

## ADCATHERM – STS Series SHELL AND TUBE HEAT EXCHANGERS (Steam to water – Vertical installation)

### DESCRIPTION

The ADCA-STs series steam to water shell and tube heat exchangers are shorter and lighter than the alternative shell and tube exchangers manufactured with smooth pipes. The use of extruded low fin tube has the advantage that it can improve the external surface and thermal performance.

### MAIN FEATURES

Corrosion-resistant stainless steel low finned tube bundle and shell construction.

Straight tubes for easy cleaning.

Expansion bellow in the shell avoiding excessive tube stresses caused by thermal expansion and contraction.

**OPTIONS:** Horizontal installation  
**USE:** Steam, water, hot condensate and other fluids compatible with the construction.

**AVAILABLE MODELS:** STSV – Vertical installation  
STSH – Horizontal installation (optional)

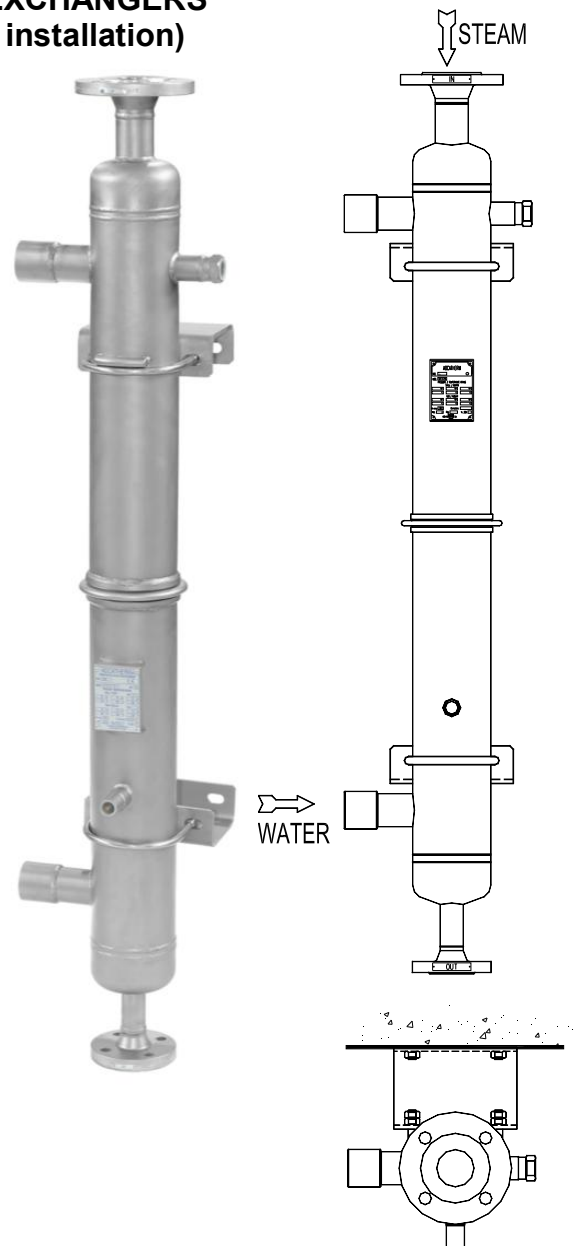
**INSTALLATION:** Vertical or horizontal (different condensate heads execution).

**ORDER REQUIREMENTS:** Steam pressure and temperature  
Inlet and outlet water temperature  
Water mass flow or heat exchanged.

### CE Marking :

This product have been designed for use on water and steam which are in Group 2 of the PED-European Pressure Equipment Directive 97/23/EC and it comply with those requirements.

The product carries CE mark.



| CE MARKING - GROUP 2 GASES CATEGORIES |                     |                       |                        |
|---------------------------------------|---------------------|-----------------------|------------------------|
| RATING                                | MODEL               | CATEGORY<br>Tube side | CATEGORY<br>Shell side |
| PN 16                                 | STSV 3.075 to 8.150 | 1                     | SEP                    |

| LIMITING CONDITIONS (Tube and shell)** |               |             |                   |               |             |
|--|---------------|-------------|-------------------|---------------|-------------|
| Rating                                 | Press.<br>bar | Temp.<br>°C | Rating            | Press.<br>bar | Temp.<br>°C |
| PN16                                   | 16            | 50          | ANSI<br>CL.150lbs | 16            | 50          |
|  | 16            | 100         |                   | 16            | 100         |
|  | 13 *          | 195         |                   | 13 *          | 195         |
|  | 12            | 250         |                   | -             | -           |

\*PMO-Max.operating pressure for saturated steam.

Minimum operating temp.: -10°C. Design code: AD-Merkblatt

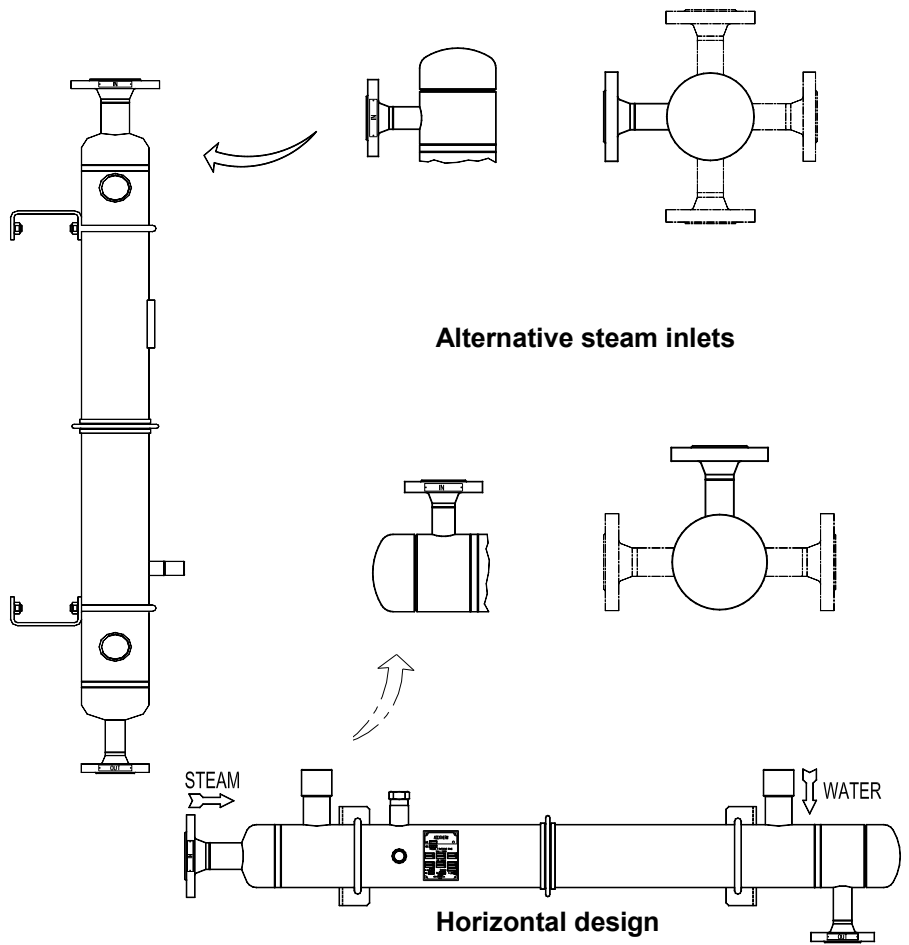
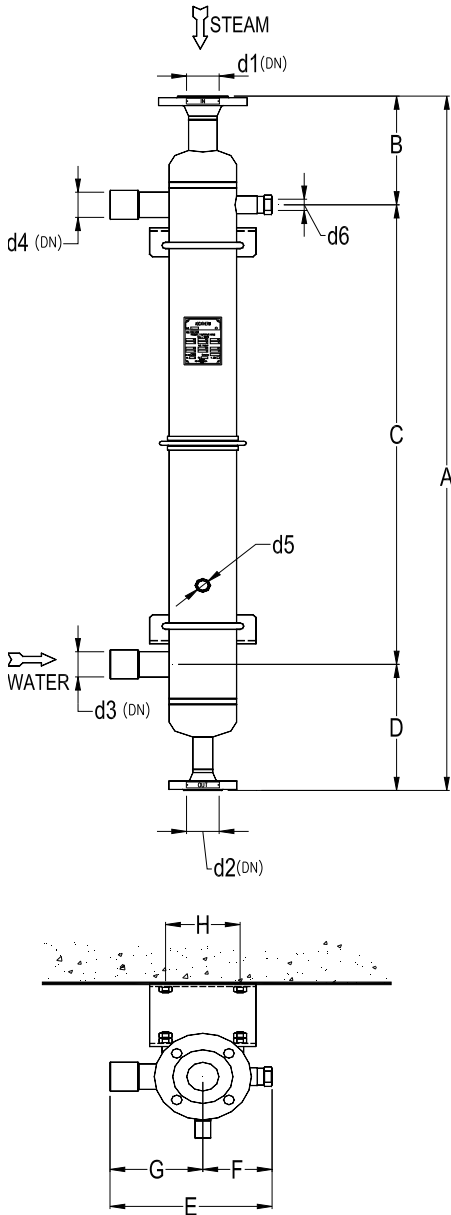
\*\* Rating according to EN1092:2007.

| MATERIALS            |                                    |
|----------------------|------------------------------------|
| DESIGNATION          | MATERIAL                           |
| Tube bundle          | AISI316L / 1.4404                  |
| Tubesheet            | AISI316 / 1.4401                   |
| Heads and shell      | AISI316/1.4401 ; AISI316L / 1.4404 |
| Inlet / Outlet pipes | AISI316 / 1.4401                   |
| EN flanges           | AISI316 / 1.4401                   |
| ANSI Flanges         | AISI316 / 1.4401                   |
| Sockets              | AISI316 / 1.4401                   |
| Suports              | AISI304 / 1.4301                   |

EN 10204 3.1 certificate available if requested with the order.

All 316L / 1.4404 on request.





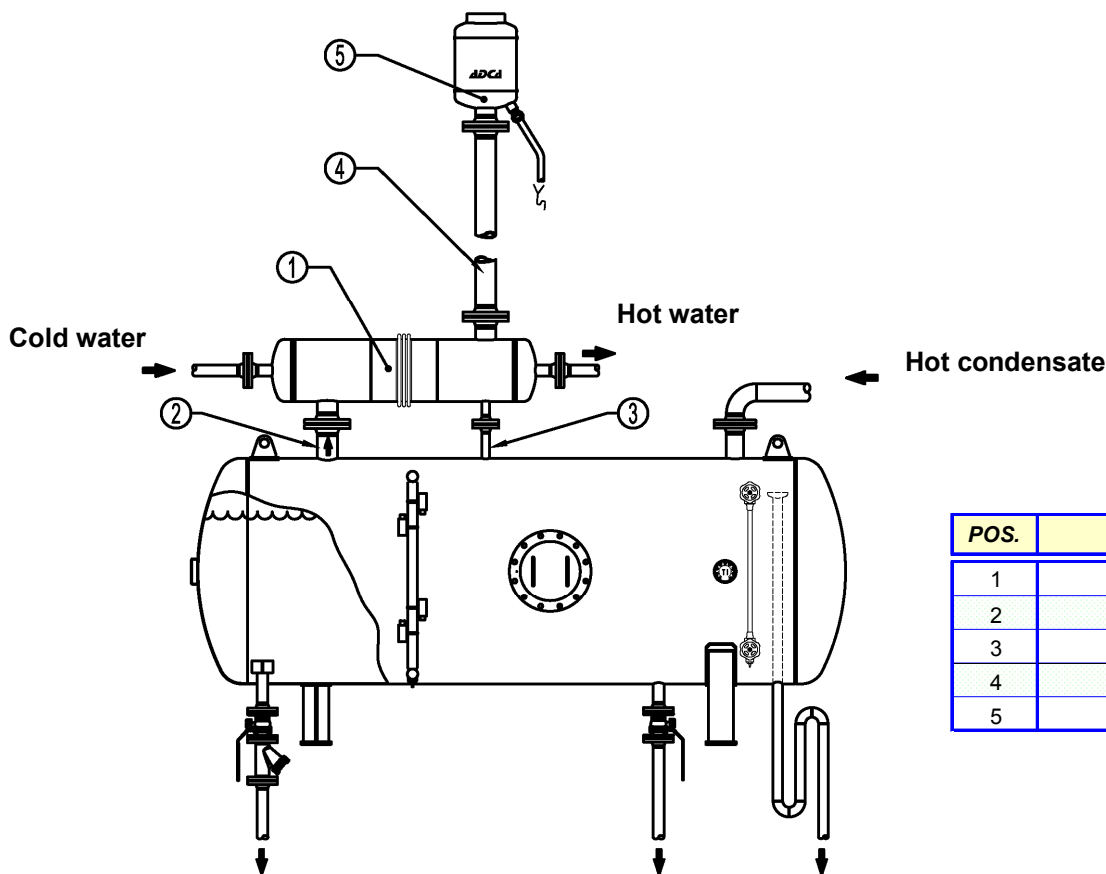
| Alternative connections |              |        |
|-------------------------|--------------|--------|
| Clamp                   | Round thread | Flange |
|                         |              |        |

Different designs and dimensions on request.

| Model      | DIMENSIONS |       |      |       |     |     |     |     |     |     |        |        |      |      |
|------------|------------|-------|------|-------|-----|-----|-----|-----|-----|-----|--------|--------|------|------|
|            | A          | B     | C    | D     | E   | F   | G   | H   | d1* | d2* | d3*    | d4*    | d5   | d6   |
| STSV 3.075 | 1045       | 225   | 595  | 225   | 250 | 105 | 145 | 100 | 40  | 25  | 1 1/2" | 1 1/2" | 1/2" | 3/4" |
| STSV 3.100 | 1295       | 225   | 845  | 225   | 250 | 105 | 145 | 100 | 40  | 25  | 1 1/2" | 1 1/2" | 1/2" | 3/4" |
| STSV 3.150 | 1795       | 225   | 1345 | 225   | 250 | 105 | 145 | 100 | 40  | 25  | 1 1/2" | 1 1/2" | 1/2" | 3/4" |
| STSV 4.075 | 1075       | 240   | 595  | 240   | 274 | 117 | 157 | 125 | 40  | 25  | 1 1/2" | 1 1/2" | 1/2" | 3/4" |
| STSV 4.100 | 1325       | 240   | 845  | 240   | 274 | 117 | 157 | 125 | 40  | 25  | 1 1/2" | 1 1/2" | 1/2" | 3/4" |
| STSV 4.150 | 1825       | 240   | 1345 | 240   | 274 | 117 | 157 | 125 | 40  | 25  | 1 1/2" | 1 1/2" | 1/2" | 3/4" |
| STSV 5.075 | 1098       | 251,5 | 595  | 251,5 | 300 | 130 | 170 | 154 | 50  | 40  | 2"     | 2"     | 1/2" | 3/4" |
| STSV 5.100 | 1348       | 251,5 | 845  | 251,5 | 300 | 130 | 170 | 154 | 50  | 40  | 2"     | 2"     | 1/2" | 3/4" |
| STSV 5.150 | 1848       | 251,5 | 1345 | 251,5 | 300 | 130 | 170 | 154 | 50  | 40  | 2"     | 2"     | 1/2" | 3/4" |
| STSV 6.075 | 1126       | 265,5 | 595  | 265,5 | 330 | 145 | 185 | 182 | 65  | 40  | 2"     | 2"     | 1/2" | 3/4" |
| STSV 6.100 | 1376       | 265,5 | 845  | 265,5 | 330 | 145 | 185 | 182 | 65  | 40  | 2"     | 2"     | 1/2" | 3/4" |
| STSV 6.150 | 1876       | 265,5 | 1345 | 265,5 | 330 | 145 | 185 | 182 | 65  | 40  | 2"     | 2"     | 1/2" | 3/4" |
| STSV 8.075 | 1136       | 280,5 | 595  | 280,5 | 380 | 170 | 210 | 232 | 80  | 50  | 2 1/2" | 2 1/2" | 1/2" | 3/4" |
| STSV 8.100 | 1406       | 280,5 | 845  | 280,5 | 380 | 170 | 210 | 232 | 80  | 50  | 2 1/2" | 2 1/2" | 1/2" | 3/4" |
| STSV 8.150 | 1906       | 280,5 | 1345 | 280,5 | 380 | 170 | 210 | 232 | 80  | 50  | 2 1/2" | 2 1/2" | 1/2" | 3/4" |

\* Connections shown are only indicative. Final sizes will be attributed after order and considering the effective flow rates.

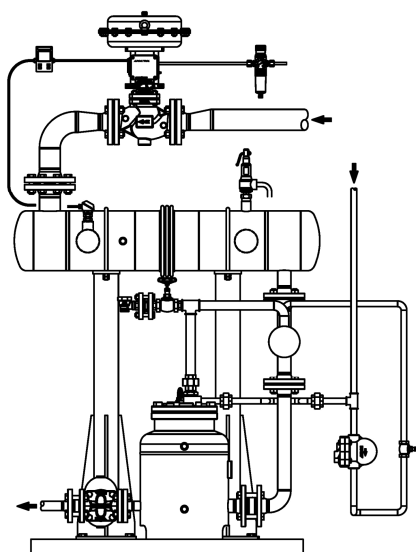
**TYPICAL INSTALLATION AS FLASH STEAM VENT CONDENSER  
( Steam to the shell )**



| POS. | MATERIALS          |
|------|--------------------|
| 1    | STS Heat exchanger |
| 2    | Receiver vent      |
| 3    | Drain (condensate) |
| 4    | Vent to atmosphere |
| 5    | EH - Exhaust head  |

Flash steam vents energy recovery. When heating water or another process fluid using this steam which is normally wasted, both boiler operation period and energy consumption are reduced, consequently reducing also the pollution emissions.

**TYPICAL INSTALLATION AS A PART OF "PWHU"  
( Packaged Water Heating Unit )**



The PWHU unit allows several options for the preparation of hot water for consumption or heating. It can be supplied complete with the feed water system, expansion and recirculation for closed circuit operation, or simply prepared to supply process hot water. For drawing simplifying purposes some components and accessories have been omitted.