HIGH-EFFICIENCY MOLD HEATING & COOLING SYSTEMS



We are pleased to present for your information and consideration the mold heating and cooling systems developed with ,**ARANCO's** innovative design approach and included in its production program;

With the mold heating and cooling system, the service life, dimensional accuracy, and correct functional performance of molds operating under high-temperature conditions are ensured.

By means of a special combustion-resistant oil circulating within the system, both heating and cooling processes are carried out through the same circuit, operating on the principle of maintaining a constant mold temperature.

After reaching the targeted mold temperature via electric tubular heater packages, especially for metal forging applications, overheating of the mold is prevented by utilizing the heat transferred to the mold by the processed material. The process then continues at a constant temperature.

System components consist of a circulation pump, heating resistances, cooling heat exchanger, thermocouples and thermostats, degassing and expansion tanks, and other safety equipment. All components and piping equipment are manufactured from high-temperature-resistant stainless steel.

Areas of Application

- Hot forging dies for steel / aluminum / brass / copper materials
- Extrusion dies for steel / aluminum / brass / copper materials
- Molds for composite / plastic / rubber / wood-based materials using heated platens or hot molds
- Molds for plastic injection molding presses



TECHNICAL SPECIFICATIONS	RPTHTU-1	RPTHTU-2
MAX. OIL TEMPERATURE (INFINITELY ADJUSTABLE)	300 °C	**300 °C**
HEATING CAPACITY	**50 kW**	**108 kW**
CIRCULATION FLOW RATE	**50 L/min**	**170 L/min**
PUMP MOTOR POWER	**2,2 kW**	**4 kW**
COOLING HEAT EXCHANGER CAPACITY	**30 kW**	**60 kW**

Advantages

- The preheating of the mold and its cooling during serial production is carried out through the same circulating oil circuit.
- Thus, the design and manufacturing of molds are greatly simplified and made more economical by reducing the number of parts.
- A homogeneous and stable temperature within the mold is guaranteed during both heating and cooling processes.
- Unexpected damage and wear on molds are prevented.
- Geometric dimensional accuracy of the workpiece is maintained at the highest level.
- Due to effective heating capacity, the mold reaches operating temperature in a short time (Example: For a large-capacity hot forging mold weighing approximately 1,000 kg, 60–90 minutes).
- Heating and cooling operations are fully automated.
- The set temperature is automatically reached and maintained within a ±5 °C range.
- Temperature settings are precisely controlled via a P.I.D. control system and solid-state relays, and all data are programmed and stored on a touch display.
- (Example: The mold can be preheated before the start of the shift and ready for production after the programmed time.)

