

# HSC60 Hygienic Sample Cooler

Installation and Maintenance Instructions

IM-HSC60  
06/09

## Staitech

### HSC60 Hygienic Sample Cooler

The HSC60 Hygienic Sample Cooler is designed to allow clean steam and high purity water samples to be taken quickly and easily whilst maintaining product sterility during testing.

#### Design conditions

Coil design pressure 10 barg  
Shell design pressure 10 barg

#### Installation

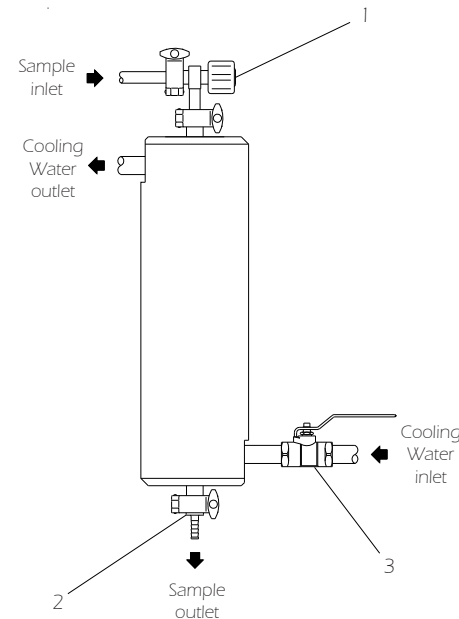
The sample cooler should be orientated vertically. Two mounting points are incorporated in the design suitable for M8 fixing bolts, which together with two mounting bosses and washers are included with each sample cooler. Cooling medium; typically mains or chilled water, should be connected to the lower body connection. In order to allow the flow of cooling medium to be controlled during testing an isolation valve(3) should be included. The cooling water outlet should be piped to drain, and be free of obstructions or isolation valves.

Where steam is the sample medium, a throttling valve suitable for continuous steam duty(HSV60) must be used. Valves with a 'soft' seat will rapidly fail due to erosion of the seating surfaces, losing their ability to give appropriate control or isolate.

If the steam supply is to be isolated with a valve adjacent to the steam main then the system connection of the HSV60 should be connected to the inlet of the HSC60 as shown in the illustration overleaf. When installed in this orientation any residual condensate formed in the supply pipework will flow freely through the sample cooler once the main steam line is isolated.

#### Operation

1. Open the cooling water inlet valve(3) and ensure that a flow of cooling medium is present.
2. Slowly open the sample inlet valve(1) until a sample is obtained. Excessive sample flow will result in a high sample temperature. Both cooling water and sample valves can be regulated to adjust the sample outlet temperature.

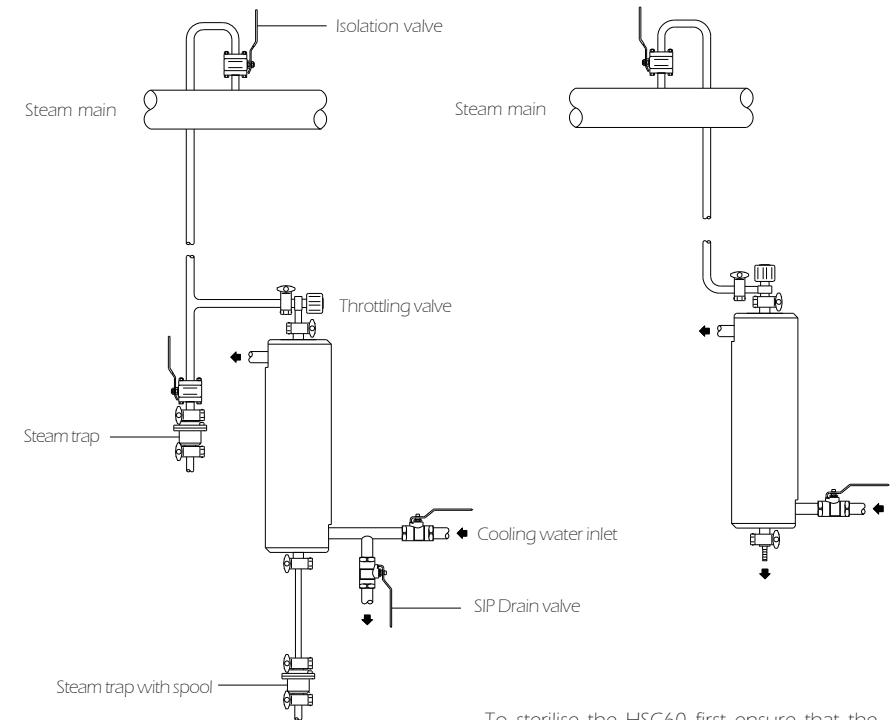


3. Once a suitable sample has been obtained the sample inlet valve(1) should be isolated. Cooling medium should be allowed to flow for a short period in order to condense/cool any medium passing through the coil. When no further sample is evident, isolate the cooling water supply(3). If sampling steam, and the supply is to be isolated at the steam main, both the sample and cooling water valves should be left open to allow any residual heat energy in the supply pipework to be dissipated. Once the system has cooled, the water supply may be isolated.

#### Accessories

1.	HSV60 Sample Valve
2.	1/4"/8mm Hose adaptor
3.	1/2" BSP Cooling water valve
4.	Clamp cooling water fittings

### Installation for continuous supply to HSC60 sample cooler and SIP



### Sterilisation-in-place(SIP)

Prior to testing or at periodic intervals it may be appropriate to sterilise the HSC60 to ensure that sample integrity is maintained during testing.

In order to sterilise the HSC60 in place the following installation is recommended.

1. A drain valve should be included between the cooling water isolation valve and cooling water inlet to allow residual cooling water to be drained from the shell prior to sterilisation. Unless drained, this water will boil during sterilisation.

The cooling water outlet connection should always be vented to atmosphere during sterilisation to prevent any pressure build up in the shell of the unit.

2. A steam trap should be fitted on the sample outlet connection. A minimum drain leg of 150mm should be allowed between the sample outlet connection and the trap to ensure that the coil is kept free of condensate during sterilisation.

### Installation for isolated supply to HSC60 sample cooler

To sterilise the HSC60 first ensure that the shell has been drained of cooling water and that the spool and steam trap have been fitted. Open the steam main isolation valve and allow the supply piping to warm. Gently open the steam sample valve to allow steam in to the coil of the HSC60. Sterilise as required.

Once sterilisation is complete, isolate the sample inlet valve and allow the unit to cool. Remove the spool and trap. Isolate the cooling water SIP drain valve. The unit is now ready for normal use.

*Note. In the above installation, the sample valve should be left open immediately after testing to allow residual condensate in supply pipework to drain down. Note orientation of HSV60 illustrated when used in this configuration.*

*Caution: The HSC60 will become hot during operation and sterilisation. Personnel should be protected against contact with the installation with appropriate insulation or guarding.*