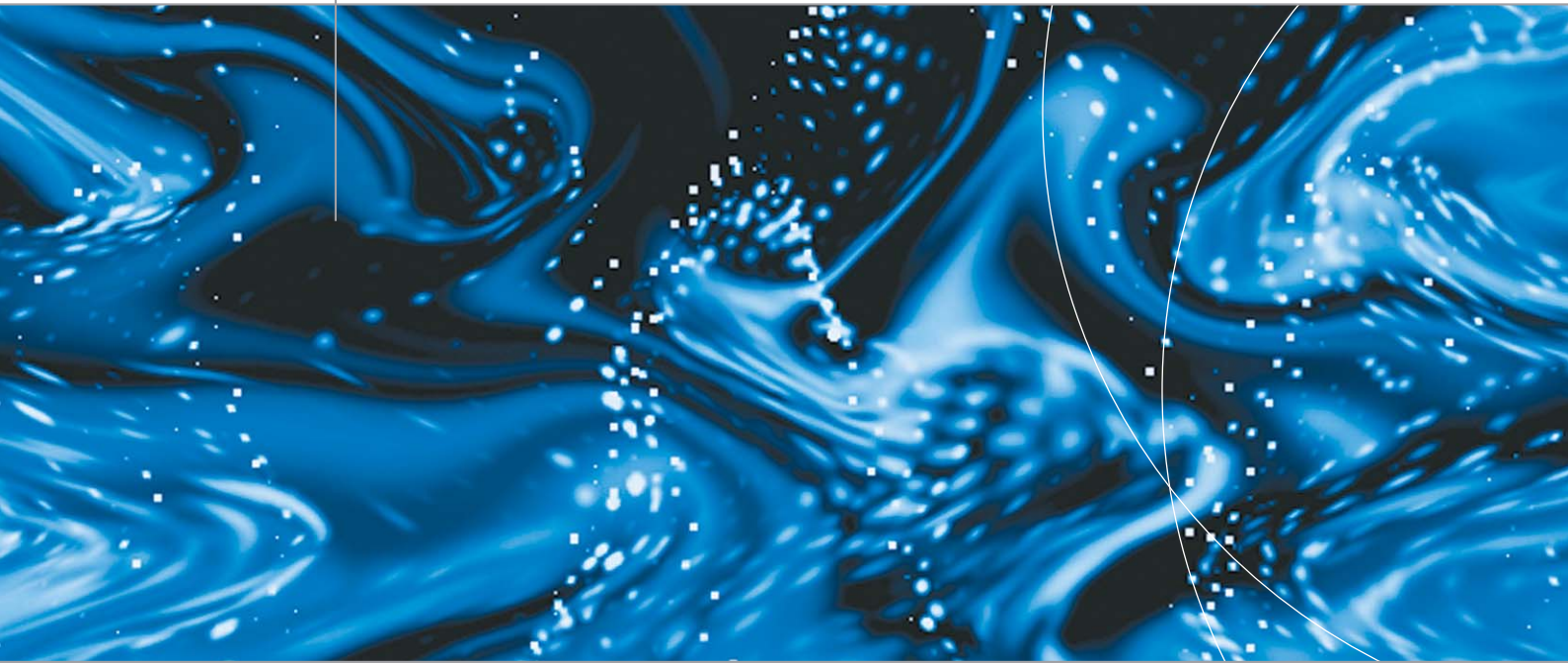


Hybrid Condensers

HTV 1.2/1.8/2.4 and 3.24



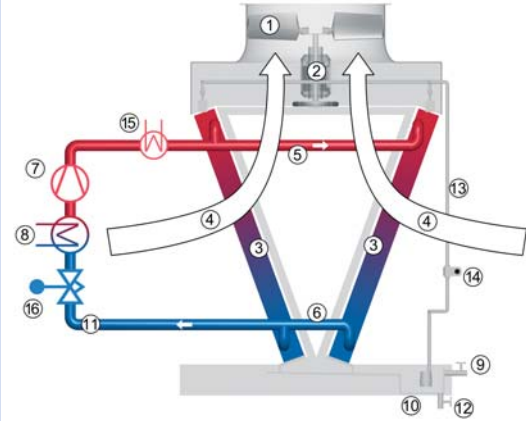
> Engineering a sustainable future



Hybrid Condensers

Description

- 1) fan
- 2) fan drive
- 3) condenser unit
- 4) air stream
- 5) primary circuit inlet
- 6) primary circuit outlet
- 7) compressor
- 8) heat source/evaporator
- 9) make up water valve
- 10) low volume basin
- 11) primary circuit
- 12) blow down valve
- 13) wetting circuit
- 14) conductivity sensor
- 15) desuperheater
- 16) expansion valve



Engineering a sustainable future

The HTV Hybrid Condenser extends the successful HTK Hybrid Dry Cooler product range. Our expertise from years of experience and a multitude of different applications within industry and air conditioning technology have been integrated in the development of a Hybrid Condenser.

Most of all technical and structural characteristics of the Hybrid Dry Cooler apply to Hybrid Condensers as well. In addition, the direct condensing provides heat exchange advantages thanks to lower heat transfer losses.

Just like air-cooled coolers and condensers, Hybrid Condensers can be operated without wetting the heat exchangers.

The energy is released to the ambient air by convection. In case of higher outside temperatures or increasing unit loads, the wetting of the heat exchangers will double or even triple the condenser's performance.

Convection and evaporation effects will then cool the unit.

Advantages of Hybrid Condenser:

- saves huge amounts of water as compared to evaporative condensers
- aerosol- and vapour-free
- high efficiency
- low operating costs
- optimal controllability of the entire cooling unit
- intelligent HybriMatic® control
- very low noise levels
- wide capacity range of HTV condensers

Design of Hybrid Condenser

A design software optimises the Hybrid Condenser for every application – taking into consideration the temperature pattern during the year at the installation site as well as the load profile expected for the unit.

The result: A Hybrid Condenser with low water and energy consumption that works with high efficiency and guarantees optimal operation.

JAEGGI products

Innovative technological details show: JAEGGI develop their intelligent technologies further. As a specialist in hybrid cooling technology with high system competence, JAEGGI provides premium quality and excellent service.

JAEGGI – the original

Condenser series	HTV 1.2	HTV 1.8	HTV 2.4	HTV 3.24
Block height	1.2 m	1.8 m	2.4 m	3.24 m
Block length	2.4 to 10.9 m		3.0 to 10.9 m	4.8 to 10.9 m
Operating weight	2100 to 7200 kg	3000 to 9700 kg	4600 to 12500 kg	9300 to 17000 kg
Operating range NH3 Condenser ($T_{HG}=65^{\circ}\text{C}$; $T_C=35^{\circ}\text{C}$; $T_F=21^{\circ}\text{C}$)	300 to 1300 kW	450 to 1950 kW	690 to 2600 kW	1460 to 3100 kW
Operating range NH3 Condenser ($T_{HG}=50^{\circ}\text{C}$; $T_C=30^{\circ}\text{C}$; $T_F=21^{\circ}\text{C}$)	150 to 690 kW	220 to 1050 kW	380 to 1410 kW	810 to 1880 kW
Temperature range for refrigerants – dry / not wettable – wetted	maximum 80°C maximum 50°C			
Construction of heat exchanger	Fin heat exchangers with tube and fin pressed as a block, widened			
Corrosion protection of heat exchanger	KTL dip coating/stoved enamel coating in block			
Tube material	Copper (optional stainless steel)			
Fin material	Aluminium (0.3 mm hard rolled), optional copper fins (0.2 mm) possible (20% higher cooler operating weight))			
Refrigerant	R134a, R717, R407C (others on enquiry)			
Alignment of heat exchanger	one-sided or V-shaped	V-shaped		
Supporting construction	Galvanised steel construction (optional stainless steel)		Galvanised steel construction	
Fan types	<ul style="list-style-type: none"> – SLNF / Super Low Noise Fans: Low-noise fans with very low acoustic emission – LNF / Low Noise Fans: Industrial fans with reduced acoustic emission – SF / Standard Fans: Standard fans with EC technology 			
Fan drive	<ul style="list-style-type: none"> – Separate fan drive motor, efficiency rating IE2 – EC fans 		<ul style="list-style-type: none"> – Separate fan drive motor, efficiency rating IE2 	
Fan diameter	0.6 to 1.6 m		1.6 to 2.0 m	
Wetting pumps	Submersible pump(s) made of stainless steel and with protection category IP68			
Number of wetting pumps	1 or 2 pump(s) depending on unit length			2 pumps
Wetting technology	Innovative, pressureless water feeding			
Wetting basin	Wetting basin made of stainless steel sheet including removable basin cover			
Control	HybriMatic single-condenser control (Rockwell, Siemens) optionally with superior HybriMaster control (Rockwell, Siemens) for multicompressor systems			
Control connection	Bus connection on (building control system) GLT optionally for Profibus, Modbus, BACnet, Lonworks, DeviceNet, Ethernet IP ... others on request			
Optional equipment	<ul style="list-style-type: none"> – Integrated or separate upstream desuperheating cooler – Protective mesh screen to prevent large amounts of organic material from getting into the cooler – Fan silencers to minimise acoustic emissions of fans – Control of highly efficient EC fans via GMM (Güntner Motor Management) – External water tank for feeding in wetting water – UV lamps in the wetting basin to prevent biological growth – Fan extensions for connection to enclosure – Winter curtains to prevent contamination of coolers that are periodically taken out of operation – Bespoke structural modifications are possible for special installations 			
Certifications	<ul style="list-style-type: none"> – Quality management ISO 9001:2000 – Hygiene certificate – Independent verification that no water droplets or aerosols are emitted from the fans 			
Transport / Delivery	appliance completely mounted and wired delivery on a lowbed trailer / for heat exchangers longer than 6 m, a lifting beam for the unloading will be provided depending on the weather, the cooler will be delivered in a plastic packaging			Fans will be mounted on site

Series overview



HTV 1.2



HTV 1.8



HTV 2.4



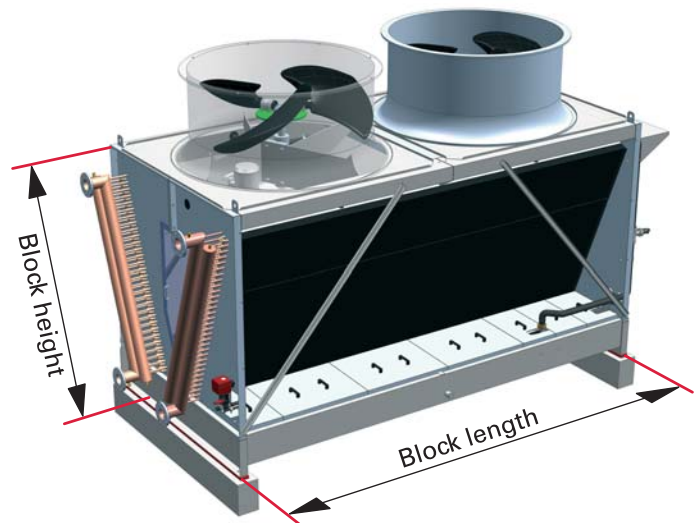
HTV 3.24

Type designation

HTV 2.4/5.2-2S-P6-CU-SLNF



- 1) Type (HTV Hybrid Condenser)
- 2) Height of the heat exchanger element in meters
- 3) Length of the heat exchanger element in meters
- 4) Number of the heat exchanger sides (1S one-sided, 2S double-sided)
- 5) Number of tubeside passes
- 6) Tube material
- 7) Fan type (SF Standard Fan, LNF Low Noise Fan, SLNF Super Low Noise Fan)



JAEGGI Hybridtechnology Ltd.
 Hirschgässlein 11
 CH-4051 Basel

Phone +41 (0)61 560 91 00
 Fax +41 (0)61 560 91 01
info@jaeggi-hybrid.ch
www.jaeggi-hybrid.ch