

MAGNUM PRESS FEATUES and ADVANTAGES

- Our presses are precision designed and built to exacting standards, they are competitively priced with short lead times and they are FAST!
- We build both Gap Frame and Column Guided Presses with precision expertise
- Column style maintains parallelism more effectively than Gap Frame Presses
- Gap frames flex but Magnum gap frames flex less than most because we use more steel...thicker, more bold in C frame....more steel means less flex
- Magnum Presse RAMS are underhung (cylinder bolted in from the bottom) to keep the bolts from bearing all the stress of the press force and reduce the overall height of the press. Some presses will break the bolts in their overhung RAM mounted designs
- Magnum Column Syle Press Advantages
 - Magnum Column Style use self lubricating bearing with tight tolerances
 - Fabricated beds are stress relieved prior to machining
 - Tooling surfaces of beds are ground to within .0015/ft flatness
 - Moving platens attached to RAM via floating 'safe' coupler
 - Die pins are rated 'stress proof' @ 100,000 psi
 - Shank stress on die pins, less than 20,000 psi
 - Contact area on bolsters to die pin shoulder stress, less than 10,000 psi
 - Rod tensioners are 'Super Nuts'
 - Tie rods on moving platen presses are induction hardened and chrome plated...minimum hardness is 55RC
 - 3:1 minimum bearing length to pin diameter ratio
 - For Off-Center loading: 4:1 bearing length to pin diameter ratio is used and the bushings are gusseted for added support and rigidity where needed
 - Slides are counterbalanced to prevent free-fall
 - Secondary locking circuit on main RAM provided for increased safety
- ****STANDARD EQUIPMENT ON MOST MAGNUM PRESSES:**
 - Allen Bradley MicroLogix PLC with Panel View HMI based controls*
 - 2-Hand No-Tie-Down Start
 - CAT 4 Safety Start Relay
 - Adjustable Tonnage
 - Adjustable Stroke
 - Pressure AND Distance Reversal Mode
 - Manual Setup Mode
 - Energy Saver Shut Down
 - Top Stop Over-Run
 - True 2 Speed Ram
 - 2 Stage Electro-Hydraulic Decompression is far superior to most hydraulic decompression systems
 - Self-Contained Removable Hydraulic Power Unit
 - Custom hydraulic block utilizing cartridge valves for fast response times, compact design, minimal leakage points and lower cost maintenance
 - Flat-Face O-Ring seals on all hose and adapters for the most leak free hydraulic system design



- Visual Level/Temp Gauge
- Removable Bolster (Gap frame C-frame presses)
- Lockable Disconnect
- NEMA enclosures
- TEFC EISA Compliant Electric Motor
- Magnetic Starter/ Electronic Overload
- Single Point Power Connection
- Oversized RAM bushings for superior guidance and resistance to deflection on models with rigidly guided RAMS

Magnum Electrical Systems

At the forefront of the electrical system design is safety. The primary power flow for press functions is handled by a CAT 4 two-hand anti-tie down safety relay. This specialty relay checks complementary inputs from each cycle initiator to insure the operators hands are out of the work area. The secondary control functions are handled by a PLC. This system allows a flexible control system while maintaining system integrity. A clean panel design makes trouble shooting a breeze. All wiring is terminated to spring cage style terminals. These terminals provide reliable vibration resistant connections. Wiring on the panel is routed through wire troughs with removable covers. All PLC I/O points are also terminated to the terminals. Systems include multiple guard terminals already installed. Inputs and outputs have all necessary connections (power for proximity switches and grounds and neutrals for coils) on a single terminal, no searching for support wiring for devices. All valve coils use DIN 43650 connections with power indicator lighting and electrical EMF surge suppression. The hydraulic cartridge valves require less current to operate than conventional spool valve for minimal electrical usage. Magnum uses high quality Allen-Bradley components on most presses.

Magnum Hydraulic Systems

Magnum hydraulic systems are designed for presses. Our philosophy is to build simple, reliable and easily serviceable systems. **At the heart of our system are steel manifolds designed to consolidate valving, reduce plumbing, eliminate leaks and provide maximum service life. All pressure connection points have o-ring seals –** no metal to metal pressure connections – no pipe threads. We use flexible wire braided hose to isolate frame stresses from reservoir and power units yet, maintain crisp system response. Our systems are designed with minimal pressure drops to allow lower usable tonnage range. All systems incorporate decompression on the blind side of the cylinder to eliminate shock pressure waves and insure maximum service life for the system components. The entire system is designed to minimize response time to give you more parts per shift. Components are standard off the shelf so replacements are readily available. Our manifolds incorporate efficient cartridge valve design that have extremely low leakage, fast shift time and low pressure drops all adding to system efficiency. Larger systems use piloted DIN logic elements. These valves often called poppet valves, outperform large piloted spool valves in leakage, flow and response time. Reservoirs are generously sized to minimize the need for external system cooling. Gap frame power units are self contained and removable for service or remote location. Cylinders are premium quality NFPA compliant with easily serviceable rod bearings and seals.

MAGNUM PRESS ELECTRIC, MECHANICAL & PNEUMATIC COMPONENTS



- Electric Components: AB, ABB, Idec, Hammond Power
- PLC: per spec
- AC MOTORS: per spec
- Buttons: Idec
- Master Switch: ABB
- Current Transformer: Hammond Power
- Sensors: Automation Direct
- Circuit Breakers: ABB
- Terminals: ABB
- Electric Outlet: per spec
- Pressure Gauges: per spec
- Starters: ABB
- Hydraulics: Parker cylinder and pilot valves, Bosch DIN elements, Vickers interchangeable pump

Magnum Hydraulic Systems use the highest quality flat-face O-Ring components

The "Seal-Lok" O-Ring Face Seal (ORFS) offers high seal reliability, especially in dynamic and shock loading applications. It creates a seal by compressing an o-ring against the flat surface of the mating surface.

The following are benefits of "Seal-Lok" fittings:

- Recommended for "Leak Free" technology.
- Aligning for tube and hose connections is much easier as compared to taper pipe threads.
- Since the sealing and mechanical holding functions are separated, there is "unlimited" remakeability.

