

## ● MUD COOLER

## FEATURES AND BENEFITS

- Oilfield Proven Technology – Titanium “plate type” heat exchangers have been used reliably in the oilfield for many years.
- Robust Construction – The Plate Heat Exchangers are manufactured from high quality stainless steel and / or titanium alloy.
- Compact Dual Skid Design – Provides easier installation of the Mud Cooler System or it can be tailored to suit individual rig layouts.
- Lowers the circulation temperature in deep, high temperature wells and helps to lower mud costs.
- Reduces potential operational problems with bits, motors and downhole tools.
- Maintains the circulating temperatures below formation temperature which helps to maximise hole stability.



The oil & gas industry has always been challenged with the requirement to “push the envelope” and enter into new and challenging frontiers.

One such area has been the exploration of high temperature / high pressure (HT / HP) formations. Drilling and completing these wells has required meticulous and careful selection of equipment and control of operations.

To comply with these requirements, specialised technology has been developed to meet these new challenges. Scomi Oiltools now offers a Mud Cooler system, an engineered solution to your HT / HP drilling fluid problems.

## CONCEPT

The Scomi Oiltools Mud Cooler System consists of a two-skid package, which contains the following components:

- Plate Heat Exchangers (Skid 1)
- Pipe Manifold & Valves (Skid 2)

The 2 Plate Heat Exchangers (PHE) are manufactured from Titanium which minimises corrosion from entrained oxygen or low Ph drilling fluids or brines.

The plates within the Heat Exchangers are widely spaced to allow for the passage of highly viscous fluids with a high content of drilling brines.

Cooling is accomplished by circulating a cooling fluid (normally Seawater) through the coolant side of the heat exchanger using a suitable centrifugal pump.

## APPLICATION

The Scomi Oiltools Mud Cooler system is used to reduce the temperature of drilling fluid returned to the surface.

In HT / HP wells the temperature of the drilling fluid must be strictly controlled to keep it's properties within the specified parameters for that particular well.

If the temperature of the drilling fluid is allowed to increase then a variety of problems can occur such as high equivalent circulating density (ECD), formation breakdown, lost circulation, packing off, stuck pipe and evaporation of the oil and water phase.

## SPECIFICATIONS

	Hot Side	Cold Side
<b>General</b>		
Flow Rate (Total)	1000 gpm	2000 gpm
Flow Rate (Unit)	1000 gpm	2000 gpm
Inlet Temperature	185 °F (85 °C)	90 °F (32 °C)
Outlet Temperature	145 °F (62 °C)	126 °F (52 °C)
Maximum Temperature	260 °F (127 °C)	
Total Heat Transfer Area	1147.36 ft <sup>2</sup> (106.5 m <sup>2</sup> )	
Total Heat Exchanged	35,960,728 Btu / H	
Pump Max Flow Rate (gpm)	11,956 L / m (2630 gpm)	
Plate Heat Exchanger Construction Material	SB-265-I Titanium	
The above Thermal Capacity can be increased or decreased to suit customers' requirements.		
<b>Weight</b>		
Gross weight *	6882 kg (15,174 lb)	
Net weight **	6157 kg (13,574 lb)	
* Typical operating weight (complete with fluid)		
** Shipping weight		
<b>Dimensions</b>		
<b>Individual Skids – Mud Cooler &amp; Pipe Manifold</b>		
Length	1911 mm (75 in)	
Width	1905 mm (75 in)	
Height	2540 mm (100 in)	
<b>Complete System (2 Skids)</b>		
Length	3810 mm (150 in)	
Width	1905 mm (75 in)	
Height	2540 mm (100 in)	
<b>Utility Requirements</b>		
<b>Electrical</b>		
Voltage	380 – 460 V	
Phase	3	
Frequency	50 – 60 Hz	
Power	75 kW (100 Hp)	
Safety	Zone1 / Explosion proof electrics	
The above electrical specification is based on a typical Centrifugal pump. Others are available upon request.		



# Scomi

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