

# YOUR TRUSTED SOURCE

FOR ALL YOUR SAFETY NEEDS AND SOLUTIONS

John Henry Foster is your single source when it comes to complete safety parts and products while complying with ISO 13849-1 Type-B for use in pneumatic safety related applications.

The table below shows a comparison of the different safety categories.  
**EN ISO13849-1:2006 Categories**

Category	Summary of Requirements	System Behaviour	Principle Used to Achieve Safety	MTTFd of Each Channel*	Diagnostic Coverage	Common Cause Failure
B (see 6.2.3)	SRP/CS and/or their protective equipment, as well as their components, shall be designed, constructed, selected, assembled and combined in accordance with relevant standards so that they can withstand the expected influence. Basic safety principles shall be used.	The occurrence of a fault can lead to the loss of the safety function.	Mainly characterized by selection of components	Low to medium	None	Not relevant
1 (see 6.2.4)	Requirements of B shall apply. Well-tried components and well-tried safety principles shall be used.	The occurrence of a fault can lead to the loss of the safety function but the probability of occurrence is lower than for category B.	Mainly characterized by selection of components	High	None	Not relevant
2 (see 6.2.5)	Requirements of B and the use of well-tried safety principles shall apply. Safety function shall be checked at suitable intervals by the machine control system.	The occurrence of a fault can lead to the loss of the safety function between the checks. The loss of safety function is detected by the check.	Mainly characterized by structure	Low to high	Low to medium	See Annex F
3 (see 6.2.6)	Requirements of B and the use of well-tried safety principles shall apply. Safety-related parts shall be designed, so that - a single fault in any of these parts does not lead to the loss of the safety function, and - whenever reasonably practicable, the single fault is detected.	The occurrence of a fault can lead to the loss of the safety function between the checks. The loss of safety function is detected by the check.	Mainly characterized by structure	Low to high	Low to medium	See Annex F
4 (see 6.2.7)	Requirements of B and the use of well-tried safety principles shall apply. Safety-related parts shall be designed, so that a single fault in any of these parts does not lead to a loss of the safety function, and the single fault is detected at or before the next demand upon the safety function, but that if this detection is not possible, an accumulation of undetected faults shall not lead to the loss of the safety function.	When a single fault occurs the safety function is always performed. Detection of accumulated faults reduces the probability of the loss of the safety function (high DC). The faults will be detected in time to prevent the loss of the safety function.	Mainly characterized by structure	High	High including accumulation of faults	See Annex F

Summary of requirements for categories  
ISO 13849-1:2006 (Table 10)

\*MTTF<sub>d</sub>=mean time to dangerous failure

# SAFETY SOLUTIONS, PARTS AND EXPERTISE

We are safety certified to service your safety needs

John  
Henry  
Foster



**JHFOSTER**  
John Henry Foster.com  
Automation • Robotics • Compressed Air • Service

We are an authorized distributor of major manufacturers who offer a complete line of high-quality safety equipment and components. We also offer value-add on all these products.

If you would like additional information regarding our capabilities with safety components, contact us at *John Henry Foster (JHFoster) is a leading distributor and service provider for automation and compressed air systems. Our mission is to assist companies like yours automate their manufacturing applications to make the process a positive journey. We are committed to providing successful solutions that exceed production demands, reduce costs, and increase overall efficiencies.*

*Headquartered in Eagan, MN, with a location in Fargo, ND, we also offer a fully-equipped team of mobile technicians that provide service to the 5-state area. Contact us today at 800.582.5162 or [jhfooster.com](http://jhfooster.com) to learn more about how you might benefit from knowing us.*



## SAFETY OPTIONS AVAILABLE

John Henry Foster (JHFoster) offers the complete package when it comes to selecting, integrating and running your automation equipment while complying with ISO 13849-1 Type-B for use in pneumatic safety related applications. Several of our automation parts and products are fully compliant with the latest Zoned Safety Capabilities and will save you time by eliminating the components and complexity found in discrete safety circuits.

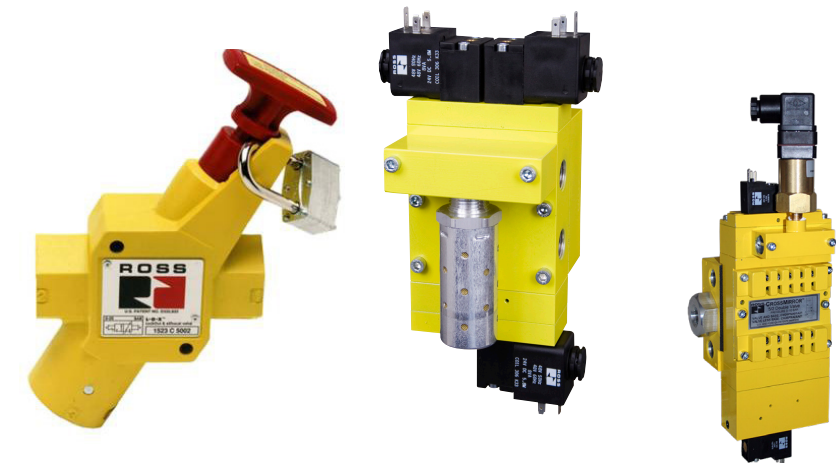
### WHAT MAKES US UNIQUE?

John Henry Foster has 11 automation specialist ZONED SAFETY CERTIFIED, making us one of the largest service providers for safety parts and products in the region. When we say we have 24 hour service available, we have the numbers to ensure we will have a technician ready to come out when needed.

John Henry Foster has been servicing and supporting the Twin Cities since 1938. We have expanded our facility in Eagan to over 30,000 square feet and now have over 95 employees at our locations in Eagan, MN and Fargo, ND. We have over \$4 million in inventory.

John Henry Foster has local factory trained engineers, performing value add for your safety solutions. We have the ability to do it all at John Henry Foster. We have onsite engineers to evaluate, test and build your safety capabilites locally which ensures a fast turnaround.

JHF offers 24-HOUR  
**ASSE 6040** EMERGENCY  
SERVICE available SEVEN  
DAYS a week, even  
holidays - **651.452.8452**



## WE REPRESENT THESE APPROVED SAFETY VENDORS

- 80/20:** Guarding, enclosures and workstations
- AIR-MITE:** Pneumatic and electric two hand no-tie-down controls
- BALLUFF:** Safety over IO-Link, light curtains, door switches, safety sensors
- BIMBA | MEAD:** Pneumatic two-hand no-tie-down controls, lock-out valves
- CARLO GAVAZZI:** Interlocks, safety relays, sensors
- EMERSON - ASCO NUMATICS:** Lock-out valves, power isolation bases
- EMERSON - AVENTICS:** Lock-out valves, cylinder locking and holding units, power isolation bases
- EUCHNER:** Safety switches, e-stop devices, limit switches, light curtains, safety controllers, safety photocells
- PIZZATO:** Standard safety sensors, standard safety switches with separate actuators, heavy safety switches with separate actuators, safety switches with separate actuators and locks
- RENCO INC:** Pneumatic and electric two-hand no-tie-down controls
- ROSS CONTROLS:** Safety valves
- TAPESWITCH:** Sensing edges and bumpers, light curtains, safety and signal mats, safety interlocks
- WIELAND:** Relays, sensors, terminal blocks, light curtains
- ZSI-FOSTER:** Safety quick couplers

