

OPERATING AND MAINTENANCE MANUAL

EUROCHECK

Check Valve



Saint Gobain PAM UK

Ilkeston, Derbyshire, England

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CONTENTS

General	2
Introduction and selection of Saint Gobain Check Valves	5
Design Constraints	6
Storage and Handling	6
Installation & Commissioning	7
General Maintenance Instructions	8
Internal Inspection of a Eurocheck Valve	9
Repairs for a Eurocheck Valve	9

GENERAL

Instructions for Use

Thank you for selecting a Saint-Gobain PAM UK product. With correct use, it will give long and reliable service.

This manual has been prepared to assist you in safely installing, operating and maintaining the valves as covered by this manual, to their maximum efficiency. For ease of reference, it has been divided into sections covering all aspects of use. It is in the users best interests to ensure that the information is fully understood.

Health and Safety at Work

It is always recommended that, wherever work is being carried out on a valve that may involve the release of any internal pressure, the valve is fully depressurised prior to release. Draining of the line may also be beneficial.

It is essential that the user of the valve is aware of the weight of the components and / or assemblies that must be handled and manipulated during installation and maintenance. It is the users' responsibility to ensure that safe working practices are followed at all times.

Whenever Saint-Gobain PAM UK products are installed, operated, or maintained, it is essential that the staff who undertake these operations are suitably trained. The hazards of pressurised liquids and gases are serious. It is the responsibility of the users to ensure that trained, competent staff undertake these duties. This manual has been designed to assist, but it can never fully replace quality training in the workplace. Saint-Gobain PAM UK technical personnel are always available to answer any questions relating to specific problems that may not be covered by this manual.

Saint-Gobain PAM UK products are designed and manufactured to a high and reliable standard. This provides a safe product with minimum risk to health and safety when used correctly for the purpose for which it was designed. However, this assumes that the equipment is used and maintained in accordance with this manual. The user is advised to study this manual, and to make it available to all staff that may need to refer to it.

Saint-Gobain PAM UK cannot be held responsible for any incidents arising from incorrect installation, operation or maintenance. The responsibility for this must rest wholly with the user.

Spare Parts

The use of inferior materials or parts in a valve can have serious consequences. It is Saint-Gobain PAM UK policy therefore, to use only materials of the highest quality. Our products are manufactured to our own designs and thoroughly checked and tested in accordance with our internal Quality Assurance system, approved to ISO 9001. It is absolutely essential therefore, that in order to guarantee the highest level of safety and performance, only genuine Saint-Gobain PAM UK spare parts are used. Saint-Gobain PAM UK can accept no responsibility for the fitting and subsequent failure of any non Saint-Gobain PAM UK or non approved parts.

INTRODUCTION

Saint-Gobain PAM UK superior range of Check (Non-Return) Valves are primarily designed and manufactured for the prevention of flow reversal. They come in a range of sizes from DN80 to DN300 nominal diameter. They are suitable for potable water or sewage applications. They are manufactured from ductile iron to give a high strength to weight ratio making handling and installation easier. There are two styles of Check Valves in the Eurocheck range, the resilient seated and the metal seated. Each has the option of an outside lever/weight and guard kit for fitting on site after installation.

Check Valve Selection

Eurocheck

The Eurocheck valve is manufactured in ductile iron to BS 5153 and can be used in both horizontal and vertical pipelines to prevent reversal of flow (orientation must be specified at time of quotation/order stage).

The size range is DN80 – DN300.

Where economical, drop tight sealing is required the resilient door against fusion bonded epoxy coated ductile iron provides this, combined with rapid door closure that can be further reduced by the addition of a lever and weight. This style is recommended for all potable water applications.

For maximum durability and life, the bronze door to bronze seat should be selected.

This arrangement is highly suited for dirty water and sewage applications, as its hard surfaces ensure that the effect of any build up on the sealing surfaces is greatly reduced, whilst the selection of materials also ensures that it can be used on potable water services.

It is essential that the velocity through the check valve is sufficient to ensure that the door is fully open and stable.

DESIGN CONSTRAINTS

Please consider the following points when selecting your valve:

Consideration should be given at the design stage where valves will be located to give access for operation, adjustment, maintenance and repair.

If a valve is installed less than (6 x DN of pipeline) downstream of an elbow or tee etc., it will experience very high-localised velocities that are far in excess of the average velocity. This high velocity will result in excessive turbulence within the valve and variations in performance may be experienced, therefore installation in this area should be avoided.

Installation of a check valve immediately downstream of a taper pipe should also be avoided due to the effects of localised high velocities.

Valves must be provided with adequate support. Adjoining pipe work must be supported to avoid the imposition of pipeline strains on the body which may impair its performance

Heavy Valves may need independent support or anchorage

STORAGE AND HANDLING

Storage

If valves are to be stored in the open for some time, protection should be provided to ensure that the valves are kept clear of dirt.

Protection against weather should be provided. Ideally valves should be kept indoors, with the actual valve temperature always higher than the dew point. If outdoor storage is unavoidable, valves should be supported off the ground and protected by a weather-proof cover.

Valves may be stacked and the upper open end covered with waterproof material and boarded over.

Handling

When unloading heavy valves, it is preferable to lift by means of shackles in the holes provided in the valve body.

If it is more convenient, slings may be used around the shaft bosses, avoiding contact with any additional fitments.

Valves should be lowered gently onto wooden battens placed on firm ground, clear of mud and water.

INSTALLATION & COMMISSIONING

It is essential that the user of the valve is aware of the weight of the components and/or assemblies that must be handled and manipulated during installation and maintenance. It is the user's responsibility to ensure that safe working practices are followed at all times.

Before installing the valve into the pipeline

Only suitably qualified and experienced engineers should install valves.

All special packing material must be removed

A flow direction is cast on the body, the main flow conditions should correspond

When larger valves are provided with dedicated lifting points, these should be used to lift the valve

Immediately prior to valve installation, the pipe work to which the valve is to be fastened should be checked for cleanliness and freedom from debris.

As far as is practicable, inspect the valve interior through the end ports to determine whether it is reasonably clean and free from foreign matter.

Check the mating flange facings (both valve and pipe work flanges) for correct gasket contact face, surface finish and condition. If a condition is found which might cause leakage, do not attempt to assemble until the condition has been corrected.

Bolting up and tightening of joints should be done in a systematic manner to avoid undue stress in the body valve.

Ensure that the main is clean and the valve is not closed on any debris.

Where appropriate, attach the guard, in its correct position to allow full and free movement of the lever and weight, using the screws provided in the guard kit

Attach the lever and weight in the correct position to suit the orientation of the valve. Tighten the locking nut to torque level given on page 10

Should limit or proximity switches be fitted, it may be necessary to adjust their position during commissioning.

GENERAL MAINTENANCE INSTRUCTIONS

It is always recommended that, wherever work is being carried out on a valve that may involve the release of any internal pressure, the valve is fully depressurised prior to release. Draining of the line may also be beneficial.

It is essential that the user of the valve is aware of the weight of the components and / or assemblies that must be handled and manipulated during installation and maintenance. It is the users' responsibility to ensure that safe working practices are followed at all times.

The Eurocheck is automatic in operation, and has all the operating parts enclosed within the valve casing.

The line fluid provides the lubrication so no additional lubrication is necessary.

Routine maintenance should include: -

Remove the cover from the valve and examine the faces and moving parts for wear. If necessary, remove the spindle or shaft, and lift out the internals for more detailed examination or re-conditioning. New parts can be fitted as required.

The frequency of the maintenance depends not on the length of time that the valve has been installed, but on the flow conditions. If the flow is such that the door is held stationary against the open stop, the valve should operate for some years without attention. However fluctuating flow, or low flow causing constant movement of the door and linkage, can result in rapid wear of the linkage. The need for servicing due to wear and tear is indicated by mechanical noise and/ or failure of the valve to prevent backflow.

It is usually advisable to renew joints after disturbing them.

EuroCheck Valves

External inspections, both visual and aural, are recommended every month if frequent pump stops are encountered. If unexplained symptoms arise, internal inspection should be carried out as soon as is convenient.

Internal Inspection

It is always recommended that, wherever work is being carried out on a valve that may involve the release of any internal pressure, the valve is fully depressurised prior to release. Draining of the line may also be beneficial.

It is essential that the user of the valve is aware of the weight of the components and / or assemblies that must be handled and manipulated during installation and maintenance. It is the users' responsibility to ensure that safe working practices are followed at all times.

The pipeline should be isolated and drained.

- a) Remove cover from valve by removing the 3/4 M16 bolts and examine door assembly for wear and tear.
- b) Remove debris if necessary.

Repair

- a) Follow the procedure a) – b) above.
- c) Remove the cover from the guard if fitted
- d) Remove lever and weight arrangement if fitted by unscrewing the nut that holds the lever onto the pin. Mark the position of the lever arm on the spindle.
- e) To remove disc unit, undo the M16 bushes on each side of the body. This will expose the hinge spindle.
- f) From the inside of the valve, remove the two M6 socket cap screws which attach the disc unit to the spindle. Slide the spindle out of the disc unit.
- g) Lift out disc unit for inspection or exchange.
- h) Whilst the disc unit is removed, examine the seat area to ensure it is clean and undamaged. Note that the seat area is not replaceable on either the resilient seat or the metal faced valve.

Re-Assembly

- a) Place the disc unit into the appropriate position in the body.
- b) Slide the hinge spindle through the side of the body and through the hinge.
- c) Re-fix the two bushes (finger tightness only) ensuring that any rubber "O"-rings are replaced in their original locations.
- d) Replace the two M6 socket cap screws in their original positions.
Tighten to a torque level as given below
- e) Tighten both bushes to torque level as given below.
- f) Check that the disc unit operates freely.
- g) Renew the cover gasket and replace the cover plate.
- h) Refit and tighten the retaining fasteners in a diagonal sequence to the torques given below.
 - i) *Outside lever & weight only*
 - i) Follow the above procedure outlined above.
 - ii) Attach the lever & weight arrangement onto the hinge pin in the required orientation.
 - iii) Secure using the nut. Tighten to torque given below.

Recommended Torque Values Nm

	Brass spindle bearing bushes	M6 socket cap screws	Cover gasket bolts	Lever/Weight nut
DN 80/100	105	25	105	40
DN 150/200	140	35	105	50
DN 250/300	140	50	105	60

For enquiries please contact:

Technical