

ISS | Safety Ltd.



**We make your
Workplace Safe**

Our consultancy services include, but are not limited to the following;

- Machinery risk assessments.
- Health and Safety Audits.
- Health and Safety Training.
- CE Marking.
- LOTO audits, policy and procedure implementation.
- Advice on compliance with Health and Safety Regulations and Standards.
- Stop Time Tests.
- Application of the Provision and Use of Work Equipment Regulations (PUWER).



Risk Assessments



Every company is under a statutory duty to carry out an assessment of risks present in their workplace. Users of hazardous machinery and equipment must also comply with the regulations of the Provision and Use of Work Equipment Regulations (PUWER). The Regulations require risks to people's health and safety, from equipment that they use at work, to be prevented or controlled. European Machinery Safety Standards can be used as reference documents to provide guidance on the selection of safety devices to control machinery risk. Primarily intended for use with new machinery, they can be used with existing work equipment to assess compliance with the relevant sections of PUWER. For example BSEN 953 "General requirements for machinery guards" can be used to select new or assess the suitability of existing fixed and movable guards fitted to dangerous machinery. The ISS Safety risk assessment process is a multi-layered exercise in machine risk management. The assessment makes extensive use of Harmonised European Machine Safety Standards and the Regulations of PUWER to identify hazards, assess the level of risk, determine the suitability of existing risk control measures and where appropriate, make recommendations on further risk reduction hardware or procedures.

The process incorporates:

- Discussions with machine users.
- An extensive hazard analysis of the machine and its working environment.
- Numerical and qualitative quantification of risk using BS EN ISO 12100-2010.
- An assessment of the adequacy of the existing safety control measures.
- An assessment of the electrical safety control system using BS EN 13849-1.
- An assessment of electrical safety using BS EN 60204-1.
- An assessment of compliance with the Regulations of PUWER.
- Recommendations and actions.
- Assessment priority rating.
- Photographic log.

RISK ASSESSMENT - EN ISO 12100-1						
2007 Safety of Machinery: Risk Assessment Principles						
Hazard	Mechanical - Entanglement - Rotating Chuck				Risk Level	Controls Determination
Se	Fr	Pr	Av			
4	4	3	3		10	Required
Existing Controls			Adequate		Control Comment	
Interlocked mechanical Chuck Guard			No		Poor condition and limited coverage. Interlock functions correctly.	
Hazard	Mechanical - Entanglement - Rear Chuck Spindle				Risk Level	Controls Determination
Se	Fr	Pr	Av			
3	4	2	1		7	Recommended
Existing Controls			Adequate		Control Comment	
None Identified			No		Requires a mechanical cover over the opening when not in use.	
Hazard	Mechanical - Entanglement - Gear Drives				Risk Level	Controls Determination
Se	Fr	Pr	Av			
3	2	1	1		4	None
Existing Controls			Adequate		Control Comment	
Interlocked Guards			Yes			
Hazard	Mechanical - Entanglement - Rotating Lead-screw				Risk Level	Controls Determination
Se	Fr	Pr	Av			
3	4	3	1		8	Required
Existing Controls			Adequate		Control Comment	
None identified			No		Exposed rotating lead-screw during machining operations. Installation of covers is required.	
Hazard	Mechanical - Ejection material/tools				Risk Level	Controls Determination
Se	Fr	Pr	Av			
4	4	2	1		7	Required
Existing Controls			Adequate		Control Comment	
Personal Protective Equipment (Safety ...			Yes		Dependent upon activity and amount of chip ejection it may be beneficial to install a chip	

Trapped Key Interlocks



HST-SA1
Single Key Switch.



HST-LS
Switchgear Interlock.



HST-B1
Single Key Bolt Interlock.



HST-TZ1
Single Key Slam Interlock.



HST-WA
Key Exchange Box.



HST-TS1
Single Key Door Interlock.

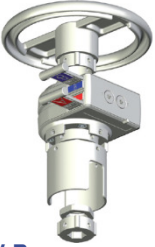
Trapped key interlocking is a very effective means of controlling access to hazardous machinery. The technology forces operating and maintenance personnel to follow a predetermined sequence of events that will ensure the machinery is isolated before access is permitted. Our range of trapped key interlocks are manufactured in stainless steel, supplied with a lock portion protective flip cap as standard and are robust, easy to operate and can be fitted to a wide range of applications.

System Example

This system uses a HST-SU1 single key switch and HST-TS1 access interlock to ensure the mixer is isolated before the gate can be opened.

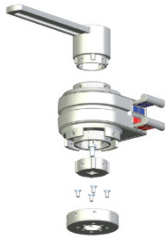


Valve Interlocks



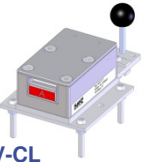
HSV-R

Interlock kit to suit hand wheel operated gate, globe or gearbox valves.



HSV-Q

Interlock kit to suit 90° or 180° rotation ball, butterfly or plug valves.



HSV-CL

Door access interlock for use on cabinet or pig launching closure doors.



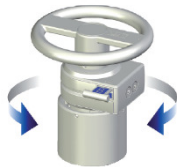
HSV-K

Valve interlock system keys.



HSV-SCU

Key selector unit for non linear key exchange applications.



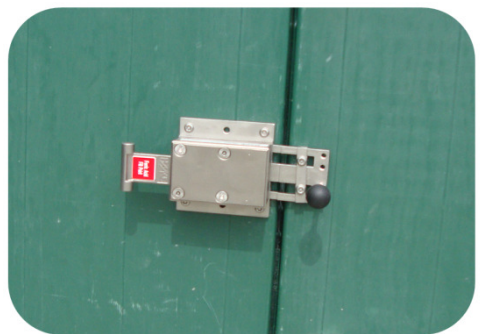
HSV-M-AT

The anti tamper interlock kit has been specifically designed to prevent unauthorised operation, violation and sabotage of any size and type of valve including.

The opening and closing of valves in the wrong sequence can have disastrous consequences causing serious or fatal injury to operating personnel, loss of product and damage to equipment. Ensuring the safe operation of valves is essential in industries ranging from food production to oil refining. While padlocks and chains allow some degree of control, they do not eliminate the potential for human error. Fitting an interlock system ensures that whenever valves are operated the correct sequence of events are followed using a sequence of keys.

System Example

This system uses a HSV-Q valve interlock kit and HSV-CL access lock to ensure the drain valve has been diverted to the spill tank prior to opening the fill point cabinet.



Pressure Sensitive Safety Devices



Safety Edges

Safety Edges are used to protect against injury from shearing or crushing hazards such as scissor lifts, roller shutter doors, machine guards, lifting tables and theatre stages. Here being used on an ink screen printing machine.



Safety Bumpers

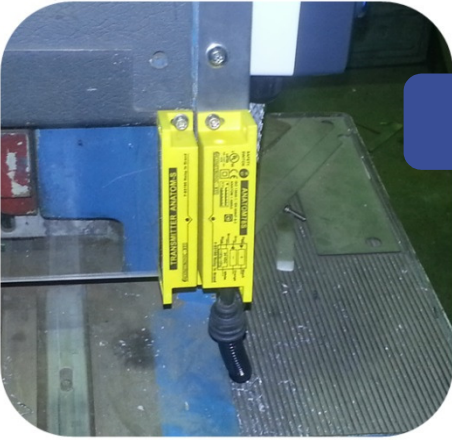
Safety Bumpers are used to protect against injury from shearing or crushing hazards on larger objects such as transfer cars, as seen here.



Safety Mats

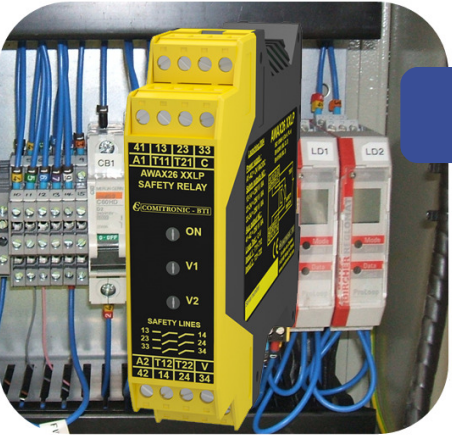
Safety Mats are usually used to cover the floor area around a dangerous piece of equipment to prevent it from operating whilst someone is standing on the mats. Here shown on a CNC machine.

Electronic Safety Switches and Relays



Non-Contact Safety Switches

Our range of non-contact switches are available in coded magnet or RFID version, with varying outputs, varying cable lengths/connector types and either Polyamide6 or stainless steel housings. Specials include high temperature and ATEX rated versions.



Safety Relays

Our range of safety relays comply with either PId or PLe in accordance with EN ISO 13849-1 and can be used to control numerous safety devices including non-contact switches, tongue switches, E-stops, two hand controls, light curtains and rope pulls.



Pressure & Vacuum Safety Switches

Three versions are available; PS which is for pressure detection, VC for vacuum detection where fluid is present and VS for vacuum detection where gas is present. NC or NO contacts are provided which change state under the pressure or vacuum setting level.

Workshop Machine Guarding



Perimeter and close fit mechanical guarding is an effective means of preventing human contact with dangerous machinery or hazardous processes.

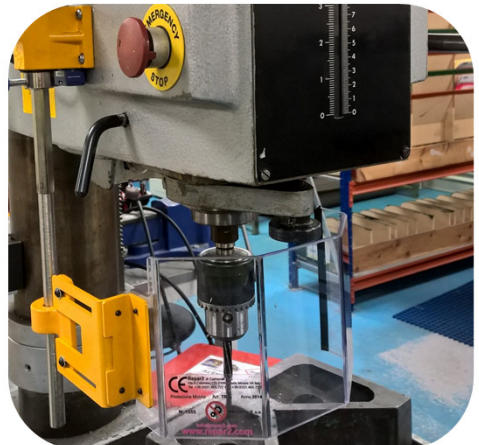
To ensure compliance with the Provision and Use of Work Equipment Regulations (PUWER):

1. Access to any dangerous part of machinery must be prevented, or
2. The movement of dangerous machinery must be stopped before a person enters a danger zone

The Regulations specify the measures which should be taken to prevent access to dangerous machinery and are ranked in the following order:

1. Provide fixed enclosing guards
2. Provide other guards or protection devices such as interlock guards, light curtains or pressure mats etc
3. Provide protection appliances such as jigs, holders, push sticks etc
4. Provide information, instruction and training

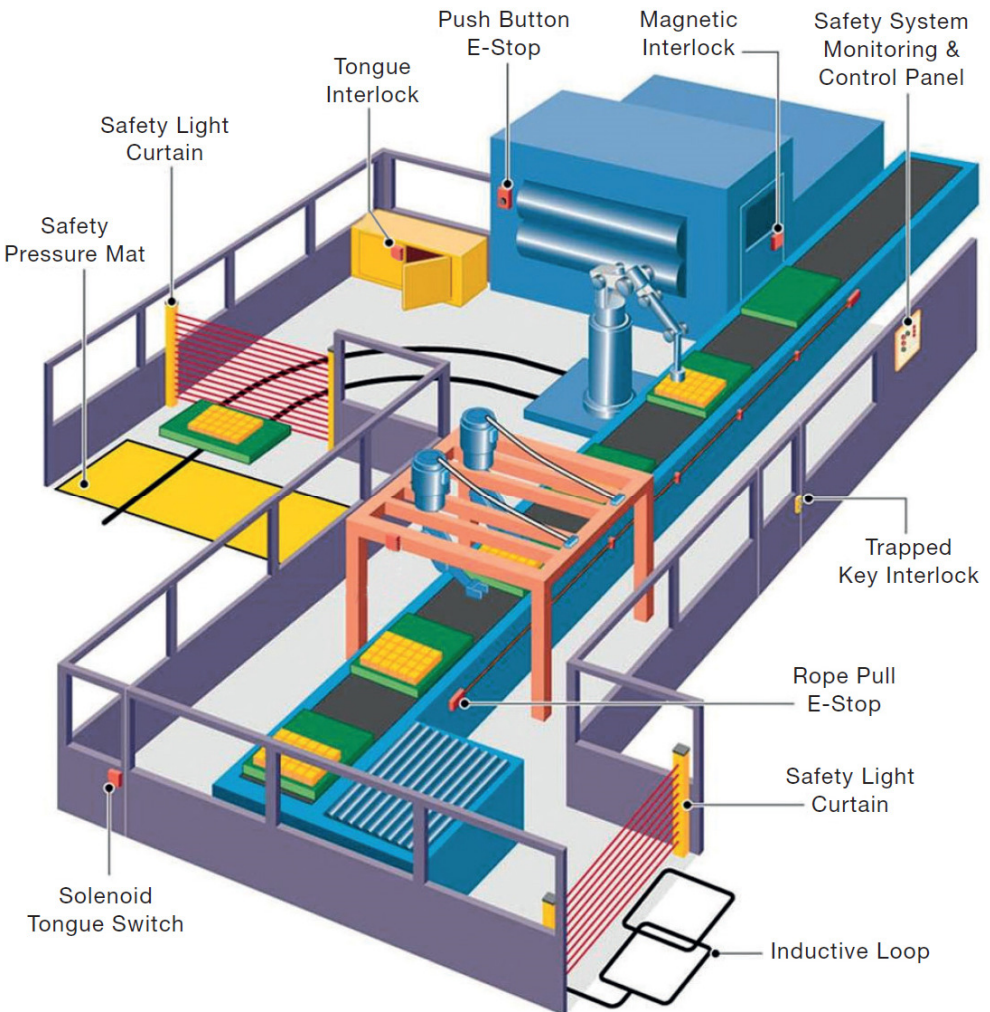
ISS Safety can design, manufacture and install a tailor made machine guarding solution to suit your application and ensure compliance with PUWER. For standard machines e.g. Lathes, Drill, Mills, Grinders we have off the shelf guards available.



Safety System Integration



ISS Safety routinely design and manufacture safety systems for all types of industrial applications that protect personnel working with dangerous machinery or in hazardous environments. Our safety systems are designed to ensure the maintenance of a safe working environment and compliance with safety legislation and standards. All services are conducted in accordance with the relevant European Directives, UK Safety Regulations, European and International Standards and include preparation and supply of all necessary markings and documentation.



As a single source supplier ISS Safety offers a complete package from initial risk assessment through to design, installation, commissioning and training.



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