

COOLING TOWERS



Advanced Crossflow Series

A New Spin on Crossflow Cooling Tower Technology



*Mark owned by the Cooling Technology Institute

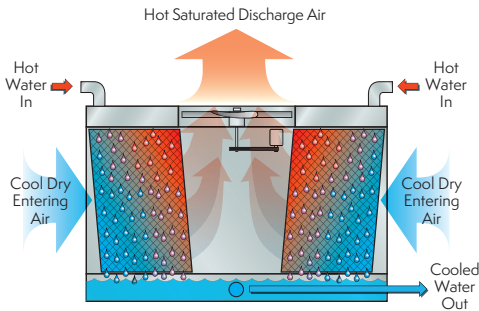
Discover a NEW degree of flexibility

The Advanced Crossflow Series (AXS) from EVAPCO—a new spin on crossflow cooling tower technology.

The AXS is an induced draft, crossflow cooling tower, ideal for easy system expansion and high tonnage applications. EVAPCO's modular hot water basins allow for simple change-out and the open plenum section allows for easy access to the drive system and basin through the large access doors. The AXS's innovative bottom-supported fill design allows for easier maintenance of the cold water basin.

Principle of Operation

The induced draft, crossflow AXS collects warm water from the heat source in the water distribution system at the top of the tower. The water is distributed over the wet deck fill through large orifice nozzles. Simultaneously, air is drawn in through the air inlet louvers at the ends of the tower and travels horizontally through the wet deck fill across the water flow. The cooled water drains to the basin at the bottom of the tower and is returned to the heat source.



Modular Hot Water Basins:

- Steel covers in easy to handle sections
- Large orifice, non-clog nozzles
- Integral weir dams to accommodate at least 50% design flow

Xpak™ Crossflow Fill:

- High efficiency bonded block fill
- Polyvinyl Chloride (PVC)
- Impervious to rot, decay and biological attack
- Integral louvers and drift eliminators
- Easy to handle
- Flame spread rating of <25 per ASTM E84
- Capable of water temperatures up to 49°C



Cold Water Basin End Covers (optional):

- Prevents sunlight and debris from entering basin
- Easy lift-off with handles

IBC** Compliant Design:

- All standard models meet IBC requirements
- Upgraded designs for high seismic and wind load areas
US Patent Nos. 7,938,373 and 7,963,492



The EVAPCO Performance Guarantee

Every AXS product is rigorously thermal performance tested by EVAPCO and then independently certified by the Eurovent Association and the Cooling Technology Institute (CTI), so you know you are getting a solution that's guaranteed to get the job done.

* Mark owned by the Cooling Technology Institute
**International Building Code

EVAPCO Power-Band Drive System:

- Easy maintenance, heavy-duty drive system
- Standard heavy-duty pillow-block bearings with a minimum L10 life of 100,000 hours
- Extended lube lines
- Solid-back multi-groove belts and totally enclosed motors are standard
- Belts constructed of neoprene and polyester cords, sized for 150% of the motor nameplate horsepower to ensure long, trouble-free operation
- Gear drive optional



Single Side Inlet (optional):

- Self-balancing
- Includes all interior piping (factory installed)
- Includes all exterior piping (ships loose for field installation)

Two (2) Oversized Access Doors:

- Swing-in doors on each side wall
- Easy access to interior of unit

Bottom Supported Fill:

- Non-sagging
- Minimum 3" (76 mm) above basin floor
- Easy to clean under
- Allows room for optional sump sweeper piping

Optional:

- FM Approved construction
- Velocity Recovery Stack for additional increase in thermal capacity



About EVAPCO

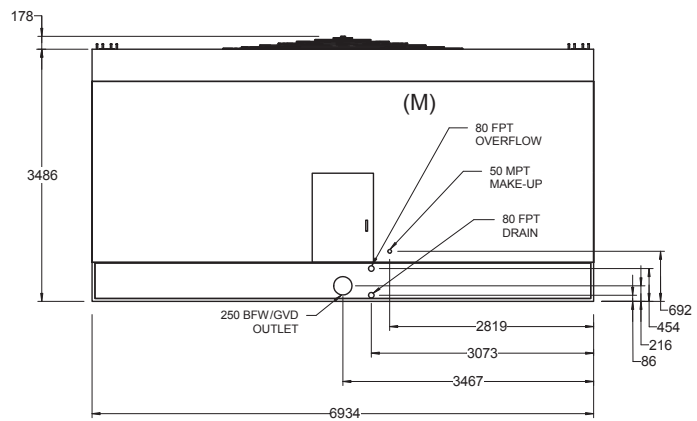
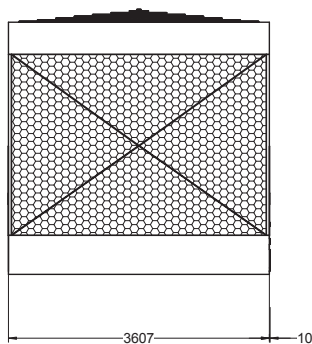
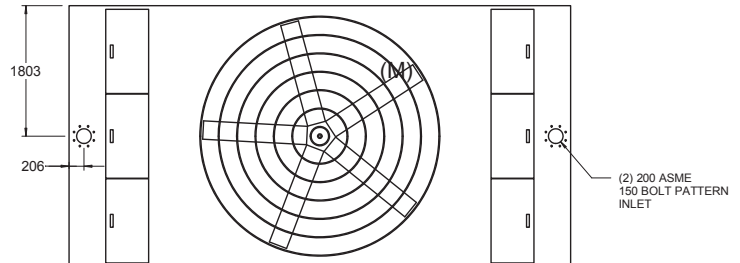
EVAPCO is the global innovator in heat transfer solutions. Our pledge is to make everyday life easier, more comfortable, more reliable, and more sustainable for people everywhere. With manufacturing facilities and sales offices in more than 40 countries and 28 patents worldwide in the last 10 years alone—we are the team that engineers and contractors know they can count on for life.

CONTACT

your local EVAPCO Representative or visit evapco.eu to learn more.

Models: AXS 12-9G22 to AXS 12-9P22

Single Stack Cooling Towers

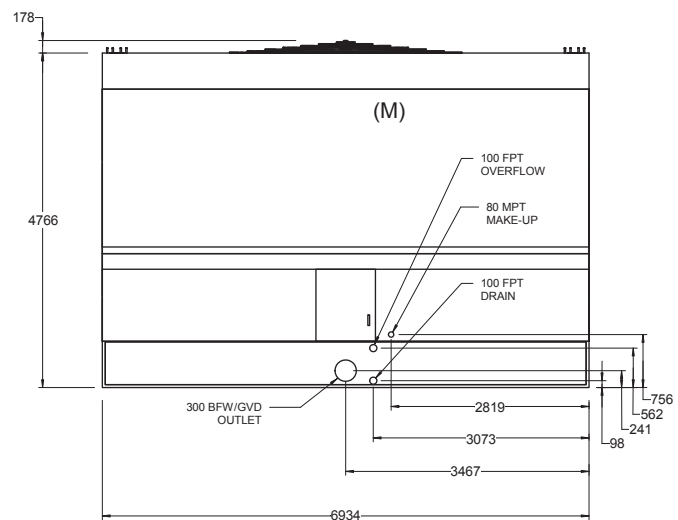
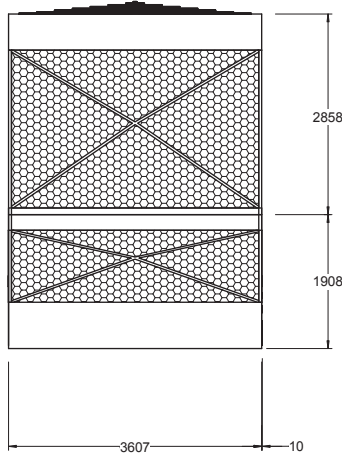
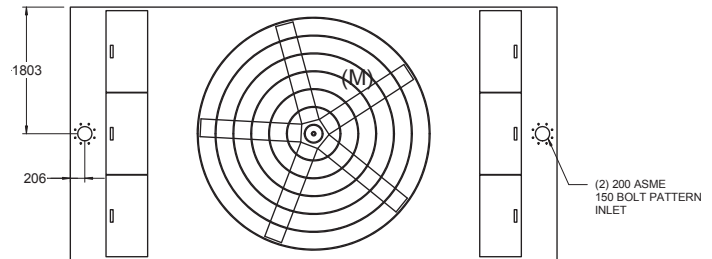


Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section
AXS 12-9G22	4	36,34	5.595	11.425	7.455	5.595	0
AXS 12-9H22	5,5	40,97	5.625	11.450	7.475	5.620	0
AXS 12-9I22	7,5	44,60	5.635	11.460	7.485	5.630	0
AXS 12-9J22	11	50,26	5.680	11.510	7.530	5.680	0
AXS 12-9K22	15	54,70	5.710	11.535	7.560	5.705	0
AXS 12-9L22	18,5	58,38	5.725	11.550	7.575	5.720	0
AXS 12-9M22	22	61,59	5.745	11.575	7.600	5.745	0
AXS 12-9N22	30	66,97	5.840	11.660	7.690	5.835	0
AXS 12-9O22	37	71,50	5.890	11.710	7.740	5.885	0
AXS 12-9P22	45	75,37	6.000	11.825	7.850	5.995	0

- NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
 (2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
 (3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
 (4) Fan guard does not ship factory mounted.

Models: AXS 12-13I22 to AXS 12-13Q22

Double Stack Cooling Towers



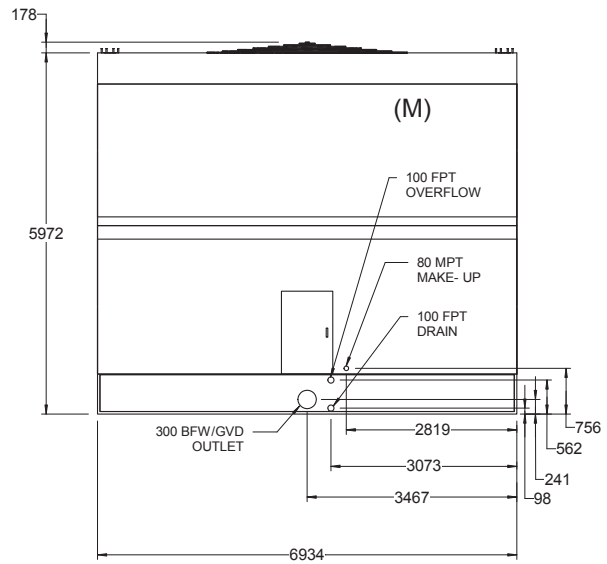
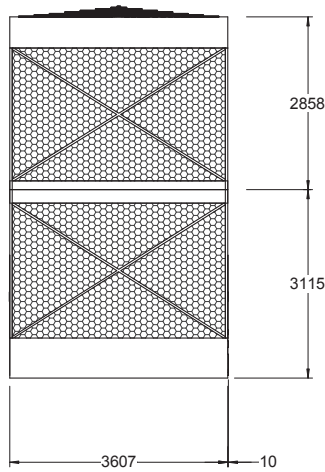
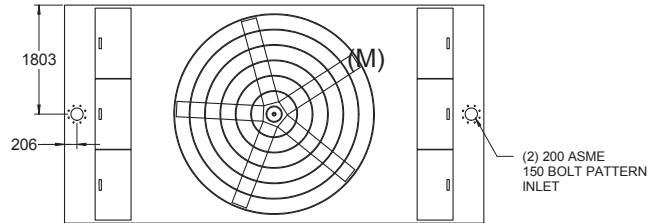
Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section*
AXS 12-13I22	7,5	55,12	7.670	16.100	9.520	2.945	4.720
AXS 12-13J22	11	61,35	7.715	16.145	9.565	2.945	4.770
AXS 12-13K22	15	66,21	7.745	16.175	9.600	2.945	4.800
AXS 12-13L22	18,5	70,23	7.760	16.190	9.610	2.945	4.815
AXS 12-13M22	22	73,72	7.785	16.210	9.635	2.945	4.835
AXS 12-13N22	30	79,52	7.875	16.300	9.725	2.945	4.925
AXS 12-13O22	37	84,38	7.925	16.350	9.775	2.945	4.975
AXS 12-13P22	45	88,54	8.040	16.465	9.890	2.945	5.090
AXS 12-13Q22	55	93,92	8.110	16.540	9.960	2.945	5.165

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
 (2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
 (3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

◆ Heaviest section is upper section.

Models: AXS 12-17I22 to AXS 12-17Q22

Double Stack Cooling Towers



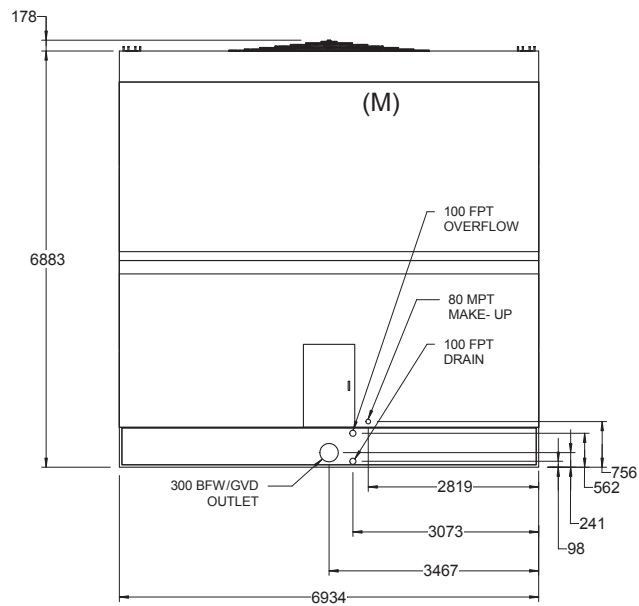
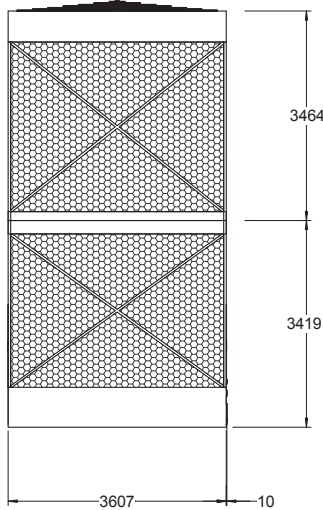
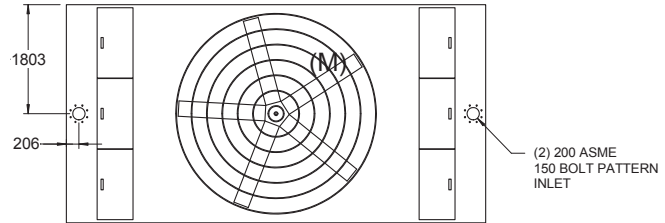
Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section*
AXS 12-17I22	7,5	60,46	8.430	16.860	10.285	3.705	4.720
AXS 12-17J22	11	68,01	8.480	16.905	10.330	3.705	4.770
AXS 12-17K22	15	74,66	8.510	16.935	10.360	3.705	4.800
AXS 12-17L22	18,5	79,62	8.525	16.950	10.375	3.705	4.815
AXS 12-17M22	22	84,20	8.545	16.975	10.395	3.705	4.835
AXS 12-17N22	30	91,75	8.635	17.065	10.485	3.705	4.925
AXS 12-17O22	37	97,22	8.685	17.115	10.535	3.705	4.975
AXS 12-17P22	45	101,00	8.800	17.225	10.650	3.705	5.090
AXS 12-17Q22	55	108,41	8.870	17.300	10.725	3.705	5.165

- NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
 (2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
 (3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

◆ Heaviest section is upper section.

Models: AXS 12-20I22 to AXS 12-20R22

Double Stack Cooling Towers



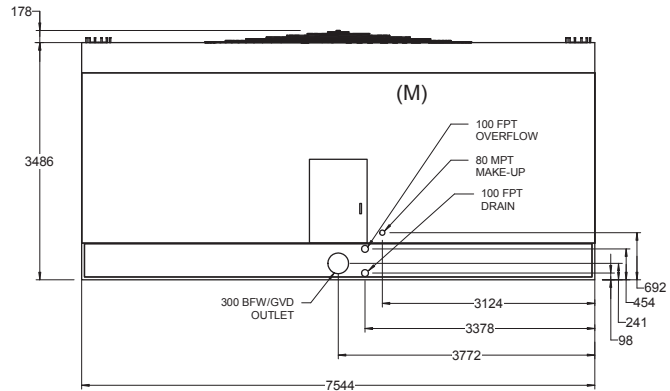
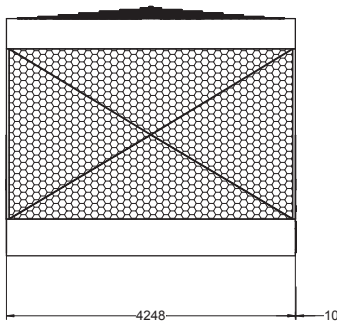
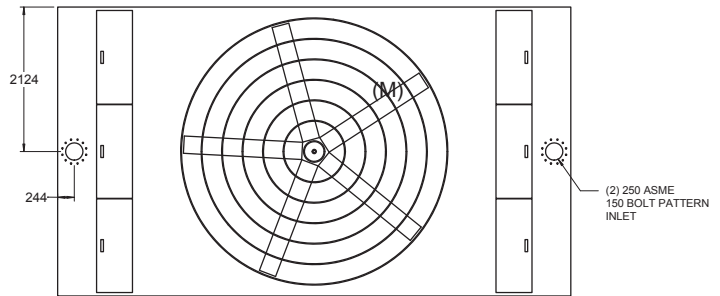
Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section*
AXS 12-20I22	7,5	59,51	9.015	17.445	10.875	3.900	5.120
AXS 12-20J22	11	68,24	9.065	17.495	10.920	3.900	5.165
AXS 12-20K22	15	75,18	9.095	17.520	10.950	3.900	5.195
AXS 12-20L22	18,5	81,08	9.115	17.540	10.965	3.900	5.210
AXS 12-20M22	22	86,22	9.135	17.565	10.985	3.900	5.235
AXS 12-20N22	30	94,81	9.225	17.655	11.075	3.900	5.325
AXS 12-20O22	37	105,43	9.275	17.705	11.125	3.900	5.375
AXS 12-20P22	45	110,91	9.385	17.815	11.240	3.900	5.485
AXS 12-20Q22	55	118,03	9.460	17.890	11.315	3.900	5.560
AXS 12-20R22	75	127,85	9.640	18.065	11.490	3.900	5.735

- NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
 (2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
 (3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
 (4) Fan guard does not ship factory mounted.

◆ Heaviest section is upper section.

Models: AXS 14-9H24 to AXS 14-9P24

Single Stack Cooling Towers

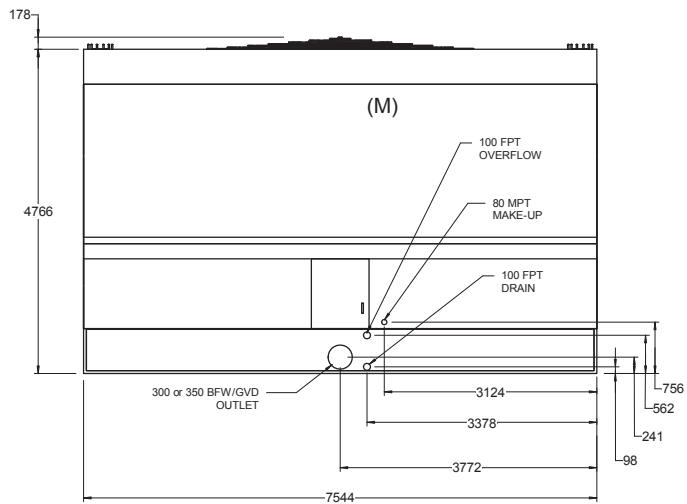
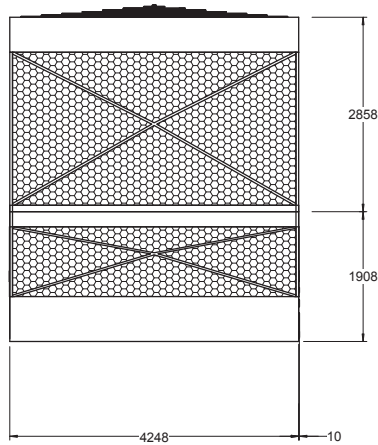
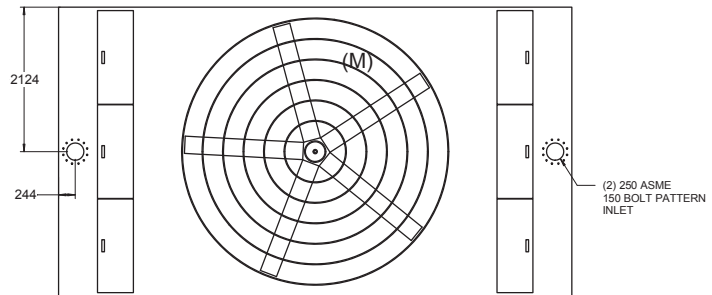


Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section
AXS 14-9H24	5,5	48,42	6.705	14.045	8.945	6.700	0
AXS 14-9I24	7,5	52,39	6.735	14.075	8.975	6.730	0
AXS 14-9J24	11	58,62	6.715	14.055	8.960	6.715	0
AXS 14-9K24	15	63,43	6.745	14.085	8.985	6.740	0
AXS 14-9L24	18,5	67,44	6.830	14.170	9.070	6.830	0
AXS 14-9M24	22	70,89	6.855	14.195	9.095	6.850	0
AXS 14-9N24	30	76,74	6.930	14.270	9.170	6.930	0
AXS 14-9O24	37	81,60	6.935	14.275	9.175	6.935	0
AXS 14-9P24	45	85,75	7.055	14.390	9.295	7.050	0

- NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
 (2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
 (3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
 (4) Fan guard does not ship factory mounted.

Models: AXS 14-13J24 to AXS 14-13R24

Double Stack Cooling Towers



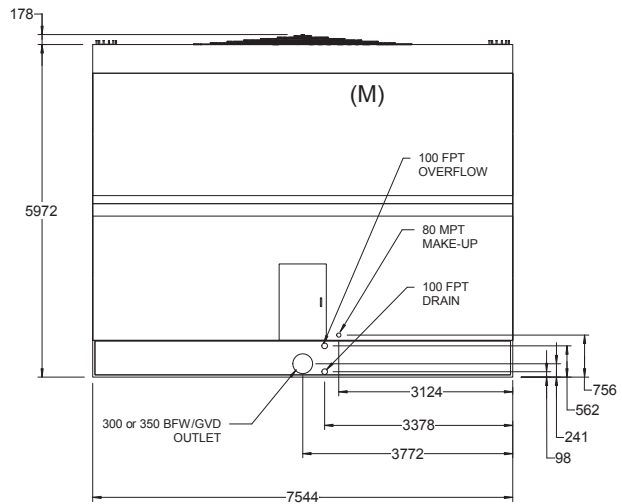
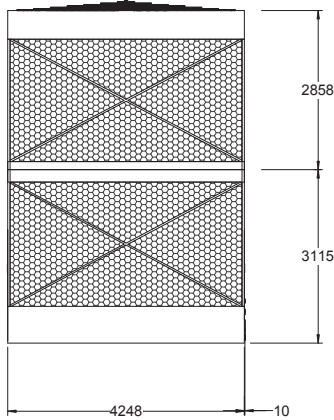
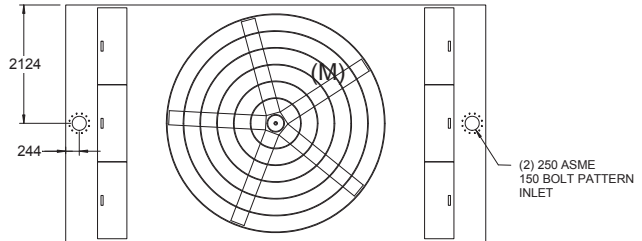
Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section*
AXS 14-13J24	11	73,01	9.060	19.770	11.305	3.460	5.595
AXS 14-13K24	15	78,77	9.090	19.800	11.330	3.460	5.625
AXS 14-13L24	18,5	83,53	9.175	19.880	11.415	3.460	5.710
AXS 14-13M24	22	87,69	9.200	19.910	11.440	3.460	5.735
AXS 14-13N24	30	94,58	9.275	19.985	11.515	3.460	5.810
AXS 14-13O24	37	100,34	9.280	19.990	11.520	3.460	5.815
AXS 14-13P24	45	105,29	9.400	20.110	11.640	3.460	5.935
AXS 14-13Q24	55	111,71	9.470	20.180	11.715	3.460	6.010
AXS 14-13R24	75	120,54	9.690	20.400	11.935	3.460	6.225

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
 (2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
 (3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

♦ Heaviest section is upper section.

Models: AXS 14-17J24 to AXS 14-17R24

Double Stack Cooling Towers



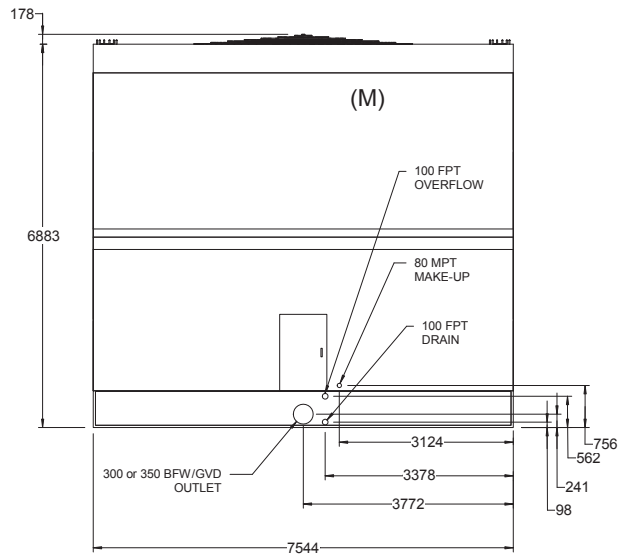
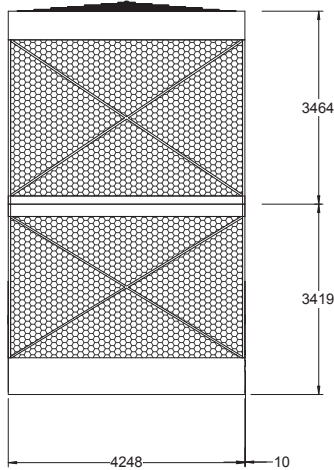
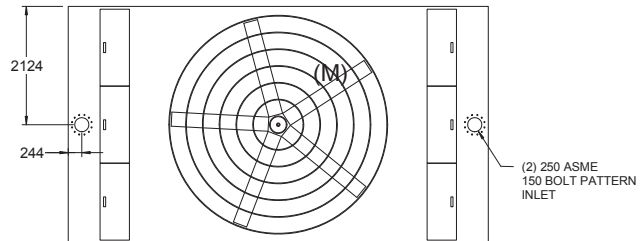
Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section*
AXS 14-17J24	11	73,77	9.920	20.630	12.160	4.325	5.595
AXS 14-17K24	15	81,13	9.950	20.655	12.195	4.325	5.625
AXS 14-17L24	18,5	87,36	10.040	20.745	12.280	4.325	5.710
AXS 14-17M24	22	95,71	10.060	20.770	12.300	4.325	5.735
AXS 14-17N24	30	103,45	10.140	20.845	12.380	4.325	5.810
AXS 14-17O24	37	109,92	10.140	20.850	12.385	4.325	5.815
AXS 14-17P24	45	115,44	10.260	20.965	12.500	4.325	5.935
AXS 14-17Q24	55	122,66	10.335	21.040	12.580	4.325	6.010
AXS 14-17R24	75	132,57	10.550	21.260	12.795	4.325	6.225

- NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
 (2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
 (3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

◆ Heaviest section is upper section.

Models: AXS 14-20J24 to AXS 14-20S24

Double Stack Cooling Towers



Model Number	Fan Motor (kW)	Air Flow (m ³ /s)	Weights (kg)				
			Shipping Weight	Operating Weight	R/S Operating Weight	Lower Section	Upper Section*
AXS 14-20J24	11	85,52	10.575	21.280	12.815	4.535	6.035
AXS 14-20K24	15	92,74	10.600	21.310	12.840	4.535	6.065
AXS 14-20L24	18,5	98,73	10.685	21.395	12.925	4.535	6.150
AXS 14-20M24	22	106,71	10.710	21.420	12.950	4.535	6.175
AXS 14-20N24	30	114,97	10.785	21.495	13.025	4.535	6.250
AXS 14-20O24	37	121,81	10.790	21.500	13.035	4.535	6.255
AXS 14-20P24	45	127,71	10.910	21.620	13.150	4.535	6.370
AXS 14-20Q24	55	135,31	10.985	21.695	13.225	4.535	6.450
AXS 14-20R24	75	145,78	11.205	21.910	13.445	4.535	6.665
AXS 14-20S24	90	154,47	11.705	22.405	13.945	4.535	7.165

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.

(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.

(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

(4) Fan guard does not ship factory mounted.

◆ Heaviest section is upper section.

AXS Design Features

Cold Water Basin End Covers

The cold water basin can be provided with removable end covers that protect the end of the basin from dirt, debris and sunlight while still allowing for access under the fill for thorough cleaning.



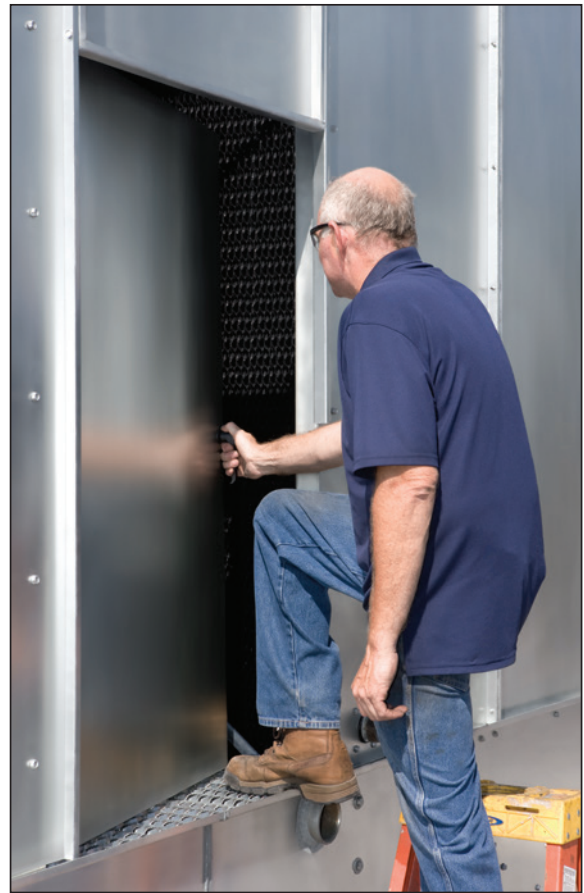
XPak™ Crossflow Fill

The UV inhibited PVC fill media in every AXS cooling tower is bottom supported, bonded block fill which maintains its rigidity through years of use. The bottom supported design ensures that the fill will never sag which prevents loss of heat transfer and minimizes the risk of under deposit corrosion due to dirt and debris build up.



Oversized Access Doors

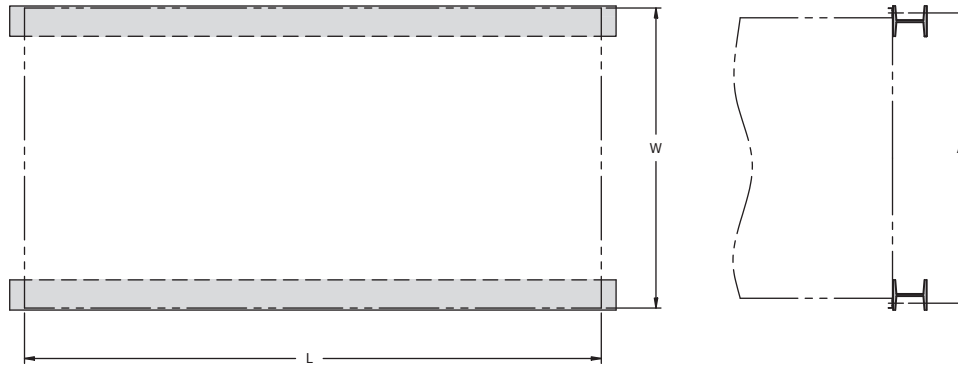
The standard oversized access doors are located on each side wall of the cooling tower for easy, unobstructed access to the plenum area from either side of the cooling tower.



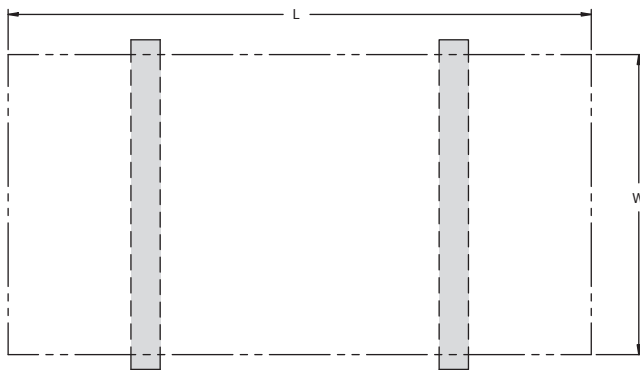
Structural Steel Support

All AXS Models

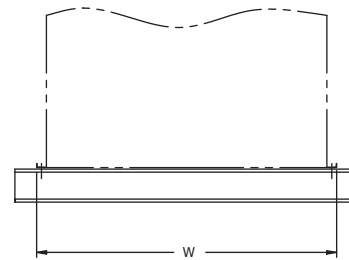
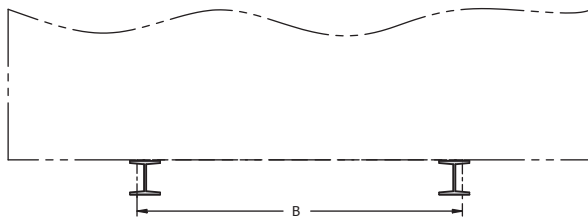
Suggested I-Beam Arrangement



Longitudinal Steel Support Arrangement



Unit	W	L	A	Standard B	Minimum B
12x22	3607 mm	6934 mm	3569 mm	3912 mm	2896 mm
14x24	4248 mm	7544 mm	4210 mm	4674 mm	3658 mm



Transverse Steel Support Arrangement

NOTES:

1. These are suggested arrangements for preliminary layout purposes. Consult your EVAPCO representative for factory certified steel support drawings.
2. Beams should be sized in accordance with accepted structural practices. Maximum deflection of beam under unit to be $1/360$ of the unit length, not to exceed $1/2"$ (13 mm).
3. Deflection may be calculated by using 55% of the operating weight as a uniform load on each beam.
4. Beams should be level before setting the unit in place. Do not level the unit by shimming between it and the I-beams.
5. Support beams and anchor bolts are to be furnished by others.
6. Dimensions, weights and data are subject to change without notice. Refer to the factory certified drawings for exact dimensions.
7. The unit will have pre-punched anchor bolt holes in the standard and minimum hole spacing locations only (see B dimensions from table 1). All other anchor bolt holes will be located and drilled by others.
8. For alternate beam positioning, please consult your EVAPCO representative.

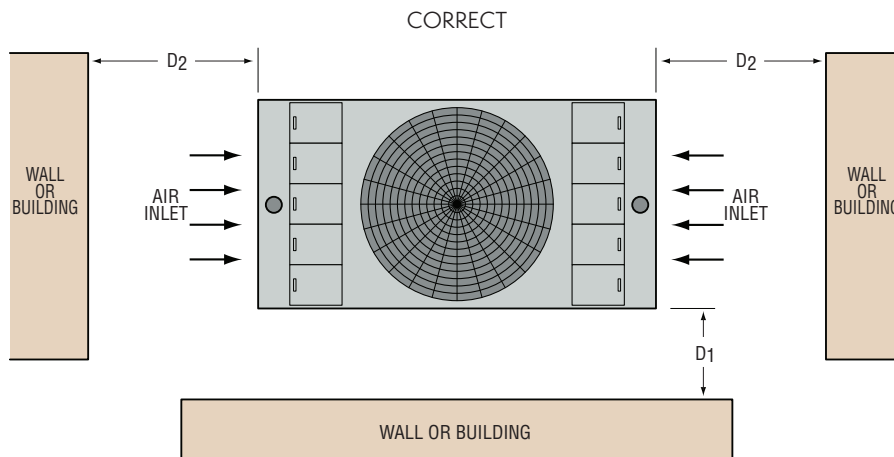
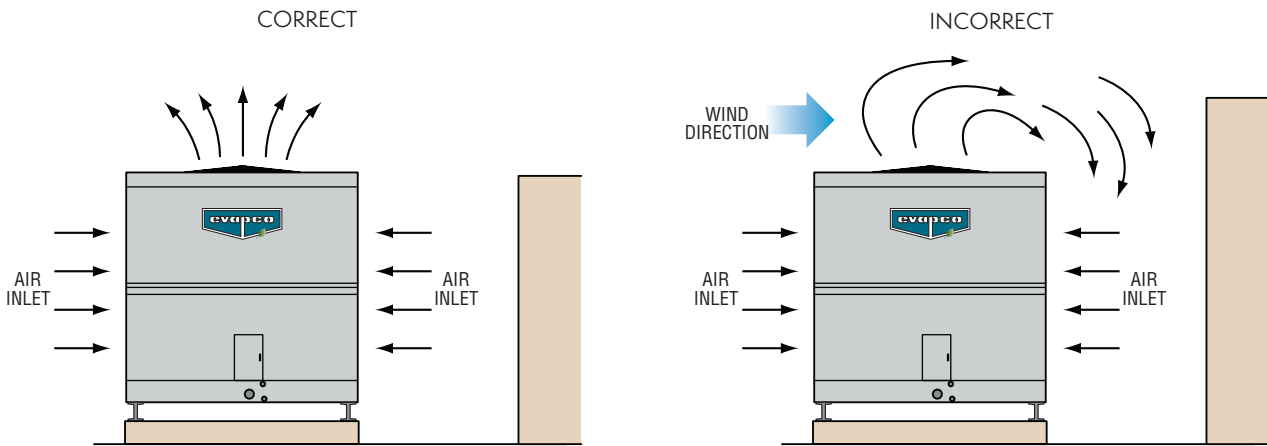
NOTE: OPTIONAL BOTTOM CONNECTIONS WILL REQUIRE THE UNIT TO BE ELEVATED TO ALLOW FOR PIPING.

Equipment Layout Guidelines

All AXS Models

Unit Layout

Since evaporative cooling equipment requires large quantities of air, adequate spacing around the unit must be provided for it to perform properly. An equally important consideration when laying out the equipment is to locate the unit so that recirculation is minimized. The top of the cooling tower must be equal to or higher than any adjacent walls, buildings or other structures. When the top of the unit is lower than the surrounding structures recirculation can be a major problem.



Unit	Minimum Dimension (mm)*				
	D1	D2 - one unit	D2 - two units	D2 - three units	D2 - four units
Single Stack - 12' wide	1067	2134	3353	4115	4572
Double Stack - 12' wide	1067	2286	3658	4724	5486
Single Stack - 14' wide	1067	2438	3658	4420	4877
Double Stack - 14' wide	1067	2438	3962	5029	5791

*Minimum dimensions will increase on multi-cell installations.
CONSULT FACTORY FOR LARGER INSTALLATIONS.



WORLDWIDE MANUFACTURING FACILITIES



- World Headquarters/ Research and Development Center
- EVAPCO Manufacturing Facilities

EVAPCO, Inc. — World Headquarters & Research / Development Center

P.O. Box 1300 • Westminister, MD 21158 USA
410.756.2600 • marketing@evapco.com • evapco.com

North America

- EVAPCO, Inc.**
World Headquarters
Westminster, MD USA
410.756.2600
marketing@evapco.com
- EVAPCO East**
Taneytown, MD USA
- EVAPCO East**
Key Building
Taneytown, MD USA
- EVAPCO Midwest**
Greenup, IL USA
217.923.3431
evapcomw@evapcomw.com
- Evapcold Manufacturing**
Greenup, IL USA
- EVAPCO Newton**
Newton, IL USA
618.783.3433
evapcomw@evapcomw.com
- EVAPCO West**
Madera, CA USA
559.673.2207
contact@evapcowest.com
- EVAPCO Alcoil, Inc.**
York, PA USA
717.347.7500
info@evapco-alcoil.com
- EVAPCO Iowa**
Lake View, IA USA
- EVAPCO Iowa**
Sales & Engineering
Medford, MN USA
507.446.8005
evapcomn@evapcomn.com
- EVAPCO LMP ULC**
Laval, Quebec, Canada
450.629.9864
info@evapcolmp.ca
- EVAPCO Select Technologies, Inc.**
Belmont, MI USA
844.785.9506
emarketing@evapcoselect.com
- Refrigeration Vessels & Systems Corporation**
Bryan, TX USA
979.778.0095
rvs@rvscorp.com
- Tower Components, Inc.**
Ramseur, NC USA
336.824.2102
mail@towercomponentsinc.com
- EvapTech, Inc.**
Edwardsville, KS USA
913.322.5165
marketing@evaptech.com
- EVAPCO Dry Cooling, Inc.**
Bridgewater, NJ USA
908.379.2665
info@evapcodc.com
- EVAPCO Dry Cooling, Inc.**
Littleton, CO USA
908.895.3236
info@evapcodc.com
- EVAPCO Power México S. de R.L. de C.V.**
Mexico City, Mexico
(52) 55.8421.9260
info@evapcodc.com

Asia Pacific

- EVAPCO Asia Pacific Headquarters**
Baoshan Industrial Zone Shanghai, P.R. China
(86) 21.6687.7786
marketing@evapcochina.com
- EVAPCO (Shanghai) Refrigeration Equipment Co., Ltd.**
Baoshan Industrial Zone, Shanghai, P.R. China
- EVAPCO (Beijing) Refrigeration Equipment Co., Ltd.**
Huairou District, Beijing, P.R. China
(86) 10.6166.7238
marketing@evapcochina.com
- EVAPCO Air Cooling Systems (Jiangxi) Company, Ltd.**
Jiaying, Zhejiang, P.R. China
(86) 573.8311.9379
info@evapcochina.com
- EVAPCO Australia (Pty.) Ltd.**
Riverstone, NSW, Australia
(61) 02.9627.3322
sales@evapco.com.au
- EvapTech (Shanghai) Cooling Tower Co., Ltd.**
Baoshan District, Shanghai, P.R. China
Tel: (86) 21.6478.0265
- EvapTech Asia Pacific Sdn. Bhd.**
Puchong, Selangor, Malaysia
(60) 3.8070.7255
marketing-ap@evaptech.com

Europe | Middle East | Africa

- EVAPCO Europe EMENA Headquarters**
Tongerren, Belgium
(32) 12.39.50.29
info@evapco.be
- EVAPCO Europe BV**
Tongerren, Belgium
- EVAPCO Europe, S.r.l.**
Milan, Italy
(39) 02.939.9041
evapcoeuropa@evapco.it
- EVAPCO Europe, S.r.l.**
Sondrio, Italy
- EVAPCO Europe A/S**
Aabybro, Denmark
(45) 9824.4999
info@evapco.dk
- EVAPCO Europe GmbH**
Meerbusch, Germany
(49) 2159.69560
info@evapco.de
- EVAPCO Middle East DMCC**
Dubai, United Arab Emirates
(971) 56.991.6584
info@evapco.ae
- Evap Egypt Engineering Industries Co.**
A licensed manufacturer of EVAPCO, Inc.
Nasr City, Cairo, Egypt
(20) 10.054.32.198
evapco@tiba-group.com
- EVAPCO S.A. (Pty.) Ltd.**
A licensed manufacturer of EVAPCO, Inc.
Isando, South Africa
(27) 11.392.6630
evapco@evapco.co.za

South America

- EVAPCO Brasil**
Equipamentos Industriais Ltda.
Indaiatuba, São Paulo, Brazil
(55) 11.5681.2000
vendas@evapco.com.br
- FanTR Technology Resources**
Itu, São Paulo, Brazil
(55) 11.4025.1670
fantr@fantr.com