ROSS – The Global Leader in Providing Fluid Power Safety Solutions

Providing a Safe Work Environment while Increasing Productivity in the Forest 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.

Safety relays
Safety PLCs

Safety Mats	Light Curtains	Area Scanners	"Electrical Interlocks" (gates, guards, etc.)

COMMON PNEUMATIC HAZARDS INCLUDE:

CUT-OFF SAW • DEBARKING • LOG CARRIAGE/EDGING • PALLETIZING
PEELING/VENEERING • PRESSING • SAWMILL CONVEYOR • STACKING

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 from ¼" through 2"
- Stainless Steel energy isolation valves for caustic areas from ¼" through 2"
- Control reliable exhaust valves to meet OSHA's "alterative measures" or LOTO
- Control reliable valves for cylinder control
- Broken hose protection

Cylinder Return to Home Position

Stop Functions –

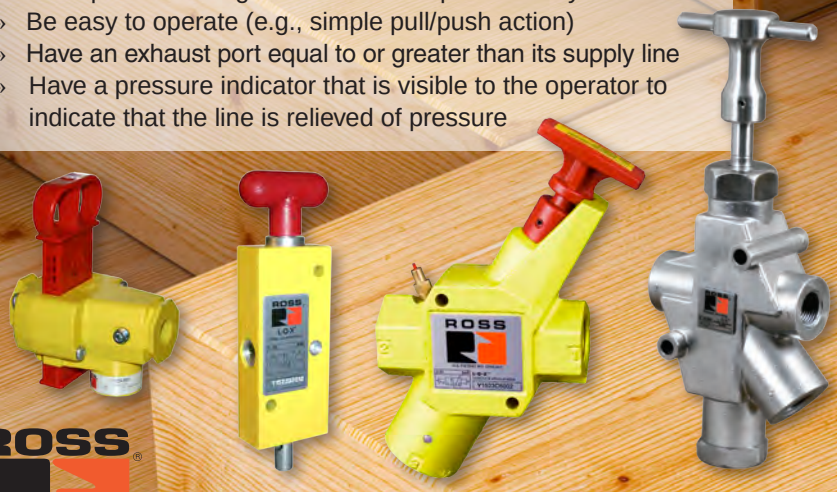
When pneumatic or hydraulic elements are incorporated into a safety stopping function, the circuit design and component selection shall be appropriate for the required level of safety performance. Devices that produce a hazard shall have power removed during a stop function, provided a greater hazard 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.

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



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 B155.1-2010
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

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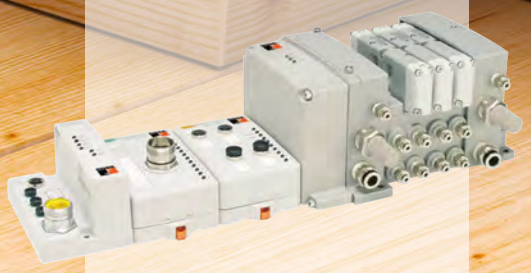
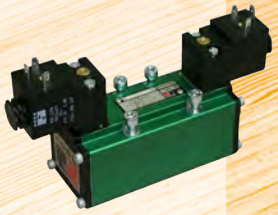
SAFETY ROSS PRODUCT®





safety

Designing toward Zero-Harm.

productivity

Designing to maximize return on investment.

environment

Designing to save energy and reduce greenhouse gases.

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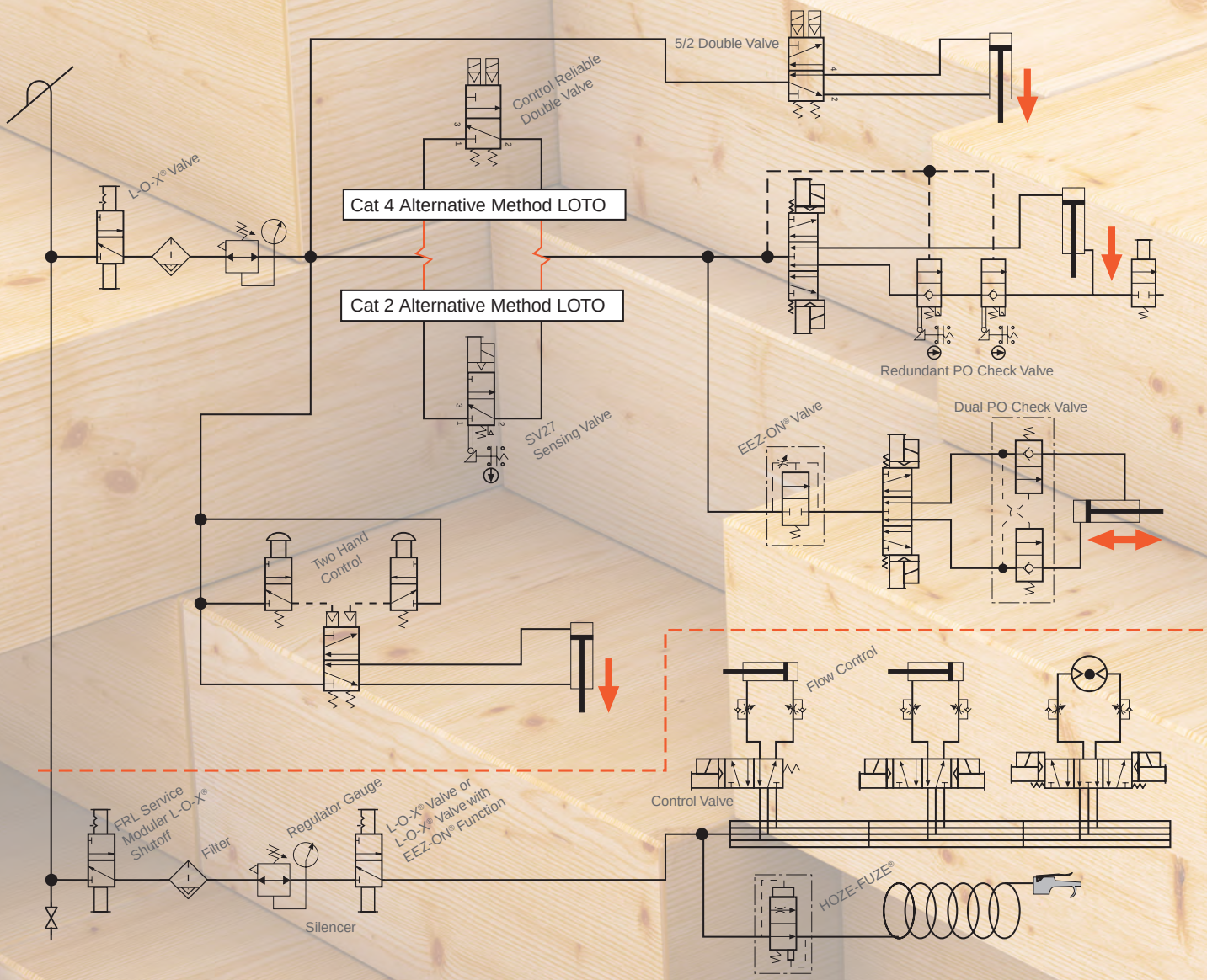
Consider it DONE!



DISCLAIMER

These circuits are illustrative only and not intended to be used literally for your application. Each machine is unique and has individual characteristics that must be considered when designing a safety circuit. In addition, the referenced standards are not an exhaustive list. There may be many additional local, state, national, and international standards as well as machine function specific standards pertinent to your machine. This document is not a substitute for a complete risk assessment of a machine's hazards, professional circuit design or acquiring an in depth understanding of standards/regulations relevant to an application or machine.

Additional resources:

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

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