Technical Datasheet

1 VXI 215-4

Main Accessories : XB Intake and Discharge attenuation

THERMAL DESIGN DATA

Requested capacity (overall/unitary)	3547 kW
Max. capacity (overall/unitary) (@ 100% RPM)	3548 / 3548 kW
Fluid type	H2O (Freezing point= 0°C; Anti-Freeze necessary for freezing climates)
Requested fluid flow (overall/unitary)	29.32 / 29.3 l/s
Max. fluid flow (overall/unitary) (@ 100% RPM)	29.33 / 29.3 l/s
Entering wet bulb temp	21.0 °C
Entering dry bulb temp	31.0 °C
Process fluid inlet temperature	59.3 °C
Process fluid outlet temperature	30.4 °C
Operating mode	Wet

PHYSICAL DATA (including accessories) - UNITARY

Overall length	5998 mm
Standard unit	5388 mm
Pump 1	610 mm
Overall width	4752 mm
Standard unit	3607 mm
Intake attenuator	1145 mm
Overall height	7510 mm
Tapered hood with Positive Closure Dampers	1700 mm
Discharge attenuator with Plenum	1205 mm
Standard unit	4545 mm
Solid bottom panel	60 mm
Shipping / operating weight	17135 / 25390 kg
Standard unit	13435 / 21690 kg
Intake attenuator	980 / 980 kg
Tapered hood with Positive Closure Dampers	890 / 890 kg
Discharge attenuator with Plenum	1410 / 1410 kg
Solid bottom panel	420 / 420 kg
Heaviest section	9710 kg
Material option	BALTIBOND HYBRID COATING
Overflow diameter	(1x) ND 80 mm
Make up diameter	(1x) ND 50 mm
Drain diameter	(1x) ND 50 mm
Number of coils per unit	2

Exact unit dimensions and weights may be influenced by accessories/option combinations.

EVAPORATIVE COIL DATA - UNITARY

Evaporative coil type	Bare / HDG
Evaporative coil arrangement	Wet coil - 1pass
Evaporative coil inlet connections	(2x) ND 100
Evaporative coil outlet connections	(2x) ND 100
Evaporative coil volume	(2x) 1521.0 l
Evaporative coil surface	(2x) 283.0 m²
Evaporative coil dry weight	(2x) 3975.0 kg

ELECTRICAL DATA - UNITARY

Fan motor	
General	
Fan motor BHP (Net mech output power at motor shaft)	(2 x) 35.5 kW
Fan motor oversized for	
Total ESP	142 Pa
Accessories total external static pressure	142 Pa
Customer external static pressure	0 Pa
Dry operation allowed	No
Fan motor voltage	400 V
Frequency	50 Hz
Protection class	IP55
Mounting	B3
Single speed	
Fan motor power	(2 x) 37.0 kW
Efficiency level fan motor	IE3
Fan full load current (Nominal Voltage)	(2 x) 66.6 A (400 V)

Technical Datasheet

Fan synchrone speed ..... 1500 RPM
Framesize 225
Spray pump motor power ..... (1x) 4.0 kW
Efficiency level pump motor IE3
Spray pump motor voltage ..... 400 V
Frequency ..... 50 Hz
Spray pump full load current ..... (1x) (8.6 A) 400 V
Spray pump synchrone speed ..... 1500 RPM
Protection class
Mounting
Framesize 132
* Note: For indicative cable sizing the "Fan Full Load Current" and the corresponding "Nominal Voltage" have to be used.

AERODYNAMICAL DATA - UNITARY

Air flow (100% RPM/100% RPM)..... 60.4 / 60.4 m³/s
Number of fans 4
Fan type ..... Centrifugal
Approximate Fan speed ..... 461 RPM

HYDRAULICAL DATA - UNITARY

Total pressure drop (@29.3 / 29.3)..... 21.0 / 21.0 kPa
Standard unit ..... 21.0 / 21.0 kPa
Spray water flow ..... (1x) 56.8 l/s
Maximum evaporation ..... 1.329 / 1.329 l/s
Bleed (cycles of concentration 2.5) ..... 0.886 / 0.886 l/s
Make-Up (cycles of concentration 2.5)..... 2.215 / 2.215 l/s
Pan volume operating ..... 2564 l
Pan volume overflow ..... 4715 l
Pressure range mechanical make-up valve ..... 1 to 4,5 bar

Acoustical data (Standard unit with XB Intake and Discharge attenuation)

100 % RPM (@ 15.0m) ..... 50 dB(A)
Sound Power Level (@100 %RPM)..... 84.0 dB(A)

All acoustical data as sound pressure levels at quietest side of unit at indicated distance. Values are obtained according to CTI ATC-128 (Test Code for Measurement of Sound From Water-Cooling Towers) for small towers with a 2 dB(A) tolerance.

ACCESSORIES - Sound attenuation - UNITARY

Discharge attenuation includes maintenance plenum ..... Yes
Intake and discharge attenuator package static pressure drop ..... 61.0 Pa
Additional discharge screens
Additional intake screens
Perforated steel sheet baffle protection (XB)
Attenuator package ..... XB
XB Intake and Discharge attenuation

ACCESSORIES - Construction details UNITARY

Connection - extra in pan

ACCESSORIES - Motor accessories UNITARY

PTC (only) (for fan motor)

ACCESSORIES - Winterisation package UNITARY

Pan heater package 2*6 kW (provides freeze protection to -18°C ambient)
1 stage thermostat
Temperature range ..... -20..50 °C
Protection class ..... IP 54
Rating (@250VAC) ..... 10 A
Contacts ..... NO and NC
Low level cut out switch with integral stilling chamber
Voltage ..... 240 VAC
Contacts ..... NO or NC
Index of protection ..... IP 65
Rating (@240VAC) ..... 1 A
Pan heater 6 kW
Power ..... 6 kW
Rating (@400VAC) ..... 8.67 A

Technical Datasheet

Tapered hood with Positive Closure Dampers
- Actuator (Positive Closure Dampers's)
  - End switch contact rating ..... None A
  - Torque at rated voltage ..... min 15 Nm
  - Running time (motor / spring return) ..... 100 or 20 s
  - Number of end switches 0
  - Hazard rating ..... None
  - Power ..... 0.005 (24 VAC; 50hz) kW
  - Voltage ..... 24 VAC
  - Frequency ..... 50 or 60 Hz
  - End switch contacts 0
- Transfo - 24V 50VA
  - Input voltage ..... 110/220/240/380/415 V
  - Output voltage ..... 24 V
  - Model ..... 50 VA
- Tapered hood (modulating fan dampers included)
  - Height ..... 1700 mm
  - Weight ..... 890 kg

ACCESSORIES - Installation & maintenance package UNITARY

Ext. platform (with disch. acc.) with ladder/safety cage/railing (optional)
- External platform
  - Width ..... 620 mm
- Railing
- Ladder & safety cage (with dish. acc.)

Extended lubelines
- Remark: ... only allowed in combination with an attenuator, or a solid bottom panel or with a discharge accessory

Flange ND100 on water inlet
- Pressure class ..... EN 1092-1 type 13 PN 16
- Size ..... 100 ND
- Type ..... Screw on

Flange ND100 on water outlet
- Pressure class ..... EN 1092-1 type 13 PN 16
- Size ..... 100 ND
- Type ..... Screw on

Recommended critical spare parts kit (standard pump)
- Set of replacement nozzles and nozzle-grommets
- Set of replacement belts (for total unit)
- Float valve and arm kit
- Pump seal kit
- Replacement pump without volute

ACCESSORIES - Export shipments UNITARY

Internal Coil Corrosion protection (flanges,if applicable, are shipped loose)

note

For safety reasons ladders are only allowed in combination with railing.

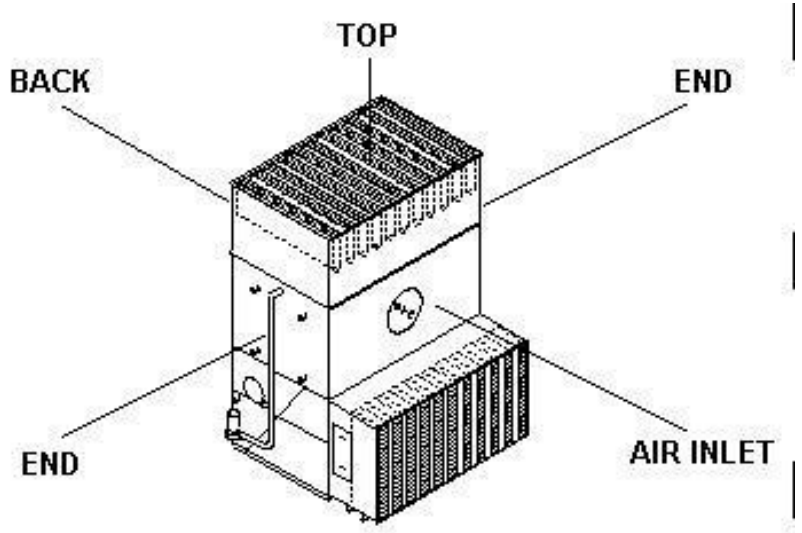
When a VT0/VT1/VXI/VXC unit is installed elevated by 30cm or more, a solid bottom is required. (Note: insulated solid bottom is included in intake attenuator)

Sound Rating

Sound Rating					
Hz	**Fan End (dB)**	**Back (dB)**	**End1 (dB)**	**End2 (dB)**	**Discharge (dB)**
63	69.0	63.0	66.0	66.0	65.0
125	63.0	57.0	58.0	58.0	60.0
250	54.0	50.0	49.0	49.0	55.0
500	49.0	49.0	46.0	46.0	47.0
1000	45.0	46.0	44.0	44.0	44.0
2000	42.0	43.0	40.0	40.0	45.0
4000	42.0	39.0	40.0	40.0	47.0
8000	39.0	36.0	36.0	36.0	49.0
dB(A)	**53.0**	**51.0**	**50.0**	**50.0**	**54.0**

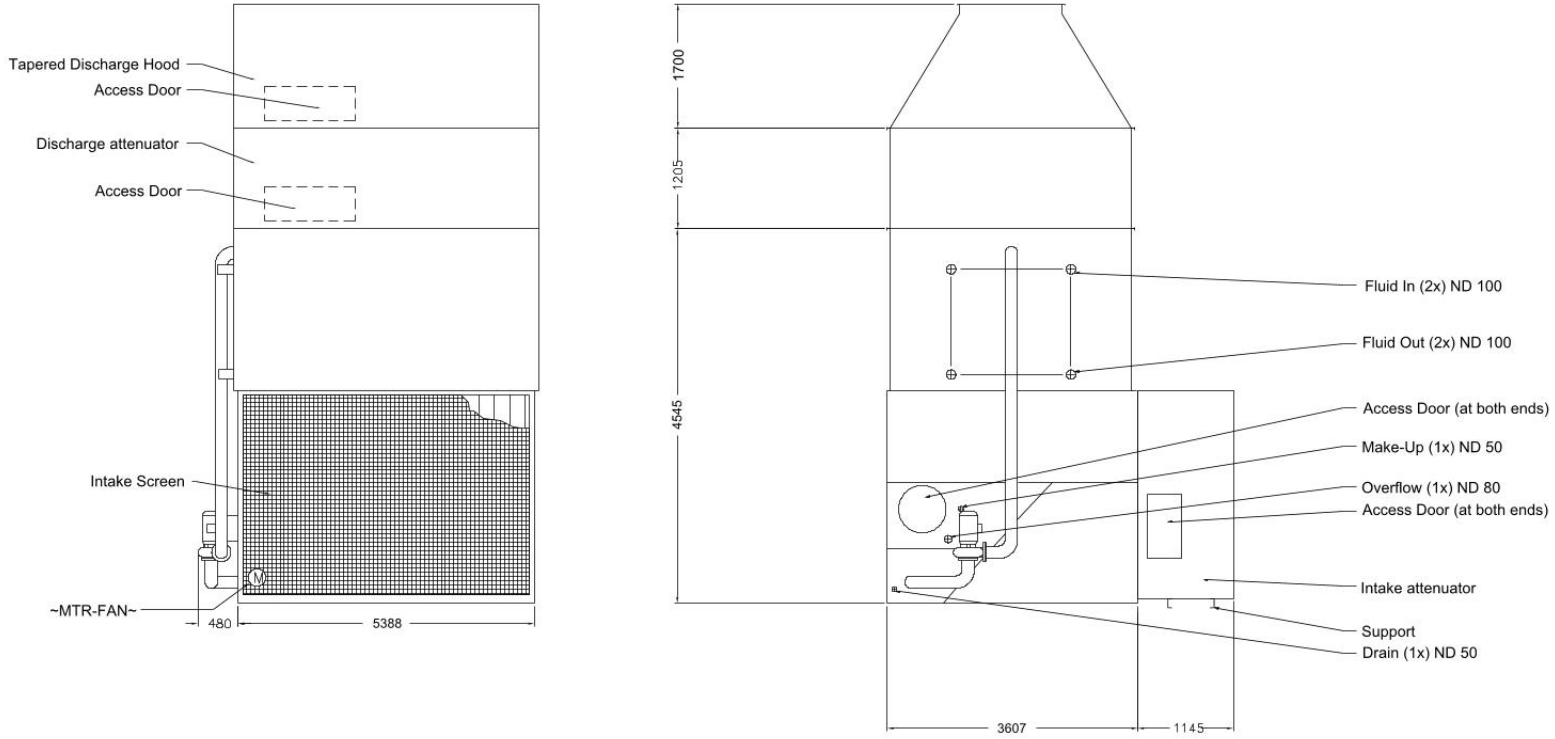
Input Options	
Model	VXI 215-4
Operating mode	Wet
Sound Attenuation	XB Intake and Discharge attenuation
Additional ESP (Pa)	142
Fan Motor Size (kW)	2 x 37.0 kW
Approximate Fan Speed	100.0 %
Distance (m)	15.0

Total Sound Power Level	
Octave Band (Hz)	**Total Sound Power Level**
63	98.0
125	91.0
250	84.0
500	79.0
1000	76.0
2000	74.0
4000	74.0
8000	75.0
dB(A)	84.0



Octave band and A-weighted Sound Pressure Levels (SPL) in dB RE 0.0002 Microbar.
Note: Sound data are free field data valid for unit installation without elevation, not taking into account any reflections. Octave band values are shown for indicative purposes only. Values are obtained according to CTI ATC-128 (Test Code for Measurement of Sound From Water-Cooling Towers) for small towers with a 2 dB(A) tolerance.

General Arrangement



Notes:

1) Drawing is not to scale, reflects a typical standard unit arrangement and can only be used for indicative purposes. Exact unit dimensions and weights may be influenced by accessories/option combinations.
2) Please refer to the technical datasheet for the specific unit configuration (qty. fans, qty. fan motors, accessories, location of connections and terminal boxes,...).
3) The drawing shown is a RIGHT HAND unit.

	Length (mm)	Width (mm)	Height (mm)	Shipp. weight (kg)	Oper. weight (kg)
Total	5998	4752	7510	17135	25390

NO.	DATE	REVISIONS	DWG.BY.:	DATE: 2020-02-05	VXI 215-4
			CHK'D.BY	DATE:	BAC.Ser.no.

BALTIMORE AIRCOIL INTERNATIONAL N.V.
HEIST OP-DEN BERG, BELGIUM
www.BaltimoreAircoil.com

CUSTOMER

DWG. NO.