Ball Valves
Supplementary Safety Information
Installation and Maintenance Instructions

Safe operation of these products can only be guaranteed if they are properly installed, commissioned, used and maintained by qualified personnel (see Section 11 of this document) in compliance with the operating instructions. General installation and safety instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment must also be complied with.

1. Intended use

Referring to the Installation and Maintenance Instructions, name-plate and Technical Information Sheet, check that the product is suitable for the intended use/application. The products listed below comply with the requirements of the European Pressure Equipment Directive 97/23/EC and carry the CE mark when so required. The products fall within the following Pressure Equipment Directive categories:

Product			Group 1 Gases	Group 2 Gases	Group 1 Liquids	Group 2 Liquids
*M10		DN8 - 25	SEP	SEP	SEP	SEP
		DN32	2	SEP	2	SEP
		DN40 - 65	2	1	2	SEP
M15		DN8 - 25	SEP	SEP	SEP	SEP
		DN32 - 40	1	SEP	SEP	SEP
		DN50 - 65	2	1	SEP	SEP
M20	ANSI 150	DN25	SEP	SEP	SEP	SEP
		DN32 - 40	1	SEP	SEP	SEP
		DN50	2	SEP	SEP	SEP
		DN65 - 100	2	1	SEP	SEP
		DN150	2	1	2	SEP
	ANSI 300	DN25	SEP	SEP	SEP	SEP
		DN32	2	SEP	SEP	SEP
		DN40	2	1	2	SEP
		DN50 - 100	2	1	2	SEP
		DN150	3	2	2	SEP
	PN40	DN25	SEP	SEP	SEP	SEP
		DN32	2	SEP	SEP	SEP
		DN40 - 50	2	1	SEP	SEP
		DN65 - 100	2	1	2	SEP
		DN150	3	2	2	SEP

***Note: M10 range includes:-**
M10V (virgin PTFE seats)
M10S (graphite reinforced PTFE seats)
M10F (firesafe version)
M10H (PEEK seats)

Product			Group 1 Gases	Group 2 Gases	Group 1 Liquids	Group 2 Liquids
M21		DN15 - 25	SEP	SEP	SEP	SEP
		DN32	2	SEP	SEP	SEP
		DN40 - 50	2	1	SEP	SEP
		DN65 - 100	2	1	2	SEP
M31	ANSI 150	DN50	2	SEP	SEP	SEP
		DN65 - 100	2	1	SEP	SEP
		DN150	2	1	2	SEP
		DN200	3	2	2	SEP
	ANSI 300	DN50 - 100	2	1	2	SEP
		DN150 - 200	3	2	2	SEP
	PN16	DN50	1	SEP	SEP	SEP
		DN65	1	1	SEP	SEP
		DN80 - 100	2	1	SEP	SEP
		DN150 - 200	2	1	2	SEP
M40	ANSI 150	DN25	SEP	SEP	SEP	SEP
		DN40	1	SEP	SEP	SEP
		DN50	2	SEP	SEP	SEP
		DN65 - 100	2	1	SEP	SEP
		DN150	2	1	2	SEP
	ANSI 300	DN25	SEP	SEP	SEP	SEP
		DN40	2	1	2	SEP
		DN50 - 100	2	1	2	SEP
		DN150	3	2	2	SEP
M45	ANSI 150	DN25	SEP	SEP	SEP	SEP
		DN40	1	SEP	SEP	SEP
		DN50	2	SEP	SEP	SEP
		DN65 - 100	2	1	SEP	SEP
		DN150	2	1	2	SEP
M60		DN15 - 25	SEP	SEP	SEP	SEP
		DN32	2	SEP	2	SEP
		DN40 - 100	2	1	2	SEP

i) The products have been specifically designed for use on steam, compressed air, water and other industrial fluids that are in Group 2 of the above mentioned Pressure Equipment Directive. They can also be used on methane gas, propane gas, oxygen gas and hydrocarbons which are in Group 1 of the Pressure Equipment Directive. The products' use on other fluids may be possible but, if this is contemplated, Spirax Sarco should be contacted to confirm the suitability of the product for the application being considered.

ii) Check material suitability, pressure and temperature and their maximum and minimum values. If the maximum operating limits of the product are lower than those of the system in which it is being fitted, or if malfunction of the product could result in a dangerous overpressure or overtemperature occurrence, ensure a safety device is included in the system to prevent such over-limit situations.

iii) Determine the correct installation situation and direction of fluid flow.

iv) Spirax Sarco products are not intended to withstand external stresses that may be induced by any system to which they are fitted. It is the responsibility of the installer to consider these stresses and take adequate precautions to minimise them.

v) Remove protection covers from all connections before installation.

2. Access

Ensure safe access and if necessary a safe working platform (suitably guarded) before attempting to work on the product. Arrange suitable lifting gear if required.

3. Lighting

Ensure adequate lighting, particularly where detailed or intricate work is required.

4. Hazardous liquids or gases in the pipeline

Consider what is in the pipeline or what may have been in the pipeline at some previous time. Consider: flammable materials, substances hazardous to health, extremes of temperature.

5. Hazardous environment around the product

Consider: explosion risk areas, lack of oxygen (e.g. tanks, pits), dangerous gases, extremes of temperature, hot surfaces, fire hazard (e.g. during welding), excessive noise, moving machinery.

6. The system

Consider the effect on the complete system of the work proposed. Will any proposed action (e.g. closing isolation valves, electrical isolation) put any other part of the system or any personnel at risk?
Dangers might include isolation of vents or protective devices or the rendering ineffective of controls or alarms. Ensure isolation valves are turned on and off in a gradual way to avoid system shocks.

7. Pressure systems

Ensure that any pressure is isolated and safely vented to atmospheric pressure. Consider double isolation (double block and bleed) and the locking or labelling of closed valves. Do not assume that the system has depressurised even when the pressure gauge indicates zero.

8. Temperature

Allow time for temperature to normalise after isolation to avoid danger of burns. If parts made from PTFE have been subjected to a temperature approaching 260°C (500°F) or higher, they will give off toxic fumes, which if inhaled are likely to cause temporary discomfort. It is essential for a no smoking role to be enforced in all areas where PTFE is stored, handled or processed as persons inhaling the fumes from burning tabacco contaminated with PTFE particles can develop 'polymer fume fever'.

9. Tools and consumables

Before starting work ensure that you have suitable tools and/or consumables available. Use only genuine Spirax Sarco replacement parts.

10. Protective clothing

Consider whether you and/or others in the vicinity require any protective clothing to protect against the hazards of, for example, chemicals, high/low temperature, radiation, noise, falling objects, and dangers to eyes and face.

11. Permits to work

All work must be carried out or be supervised by a suitably competent person. Installation and operating personnel should be trained in the correct use of the product according to the Installation and Maintenance Instructions.
Where a formal 'permit to work' system is in force it must be complied with. Where there is no such system, it is recommended that a responsible person should know what work is going on and, where necessary, arrange to have an assistant whose primary responsibility is safety.
Post 'warning notices' if necessary.

12. Handling

Manual handling of large and/or heavy products may present a risk of injury. Lifting, pushing, pulling, carrying or supporting a load by bodily force can cause injury particularly to the back. You are advised to assess the risks taking into account the task, the individual, the load and the working environment and use the appropriate handling method depending on the circumstances of the work being done.

13. Residual hazards

In normal use the external surface of the product may be very hot. If used at the maximum permitted operating conditions the surface temperature of these products may reach temperatures of 300°C (572°F).
These products are not self-draining. Take due care when dismantling or removing the product from an installation (refer to 'Maintenance instructions').

14. Freezing

Provision must be made to protect products which are not self-draining against frost damage in environments where they may be exposed to temperatures below freezing point.

15. Safety information - Product specific

See the relevant Section in the attached Installation and Maintenance Instruction for specific details relating to the weight and internal mechanism of these products.

16. Disposal

Unless otherwise stated in the Installation and Maintenance Instructions, this product is recyclable and no ecological hazard is anticipated with its disposal providing due care is taken, with the exception of PTFE.

PTFE:

- **Can only be disposed of by approved methods, not incineration.**
- **Keep PTFE waste in a separate container, do not mix it with other rubbish, and consign it to a landfill site.**

17. Returning products

Customers and stockists are reminded that under EC Health, Safety and Environment Law, when returning products to Spirax Sarco they must provide information on any hazards and the precautions to be taken due to contamination residues or mechanical damage which may present a health, safety or environmental risk. This information must be provided in writing including Health and Safety data sheets relating to any substances identified as hazardous or potentially hazardous.