CHEMPUMP
A DIVISION OF TEIKOKU USA INC.

ENGINEERING DATA SHEET

Water Jackets & Heat Exchangers		
Date	**Supersedes**	**No.**
04/01/99	**06/25/93**	**15E**

All Chempumps can be provided with a water jacket or heat exchanger mounted on the stator assembly of the unit or an auxiliary heat exchanger attached to the pump. The most common use for jackets or heat exchangers are:

a. Allow for pumping fluids at high temperatures.
b. Removal of motor heat when the design point is close to the full load rating of the motor.
c. Removal of residual heat from the motor and fluid at shut down when a heat sensitive fluid is being pumped.
d. Pumping volatile fluids.

Heat exchangers are used for combining the removal of excess motor heat and cooling of the circulated fluid before it enters the rotor cavity. In many cases a heat exchanger can be used on lieu of pressurized or reverse circulation if the temperature of the process fluid can be reduced to a point to prevent it from vaporizing as it passes through the motor section.

The required rate of cooling water flow depends on the application or, more specifically, upon the amount of heat to be removed from the rotor cavity. If the recirculation fluid is hot, cooling medium flow rates are higher. Please consult the instruction manual for your particular pump to find factory recommendations for the coolant flow rate.

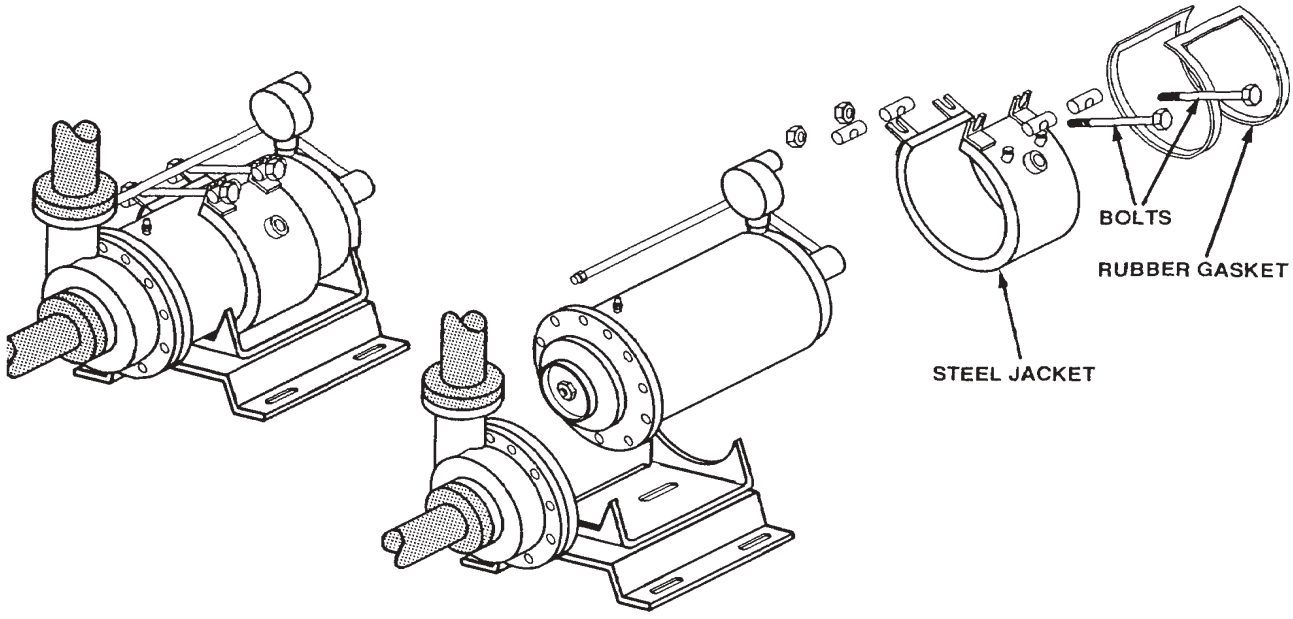

Figure 1: Removable Water Jacket

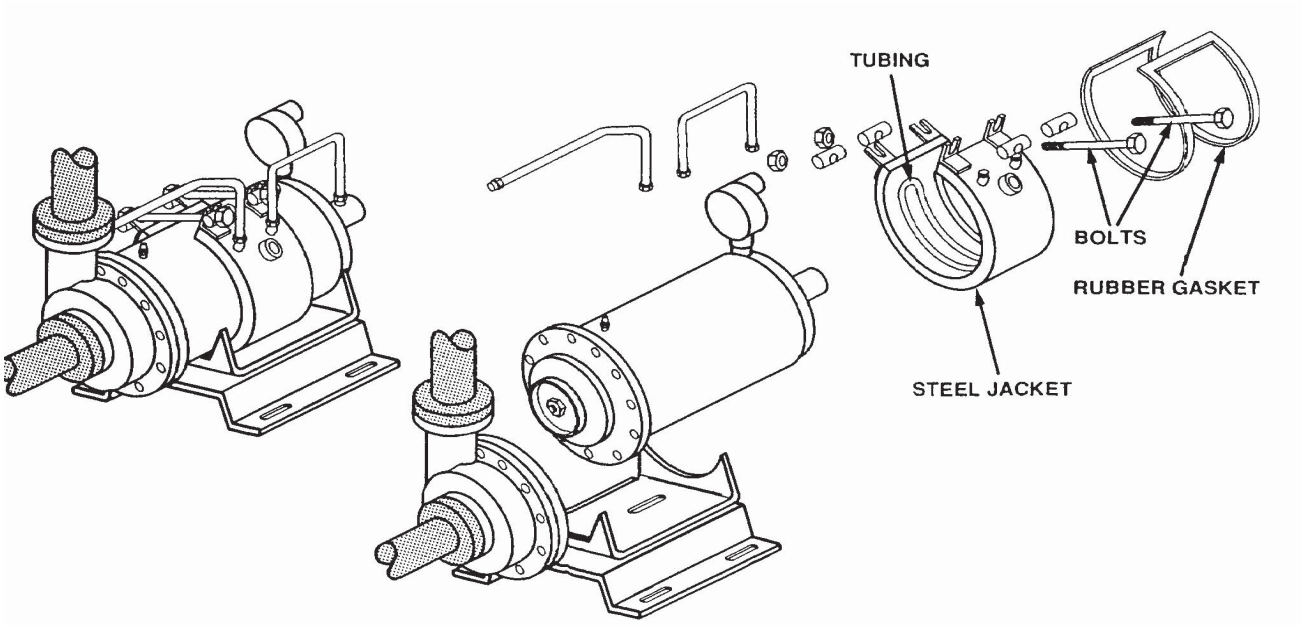

Figure 2: Removable Heat Exchanger

Removable Water Jackets and Heat Exchangers

Chempump's removable water jacket or heat exchanger consists of a steel shell, elastomer (neoprene) gasket, steel fasteners and pipe couplings for connection to plant coolant supply. The heat exchanger is also equipped with stainless steel tubing and fittings. These devices are suitable for handling liquids with a maximum temperature of 150°F and a maximum line pressure of 50 psi.

Removable type water jackets or heat exchanger kits are available from the factory to be used on pumps already installed in the field, These devices simply clamp onto the stator assembly of the pump.

As another option, Chempump offers auxiliary heat exchanger units mounted separately from the pump. This type of design allows the heat exchanger to be removed from the system for maintenance without removing the pump from the system.

Welded Jackets or Heat Exchangers

Welded jackets or heat exchangers are available when steam tracing or liquid coolant pressures above 50 psi are required. Normally, welded type jackets are suitable for steam pressures to 50 psi or liquid medium pressures to 100 psi. Welded type jackets specially fabricated for higher pressures are also available.

For applications where the process fluid must be maintained above a certain temperature, Chempump offers removable steam jackets for both the pump casing and the motor section of the pump. For this type of application, Chempump also recommends that the pump be modified for internal circulation to eliminate any solidification of the process fluid in the circulation line.