

# Adaptor set for descaling and de-sludging plate heat exchangers

- for use with Kamco power flushing and descaling pumps

## Instructions

Plate heat exchangers, as fitted to most modern combination boilers, are extremely efficient and compact, allowing ever smaller boilers to be produced.



However, relatively small quantities of iron oxide (rust) can block the waterways, causing the boiler to cut out when in hot water mode. As little as 12 gm of rust can cause a heat exchanger to fail. A central heating system may contain several kg of loose rust, and therefore failures are common.

Once this situation arises, it is necessary to power flush the primary water (central heating) side of a heat exchanger to remove the sludge and iron oxides. However, the internal design of such boilers means that it is not possible to do so without first removing it from the boiler.

If a plate heat exchanger has BSP threaded connections, it is easy to attach the flow and return hoses of a power flushing pump, once removed from the boiler

However, many plate heat exchangers have plain punched hole water inlet / outlets, with no BSP threaded connections, and in these cases, special adaptors are needed to connect a power flushing pump.



Purpose made manifolds are available from Kamco to connect hoses of a power flushing pump onto most heat exchangers of this type.\*\*\*



Kamco plate heat exchanger adaptor set assembled on heat exchanger.

\*\*\* There are many different proprietary designs of plate heat exchangers and it is not possible for the Kamco to be aware of every variation currently on the market, hence the adaptors supplied by Kamco will fit most plate heat exchangers, but cannot be guaranteed to fit all.

### Plate heat exchanger adaptors - instructions

Many combination boiler plate heat exchangers without BSP threaded water inlet / outlet connections conform to a general pattern whereby they have four holes 15 to 18mm diameter, located at 155 x 40 mm centres.

There is generally a 5mm female threaded pillar at each end so that the boiler connection manifolds may be located and secured with a 5mm bolt when in normal use. One pillar is usually centralised between the holes at one end, and that at the other end is offset.

Kamco plate heat exchanger adaptors (each kit consists of two adaptor blocks) should be attached as shown in the picture below, using the M5 allen bolts supplied.



In some cases a further 8mm hole may need to be drilled in the body of one adaptor block, when the connection threaded pillar is further offset than usual.

In this situation, 'G' type clamps may be used to ensure a tight connection of the adaptor blocks onto the heat exchanger.

Each adaptor block has two 3/4" BSP male threaded hose connections, and the power flushing pump hoses should be connected onto these fittings, one at either end.

Both will always be fitted on the same side of the heat exchanger (see picture), but the choice of side will depend on whether the primary water side, or the domestic water side is to be flushed. ###



Whilst the plate heat exchanger adaptors are generally water tight, always place the heat exchanger in a water proof tray or open container prior to switching on the pump.

Circulate water only at first, and check for leaks prior to adding any chemical to the power flushing pump.

In cases where the heat exchanger is seriously blocked, neat Hyper-Flush can be poured into the exchanger and left to soak for 24 hours before flushing with the pump.

### Note: The domestic water side of these heat exchangers may generally be descaled without removing the heat exchanger from the boiler casing.

Access to the domestic water circuit may be gained by breaking into the cold water inlet pipe, and the hot water pipe leading to the taps, underneath the boiler, and connecting the CF30 flow and return hoses onto suitable BSP fittings / threads.