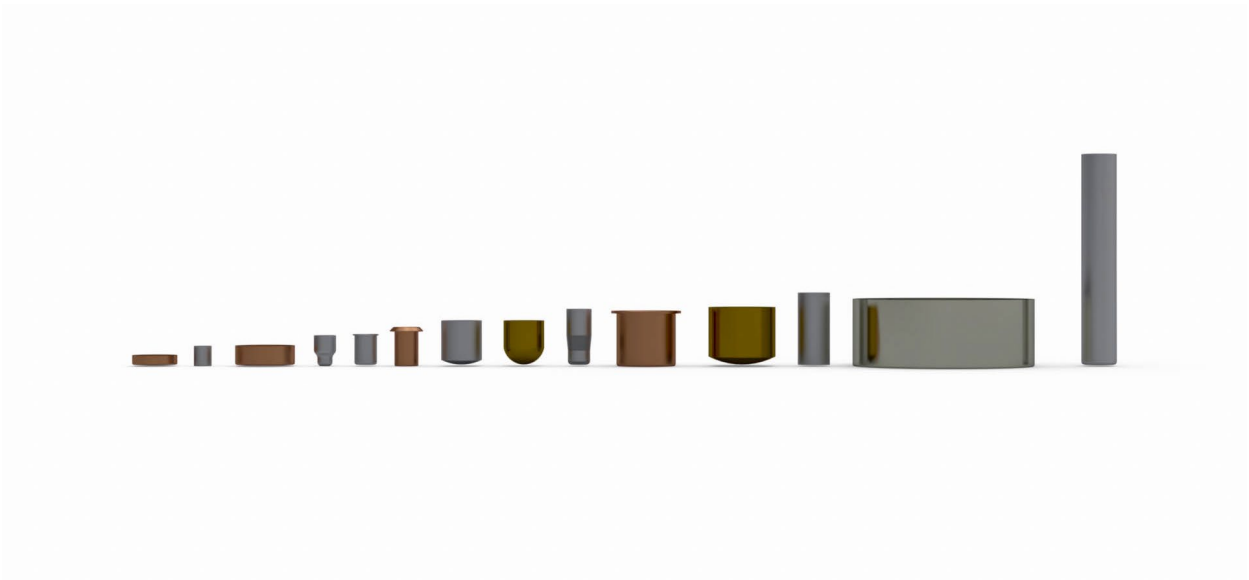
We command an evergrowing, diverse catalogue of over 500 defence related parts and equipment. Our highly precise machinery and customized production and assembly lines ensure that every product that is delivered fulfills the technical specifications. We always try to ensure the best possible quality and timely deliveries. We also adhere to the MAKE IN INDIA initiative at every stage of our production process, from the raw material procurement to machinery used.



## Deep Drawn Components

Deep drawn components are our forte. We make Tubes/Shells from Aluminum, Brass, Copper, and Steel ranging in sizes from 4.5mm OD to 7.8mm OD, and with lengths up to 120mm and can be made as per your custom requirements.





## Boxers (Anvils)

Boxers (Anvils) of various sizes and shapes, made by either deep drawing, sheet metal fabrication, or turning operations, can be manufactured as per your requirements.

## Caps

Caps in Aluminum, Brass, Copper, and Steel ranging in sizes from 2.5mm OD to 13mm OD and with Lengths up to 14mm and can be made as per your custom requirements.

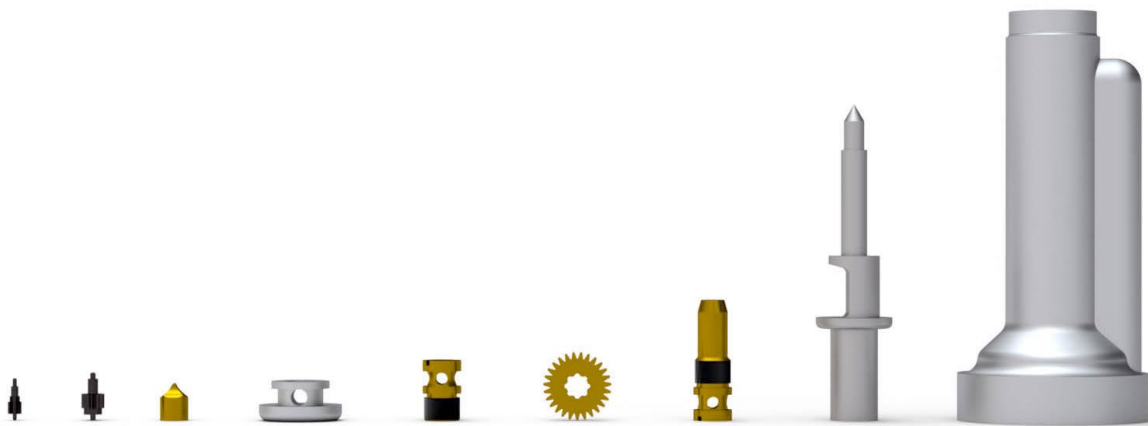
# Turned Components

We actively manufacture turned components from as small as micro firing pins to large warheads. The sizes range from 5mm OD to 235m OD, with Lengths ranging from 10mm to 700mm with a high degree of accuracy.



# Specialized Hardware Components

We even manufacture specialized hardware components with complex/mixed manufacturing processes used in various platforms like Smoke grenade, tear gas Grenade, Missiles (AGNI and BRAHMOS), INVAR, Torpedoes, and Flares.



# Micro Milling Components

We manufacture multiple forged, casted, and/or sheet metal micro-milling components with sizes as low as 10mm<sup>3</sup>.





# DEEP

# EXPLO







**AUTOMATION**

# Machine Design

## Methodology

Seeing the industries' need and our past experiences before delving into automated and next generation of machines, we updated our design methodology that every new machine we develop must follow to increase total productivity and reduce maintenance headaches for the end customer. Our new design methodology is much more focused on ease of use and international standards than ever before. Few of the design guidelines we follow-



## Ease and Efficiency

- The machine has to be as easy to use as possible.
- The machine has to be ergonomically pleasing to use.
- It has to be cost-efficient. Every component that goes into the machine has to serve a purpose.
- No unnecessary automation should be added, which can add to the cost but not to the machine's value.
- The machine should be customized to every client to adapt to the client's work culture and not the other way around.
- Machines electricals have to be designed to comply with the local safety standards of that area.

## Build

- ISO or international standard equipment should be used wherever possible, be it pneumatics, motors, or electricals.
- Direct rubbing of parts or friction points that could lead to breakdowns should be avoided where ever possible.
- Even if it can't be avoided, the material should be selected to increase the life of the product.

# Modular Approach

- The machine should follow a modular approach wherein the machine is essentially a summation of multiple modules handling specific tasks.
- The modules should be easily and quickly replaceable and inter-compatible with every other machine of the same kind to reduce spare part inventory requirements at the client's end.
- These modules should be designed such that they can be used on multiple different machines with minimal changes.

# Maintenance

- The machines should be easy to maintain with minimal preventive maintenance requirements.
- Even in the case of any major breakdown, it should be resolved quickly and easily.
- Minimal technical expertise should be required to repair the machine, even the electrical part of it.

# DEEP EXPLO





**Manufacturing  
Services**

# Manufacturing Services

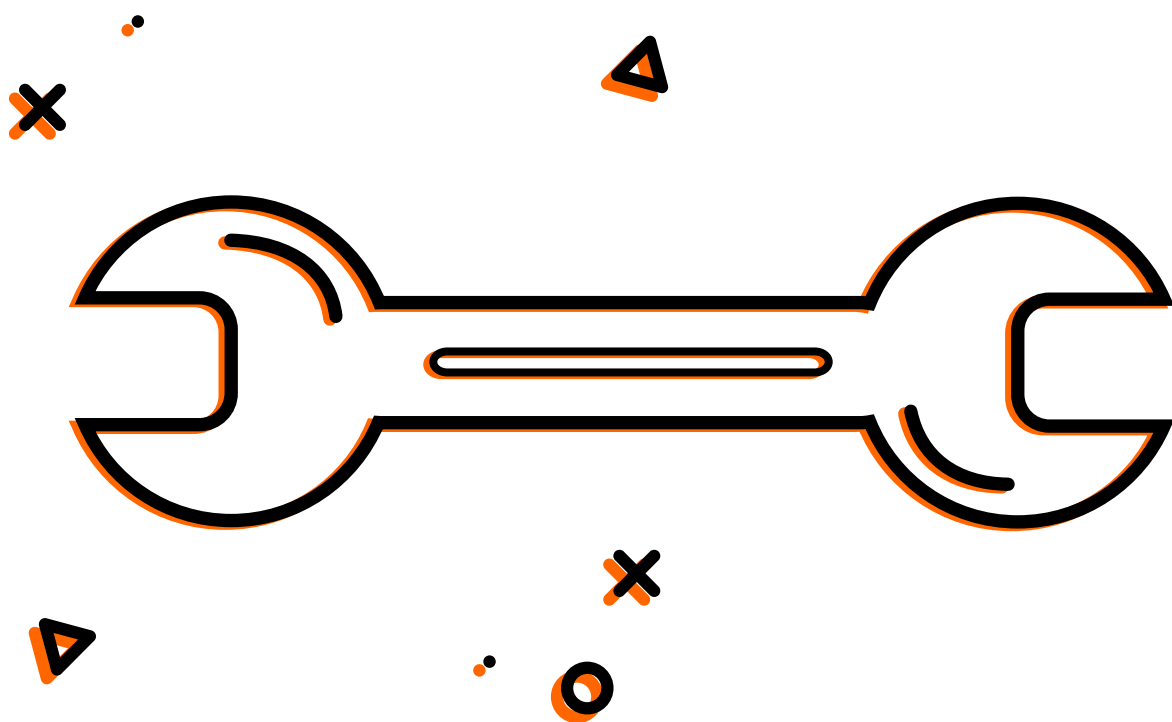
Since 1989, the beginning of our journey, we have been continuously innovating and developing new products.

We have a catalogue of over 5000 different products and over 90 Special Purpose Machines requiring a host of manufacturing capabilities. It has encouraged us to add and keep on adding new manufacturing capabilities and new equipment to our portfolio.

Over the past 30 years, our manufacturing capabilities have expanded drastically. We have a variety of manufacturing, inspection, and development equipment at our disposal.

We have increased our production capacities multi-folds in the past 3 years, adding new machinery and technologies to our arsenal. We added a whole new Automated machinery shop and a new Paint shop in the past years alone.

We believe in becoming a business partner instead of just a supplier. Your success means our success. For us, quality and complete customer satisfaction always come first. We have an extensive product replacement policy to help us improve and grow.



# Capabilities

## Management

The entire enterprise is governed and managed by Microsoft Dynamics NAV, an Enterprise Resource Planning system to ensure an active and trouble free experience for all our stakeholders.

## Engineering & Development

Engineering and Innovation have been at the core of our work values since the beginning. Having developed more than 90 Special Purpose Machines for a diverse field of work allowed us to learn and master various skills and verticals, placing you at an advantage in having us as your development partner.

We have worked immensely in the following sectors-

- Pneumatics & Electro-Pneumatics
- Hydraulics
- Complex Mechanical systems
- PLC Programming & implementation
- Custom Built Electrical control panel
- Mechatronic systems
- Motion Drive systems
- Machine vision
- Machine learning
- Industry 4.0
- Data analytics
- Process/Plant Automation

## Certification

We are an ISO 9001: 2008 certified company working towards enterprise-wide implementation of the following

- ISO 45001:2008
- ISO 14001:2015
- 5S Management
- ZED Certification
- MUDA, MURA & MURI
- Kaizen

# Software

We use the following suite of licensed software to ease the development and production activities of the company to better cater to customers requirements-

- SOLIDWORKS 2019
- SOLIDWORKS Inspection
- SOLIDWORKS ePDM
- SOLIDWORKS Visualize
- SOLIDWORKS CAM
- eDrawings Professional
- Siemens NX
- Siemens TIA Portal Advanced

We have implemented centralized servers to manage product data through multiple iterations, ensuring seamless data synchronization across all the domains while still retaining all the previous iterations for future requirements.

# Quality

Quality has been the most crucial aspect for us. We strictly follow ISO quality standards and use the following equipment to meet our customer's needs.

- Profile Projectors
- Camera based inspection system
- Inspection microscope
- Hardness testing machine
- Surface finish tester
- Surface coating tester
- Precision weighing scales
- Custom gauges
- Range of Vernier Calipers, Height Calipers, Micrometer, and more.

# Awards

We won the award for India's top 5000 SMEs in 2017 and later in 2018 were interviewed by Times Group's ET Now news channel as an emerging SME.

Won the TATA & BCCI, Annual MSME Excellence Award 2020-21.



# Equipment

Having a catalogue of over 5000 different products requiring varied manufacturing equipment requirements, over the past 30 years, we have inculcated various types of manufacturing capabilities in our portfolio, from deep drawing to metal cutting and more. Specification and capabilities for the same are given below -

## Turning

Our workshop consists of 15 automated CNC lathes and conventional lathe equipped with part-steady, turret/linear tooling/tool post tooling systems, collet chuck, and multi-point chuck.

### Specifications-

Minimum Diameter	1.5mm
Maximum Diameter	500mm
Maximum Length	2000mm
Minimum Tolerance	0.01mm

## Milling

We have a very diverse range of milling machines. We have Universal Milling machines, standard milling machines with DRO, VMCs, VMCs with auto tool changing system.

### Specifications-

Maximum Dimensions	800*600*550mm
Minimum Tolerance	0.01mm

## Grinding

### Surface Grinding

We have 5 high precision surface grinders to grind and cut parts with high precision.

### Specifications-

Maximum Dimensions	400*125*300mm
Minimum Tolerance	0.01mm

## Cylindrical Grinding

We have multiple Cylindrical grinders with high precision that we generally use to grind very high precision explosives pressing punches, deep draw punches, and carbide dies.

### Specifications-

Maximum Diameter	150mm
Maximum Length	300mm
Minimum Tolerance	0.01mm

## Sheet Metal

We have machines and equipment available in-house to manufacture complex sheet metal parts with ease.

### Specifications-

Minimum Sheet Thickness	0.1mm
Maximum Sheet Thickness	30mm
Minimum Tolerance	0.01mm

## Un-Conventional Machining

### CNC Wire-Cut

We have an automatic CNC Wire-Cut machine.

### Specifications-

Maximum Part Size	200 X 300 X 100 mm
-------------------	--------------------

### Electric Discharge Machine

We have an automatic ZNC Electric Discharge machine as well.

### Specifications-

Maximum Part Size	200 X 300 X 200 mm
-------------------	--------------------

# Formed & Deep Drawn

Micro Deep Drawn components have been our forte since the beginning. We have a custom In-House Developed series of Patented automated deep draw presses capable of up to 7 stages of transfer deep drawing to cater to a vast and varied drawn component market. Apart from them, we have multiple Hydro-Pneumatic presses, Double Action Presses, and Hand presses.

<b>Press Speed</b>	Max: 75 Strokes/min	
<b>Maximum Draw Depth</b>	110 mm	
<b>Diameter</b>	Min : 2.5 mm	Max (Blanks) : 100 mm
<b>Maximum Part Length</b>	110 mm	
<b>Sheet Thickness</b>	Min : 0.25 mm	Max : 2.5 mm
<b>Tolerance (+/-)</b>	±0.01mm	
<b>Materials Available</b>	Aluminium	Stainless Steel
	Galvanized Steel	Carbon Steel
	Brass	Steel
	Nickel Alloy	Copper
	Pre-Plated Steel	Beryllium Copper
	Lacquered Aluminium	
<b>Production Volume</b>	No Minimum	
<b>Metal Stamping Features/ Finishing Services</b>	Powder Coating	Stress Relieve
	Anodizing	Plating
	Vapor De-greasing	Painting
	De-burring/Tumbling	Tapping/Threading
	Annealing	
<b>Drawing Formats supported</b>	AutoCAD (DWG, DXF)	
	SolidWorks (SLDPRT, SLDDRW, SLDDRT)	
	PDF	
	JPG or any other image format	
	Reverse engineering from samples also possible.	

**We can even develop custom Metal Drawing Machines.**

# Welding

We have an expansive metal welding shop with custom-built fixtures to precisely and accurately weld components as per the customer's needs.

We can easily handle almost every metal, including-

- Iron
- Steel
- Aluminum
- Copper
- Brass etc.

We have the following welding capabilities in house-

- Oxy-fuel welding and cutting
- Gas Welding
- Arc Welding
- MIG - Gas Metal Arc Welding (GMAW)
- Stick - Shielded Metal Arc Welding (SMAW)
- Spot Welding
- Brazing
- Soldering

## Surface & Heat Treatments

We have the following surface & heat treatment facilities available in-house-

- Heat treatment ovens
- Powder coating
- Anodizing
- Chromate Conversion Coating, Nickel-plating
- Tin plating
- Zinc plating
- Passivation
- Phosphating
- Electroplating
- Lacquering
- Electro-polishing
- Ultrasonic Cleaning
- Saw Dust rumberling
- Painting

- De-burring machines
- Hot & Cold TCE Bath

# Additional Equipment

Apart from the above mentioned, we also have the following equipment -

- Radial Drill
- Shaper
- Planer
- Multiple Drill Centers
- Multiple Tapping centers
- Spot welding stations
- Soldering Stations
- Universal Tapping Center
- Power tools
- Computer rendering Stations
- Tool and die grinders
- Laser cutter
- Power presses
- Pressure die casting
- Automatic Sheet metal benders
- Plastic Injection Molding
- FFM 3D Printing



# Toolkit.

by DEEP EXPLO



+



# **Industrial Components**

# Presenting **Toolkit.** by Deep **Explo**

## Services

Toolkit, brought to you by Deep Explo is an Aligarh (UP) based new-age industrial component distributor. Toolkit is an holistic solution provider, helping you from product selection to implementation, solving your problems every time.

### Pneumatic Components

Pneumatic actuators, valves, FRLs, Tubing, Sensors, Fittings and Custom-designed control panels.

### Electrical Components

From MCBs and Sensors to Large scale distributed PLC and SCADA Systems and everything in between.

### Bearings & Machine Tools

Bearings, Cam Followers, Specialized fastening elements and custom developed parts.

### Stainless Steel Pipe-Fittings and Valves

Pipe Fittings and valves in SS 304 & 316 Grade with sizes ranging from 6mm up to 100mm.

### Automation Services

Integrated Software, Electrical as well as Mechanical Automation solutions under one roof.

## What sets us apart?

### Experienced Technical team

With vast automation experience in such a demanding industry as the Explosives industry, our team is well qualified to handle all your needs.

### Well oiled Management system

AI-driven stock management systems and integrated ERP systems help us deliver you an outstanding service.



## Integrated Software and Hardware

With 30 years of rich SPM Manufacturing background, we are amongst the few who offer a complete holistic automation solutions.

## Surprisingly low delivery time

Filling up the local vacuum, now you don't need to rely on tier 1 cities for those immediate equipment needs.

# Our Current Portfolio

We currently have the following brands under our distribution umbrella currently and adding more everyday.



**DEEP**  
EXPLO

D-65 ,Sector 1  
UPSIDC Industrial Area  
Talanagri, Ram Ghat Road  
Aligarh - 202 001  
Uttar Pradesh  
India

[www.deepexplo.com](http://www.deepexplo.com)  
[info@deepexplo.com](mailto:info@deepexplo.com)

+91 - 725 3000 200

*\* images are for representation purposes only*

© 2019 Deep Explo, All rights reserved

**/deepexplo**