

190 kW Dry Cooler

3-FAN

Three-fan dry cooler sized for a single 30-server immersion tank.



Front-face & rear views

GENERAL	
Rated heat rejection	190 kW
Configuration	3 fans
Orientation	Horizontal, top-discharge

DIMENSIONS & CONSTRUCTION	
Overall L × W × H	144.4 × 49.3 × 56.3 in
Overall (metric)	3.7 × 1.3 × 1.4 m
Dry weight	520 kg (1,146 lb)
Operating weight	579 kg (1,276 lb)
Housing material	Sheet metal, powder-coated white

CONNECTION & INTERFACE	
Fluid in/out	DN65 ANSI flange (2 total)
Drain plug	2 × DN15 NPT internal-thread plug
Working fluid	Water (closed-loop, inhibited)
Power input	380/480 V – 3 Phase, 50/60 Hz

COIL & HEAT EXCHANGER	
Number of coils	1
Coil internal volume	59.0 L (15.6 US gal)
Fin / tube material	Aluminum fin / copper tube
Tube spec	ø12.7 mm copper
Fin spec	0.12 mm blue hydrophilic Al, corrugated rippled edge, 2.4 mm pitch
Coil geometry	4 rows × 36 tubes × 3,430 mm
Header / connection tube	ø76 mm copper; DN65 ANSI welded flange
Casing / side plate	2.0 mm galvanized steel (GI)

FAN DATA

Fan model	Krubo K-EC910-W460-10 (Ø910 mm EC axial)
Number of fans	3
Fan supply	3–460 VAC (380–480 V), 60 Hz
Fan speed	1,055 rpm
Airflow per fan	35,000 m ³ /h (free-air nominal)
Total fan airflow	105,000 m ³ /h (free-air)
Sound pressure per fan	87 dB(A) (LpA @ 1 m)
Power input per fan	2,120 W (2.9 A)
Total fan power input	6,360 W (6.36 kW)
Motor / protection	EC motor · IP54 · insulation Class F
Fan weight (each)	56 kg

THERMAL – RATED CAPACITY

Capacity	190 kW
Global exchange coefficient	25 W/(m ² ·K)
DTML	13.6 °C

AIR SIDE (design)

Volumetric air flow	49,750.4 m ³ /h
Mass air flow	55,921 kg/h
Face velocity on coil	3.63 m/s
Outlet air temperature	44.4 °C
Air-side pressure drop	148 Pa
Partial exchange coeff (air)	91 W/(m ² ·K)

OPERATING ENVIRONMENT

Ambient temperature	–25 °C to +60 °C
Relative humidity	0 % to 95 % RH
Altitude	≤ 1,000 m

DESIGN CONDITIONS

Working fluid	Water (closed-loop, inhibited)
Inlet fluid temperature	50 °C (122 °F)
Water density	986 kg/m ³ (@ ~55 °C mean)
Water specific heat	4.18 kJ/(kg·K)
Water dynamic viscosity	0.50 mPa·s (@ 55 °C)
Water thermal conductivity	0.648 W/(m·K)
Water Prandtl number	3.2
Inlet air temperature	32 °C (89.6 °F)
Inlet air relative humidity	50.0 %
Inlet air density	1.12 kg/m ³
Altitude / pressure	0 m / 1.01 bar A (sea level)
Fouling factor	0.000000 (m ² ·K)/W (clean design)

FLUID SIDE (design)

Volumetric fluid flow	8.87 m ³ /h
Mass fluid flow	8,749 kg/h
Fluid velocity	1.87 m/s
Outlet fluid temperature	38 °C
Fluid-side pressure drop	139.30 kPa
Partial exchange coeff (fluid)	604 W/(m ² ·K)

OPTIONS & FEATURES

- Integrated electrical box with breakers (standard on turnkey packages).
- Crane lift points for rigging and set.
- Mounting brackets for container-top or side-by-side installation.
- BITSINK health-monitoring suite – fans, pumps, fluid level & temperature.