

ROSS – The Global Leader in Providing Fluid Power Safety Solutions

Providing a Safe Work Environment
while Increasing Productivity in the
Mining Industry

Pneumatic Solutions to Complete your Safety System

ROSS' DM²® Series E & C pneumatic valves
Air Dump/Release, Category 4 Applications



Categories 2 & 3
also available.

E-stop

Safety relays
Safety PLCs

Safety Mats	Light Curtains	Area Scanners	"Electrical Interlocks" (gates, guards, etc.)
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COMMON PNEUMATIC FLUID POWER SOLUTION FOR:
LOCKOUT CONTROL OF HAZARDOUS ENERGY • BRAKING SYSTEMS • PACKAGING
SYSTEMS • CONTROL OF SAFETY DEVICES IN WINDERS • HOSE AND/OR
FITTING FAILURE • CONTROL OF LINEAR ACTUATORS • CAUSTIC SOLUTIONS
WITH STAINLESS STEEL SAFETY DEVICES

ROSS
Consider it **DONE!**

Don't let the pneumatic components be the weak link in your machine safety systems.

ROSS' latest pneumatic safety products:

- Energy isolation valves with block and bleed in a single device
- Stainless Steel energy isolation valves for caustic areas
- Control reliable exhaust valves to meet OSHA's "alternative measures" or LOTO
- Control reliable valves for cylinder control
- Broken hose protection

Cylinder Return to Home Position



Load Holding Rod Catchers Valves –



When needing rod locks, rod brakes or safety catchers ROSS will provide you the optimum solution for every application.

Air Entry Packages for Stop Functions –

When pneumatic or hydraulic elements are incorporated into a safety stopping function, the circuit design and component selection shall be appropriate for the required level of safety performance. Devices that produce a hazard shall have power removed during a stop function, provided a greater hazard is not created in the process.



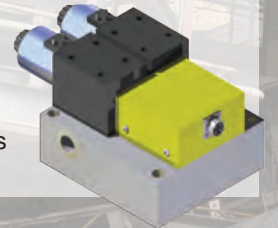
Broken-Hose Protection –

Machinery shall minimize potential hazards from sudden hazardous movement of a hose resulting from leakage or component failure.



Control Reliable Hydraulic Double Valve –

A two position 3-way hydraulic valve with redundant valving elements and redundant monitoring. The purpose of the valve is to, when energized, provide a flow path for a flow of hydraulic fluid from its source to the hydraulic system. When de-energized, the valve blocks flow from the hydraulic source and vents the hydraulic system to tank.



Safety Shut OFF and Exhaust Valve – shall

- » Be capable of being locked in the off position only
- » Be easy to operate (e.g., simple pull/push action)
- » Have an exhaust port equal to or greater than its supply line
- » Have a pressure indicator that is visible to the operator to indicate that the line is relieved of pressure



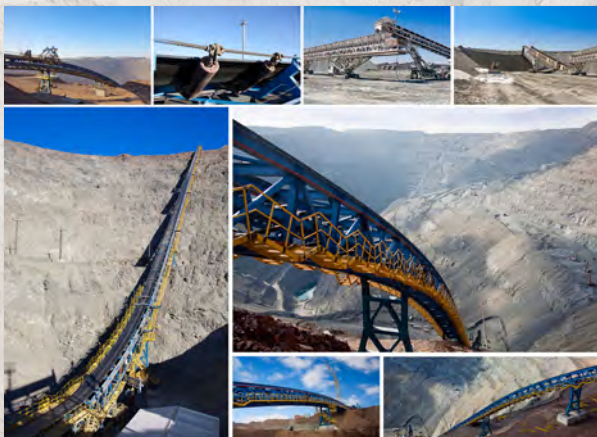
Control Reliable Energy Isolation Cabinet for Caustic Environments –

Manual energy isolation device (L-O-X®) located outside the cabinet is stainless steel and designed for caustic environments.

Stainless steel control cabinet includes filter/regulator and Category 4 DM2® valve for air entry control.



Will build to your specifications!



Serial Bus Module



Mechanical Manual Lever Valves



Air Distribution Assembly



Robust Poppet Valve for Base Mounting



Pendant Control Valves



Valve Stand Unit



Robust Poppet Valve for Line Mounting



Drip Leg Drains



ROSS Safety-Related Solutions

ROSS has been manufacturing fluid power products since 1920, and has become recognized as the premier supplier of high-quality pneumatic and hydraulic safety components for various applications.

- Control-reliable solenoid operated pneumatic valves
- L-O-X® lockout and exhaust pneumatic energy isolation valves
- EEZ-ON® soft start pneumatic valves
- Pilot-operated pneumatic check valves with pressure release
- HOZE-FUZE® air hose blow-out protection
- Latching manual valves

ROSS Integrated Systems

Services Provided:

- Systems Engineering
- Controls Engineering
- Custom Fabrication
- Installation Assistance
- Integrates ROSS Components into a Engineered Systems Solution

Serial Bus Systems

Features:

- ROSS SBS accommodates most industry standard network protocols
- Up to 32 i/o points
- Lowers cost of installation
- More uptime
- Easier to troubleshoot
- Reduces start-up time
- Reduced wiring
- Provides LED status indicators
- Offers flexible manifold configuration
- Removal of devices under power

Various Safety-related Standards that Apply to Air Systems:

ANSI/ASSE Z244.1-2003 (R2008)

Lockout/Tagout Control of Hazardous Energy

OSHA 29 CFR 1910.147

ANSI B11.0-2010

RIA 15.06

ISO13849

Machine Safeguarding

ANSI/PMMI B155.1-2011

Safety Requirements for Packaging Machinery

ANSI B11.1

Safety Requirements for Mechanical Power Presses

ANSI B11.2

Safety Requirements for Hydraulic Power Presses

ANSI B11.3

Safety Requirements for Power Press Brakes

ANSI B11.19-2010

Performance Requirements for Safeguarding (Stop Time)

ANSI B11.TR6-2010

Safety Control Systems for Machine Tools

OSHA 29 CFR 1910.211-219

Safeguarding Mechanical Power Presses

CSA 460

Standard for Energy Isolation

CSA Z142

Standard for Power Press Operation

TSSA

Technical Standards & Safety Authority

ROSS Safety-related Applications:

- * Cylinder hazard in 2 directions
- * Pinch points
- * Tooling or product damage
- * Single Point Lockout

- * Vertical loads
- * Cylinder hazard in one direction
- * Load holding

- * Cylinder hazard in 2 directions
- * Cylinder mid-stroke positioning
- * Two-hand control

- * Energy isolation
- * EEZ-ON® gradual pressure build-up
- * Noise reduction
- * 2-hand anti-tie-down machine start
- * Hose and/or fitting failure

Additional resources: For extended information related to pneumatic products, please visit ROSS website at www.rosscontrols.com, or contact your local ROSS distributor.



Consider it **DONE!**

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