

● **SCM-MUD COOLER**



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, specialized technology has been developed to meet these new challenges. Scomi Equipment Inc now offers a Mud Cooler system, an engineered solution to your HT / HP drilling fluid problems.

**CONCEPT**

The Scomi Equipment Inc offers a Single or Dual Mud Cooler System complete with the following components:

- Plate heat exchangers
- Pipe manifold & valves

The Plate Heat Exchangers (PHE) is manufactured from Titanium which minimizes 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 Equipment Inc 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 its 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.



**FEATURES & 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 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 maximize hole stability



**SPECIFICATIONS**

	Hot Side	Cold Side
<b>General (per Mud Cooler Unit)</b>		
Flow rate (Total)	1,000 gpm	2,000 gpm
Flow rate (Unit)	1,000 gpm	2,000 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	1,147.36 ft <sup>2</sup> (106.5 m <sup>2</sup> )	
Total Heat Exchanged	35,960,728 Btu / H	
Pump Max Flow Rate	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*	15,174 lbs (6,882 kg)
Net Weight**	13,574 lbs (6,157 kg)

*\*Typical operating weight (complete with fluid)*

*\*\* Shipping weight*

**Dimensions**

<b>SINGLE MUD COOLER &amp; PIPE MANIFOLD</b>	
Length	115" (2,921 mm)
Width	52" (1,321mm)
Height	100" (2,540 mm)
<b>DUAL MUD COOLER &amp; PIPE MANIFOLD (2 SKIDS)</b>	
Length	150" (3,810 mm)
Width	96" (2,438 mm)
Height	100" (2,540 mm)

**Utility Requirements**

<b>ELECTRICAL (per Mud Cooler Unit)</b>	
Voltage	380-460V
Phase	3 Phase
Frequency	50-60 Hz
Power	100 hp (75kW)
Safety	Zone 1 / Explosion proof Electrics

*The above electrical specification is based on a typical centrifuge pump. Others are available upon request.*