

# Staitech



## Sample Coolers

## Sample Coolers

Staitech's range of sample coolers allow clean steam and high purity water samples to be taken quickly and easily whilst maintaining a sterile testing environment.

The HSC50 and HSC60 units are designed to be mounted at the sampling point, whilst the HSC30 is a free-standing, portable unit. All models can be operated with either mains or chilled water as the cooling medium. Where the quality of the cooling water may cause fouling of the coil, the HSC50 can be easily disassembled to allow cleaning. A wide range of ancillary products are available for use with all models of sample cooler.

### Product features:

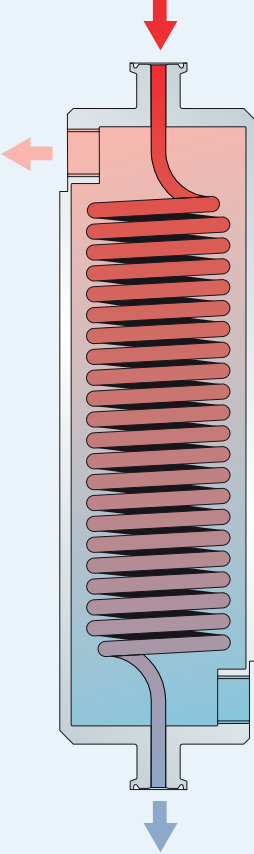
- 316/316L stainless steel construction.
- High efficiency.
- Free draining designs.
- Fully sterilisable/autoclavable.

### Standards:

- Where applicable, all sample cooler models comply with ASME BPE criteria.
- All sample cooler models are CE compliant under the SEP category of the PED directive.

### Cleaning & packaging:

- All sample coolers are degreased and cleaned after manufacture, capped, sealed in polythene bag and individually boxed.



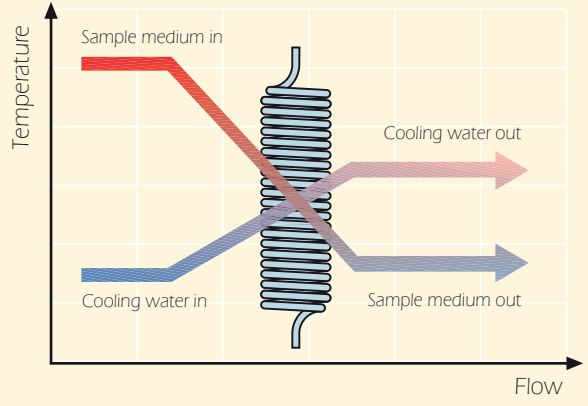
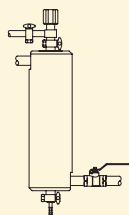
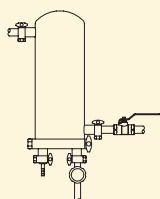
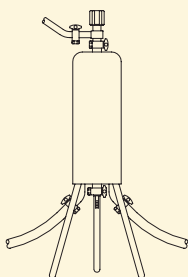
**Sample Cooler Operation**

The medium to be cooled passes through the centre of the coil. Typically, a regulating valve will be used to throttle the sample medium flow. Cooling water is passed through the shell of the unit in an opposing direction to the sample medium in order to ensure optimum efficiency. The heat energy of the sample medium is absorbed by the flowing cooling water, resulting in a drop in the sample temperature.

Where steam is the sample medium, the cooling water will firstly absorb the latent heat content of the steam, condensing it back to water. Further heat transfer as the condensate passes through the coil will reduce its temperature prior to discharge.

All sample cooler models will condense approximately 10 kg/h of steam from 3 barg to 30°C, with 0.1 l/s of cooling water increasing from 20°C to 45°C. Staitech can computer model typical testing conditions for all units upon request.

**Temperature profile**

### Typical applications

- Steam Sampling
- Point-of-use cooling
- In-line conductivity monitoring
- Cooling of pump seal water



### HSC30

The HSC30 is a portable unit designed to allow samples to be taken quickly and safely at any point within a system. Cooling water connections are ASME BPE clamp which enables the unit to be connected easily to a local water supply. The HSC30 is suitable for autoclaving.



### HSC50

Designed for use in environments where the cooling water supply may lead to fouling of the coil, the HSC50 can be disassembled for cleaning. The orientation of the sample connections also makes the HSC50 suitable for continuous inline cooling applications such as conductivity monitoring in high purity water systems.



### HSC60

The HSC60 is intended for permanent mounting. Utilising the same basic coil design as the HSC30 and HSC50 units, the HSC60 is ideal for obtaining samples at both the point of generation, and throughout a distribution system. The HSC60 can be sterilised in-situ, thus ensuring continuity of samples regardless of testing frequency.



### Sample cooler accessories

Staittech offer a comprehensive range of ancillary products for use with all models of sample cooler, including:

- HSV60 steam rated sample valve
- PTFE lined sample hoses (HSC30)
- Cooling water adapter kits (HSC30)
- Steam and water isolation valves
- Hose adapter kits
- Storage case (HSC30)

### Steam quality testing components

Where the dryness, superheat or gas content of steam is to be monitored, Staittech also offer testing equipment as outlined in the HTM2010 standard. Further information is available at [www.staittech.com](http://www.staittech.com).

### Product specifications

#### Materials

All components - 316/316L stainless steel

#### Connections

Sample connections (all models) - 1/2" ASME BPE clamp

#### Cooling water connections

HSC30 & HSC50 - 3/4" ASME BPE clamp

HSC60 - 1/2" BSP, 1/2" NPT or 1/2", 3/4" or 1" ASME BPE clamp

#### Surface finish

Sample medium connections - maximum 0.4 microns Ra

Coil formed from electropolished tube with an external surface finish of 0.25 microns Ra. Fully electropolished units are available upon request

#### External body

HSC30, HSC50 & HSC60 - satin polish

#### Operating conditions

Coil - 10 barg @185°C

Shell - 10 barg @100°C

#### Heat transfer duty - all models

Heat transfer area - 0.08m<sup>2</sup>

Tube volume - 160ml

#### Options

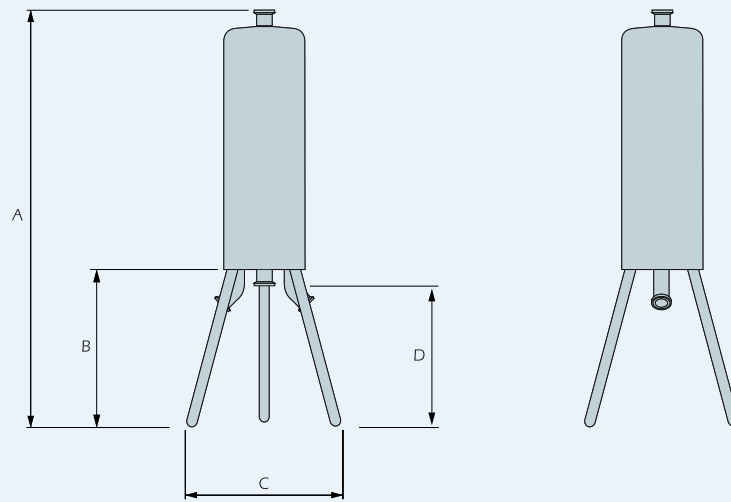
HSC30 - Extended legs with floor pads

HSC60 - Wall mounting kit, Alloy 600 coil

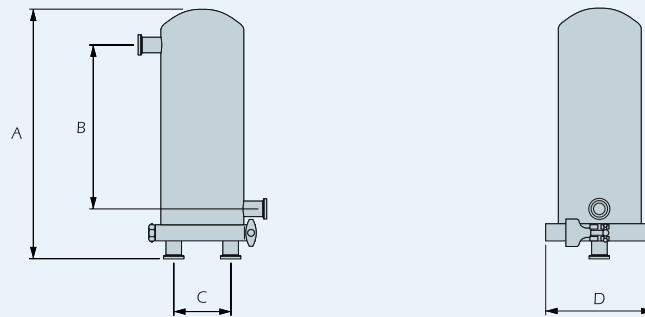
#### Certification

Material certification available covering all wetted parts

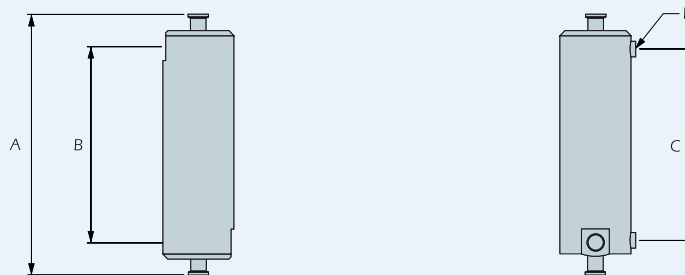
## HSC30



## HSC50



## HSC60



### Dimensions (mm)

HST20	A	B	C	D	Weight (kg)
HSC30 - standard legs	515	195	160	168	4.5
HSC30 - extended legs	626	306	160	279	4.5
HSC60	305	200	70	140	3.2
HSC60	320	240	235	M8	3.0

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