



STEAM CONDENSING HEAT EXCHANGER

MODEL SR-3/SR-8

HIGH-PERFORMANCE ATMOSPHERIC HEAT EXCHANGER FOR WASTE HEAT RECOVERY

Features

Atmospheric indirect heat exchanger for recovering heat energy from waste or flash steam from applications where the steam cannot otherwise be utilized.

1. Open to atmosphere system adds very little back pressure to steam using equipment (maximum 50 mm water head).
2. Achieves a more effective heat exchange than closed system heat exchangers.
3. Open to atmosphere system is free from the restrictions and regulations governing pressure vessels.
4. Compact, space-saving design.
5. Requires no electric power, providing very high economic efficiency.
6. Improves work environment by eliminating "clouds of steam" generated around the plant.



Specifications

Model		SR-3	SR-8
Connection & Size (mm)	Steam Inlet	80 Flanged	150 Flanged
	Condensate Outlet	50 Flanged	50 Flanged
	Condensate Blow Valve	15 Screwed	25 Screwed
	Cold Water Inlet	20 Screwed	40 Screwed
	Hot Water Outlet	20 Screwed	40 Screwed
	Exhaust	150 Pipe End (Duct nipple installable)	150 Pipe End (Duct nipple installable)
Maximum Operating Pressure (MPaG) PMO		Body (shell side): 0	Coil (tube side): 1.0
Maximum Operating Temperature (°C) TMO		up to 100	
Maximum Steam Flow Rate (kg/h)		300	800
Maximum Heat Recovery Capacity (MJ/h)		670	1,800
Heat Transfer Surface Area (m ²)		2.0	5.4

Contact TLV for non-standard design specifications

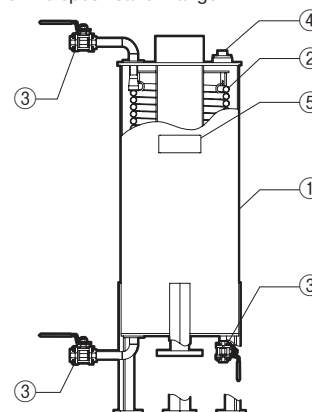
1 MPa = 10.197 kg/cm²
 PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: Body: 0.05, coil: 2.0
 Maximum Allowable Temperature (°C) TMA: Body: 158, coil: 180



To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range.
 Local regulations may restrict the use of this product to below the conditions quoted.

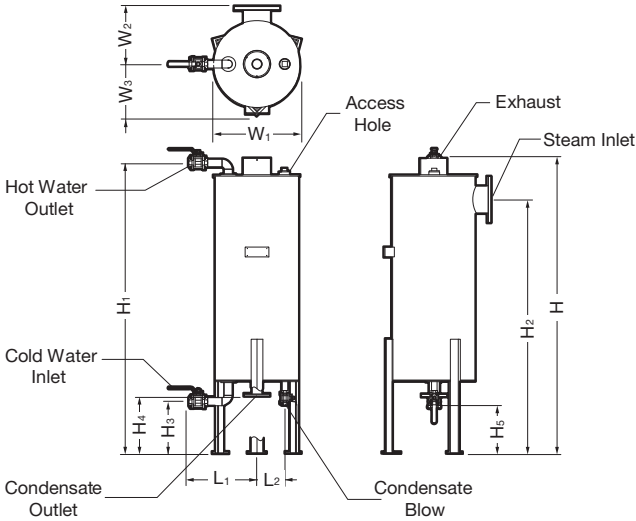
No.	Description	Material	JIS	ASTM/AISI*
①	Body	Stainless Steel	SUS304	AISI304
②	Heat Transfer Coil	Stainless Steel	SUS304	AISI304
③	Full-bore Ball Valve BV1	Cast Stainless Steel	—	A351 Gr. CF8
④	Plug	Stainless Steel	SUS304	AISI304
⑤	Nameplate	Stainless Steel	SUS304	AISI304

* Equivalent



Dimensions

● **SR-3 / SR-8**



SR-3 / SR-8 (mm)

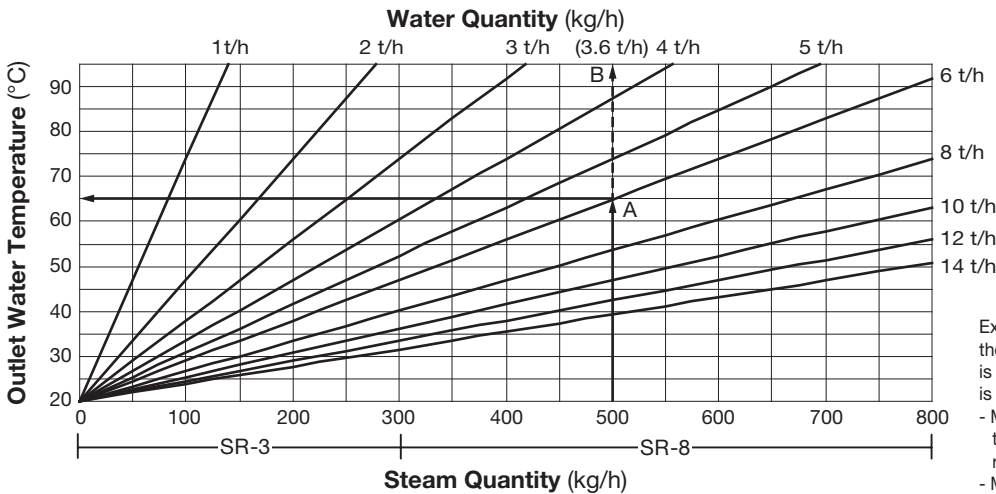
Model	L ₁ *	L ₂	H	H ₁	H ₂	H ₃
SR-3	370	150	1300	1280	1100	200
SR-8	420	170	1800	1790	1550	320

Model	H ₄	H ₅	φW ₁	W ₂	W ₃ *	Weight* (kg)	
						Empty	Full
SR-3	200	180	426	300	260	140	160
SR-8	350	300	528	350	310	250	280

* Approximate
Flanged connections are ASME Class 150 RF.
Screwed connections are NPT except on access hole (Rc(PT) 2)
Other standards available

Waste Heat Recovery

Cold Water Inlet temperature is 20 °C



1. The graph to the left shows the relationship between the amount of steam passing through the heat exchanger and the outlet water temperature. Consult TLV if the feed water temperature is not around 20 °C.
2. When the outlet water temperature exceeds 95 °C, steam cannot be condensed and will be discharged from the exhaust outlet

Example: At the intersection "A" on the graph, 500 kg/h of waste steam is collected and 6 t/h of water is used for heat recovery.
- Moving left from this point reveals that hot water at 65 °C can be recovered with the SR-8.
- Moving up to point "B" reveals that 3.6 t/h of cold feed water will be required. If less is used, some waste steam will remain uncondensed.

● **Required Water Differential Pressure**

Because the SR-3/SR-8 is an atmospheric indirect heat exchanger using stainless steel tubing, make sure the cold water pressure is high enough to maintain a differential pressure at least equal to the differential pressures indicated in the table below. However, the water pressure must not exceed 1.0 MPaG.

Water Quantity (t/h)		1	2	3	4	5	6	8	10	12	14
Min. Differential Pressure (MPa)	SR-3	0.03	0.11	0.23	0.40	0.62	—	—	—	—	—
	SR-8	—	—	0.03	0.05	0.07	0.10	0.17	0.27	0.38	0.60

Example: If 4 t/h water is used for heat recovery with an SR-8, differential pressure between the cold water inlet and the hot water outlet should be at least 0.05 MPa.

Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001
ISO 14001
LRQA REGISTERED

ISO 9001 • ISO 14001