mankoo
INDIA

KNUCKLE JOINT

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Description

Knuckle joint Presses are designed for performing cold die forging works, requiring high unit pressures at short operating strokes of the slide (Coining, Sizing, Refining, Die Forging) and also for cold forming of steel parts.

All the Presses are closed machines having an upper drive.

ADVANTAGES OF COLD FORMING

- Saves Material
- Precision- Sized, Precision-Shaped Parts.
- Tougher and Stronger Parts.
- Ready to Assemble Parts With No Further Machining.
- Cost- Efficient Mass Production.

• Cold forming is one of the most, economical methods of manufacturing- Precision Parts From metal, Compared with machining, cold forming saves up to 50% on material. It also offers many other advantages better. Surface finish for example as well as more accurate stronger, more wear resistant and longer life parts, In a competitive market these parts are often lower in price because they are formed from less costly materials. They normally eliminate any need for subsequent machining or treatment. So they are also ready for almost instant assembly.

• EMBOSSING
This involves forming mostly flat parts, effecting substantial charges in their thickness

• SIZING
This means smoothing the surface of extruded parts, making them true to size and shape without any subsequent machining.

- EXTRUDING

Here, the metal is forced through a die, flowing under pressure in to required shape Backward, forward or transverse extrusion is employed, depending on the shape of the part. For complex work pieces, extrusion is combined with centering, upsetting, reducing, trimming or piercing.

Some Features are as under:

- MAIN FRAME

The Main frame of the press is of all welded to up right straight line type constructed of thick rolled plates. Such construction provides high rigidity of the frame and make it able to bear considerable loads. In the lower part of the welded boxlike slide there is an upper ejector acted by the stop joined with the knuckle joint mechanism of the slide drive. The slide body is counter balanced by pneumatic cylinders. The main frame plates are welded with electroslag process. After welding the frame is subjected to stress relieving

- EJECTOR

The Ejector that pushes out the part of the lower die is a lever mechanism which is driven through the drive connecting rod.

- DRIVE

The drive is gear eccentric, two stepped rotation from the electric motor is transmitted through V-belts and two sided gear transmission to driven gear cluster, one gear of which has an eccentric boss for the mounting of connecting rod. The rod is connected with the slide knuckle joint mechanism.

- CLUTCH BRAKE

The multi plate clutch and brake are friction stiffly interlocked with pneumatic engagement.

- LUBRICATION

The lubrication is automatic pressurized flood circulation.

- CONTROL PANEL

The presses are controlled by push buttons and PLC (Program Logic Controller) safety device with On/Off, Start/Stop, Forward/Reverse, Inching, Semi-auto and Auto Mode.

STANDARD FEATURES

- Slide Adjustment Motorised.
- Production Counter.
- Standard Bottom Knockout & Upper Knockout System.
- Standard Bolster.
- Dual Solenoid Valve For Safety.
- Safety Limit Switches.
- Balancing Cylinders to Slide.
- Air-Pressure Safety CUT/OFF Switch.
- Lubrication Pressure Switch.
- Electric Motor.

SPECIFICATION

Knuckle Joint Presses

Nominal Force		**250 Tons**	**400 Tons**	**630 Tons**	**1000 Tons**
Ram Stroke	mm	120	130	150	170
Speed	spm	60	50	40	32
Shut Height (SDAU)	mm	300	375	420	470
Ram Adjustment	mm	12	12	16	16
Bolster Plate Thickness	mm	80	100	140	150
Bed Dimensions (LR x FB)	mm	400×400	500×500	630×630	800×800
Lower Knockout Stroke	mm	70	80	110	120
Force	ton	8	12	20	32
Upper Knock Out Stroke	mm	10	10	10	16
Main Drive Electric Motor	hp	10	20	30	40
Ram Adjustment Motor	hp	1	1	1	1
Lubrication Motor	hp	0.5	0.5	0.5	0.5
Overall Dimensions	mm	1750×1150	1980×1240	2200×1500	2700×1600
Height From Floor Level	mm	2585	2800	3600	3925

OPTIONAL ACCESSORIES

Load Monitoring Analyzer | Crank Angle Positioner | Menu Driven Control Panel | Die Clamps
Photo Safety Guards | Anti-Vibration Pad

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