



To,  
**Purchase Manager**

**Dear Sir,**

With reference to your enquiry, we have pleasure in submitting our lowest offer for the Design, Manufacture and Supply of **600** M Ton Capacity **Copper** Extrusion Press, (with Piercer)

### **GENERAL**

We offer One No. **600** M Ton Capacity Horizontal, Four Column, Prestretched Tie Rods, hydraulically driven, electrically controlled Extrusion Press fitted with shear for extruding **Copper** Solid Section, Hexagonal, Square, Flat and generally as per our drawing.

### **Billet cutting and Billet Heating Furnace Attach**

**We are using these reputed companies item:**

Electric	:	Kirloskar or Crompton
Electrical Contractor	:	TC makes
Pressure Pump	:	Rexroth or L & T
Hydraulic valves	:	Rexroth
Pressure gauge (Range from 0 to 400 kg Per Sq Cms)	:	Pricol or FGB
Check Valve	:	Polyhydron
Prifil Valve	:	Polyhydron



## SPECIFICATION AND TECHNICAL DATA

Extrusion Press Capacity	:	600 MT
Low Extrusion Capacity	:	518 MT
Hydraulic system working pressure	:	220 kg/cm <sup>2</sup>
Container Bore	:	125 mm
Billet Length	:	400 mm
Container Length	:	500 mm
Container Stroke	:	200 mm
Container Open Capacity	:	80 MT
Container Sealing Capacity	:	55 MT
Shear Capacity	:	34 MT
Die Slide (Aux Shear) Capacity	:	12 MT
Power for Container Heating	:	18 KW
Max Extrusion Speed	:	30 mm / sec
Min Extrusion Speed	:	28 mm / sec
Total Capacity of Motors	:	275 HP
Total Capacity of Motors	:	50HP X 5 Nos. & 25HP X 1 Nos. = 275HP
Motor type and rpm	:	Flange mounting type & 1440 rpm
Input Voltage and supply frequency	:	415/440 Volts, 50 HZ AC, 3 PH, 4 wire
Type of Operational Control	:	Push Button Operated Star Delta

## TYPES OF MOTOR STARTER

Main Motor	:	Star Delta
Type of Pumps	:	Rexroth maker fixed delivery axial Piston Pumps maximum continuous working pressure 345 bar peak press on 400 bar
Oil Tank Capacity	:	2000 Liter
Dead cycle time	:	30 Seconds
Recommended Hydraulic Oil	:	Servo System 68 or equivalent

**Machine Delivery – Immediate**



## SCOPE OF SUPPLY

Our scope of supply covers. One Extrusion Press complete with Power Pack, Electrical Control Panel, Operating control desk as described in specifications and technical data.

## MANUAL

Two copies of press operating and maintenance instructions manuals will be supplied along with the Press.

## NOTE :

Following are not included in our scope of supply :

1. Tooling like dies and dies support, material etc.
2. Foundation work, pipe and cable trenches etc for the press.
3. Inter connecting wiring between main control panel and press control panel
4. Main isolator and fuses.
5. Hydraulic oil
6. Billet transfer equipment/s
7. Any other auxiliary equipment/s attachment etc is not covered in our offer.

The pressing speeds and other technical data specified in this quotation are purely theoretical and may differ in practice.

Due to our constant efforts for developments, we shall supply the press with our latest developments. & hence the specifications. Illustrations are subject to change without notice.



## **CONSTRUCTIONAL FEATURES :**

### **MAIN CYLINDER AND CROSSHEAD**

The main cylinder and crosshead are made of weldable quality steel casting as per IS : 1030 Grade 280- and then properly machined, bored accurately on modern machines to receive gun metal guide bushes and fabric impregnated synthetic rubber oil seals. The gun metal bushes are polished to guide the Ram accurately.

### **END FRAME**

The end frame is made of weldable quality steel casting as per IS :1030 grade 280, properly machined on modern machines.

### **MOVING CROSSHEAD**

Made from weldable quality steel casting as per IS : 1030, Grade 280 properly machined to mount the thrust rod.

### **MAIN CYLINDER**

Main cylinder is integrally cast with main cylinder frame, bored and fitted with honed phosphor bronze guide bush for guiding the ram. Fabric impregnated chevron packing are used for leak free sealing along with wiper seal.

### **OTHER CYLINDERS**

(Approach side cylinders, Container cylinders, Shear cylinders and Die cylinders )

Cylinders made out of M. S. Bars, bored, honed and fitted with phosphor bronze bushes for guiding the ram. Fabric impregnated pressure seals are used for leak free along with wiper seal.

### **MAIN RAM**

The Main Ram and all other Rams are made out of medium carbon steel bars, finished machined, ground and hard chrome plated to get wear resistant surface.

### **TIE RODS AND NUTS**

The tie rods and nuts are made out of forged medium carbon steel.

### **COLUMNS**

Columns are made out of Mild Steel casting, machined and keyed on either faces at end frame and main cylinder frame.



The Columns are precompressed by stretching tie rods hydraulically. This nullifies twisting and stretching of tie rods during press operation i.e. in turns makes the machine very sturdy.

## **GUIDES**

Fitted with phosphor bronze wear plates. Adjustable "X" guides are provided for container and moving frame for easy and precise alignment.

## **LUBRICATION**

Centralized lubrication is provided for all guide points.

## **STEM AND SLEEVE**

Stem and container sleeve are made of heat treated hot working tool steel H 13/H11.

## **CONTAINER HEATERS**

Star delta controlled, 440 Volts Jacket type semicircular heating elements are provided within the container housing for pre heating of the container.

The control system permits rapid initial heating of the container are holding at set point temperature. All Electrical connections are located on outside of container housing and are accessible for maintenance.

## **END BUTT SHEAR**

Shear blade is guided throughout its stroke in sturdy shear frame, precisely machined from standard steel plates fabrication is provided for butt shearing.

## **DIE SLIDE**

Two position or single position horizontal, one piece die slide has single cavity to accommodate the tooling, One Knock out hole is provided for removal of " Stickers. "

The die slide is traversed to act as an auxiliary shear behind the tool stack. The die slide is guided in two heavy duty gibes complete with wear plates and lubrication points

## **POWER PACK**

The power pack is designed as per the latest trends in the Hydraulic machines using cartridge elements to give trouble free operation. This hydraulic system has advantages such as, easy change of sequence, short switching time, smooth working, reduced leakage, lesser inventory and longer life. High pressure piston pumps are coupled to Electric motors and are mounted inside the oil tank to immersed in oil for better cooling, higher efficiency and longer life of the pumps. Control valve like Solenoid operated D. C. valve, cartridge valves, relief valves, etc are mounted on compact manifold blocks to make maintenance easier.

Oil tank of oil reservoir capacity specified in technical data, is provided with proper inspection, & cleaning doors. The tank is equipped with air filter cum air breather, oil level indicator, float switch etc. The power pack is mounted on top of the main cylinder.



"LOW HYDRAULIC SYSTEM WORKING PRESSURE IMPROVES ALL HYDRAULIC ELEMENTS LIFE AND GIVES LONG RUN TROUBLE FREE SERVICE."

## HYDRAULIC CONTROLS STATION

Variable pressure relief valves, pressure gauges with isolators etc which are necessary for setting different working pressure for different extrusion are provided on this Hydraulic controls station.

## ELECTRICAL

### A. SWITCH GEAR CONTROLS

Reputed make star delta motor starter for 440 V, 3 Phase 50 HZ, 4 v/ire A. C. supply are used.

All necessary electrical, such as motor, starters, fuses, auxiliary contactors, relays, timers etc are provided in main control panel. The controlling elements like selector switches, push buttons, temperature controller cum indicator, master stop push button, pilot lamps for indicating motor on energisation of various solenoids etc with suitable labels are provided in pendent push buttons station.

## MODE AND SEQUENCE OF OPERATION

The press is suitable for operation through push buttons in inch/Auto cycle. In inch cycle individual operations of each ram can be controlled through separate push button. This helps initial setting of different parameters of press.

In auto cycle continuous operation of press is possible by keeping the selector switch in "Auto Cycle" position.

## SELECTION OF HIGH / LOW TONNAGE

A selector switch is provided to select high / low tonnage during press operation

## CHANGE OF PRESSING SPEED

During extrusion, pressing speed can be varied in steps in case of power pack with all fixed delivery pumps & step less variation is possible in case of power pack with all variable delivery pumps.