

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

### DESCRIPTION

The ADCA ST 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 (STSH).
- USE:** Steam, water, hot condensate and other fluids compatible with the construction.
- AVAILABLE MODELS:** STSV – vertical installation.
- INSTALLATION:** Vertical or horizontal (different condensate heads execution).  
See IMI – Installation and maintenance instructions.
- ORDER REQUIREMENTS:** Steam pressure and temperature.  
Inlet and outlet water temperature.  
Water mass flow or heat exchanged.



### CE MARKING – GROUP 2 (PED – European Directive)

PN 16	Category Tube side	Category Shell side
STSV 3.075 to 8.150	1 (CE marked)	SEP

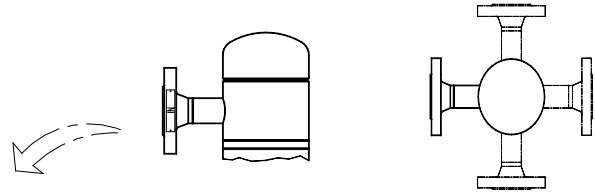
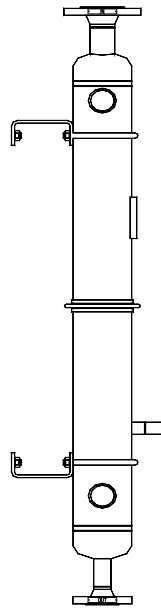
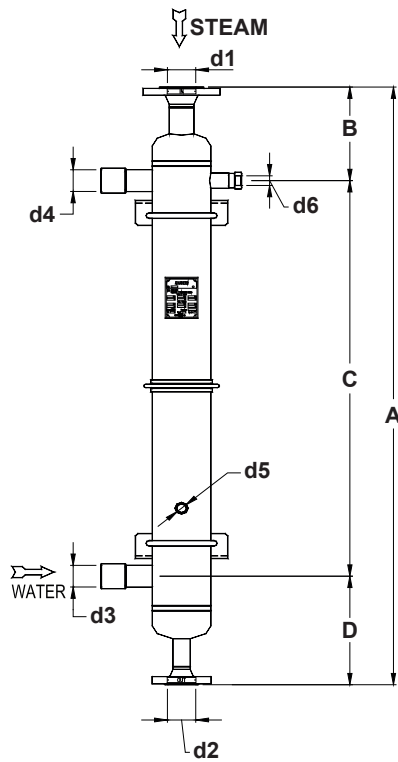
### MATERIALS

DESIGNATION	MATERIAL
Tube bundle	AISI 316L / 1.4404
Tube sheet	AISI 316 / 1.4401
Heads and shell	AISI 316 / 1.4401; AISI 316L / 1.4404
Inlet / outlet pipes	AISI 316 / 1.4401
EN flanges	AISI 316 / 1.4401
ASME flanges	AISI 316 / 1.4401
Sockets	AISI 316 / 1.4401
Supports	AISI 304 / 1.4301

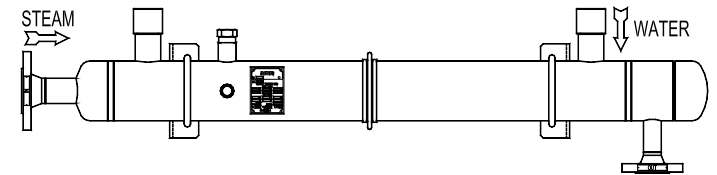
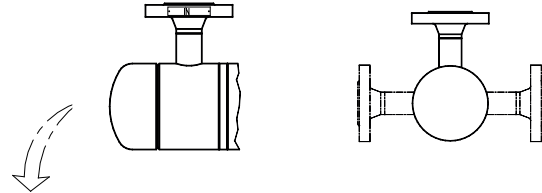
### BODY LIMITING CONDITIONS \*

PN 16		CLASS 150	
ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE
16 bar	50 °C	16 bar	50 °C
15 bar	100 °C	15 bar	100 °C
12,7 bar	200 °C	12,6 bar	200 °C
12 bar	250 °C	–	–

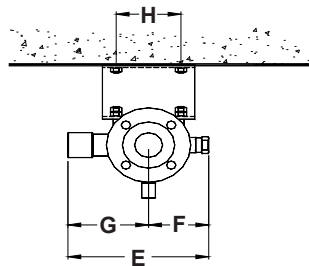
Min. operating temp.: -10 °C; Design code: AD-Merkblatt.  
\* Rating according to EN 1092-1:2018.  
PMO – Maximum operating pressure for saturated steam: 13 bar.



Alternative steam inlets



Horizontal design



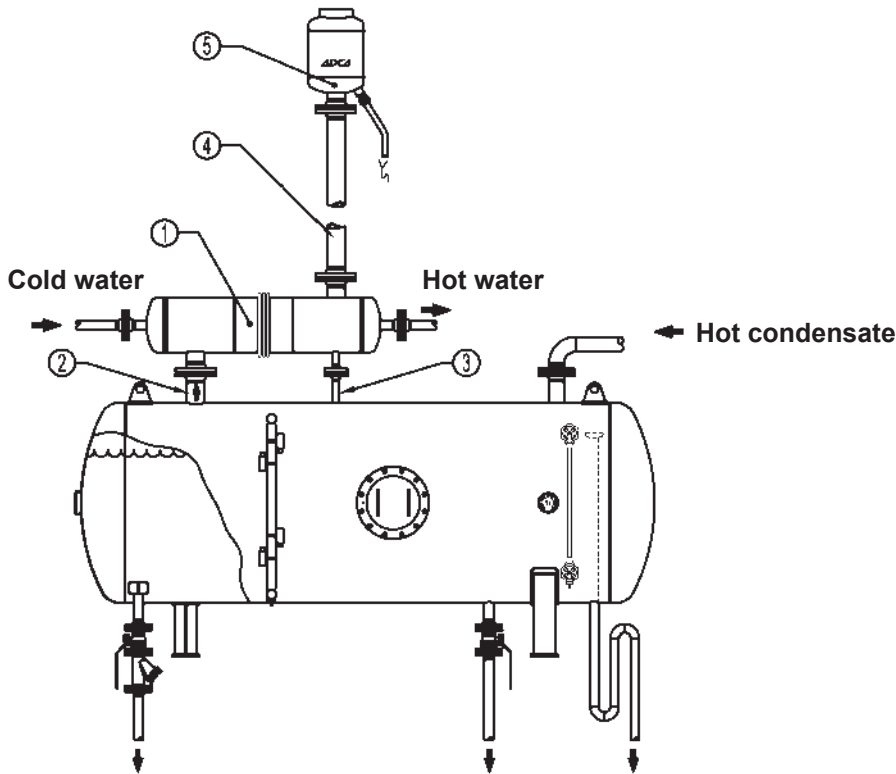
ALTERNATIVE CONNECTIONS		
CLAMP	ROUND THREAD	FLANGE

Remark: Different designs and dimensions on request.

DIMENSIONS (mm)														
MODEL	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	DN 40	DN 25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 3.100	1295	225	845	225	250	105	145	100	DN 40	DN 25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 3.150	1795	225	1345	225	250	105	145	100	DN 40	DN 25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 4.075	1075	240	595	240	274	117	157	125	DN 40	DN 25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 4.100	1325	240	845	240	274	117	157	125	DN 40	DN 25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 4.150	1825	240	1345	240	274	117	157	125	DN 40	DN 25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 5.075	1098	251,5	595	251,5	300	130	170	154	DN 50	DN 40	2"	2"	1/2"	3/4"
STSV 5.100	1348	251,5	845	251,5	300	130	170	154	DN 50	DN 40	2"	2"	1/2"	3/4"
STSV 5.150	1848	251,5	1345	251,5	300	130	170	154	DN 50	DN 40	2"	2"	1/2"	3/4"
STSV 6.075	1126	265,5	595	265,5	330	145	185	182	DN 65	DN 40	2"	2"	1/2"	3/4"
STSV 6.100	1376	265,5	845	265,5	330	145	185	182	DN 65	DN 40	2"	2"	1/2"	3/4"
STSV 6.150	1876	265,5	1345	265,5	330	145	185	182	DN 65	DN 40	2"	2"	1/2"	3/4"
STSV 8.075	1136	280,5	595	280,5	380	170	210	232	DN 80	DN 50	2 1/2"	2 1/2"	1/2"	3/4"
STSV 8.100	1406	280,5	845	280,5	380	170	210	232	DN 80	DN 50	2 1/2"	2 1/2"	1/2"	3/4"
STSV 8.150	1906	280,5	1345	280,5	380	170	210	232	DN 80	DN 50	2 1/2"	2 1/2"	1/2"	3/4"

\* Merely indicative values. Final sizes will be determined after order, considering the effective flow rates and connections.

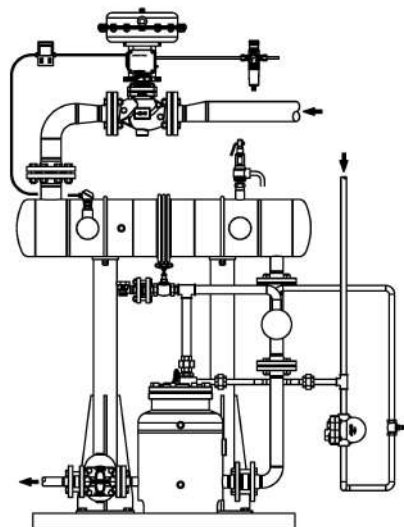
**TYPICAL INSTALLATION AS FLASH STEAM VENT CONDENSER**  
 (Steam to the shell)



POS. N°	MATERIAL
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 usually wasted, both boiler operation period and energy consumption are reduced, consequently reducing the pollution emissions as well.

**TYPICAL INSTALLATION AS PART OF A "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.