



DAS HERZ DER FRISCHE

SHELL-AND-TUBE FLOODED EVAPORATORS

DP-275-1 EN



FEV HP SERIES



HEAT
EXCHANGERS



HFO
READY

Shell-and-tube flooded evaporator: FEV HP Series

Applications

Flooded evaporators for air conditioning and process cooling applications where the primary driving force is energy efficiency improvement, especially at part load conditions. This demand is being driven by different regional energy efficiency standards such as EU Ecodesign regulation, ASHRAE 90.1 or Eurovent chillers certification program.

Technology

The FEV HP evaporator series has been designed for use with HFC 134a and HFO1234ze but it can also be utilized for other HFCs as well as natural refrigerants such as propane. The latest high performance boiling tubes ensure that the FEV series has the highest performance available in the market. The compact design meets refrigerant charge guidelines such as those in California Title 24 Energy Efficiency Standards for Residential and Non Residential Buildings, which are gradually imposing limitations to the refrigerant charge for acceptable cooling systems. A value of 2,7 lb/ton (0,35 kg/kW) is becoming a new standard.

Design features

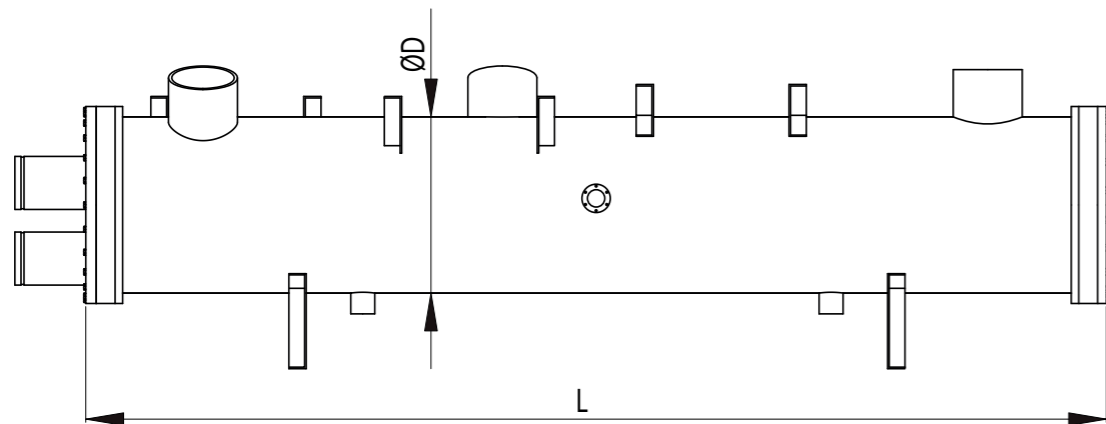
- // Standard models and custom designs are available
- // Two standard product lines; oil-free centrifugal compressors and screw compressors
- // High efficiency enhanced tubes for pool boiling
- // Low refrigerant operating charge
- // Internal separation device to prevent liquid carryover to the compressor
- // Models for use with screw compressors include ports for oil return

Guidelines for quotation

- // Thermal sizing: Dedicated selection tool (please contact BITZER)
- // Pricing: BITZER official heat exchanger and pressure vessel price list
- // Product information: available on demand

Basic series features

- // Cooling capacity range: 250-5000 kW (70-1500 TR)
- // 2 and 4 passes
- // Shell diameters, ØD: 406-1016 mm (16-40 inch)
- // Total length, L: 1800-4000 mm (6-13 feet)

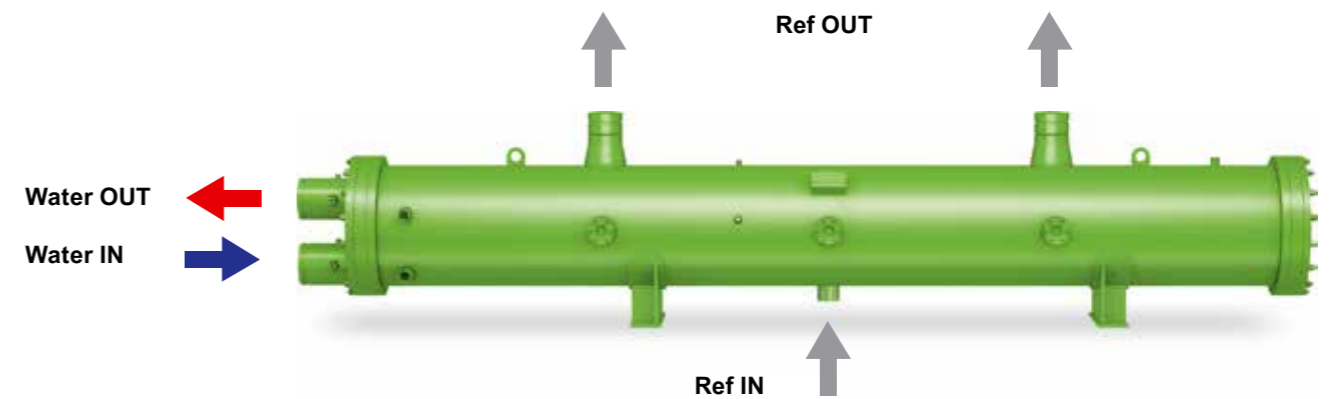


Evaporator operating principle

- // The refrigerant evaporates outside the tubes
- // The water flows inside the tubes.

Standard components

Tubes	Copper
Tube sheet	Carbon steel
Tube supports	Carbon steel
Shell	Carbon steel
Headers	Carbon steel
Gaskets	Polymeric



Design data

North American version ASME (U) approval

Version	Tube side			Shell side			
	DP (psig)	DT (°F)		DP (psig)	DT (°F)		TP (psig)
STD	150	20	150	260	20	150	
HP Water	300	20	150	260	20	150	

European version PED (CE) approval

Version	Tube side			Shell side			
	PS (barg)	TS (°C)		PS (barg)	TS (°C)		TP (barg)
STD	10	-10	50	18,1	-10	50	25,9

STD Standard // HP High pressure water side (special on demand) // DP Design pressure // DT Design temperature // PS Maximum allowable pressure // TS Minimum/maximum allowable temperature // TP Test pressure

Available on request

- // Flexible joint water connections (Victaulic type)
- // Closed cell foam insulation
- // Refrigerant operating level sight glass
- // Compressor mounting brackets
- // Compressor suction connections

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BITZER WORLDWIDE.



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