
	National Iranian Copper Industries Company Pyro and Hydro Metallurgy Programs Sulphuric Acid Plants Projects of Kerman Copper Project Title: Khatoonabad Sulphuric Acid Plant Project		 Outotec
	Contract No: 4074	Doc. Number: 23A1-V-INT-200-EL-MN-7210 Doc. Title: : INSTALLATION, OPERATION AND MAINTENANCE MANUAL CONVERTER	Rev: 0

Note for dual pumps systems:

- If the protection circuit trips or the pump fails, the control programme will shut down the pump and start up the other pump automatically.
- If this change does not have any effect, the pumps will shut down, as the exchanger could be blocked.
- It is recommendable to verify that the change from one pump to the other is exactly performed at almost the same time of the failure.

It is recommendable to use the pumps on a regular basis to prevent the gaskets and packing from drying, which will reduce the service life of the pumps.

1.5.7.2. Heat Exchanger

The heat exchanger is an element designed to transfer the heat in the fluid from the secondary circuit to the primary circuit in order to maintain the temperature of the secondary circuit, thereby guaranteeing correct cooling of the equipment. It is an essential part of the cooling system.

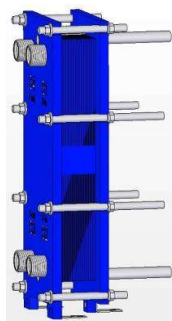




Fig. 11.5. Heat exchanger

Note:

The type of exchanger (welded plates, interchangeable plates) and the materials will depend on the type of coolant, cooling power, etc.

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Component				
Heat exchanger	WCU code	WU1115/6 -X	WU1185/6 - X	WU1245/6-X
	Fluid (primary / secondary)	Fresh water / Deionised Water + Additive		
	Connection Type	2" (DN50)	2.5" (DN65)	2.5" (DN65)
	Load when empty	144 kg	146 kg	144kg
	Dimensions in mm (Width/Depth/Height)	320/158/832	320/172/832	320/172/832
	Plate Material / Gasket Material	AISI 316 / NBR		
	No. of plates	48	52	52
	Ingeteam Code	HIN-0035	HIN-0181	HIN-0387

It is recommendable to install a filter opposite the heat exchanger with a mesh of 16-20 holes per inch, especially if the medium contains particles measuring more than 1 mm.

The smallest particles obstruct the filter more quickly. The maximum size of particles recommended in the primary or external circuit is less than 1 mm. Therefore, when the quality of the fluid cannot be guaranteed, it is recommendable to install this filter with a mesh size between 0.5 mm and 1 mm.

Otherwise, the particles will obstruct the exchanger ducts and reduce the transmission ratio, thereby causing poor performance and an increase in pressure losses.

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