



In order to ensure that the correct oxygen levels are maintained at the required level (less than 1 ml/l) without any increase and to ensure fouling due to debris does not occur within the chilled beam the following points should be noted:

- If plastic pipe is to be utilised on the installation the pipe must be manufactured with a 100% oxygen barrier (usually aluminium is bonded between the two walls of the plastic pipe).
- Expansion vessel membranes must be charged using nitrogen gas.
- In-line strainers must be used to remove particles from the chilled water and prevent debris from forming in the chilled beam.

Note: Any debris/particulates that either encourage bacteria growth or cause restriction will invalidate the chilled beam warranty.

**Water Evaluation**

The customer should ensure that the correct water quality is maintained at all times; it is recommended that water quality is monitored and recorded bi weekly for the first 2 months of system start, then monitored every 4 months and recorded subject to the water systems stability (all copies of water quality readings are to be forwarded to Frenger to keep on record). Note: Where extended warranties have been agreed beyond the standard 12 months would require an annual issue of the recorded water quality readings to be sent to Frenger.

**Maintenance and Cleaning**

A visual inspection of all product surfaces and connections is to be made by the customer on an annual basis. The inspection is to comment on the condition of all chilled beam connections, elbows and loops at the same time a full report of this inspection to be submitted to Frenger for evaluation for extended warranties.

All chilled beams are to be cleaned with a damp cloth to remove dust and debris to prevent any build-up that could impinge upon the chilled beam's cooling capacity. The anticipated frequency for cleaning is normally 2-3 years, albeit the required frequency will be dependant on project specific parameters and should therefore be determined by maintenance personnel during the annual inspections.

**Guidelines For Installation**

Installation to be made in accordance with Frenger's guidelines and O&M requirements; the units are designed for use within a controlled internal environment, hence any corrosion or paintwork defects caused by exposure to extreme environmental parameters (such as high humidity) or exposure to corrosive elements will not be covered by this warranty.

Connect the units using flexible connections with enough slack to take up expansion forces.

Connect water using the supplied copper inserts with compression coupling or similar.

Do not solder to the copper pipe tails.

Do not lift the product from the copper pipe tails.

Failure to meet the conditions as set out above may be considered a breach of the warranty, and may at Frenger's absolute discretion invalidate this warranty. This warranty is non-transferable.

**Signed on behalf of Frenger Systems Ltd  
(United Kingdom)**

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(signature)

Name: Andrew J Gaskell *B.Eng (Hons).*  
*AMIMechE*  
Position: Technical Director

Date: \_\_\_\_\_

**Signed on behalf of Customer**

\_\_\_\_\_

(signature)

Name:  
Position:

Date: \_\_\_\_\_

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|---------------------------------|----------------------|----------------------|----------------------|-------------------|
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