APT INDUSTRIAL CHILLER

INDUSTRIAL COOLING
REFERENCE DOCUMENT

https://applied-chiller.com/

10HP Air Cooled Chiller for Injection Molding Machine Cooling

Industrial Cooling Reference for Plastic Injection Molding Equipment

AIR COOLED | 10HP REFERENCE | CLOSED-LOOP COOLING | INJECTION MOLDING

CASE REFERENCE

Project Snapshot

10HP air cooled chiller direction for an injection molding machine cooling project.

APPLICATION

Injection Molding Machine Cooling

INDUSTRY

Plastic Injection Molding Workshop

COOLING TARGET

Mold cooling circuit and hydraulic oil temperature control

CHILLER DIRECTION

10HP Air Cooled Industrial Chiller

REVIEW FOCUS

Heat load, mold temperature, flow rate, pump pressure, hydraulic oil duty, ambient temperature

10HP AIR COOLED CHILLER REFERENCE

ENGINEERING REVIEW

Engineering Matrix

ENGINEERING ITEM	WHY IT MATTERS	DATA TO CONFIRM
Machine Tonnage	Machine size helps estimate the expected molding duty and practical cooling direction.	Injection molding machine tonnage and production duty cycle.
Mold Heat Load	Determines whether 10HP is suitable as a preliminary cooling direction.	Total mold cooling demand during repeated molding cycles.
Hydraulic Oil Heat Load	Auxiliary oil cooling may increase total chiller sizing requirement.	Whether hydraulic oil loop cooling is required and its heat duty.
Target Water Temperature	Defines controller setpoint and molding stability requirement.	Required outlet temperature and acceptable fluctuation.
Flow Rate	Ensures enough circulation through the mold cooling circuit.	Required L/min or m3/h for the machine-side cooling loop.
Pump Pressure	Checks whether the pump can overcome line resistance and machine-side pressure loss.	Pump head, hose length, filters, and heat exchanger resistance.
Ambient Temperature	Affects air cooled condenser margin and ventilation review.	Workshop ambient, airflow clearance, and hot-air recirculation risk.
Voltage and Frequency	Electrical compatibility must match destination workshop supply.	Available voltage, frequency, and phase requirement.

Reference direction only. Final engineering review should be completed before quotation and final model confirmation.

COOLING CHALLENGE

Process Review

- Mold cooling required stable chilled water temperature during repeated molding cycles.
- Hydraulic oil temperature control was reviewed as an auxiliary cooling load.
- Independent air cooled installation was preferred to avoid cooling tower dependency.
- Flow rate and pump pressure must match the real machine-side cooling loop.

RECOMMENDED DIRECTION

A 10HP air cooled industrial chiller was reviewed as the preliminary direction for this injection molding machine cooling project. Final sizing should be confirmed by actual mold heat load, hydraulic oil duty, target water temperature, flow rate, pump pressure, ambient temperature, voltage, and installation layout.

CHILLER DETAIL

10HP Air Cooled Chiller Configuration

Main configuration points for an injection molding machine cooling reference project.

INDUSTRIAL CHILLER INTERNAL DETAIL VIEW

01 **Air Cooled Condenser**

No cooling tower required for independent machine-side installation.

02 **Industrial Compressor**

Selected for process cooling duty and repeated molding operation.

03 **Tank and Pump**

Built-in or project-reviewed circulation system for closed-loop cooling.

04 **Temperature Control**

Supports outlet water temperature monitoring and operating protection.

TECHNICAL REFERENCE

COOLING METHOD	CAPACITY DIRECTION	TYPICAL APPLICATION	COOLING CIRCUIT
Air cooled condenser	10HP reference	Injection molding machine / mold cooling / hydraulic oil cooling	Closed-loop process water
OUTLET TEMP.	**PUMP SELECTION**	**POWER SUPPLY**	**FINAL REVIEW**
Project-defined, often 7-25 C	By required flow and head	380-460V, 50/60Hz by destination	Heat load / flow / pump head / ambient / voltage / duty cycle

Review Note

Final component selection should be confirmed according to actual mold heat load, hydraulic oil cooling duty, flow rate, pump head, target water temperature, ambient condition, voltage, and installation layout.

APT Industrial Chiller
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