Technical Specification – Compressed Air System Fittings

NOTE: This specification refers principally, but not exclusively, to fittings from our Compressed Air range prefixed PM and MM. Other fittings, valves, tube and ancillary products have their own Technical Specification.

Product Selection and Installation
John Guest fittings and related products are specifically designed and manufactured by John Guest to the Technical Specification set out in the John Guest Product Catalogues. All John Guest fittings and related products should be selected, installed, used and maintained in accordance with these Technical Specifications. It is the customer's/user's responsibility to ensure that John Guest fittings and related products are suitable for their intended applications, are properly installed and maintained and are used in accordance with the Technical Specifications. It is also the customer's/user's responsibility to provide its own customers with all relevant technical information about John Guest products it supplies them. If you have any questions about our technical specifications, please contact us.

For use with chemicals or other potentially aggressive liquids, please refer to our Customer Services Department.

Super Speedfit fittings and related products are not recommended for use with explosive gases, petroleum spirits, and other fuels or for central heating systems.

Maintenance and Replacement Intervals
John Guest products generally require little maintenance but as a minimum we recommend routine visual inspection. Frequency of visual inspection will depend on severity of application and risk of failure. If after visual inspection John Guest products appear damaged, cracked, charred, discoloured, heat distorted or corroded they should be replaced. Any product that is or appears to be leaking should be replaced.

Product life is affected by the severity of the application, the hostility of the working environment and contact with aggressive chemicals or liquids. It is therefore important that specific replacement intervals be considered by specifiers/users/customers based on previous service life or when failure could result in unacceptable downtime, damage or injury risk.

Installation and System Testing
Fittings and tube should be kept clean and undamaged before use.
All tube and fittings installations must be pressure tested after installation to ensure system integrity before handing over to the final user. See also "How to make a connection".

Working Temperature Range
Minimum Working Temperature: -20°C
Maximum Working Temperature: +70°C
The above is for use with air. For below 0°C please consult our Customer Services Department.

Working Pressure
The John Guest Compressed Air System is suitable for the following temperatures and pressures.

Temperature Pressure
+23°C 10 bar
+70°C 7 bar

The above ratings are for air. For use with other fluids or other tube or at other temperatures and pressures, please consult our Customer Services Department.

Pipe Types
John Guest fittings are intended for use with John Guest nylon pipe but are also suitable for use with a wide range of plastic and soft metal pipes including UPVC, ABS, Polyethylene, Nylon, mild steel and copper to the tolerances set out below. Soft plastic pipe, such as Nylon should have a minimum wall thickness of 1.5mm. The pipe must have a good quality surface and be damage free.

Pipe Tolerances
These John Guest fittings are intended for pipes with outside diameters to the following tolerances
Size: 12mm to 28mm OD
Tolerance: +0.05 to -0.10mm OD

Collet Covers
Are available as additional security against removal of the tube or to provide a simple means of colour coding. The cover is offered in a range of six colours.

Maximum Torque Values
The following maximum torque values should be applied.

Size	**3/8"**	**1/2"**	**3/4"**	**1"**
Plastic threads	**3.0Nm**	**3.0Nm**	**4.0Nm**	**4.0Nm**
Metal threads	**N/A**	**4.0Nm**	**5.0Nm**	**5.0Nm**

It is recommended that all installations are checked prior to use to determine that a seal has been made.

Do not overtighten plastic fittings as this could cause undue stress and eventual failure. Recommended torque figures are shown above and must be adhered to. John Guest recommend OEM customers consider replacing threaded 'ports' with the modern method of using John Guest Cartridge Systems.

Cleaners and Sanitising of Acetal Fittings
Our advice to customers is to use cleaners and sanitising agents that are above ph4 and low in hypochlorite levels. Acetal fittings and parts that are cleaned and/or sanitised should be rinsed immediately with copious amounts of clean tap water to remove all traces of the cleaners.

Details of which products are made from acetal are shown in our catalogues but generally John Guest products incorporating acetal are designated by the part number prefix PI, PM, CI, CM and RM. Polypropylene fittings offer greater resistance to aggressive chemicals than acetal fittings. Polypropylene dioes not have the same mechanical properties as acetal and John Guest polypropylene fittings are generally designated by the part number prefix PP and PPM.

Our material suppliers recommend ECOLAB Oasis 133 as a suitable cleaner for acetal products manufactured by John Guest.

Installations – Our Recommendations
The pressure rating and installation guidelines of the tubing involved must also be considered during the design of a compressed air system.

Pipe should be supported at minimum 800mm to prevent excessive load being applied to the fitting. These supports should not be closer than 25mm from the end of the fitting.

John Guest fittings and pipe should only be connected after the air receiver and not direct to a compressor.
We recommend collet covers be fitted when pipework is hidden inside walls and ceilings.

It is recommended that all pipe and fittings installations are pressure tested after installation and before handing over to the final user.

Flow Rates for Aluminium and Nylon Pipe				
Pipe Size	**Nylon Pipe Ring Main** Air Velocity 6M sec at 8 bar	**Nylon Pipe Ring Main** Air Velocity 6M sec at 8 bar	**Aluminium Pipe Ring Main** Air Velocity 6M sec at 8 bar	**Aluminium Pipe tails/drops** Air Velocity 15M sec at 8 bar
12mm	CFM	CFM	CFM	CFM
15mm	7.27	18.2	–	–
18mm	17.60	44.10	23.00	54.70
22mm	29.10	72.70	36.00	86.30
28mm	47.50	119.00	60.80	147.00
N.B. Quoted figures for ring main air flows can be doubled as flow is bi-directional				

Accreditations
We maintain control over the whole process from initial tool design and tool making through to the final assembly and testing. This ensures that only products of the highest quality are produced.
The company believe that it is this commitment to quality that has led to it receiving prestigious awards from many of the world's leading testing and approvals organisations.

NOTE: For information on approvals and accreditations pertaining to an individual product or product range please refer to our Technical Support department.