TECHNICAL BULLETIN

EHE

TB-1024

Impeder & Weld Coil Coolant Systems.

Most tube mill central coolant pumps do not provide sufficient clean coolant to properly cool impeders, particularly return flow types & impeders used with ID scarfing mandrels.

EHE' coolant booster pumps & filtration systems consist of turbine type pressure boost pumps mounted on a welded steel frame, with dual stainless steel filters, a filter selection valve, pressure flow & filter condition guages, temperature guage and a pressure regulator.

Magnetic particle skimmers and refrigerative chillers are available as optional extras. Additional flow, pressure & temperature monitoring & interlocks can also be provided.

General Description

The coolant system has 1" male NPT or BSP connections for coolant inlet & outlet. Either clean city water or mill coolant is connected to the upper pipe nipple or flange on the rear of the unit. (see above). The pressurized & filtered coolant is discharged through the lower pipe nipple or flange.

The turbine pump is driven by a 3 phase, 60Hz., 230/460 volt motor. Motors are normally supplied wired for 230 volts. These pumps should not be run dry. Coolant should be flowing through the system before power is applied to the motor. A directional arrow on the motor casing indicates correct rotation. Pump motors are drip proof but should be kept reasonably dry.

The pump is normally wired in such a manner that it is on any time the welder is operating. Turbine pumps are intended for high pressure, relatively low volume applications such as impeder cooling. Standard single stage centrifugal pumps do not provide sufficient pressure for this application.

Use of a well designed impeder cooling system allows the ferrite in the impeders to operate at a lower temperature. This increases its operating life and efficiency so that less welder power can be used for the same production speed. Savings in electrical power alone will pay for a pump & filtration system in less than 6 months. (Based upon a 10% saving in power on a 200kW welder operating 80 hours/week.)

Pump Operation

The pump is designed to boost the pressure of the coolant by up to 120 PSI. Most impeders are tested at 120 PSI & this is the maximum recommended operating pressure. If the mill cental coolant system, or the city water supply provides 80 PSI, the operation of the booster pump will raise this by up to 120 PSI, for a maximum of 200 PSI. Since this is above the recommended operating pressure for most impeders, a bypass valve is provided to vary the amount of boost pressure applied. This should be adjusted to a maximum of 120 PSI for each different impeder size or type that is used.

Filter Operation & Maintenance

The filter cannisters are normally provided with 100 mesh stainless steel filter cartidges. These are washable & do not normally require replacement. A twin circuit, two way valve is used to select either left or right filter. The deselected filter may be removed for cleaning without interupting the coolant supply. The valve handle always points toward the operating filter, so if the handle is to the left, the right hand filter can be removed.

Before removing the filter cannister, drain any trapped coolant using the drain cock at the bottom of the cannister. Care should be excercised when draining the right hand filter to ensure that coolant does not enter the motor. When re-installing the filter cartidge, make sure that the rubber seals are properly seated in the filter housing, to avoid damage to the seals.

If a filter cartridge is damaged, replacements are available from EHE. Please order using part number 9.75-100-PBS-DOE.

In coolant systems that are heavily contaminated with mill scale and/or metallic fines, more frequent filter cooling will be required. A filter condition indicator is attached to the front side of the unit. When the needle moves into the yellow zone, the filter should be cleaned. Filter cleaning intervals can be greatly extended by installing an EHE magnetic skimmer ahead of the dual filters. This continuously removes any magnetic particles from the coolant before it enters the booster pump/dual filter system.

Use of a properly maintained impeder coolant system will greatly extend the operating life of most types of impeders, thereby reducing down time & improving mill productivity.

S P E C I F I C A T I O N S

Horsepower:	2 HP (1.5kW)
Pump Type:	Single stage regenerative turbine.
Power requirement:	208-230/460 volts, 50/60 Hz, 9.5/4.8A
Filter Type:	20” long replaceable stainless steel mesh cartidge
Inlet/Outletconnections:	1” NPT Male
Dimensions:	30”L x 30”W x 16”D (965mm.L x 965mm.W x 406mmD)
Shipping Weight:	95 lbs. (43kg.)
PRICE:	$4130.00

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