

APT INDUSTRIAL CHILLER

INDUSTRIAL COOLING
REFERENCE DOCUMENT

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40HP T3 High Ambient Air Cooled Chiller for Hot Climate Factory Cooling

Industrial Cooling Reference for High Ambient
Temperature Operation

T3 HIGH AMBIENT

40HP REFERENCE

AIR COOLED

HOT CLIMATE

CASE REFERENCE

Project Snapshot

40HP T3 high ambient air cooled chiller direction for a hot climate factory cooling project.

APPLICATION Hot Climate Factory Cooling	INDUSTRY High Ambient Temperature Production Workshop
COOLING TARGET Production equipment process cooling under high ambient conditions	CHILLER DIRECTION 40HP T3 High Ambient Air Cooled Industrial Chiller
REVIEW FOCUS Maximum ambient temperature, condenser margin, airflow clearance, ventilation, heat load, voltage	



ENGINEERING REVIEW

Engineering Matrix

ENGINEERING ITEM	WHY IT MATTERS	DATA TO CONFIRM
Maximum Ambient Temperature	Hot climate condition directly affects condenser performance and sizing direction.	Maximum design ambient and seasonal operating profile.
Heat Load	Process duty determines whether 40HP is suitable as reference direction.	Continuous and peak cooling demand from production equipment.
Airflow Clearance	Condenser intake and discharge need enough space for stable heat rejection.	Installation distance, air path, and recirculation risk.
Ventilation	Workshop ventilation affects practical chiller operating margin.	Air exchange condition and local hot zone review.
Target Temperature	Required water temperature influences available safety margin under hot climate load.	Outlet setpoint and acceptable fluctuation.
Voltage	Destination power supply must match compressor and fan configuration direction.	Voltage, frequency, and phase requirement.

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

COOLING CHALLENGE

Process Review

- High ambient factory conditions reduce available condenser heat rejection margin.
- Airflow clearance and ventilation must be reviewed to reduce hot-air recirculation risk.
- The cooling system must support continuous process duty during hot climate operation.
- Final model direction depends on maximum ambient temperature and actual equipment load.

RECOMMENDED DIRECTION

A 40HP T3 high ambient air cooled industrial chiller was considered as the preliminary direction for this hot climate factory cooling project. Final selection depends on maximum ambient temperature, installation airflow, heat load, voltage, and condenser design review.

40HP High Ambient Chiller Configuration

Main configuration points for a hot climate factory cooling reference project.



- 01

T3 Condenser Direction

Condenser design is reviewed for elevated ambient operating conditions.
- 02

High Ambient Margin

Capacity direction depends on practical heat rejection margin in hot climates.
- 03

Airflow and Ventilation

Clear airflow path is required to reduce recirculation risk.
- 04

Industrial Protection

Process-duty arrangement supports continuous factory cooling operation.

TECHNICAL REFERENCE

COOLING METHOD Air cooled condenser	CAPACITY DIRECTION 40HP reference	TYPICAL APPLICATION Hot climate factory / outdoor equipment / high ambient process cooling	COOLING CIRCUIT Closed-loop process water
OUTLET TEMP. Project-defined, often 7-25 C	PUMP SELECTION By required flow and head	POWER SUPPLY 380-460V, 50/60Hz by destination	FINAL REVIEW Ambient / airflow / heat load / voltage / condenser margin

Review Note

Final selection depends on maximum ambient temperature, installation airflow, heat load, voltage, and condenser design review. T3 direction should be confirmed by final engineering review rather than treated as a universal no-derating claim.

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