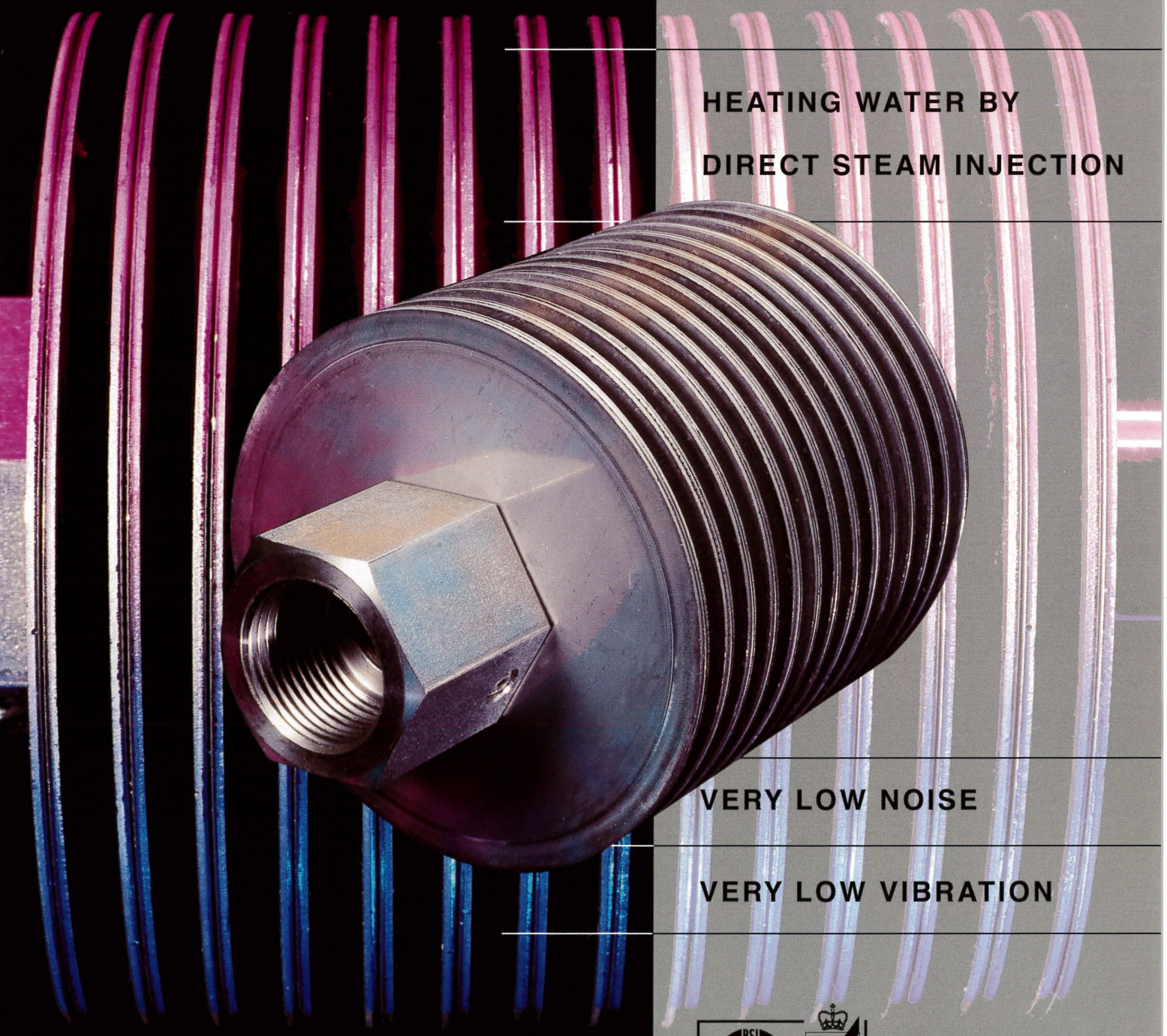
HORNE®

STEAM INJECTION HEATER



HEATING WATER BY

DIRECT STEAM INJECTION

VERY LOW NOISE

VERY LOW VIBRATION

BSI REGISTERED FIRM

Certificate No. FM 1224

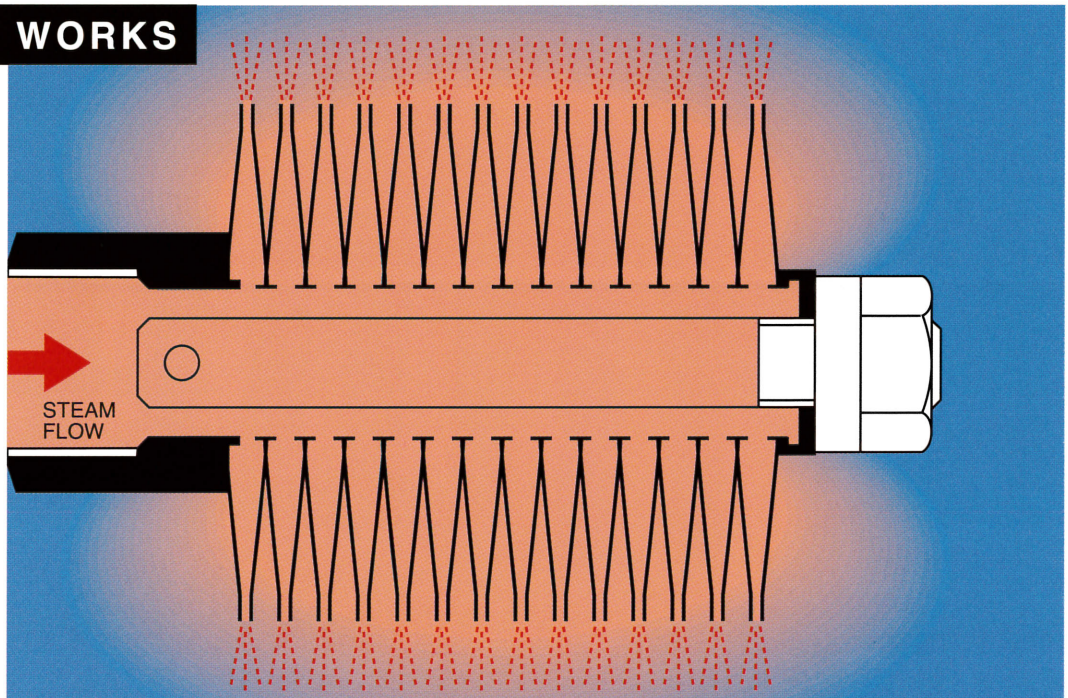
NATIONAL ACCREDITATION OF CERTIFICATION BODIES

HORNE STEAM INJE

TYPICAL APPLICATIONS

Heating the contents of : Industrial Washing Machines
Hot Rinse Tanks
Boiler Hot Wells

HOW IT WORKS

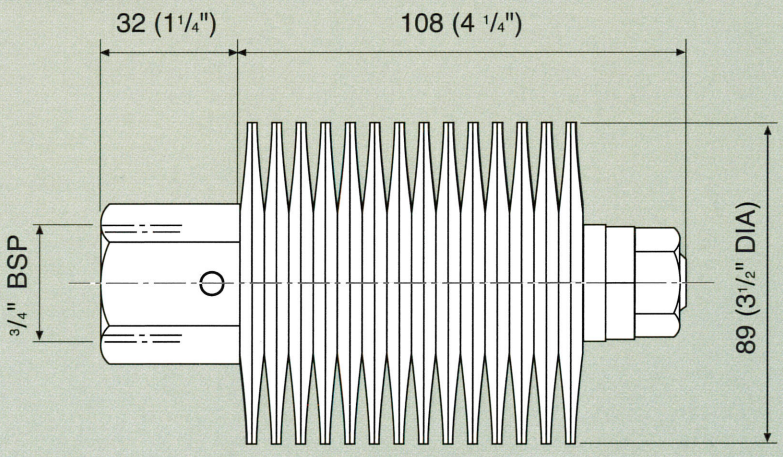


Steam passes through the centre of the heater and out between pairs of circular plates.

Water surrounding the plates is heated as follows:-

1. Under full load, tiny jets of steam are injected into the water through small gaps at the peripheries of the plates and condense with very little vibration and low noise.
2. Under light load steam condenses between the plates and hot condensate is injected into the water.
3. Heat is transferred through the surface of the plates to the water.

DIMENSIONS



MATERIAL :
Stainless Steel
Type 304

The HORNE Steam Injection Heater can not be dismantled and needs no maintenance.

WEIGHT :
1.85 Kg.

TYPICAL INSTALLATIONS

The HORNE Steam Injection Heater should be fitted as low as possible in the tank. The HORNE EA1 Thermostatic Valve must be fitted above the Steam Injection Heater with a gap of at least 50mm between it and the heater.

A Vacuum Breaker should be fitted between the Strainer and the HORNE EA1 Thermostatic Valve to prevent a vacuum forming in the steam supply pipe.

Fig. 1

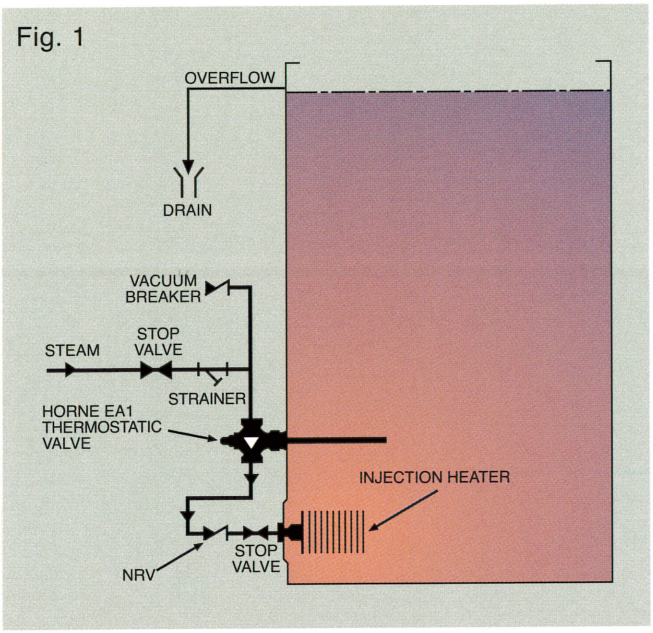
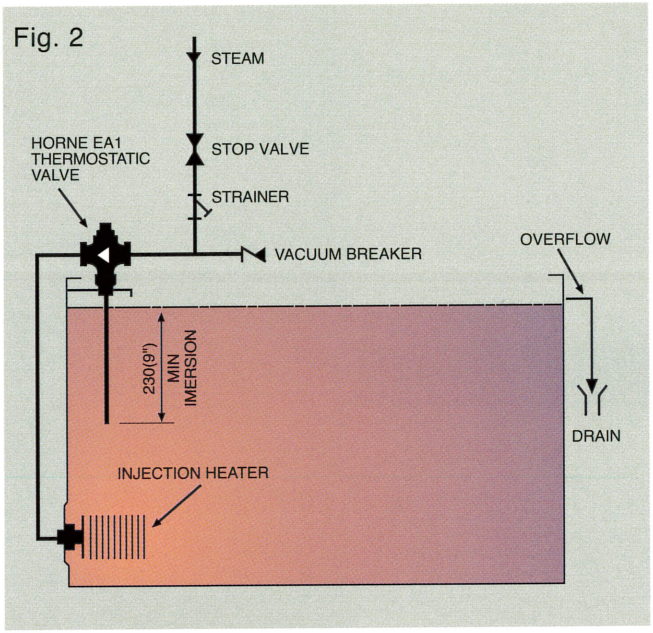


Fig. 2



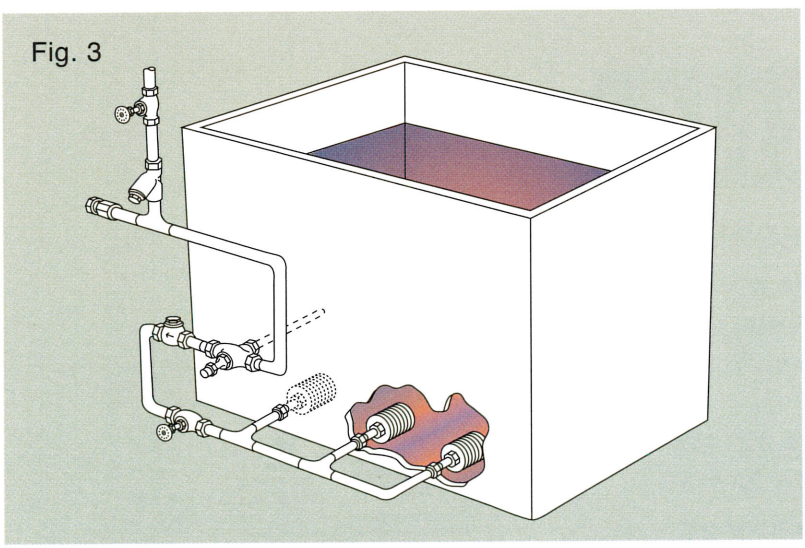
Where the steam supply pipe is below the level of the water in the tank, a non-return valve must be fitted between the HORNE Steam Injection Heater and the HORNE EA1 Thermostatic Valve to prevent water from the tank flowing back up the steam pipe, due to gravity, when the steam supply is turned off.

A Stop Valve should be fitted between the HORNE Steam Injection Heater and the non-return valve to enable maintenance work to be carried out on both the HORNE EA1 Thermostatic Valve and the non-return valve.

The HORNE EA1 Thermostatic Valve can be mounted vertically as shown in Fig. 2.

If the level of liquid in the tank varies, the pocket on the HORNE EA1 Thermostatic Valve must be long enough to ensure that when the liquid is at it s lowest level at least 230mm of the Thermostatic Pocket is immersed in the liquid.

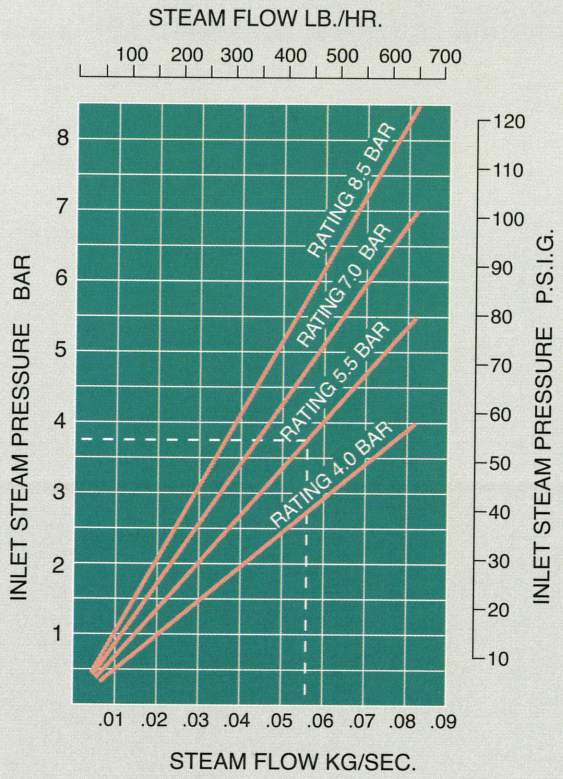
Fig. 3



More than one Steam Injection Heater may be required and, if so, they can be fitted to a common steam supply pipe as shown in Fig. 3.

SIZING CHART

The HORNE Steam Injection Heater is made in one size with four pressure ratings. The pressure rating is stamped on the inlet to the heater. If one heater does not pass sufficient steam then two or more heaters should be fitted to a common steam supply pipe as shown in Fig. 3.



EXAMPLE

If a Steam Injection Heater is required to pass 0.052 kg/sec of steam at a steam inlet pressure of 3.75 bar, the pressure rating can be chosen as follows.

1. Read along horizontally from 3.75 bar on the inlet steam pressure scale.
2. Where the horizontal line intersects with a pressure rating line, read vertically downwards to the steam flow line
3. It will be seen that a 5.5 bar rating will pass 0.056 kg/sec of steam and this rating should be chosen for this example

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