

Manufactured in accordance with TU 4863-026-64600223-12

CVM Manufacturing Works matured the production of high efficiency copper-aluminum plate heat exchangers intended for air heating and cooling. Heat exchangers can be used in the equipment of hot-air heating, ventilation and air conditioning systems, and also can be included as a part of process equipment.

Heat exchangers represent a bundle of copper pipes of 9.52 mm or 12.0 mm diameter arranged in staggered order. Plates (lamellae) of aluminum foil are pressed onto pipes as finning. The minimum pitch between plates is 1.8 mm. The maximum one depends on pipe diameter and heat exchanger application.

Heat exchangers are designated for operation under O1 climatic conditions in accordance with GOST 15150-69.

It is allowed to use water air heaters and air coolers at coolant temperature of up to 180 °C and operating pressure of up to 1.2 MPa. The maximum permissible excessive pressure is 1.8 MPa. The recommended range of heat transfer agent rates in pipes is 0.4 to 1.75 m/sec. As heat transfer agent heating water, steam, as well as non-freezing fluids (water solution of ethylene glycol or propylene glycol) can be used. As a coolant chilled water or water solutions of ethylene glycol and propylene glycol can be used.

To avoid heat exchanger clogging it is desirable to pre-clean the heated air. It shall not contain solid, fiber, adhesive matters or aluminum, copper and zinc aggressive admixtures that may cause corrosion of heat exchanger elements. The dust content of the air shall not content 0.5 mg/m³.



Heat exchangers are denoted as follows:

BBH9-900-500-2-2,5-4-1

- BBH – water air heater;
- ПВН – steam air heater;
- BBO – water air cooler;
- ΦВО – freon air cooler (evaporator);
- ΦВН – freon condenser.

Heat exchanger version:
 1 – left-side version, direct flow;
 2 – right-side version, direct flow;
 3 – left-side version, back flow;
 4 – right-side version, back flow;

Number of heat exchanger passages composing loop;

Distance between aluminum finning plates (lamellae pitch) in mm;

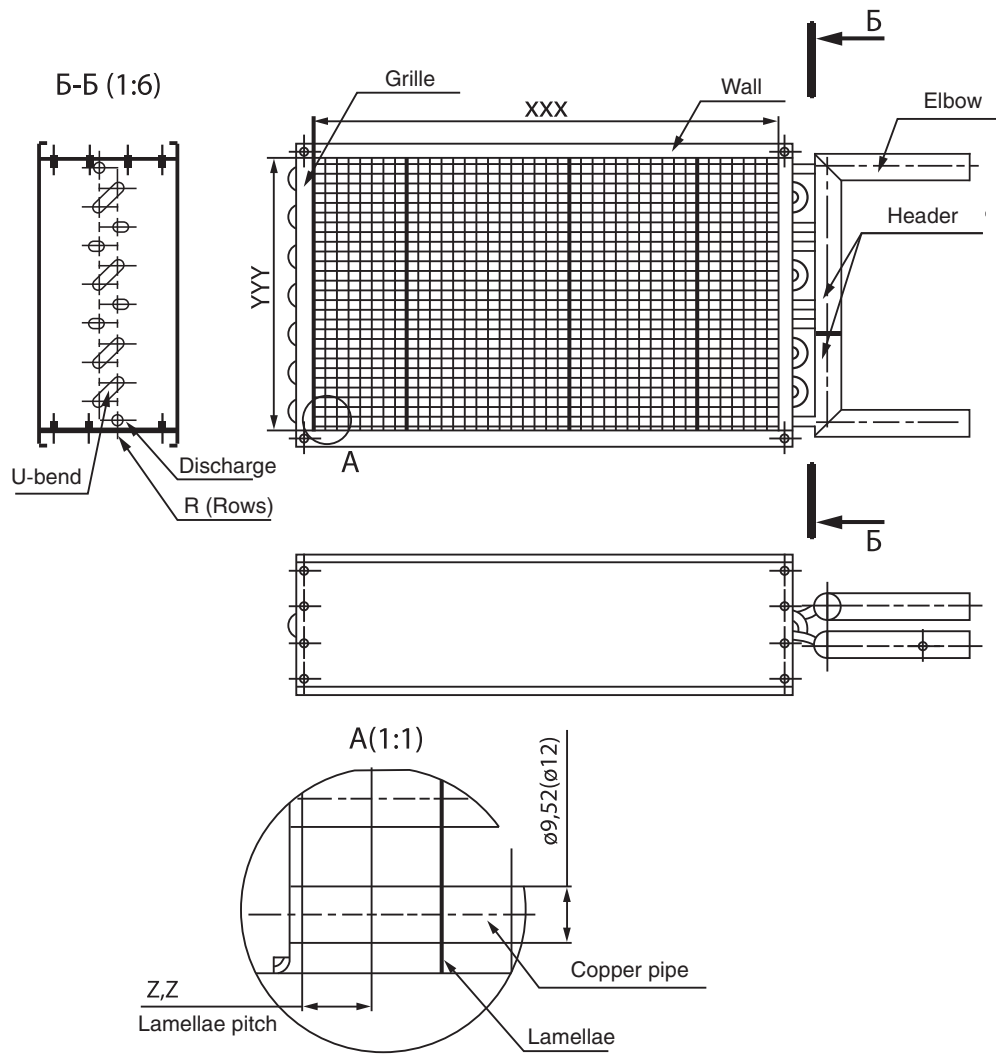
Number of copper pipe rows (1 to 12);

Finned pipe height (height of heat exchanger grid) in mm;

Length of copper pipe finned part (lamellae set length) in mm;

Copper pipe outer diameter (Ø9.52mm or Ø12.0mm);

Heat Exchanger						
Heat Exchanger Type	Heat Exchanger Designation	Pipe D [mm]	Number of Rows	Plate pitch [mm]	Minimum dimensions [mm]	
					XXX _{max}	YYY _{min}
Water air heater	BBH	9,52	1...4	1,8...4,0	200	100
		12		1,8...4,0	400	150
Steam air heater	ПВН	9,52	1...3	1,8...3,0	450	400
		12		1,8...3,0		
Water air cooler	BBO	9,52	2...12	2,5...6,5	400	200
		12		2,5...8,0	400	200
Freon air cooler (evaporator)	ΦВО	9,52	3...12	2,5...6,5	400	200
		12		2,5...8,0	500	200
Freon condenser	ΦВН	9,52	3...6	2,0...3,0	500	300
		12		2,0...3,0		



Specification

Maximum dimensions [mm]		Air Handling Capacity [m ³ /hour]		Heat Producing Capability [kW]		Refrigerating Capacity [kW]	
XXX _{max}	YYY _{max}	L _{min}	L _{max}	QT _{min}	QT _{max}	QX _{min}	QX _{max}
2000	1500	150	45000	3,5	1600	—	—
3000	2000	600	82000				
1900	2000	1300	57000	16	1400	—	—
2000	1500	650	45000	—	—	3,5	700
3000	2000	650	82000				
2000	1500	650	45000				
3000	2000	750	82000			5,2	700
3000	2000	1200	82000	7	300	—	—

Order form for manufacturing of heat exchanger see on p.208.