

		EQUIPMENT STANDARD SHEET		
				REV.
PROJECT TITLE All		PROJECT NO.		
DESIGN CAPACITY		BELT SPEED		
PROCESS AREA All		DOC. NO.	1500-AP0-TSP-GMT-009	
EQUIPMENT ITEM Pneumatic Equipment		SHEET	1 of 4	
1. Compressed Air Supply 1.1. The maximum pressure of compressed air available within the factory is 6 bar gauge. 1.2. Compressed air quality shall be in accordance with ISO 8573-1; class 5.4.1 - maximum particle size 0.04 mm - maximum water content compatible with a dew point of +3 degrees C - maximum oil content 0.01 mg/m³ 1.3. The compressed air supply system will include appropriate filtration and dehumidifying equipment to achieve the supply conditions at the equipment termination points 2. Equipment Air Supply 2.1. The equipment supplier shall provide a local isolation valve, self draining filter regulator units at each point of use and an oiler if required. These shall be provided regardless of whether similar equipment is also provided in the compressed air supply system. 2.2. Where possible isolation valves and filter regulator units shall be mounted outside of the machine guards or fence to allow for maintenance access. They shall be mounted in a prominent position and be clearly labelled to show the extent of the machine which can be isolated from that point. 				
REV	DATE	Description	BY	APPROVED
G	05-06-14	General update from Gomzovo standard	S.J.Selby	
Saint-Gobain Gyproc – Gypsum Manufacturing Technology, East Leake, Loughborough, LE12 6JS U.K. Tel: 0115 945 1600				

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3. Isolation 3.1. Where a Contractor is supplying pneumatic equipment, then the Contractors extent of supply shall include a lockable isolation valve. 3.2. Isolation facilities for the compressed air supply to a machine shall be grouped in the same way as the electrical isolation facilities. If a section of a machine can be electrically isolated by a single switch, then the compressed air supply to the same section of machine shall have a single isolation point. 3.3. The valve used to isolate the compressed air supply shall also dump the air pressure downstream of the isolation. If this is not possible then a separate dump valve shall be provided. This dump valve shall be mounted alongside the isolation valve and the function of the valve shall be clearly labelled. 3.4. Where compressed air reservoirs are located inside of the machine, then care must be taken in the pipework layout to ensure that the pressure in the reservoir will be dumped when the air supply is isolated. 3.5. Where operator access onto a machine is provided by an interlocked gate system, then the isolation of the electrical supply to that machine (or section of machine) shall automatically isolate and dump the pneumatic supply to the same section of machine. This requirement may be waived with the approval of the Engineer if there is a specific safety or control requirement to maintain the air pressure and if the machine supplier can provide a risk assessment demonstrating that there is no risk to personnel entering the machine if the compressed air is live. 4. Solenoid Valves 4.1. All pneumatically operated equipment shall be controlled remotely unless otherwise stated within the contract documents. 4.2. All pneumatic solenoid valves shall operate on a 24V DC supply. 4.3. All pneumatic solenoid valves shall be double acting unless otherwise specified. This requirement shall be overridden if a specific failure mode is required for safety or operational purposes. 4.4. All pneumatic solenoid valves shall have separate manifold bases so that the solenoid component can be replaced without disturbing the pipework.				
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- 4.5. All unused ports in the manifold block shall be plugged.
- 4.6. All solenoid exhausts shall be fitted with silencers.
- 4.7. Where possible solenoids shall be mounted outside of the machine guards or fence to allow for maintenance access.



5. Pneumatic Cylinders

- 5.1. All pneumatic cylinders shall be fitted with in line flow restrictors to allow for adjustment of actuation speed.
- 5.2. Where pneumatic cylinders are hinge mounted, the rod end shall be fitted with a universal spherical bearing to allow rotation in all directions. The cylinder mounting shall also use a universal spherical bearing, unless there is a particular requirement to restrain the cylinder end movement to one plane of rotation.

6. Pneumatic Piping

- 6.1. Metal compressed air pipe shall be clearly identified using the international pipe identification standard.
- 6.2. Flexible compressed air pipes shall be colour coded to identify their function or action of the device to which it is connected as follows :-
 Supply pipe – blue
 Exhaust pipe – black
 Forward movement or extension – Red
 Reverse movement or retraction - Green
 This colour coding may be by using coloured pipes, or (by agreement of The Engineer) by permanently marking each end of the standard pipe with a coloured

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tag to designate the function. Coloured insulating tape will not be permitted. 6.3. Flexible compressed air pipes shall be protected against damage by abrasion where they pass through holes in the machine frame, tray work or conduits. 7. Cabling 7.1. Where more than one solenoid valve is used on one piece of equipment, then all of the solenoid cabling shall be marshalled into a suitably mounted junction box. One junction box should be used if practical, or otherwise, one junction box on each side of the equipment. 8. References 8.1. The requirements laid down in the following document shall apply to all pneumatic installations:- ISO 4414: 2010 Pneumatic fluid power – General rules and safety requirements for systems and their components.			

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