



PF2 Closed Circuit Cooling Towers

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The PF2 is the smart choice for dry operation in extremely cold weather. This design packages energy efficiency and high performance into a compact unit. BAC's patented SmartSpray™ Technology reduces the operating costs by minimizing the PF2 spray pump power usage while completely wetting the coil. Designed and tested for IBC Compliance, and with durable materials of construction, the PF2 holds up against the elements in the most severe conditions. The flexible layout and Interlok™ System make the PF2 a strong choice for replacement projects.



BAC's PF2 Closed Circuit Cooling Tower: The Efficient Solution for Dry Operation

Designed for Small to Large Tonnage Requirements
12 to 295 Nominal Tons in a Single Cell
Up to 4,000 USGPM for Process Applications

CTI Certified
with Water
and Glycol

Replacement
of Competitor
Installations

Seasonal Dry
Operation
in Extremely
Cold Weather

OptiSpray™
Technology
Reduces Pump
HP Up to 60%

Shake Table
Tested Up
to S_{DS}
of 3.75g



PF2 Benefits

> Reliable Year-Round Operation

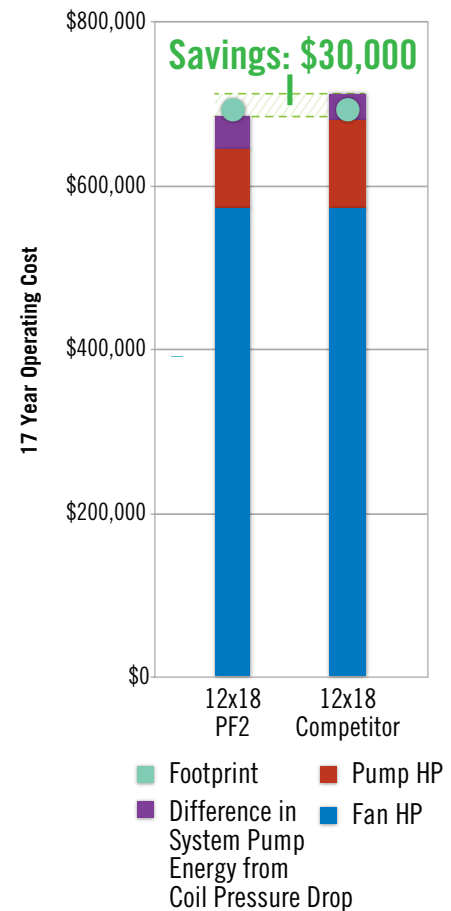
- ▶ Dry mode of operation may be used in extremely cold climates to mitigate freezing concerns for certain applications
- ▶ **BALTIDRIVE® POWER TRAIN FAN SYSTEM (EXCEPT DIRECT DRIVE FOR PF2-0406 AND PF2-0412)**
 - Backed by BAC's comprehensive 5-year motor and drive warranty
 - Corrosion resistant cast aluminum sheaves with specially designed powerband belts
 - Cooling tower duty motors designed for hostile environment
 - Extended lubrication lines are standard
 - Eliminates the need for expensive winterization accessories
 - Automatic bearing greasers (option)
 - Dual fans are standard on the popular 12'x18' footprint - BAC Exclusive!
- ▶ Redundant pump option for peace of mind

> Low Environmental Impact

- ▶ **BAC'S OPTISPRAY™ TECHNOLOGY**
 - Reduces annual pump energy usage up to 60% compared to competitor units, translating to up to \$30,000 in savings over a 17 year period
- ▶ **ENERGY EFFICIENT**
 - All units meet or exceed ASHRAE Standard 90.1 energy efficiency requirements
 - Premium efficient/inverter duty fan motors
 - PF2-0412, PF2-0718, and PF2-1218 models provide capacity control and redundancy from the two independent motors
- ▶ **SOUND REDUCTION OPTIONS**
 - Standard fan optimizes sound and thermal performance
 - For further reduced sound levels, Low Sound Fans, Whisper Quiet Fans, and water silencers are available

PF2 Operating Cost Analysis

Estimated Using 650 GPM at 95°/85°/78°



BALTIDRIVE® Power Train Fan System
Used for VFD Applications



> Durable Construction

- ▶ Enhanced longevity with a variety of durable materials of construction (see **page 7** for details)
- ▶ Meets wind and seismic requirements of the International Building Code (IBC)
- ▶ TriArmor® Corrosion Protection System encapsulates the hygienic basin with three barriers of protection (option)
- ▶ EVERTOUGH™ Construction provides the most corrosion resistant materials backed by a 5-year comprehensive, leak and corrosion warranty (option)

> Easy Maintenance

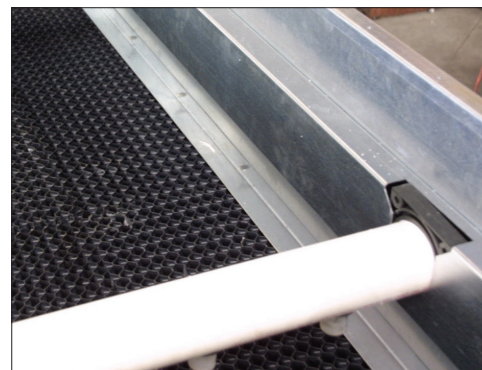
- ▶ BranchLok™ Removal System allows for spray branch removal without tools
- ▶ External motor adjustment with included integral belt tensioning device
- ▶ Inward sliding access doors provide larger workspace
- ▶ Combined Inlet Shields are easily removed without tools
- ▶ Sloped cold water basin for easy cleaning
- ▶ External platforms and ladders improve accessibility (option)
- ▶ Basin sweeper piping to facilitate sediment collection (option)

> Installation Efficiency

- ▶ BAC's InterLok™ System aligns the coil casing and the basin to expedite rigging
- ▶ Pre-assembled platforms packages reduce installation time (option)
- ▶ Single piece lift available on most models
- ▶ Containerized units available for export
- ▶ Footprints that mount on most existing steel support



Shake Table Tested

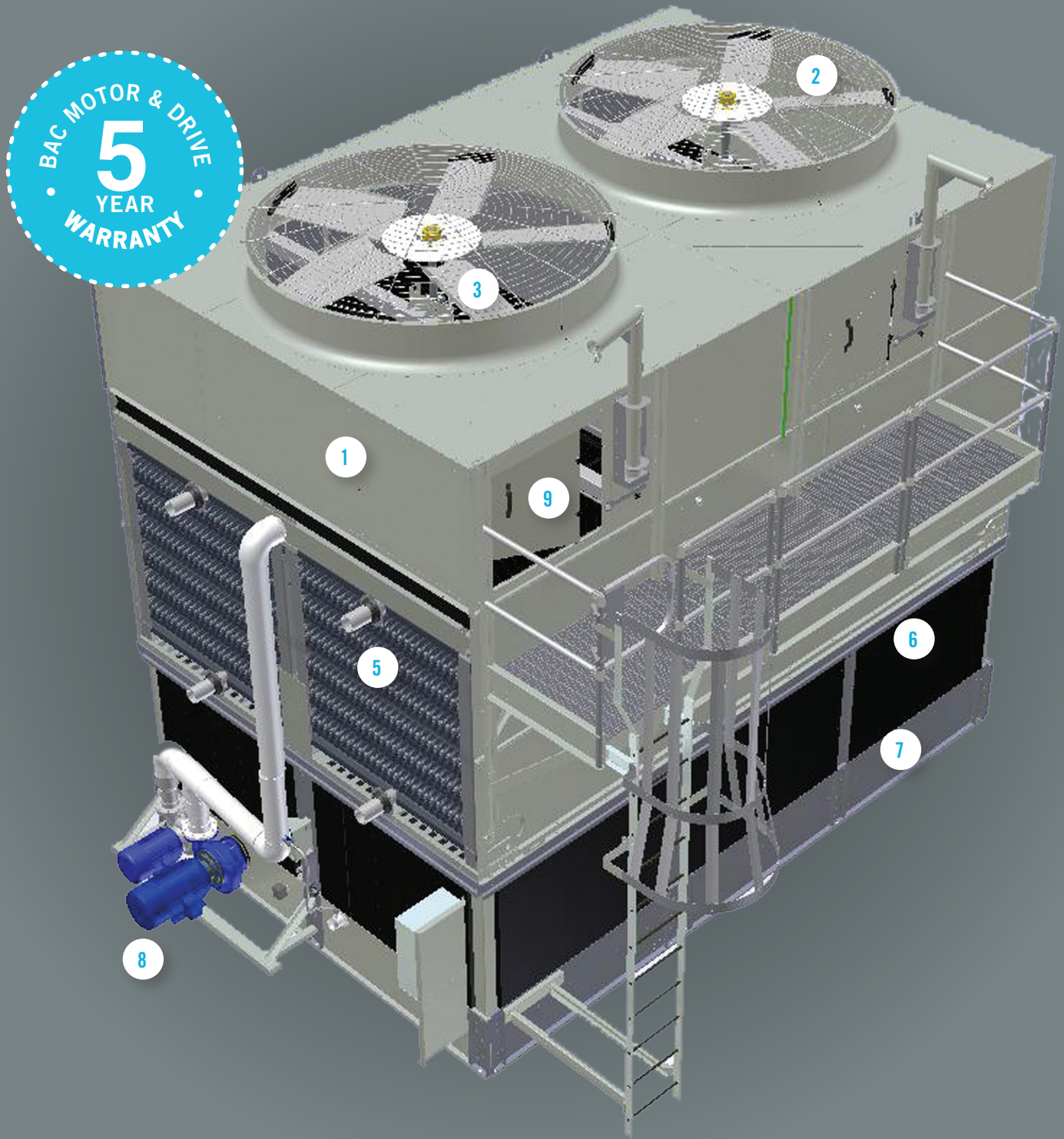


BranchLok™ Removal System



Motor Removal System

PF2 Construction Details



1 Heavy-Duty Construction

- ▶ G-235 (Z700 metric) hot dip galvanized steel panels
- ▶ Meets wind and seismic requirements of the International Building Code (IBC)
- ▶ Shake table tested and verified with seismic ratings up to 3.75g at grade
- ▶ Designed to withstand wind loads (per ASCE/SEI 7-10) up to 200 psf

2 BALTIDRIVE® Power Train

- ▶ Premium efficient/VFD duty motors are standard
- ▶ 5-year motor and drive warranty
- ▶ Corrosion resistant cast aluminum sheaves
- ▶ Heavy-duty bearings, with minimum L₁₀ life of 100,000 hours
- ▶ Premium quality, solid backed, multi-groove belt

3 Low HP Axial Fan(s)

- ▶ High efficiency
- ▶ Quiet operation
- ▶ Corrosion resistant aluminum

4 OptiSpray™ Technology Water Distribution System

(NOT SHOWN)

- ▶ Patent pending technology
- ▶ Uses up to 60% less HP than competitor's unit
- ▶ Exclusive BranchLok™ Removal System for tool free branch removal
- ▶ Overlapping spray patterns ensure proper water coverage
- ▶ Large orifice, non-clog, BAC 360™ Spray Nozzles
- ▶ Nozzles grommited for easy removal

5 Coil

- ▶ Continuous serpentine, steel tubing
- ▶ Hot-dip galvanized after fabrication (HDGAF)
- ▶ Pneumatically tested at 375 psig
- ▶ Sloped tubes for free drainage of fluid
- ▶ Fabricated per ASME B31.5 standards
- ▶ When required, orders shipping into Canada are supplied with a CRN

6 Combined Inlet Shields

- ▶ Corrosion resistant
- ▶ Maintenance free
- ▶ UV-resistant finish
- ▶ Easy to remove sections

7 Cold Water Basin

- ▶ Sloped for easy cleaning
- ▶ Suction strainer with removable anti-vortex hood accessible from the louver face
- ▶ Adjustable water make-up assembly

8 Recirculating Spray Water Pump

- ▶ Close coupled, bronze fitted centrifugal pump
- ▶ Totally enclosed fan cooled (TEFC) motor
- ▶ Bleed line with metering valve installed from pump discharge to overflow

9 Access Doors

- ▶ Inward sliding door
- ▶ Permanently attached to the unit

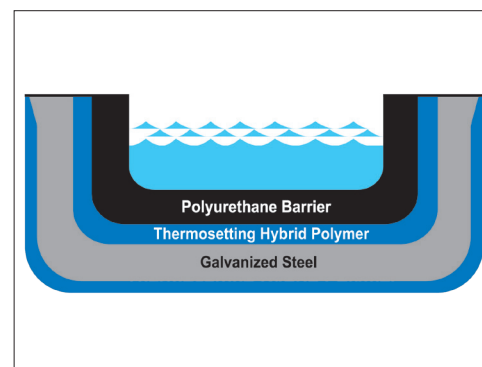
PF2 Custom Features & Options

➤ Materials of Construction

Determining the appropriate material of construction for a project depends on several factors, including water quality, climate and environmental conditions, availability of time and manpower for maintenance, unit lifetime requirements, and budget. BAC provides the widest variety of material of construction options in the industry and has the ability to provide a solution to meet all conditions and budgets. Options such as the TriArmor® Corrosion Protection System and EVERTOUGH™ Construction provide superior corrosion resistance and durability at a tremendous value.



Rigging of a Standard Installation



TriArmor® Corrosion Protection System Triple Layer Protection of the Cold Water Basin



Application of TriArmor® Corrosion Protection System



STANDARD CONSTRUCTION

G-235 mill galvanized steel is the heaviest commercially available galvanized steel, universally recognized for its strength and corrosion resistance. To assure long life, G-235 mill galvanized steel panels and structural members are used as the standard material of construction. The standard construction has been seismically verified by shake table testing in an independent laboratory up to an S_{ds} of 3.10g and can withstand wind loads of up to 200 psf, proving its construction is designed for extreme durability. With proper maintenance and water treatment, G-235 galvanized steel will provide an excellent service life under the operating conditions normally encountered in comfort cooling and industrial applications.



TRIARMOR® CORROSION PROTECTION SYSTEM (OPTION)

The TriArmor® Corrosion Protection System consists of heavy gauge G-235 galvanized steel panels fully encapsulated by a thermosetting hybrid polymer and further protected by a polyurethane barrier applied to all submerged surfaces of the cold water basin. The triple layers of protection form a completely seamless cold water basin for the most leak resistant and durable basin in the industry. Other components within the basin, such as the strainer and submerged structural supports, will be constructed of Type 304 Stainless Steel. The TriArmor® Corrosion Protection System was specifically designed for evaporative cooling applications and released in 2006 after a decade of extensive R&D and field testing. To date, there are over 1,000 successful installations in North America. Every cold water basin is leak tested at the factory and warranted against leaks and corrosion for five years.



EVERTOUGH™ CONSTRUCTION (OPTION)

EVERTOUGH™ Construction combines the most corrosion resistant materials to provide the best value in corrosion protection for most water chemistries. EVERTOUGH™ Construction is backed by a comprehensive Louver-to-LouverSM 5-year warranty which covers ALL components from the fan to the cold water basin, from Louver-to-LouverSM, including the motor.

- The following materials are used in EVERTOUGH™ Construction:
 - The cold water basin is constructed with the TriArmor® Corrosion Protection System. The basin is leak tested at the factory and warranted against leaks and corrosion for 5 years.
 - Designated steel components above the cold water basin are constructed of heavy-gauge G-235 galvanized steel and further protected with a thermosetting hybrid polymer.
 - The distribution system is non-corrosive Schedule 40 PVC.
 - Other components within the cold water basin, such as the strainer, will be constructed of Type 304 stainless steel.



EVERTOUGH™ Construction Installation

► **THERMOSETTING HYBRID POLYMER (OPTION)**

A thermosetting hybrid polymer, used to extend equipment life, is applied to select G-235 mill galvanized steel components of the unit. The polymerized coating is baked onto the G-235 mill galvanized steel and creates a barrier to the already corrosion resistant galvanized steel. The thermosetting hybrid polymer has been tested to withstand 6,000 hours in a 5% salt spray without blistering, chipping, or losing adhesion.

► **STAINLESS STEEL (OPTION)**

Several Type 304 stainless steel material of construction options are available.

• **WELDED TYPE 304 STAINLESS STEEL COLD WATER BASIN**

All steel panels and structural members of the cold water basin are constructed from Type 304 stainless steel. Seams between panels inside the basin are welded, providing an advantage over bolted stainless steel basins for minimizing susceptibility to leaks at basin seams. The basin is leak tested at the factory and welded seams are provided with a 5-year, leak-proof warranty.

• **ALL TYPE 304 STAINLESS STEEL CONSTRUCTION**

Steel panels and structural elements are constructed of Type 304 stainless steel. Seams between panels inside the cold water basin are welded. The basin is leak tested at the factory and welded seams are provided with a 5-year, leak-proof warranty.



Welded Type 304 Stainless Steel Cold Water Basin

PF2 Custom Features & Options

▶ SEISMIC/WIND UPGRADED STRUCTURE

Select steel panels and structural members are upgraded for higher seismic and wind load applications. An upgraded PF2 unit is certified to withstand up to an S_{DS} of 3.75g and wind loads of up to 200 psf. All BAC upgraded units are shake table tested by an independent laboratory to certify the most accurate seismic ratings, ensuring that the unit will remain operable following a seismic event.

> Coil Configurations

BAC offers a large selection of coil configuration options.

▶ STANDARD SERPENTINE COIL

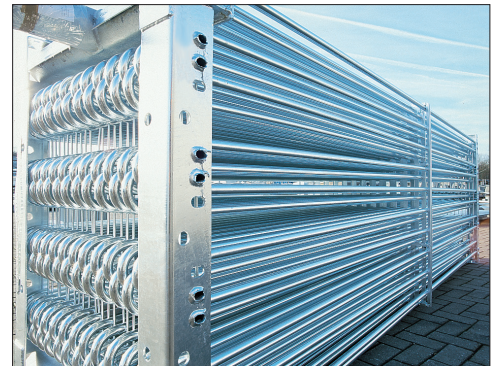
The standard coil is constructed of continuous lengths of all prime surface steel. The coil is hot-dip galvanized after fabrication (HDGAF) to apply a thick, zinc corrosion barrier over the entire exterior surface of the coil. The coil is designed for low pressure drop with sloping tubes for free drainage of fluid. Each coil is pneumatically tested at 375 psig (2,586 kPa) and is fabricated per ASME B31.5 standards to ensure the highest quality and complete integrity.

▶ CLEANABLE HEADER COIL (OPTION)

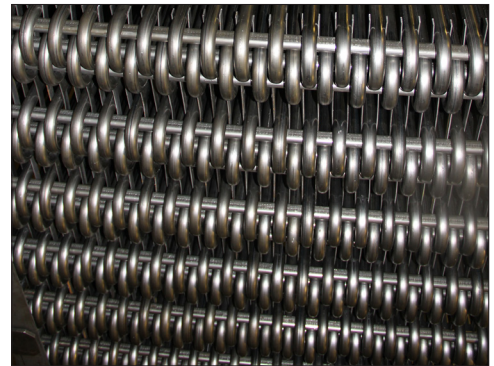
The cleanable header tube bundle provides removable cover plates on the inlet and outlet header boxes to permit access to each serpentine tube circuit for solvent or air-pressure cleaning. Tubes are all prime surface steel tubing formed into a serpentine shape and welded into an assembly. Coil material options include carbon steel coils (hot-dip galvanized outside surface). Each coil is pneumatically tested at 125 psig (860 kPa).

▶ STAINLESS STEEL COIL (OPTION)

Coils are available in Type 304 stainless steel for specialized applications. The coil is designed for low pressure drop with sloping tubes for free drainage of fluid. Each coil is pneumatically tested at 375 psig (2,586 kPa) and is fabricated per ASME B31.5 standards to ensure the highest quality and integrity.



Standard Serpentine Coil Construction



Stainless Steel Coil Construction



► **STRAIGHT-THROUGH CLEANABLE COIL (OPTION)**

A header box with a removable cover plate at each end of the coil allows access to every tube end for mechanical cleaning or plugging. It is available in carbon steel (hot-dip galvanized inside and out). Each coil is pneumatically tested at 125 psig (860 kPa).

► **ASME “U” STAMP COIL (OPTION)**

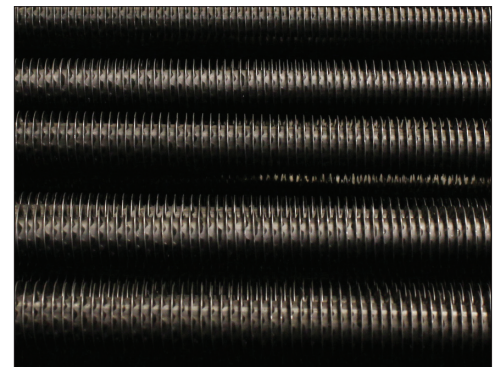
The ASME coils are requested for heavy industrial or process applications. This serpentine coil is manufactured and tested in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 and bears the ASME “U” stamp. ASME coils are hot-dip galvanized (outside surface) after fabrication (HDGAF). The coil is designed for low pressure drop with sloping tubes for free drainage of fluid. Each coil is pneumatically tested at 330 psig (2,275 kPa).

► **EXTENDED SURFACE (FINNED) COIL (OPTION)**

Coils are available with half or all rows finned at 5 fins per inch for seasonal wet/dry operation. The fins increase the surface area of the coil, therefore increasing the heat transfer capability. The coil is hot-dip galvanized after fabrication (HDGAF) to apply a thick zinc corrosion barrier over the entire exterior surface of the coil and fins. BAC coils are designed for low pressure drops and to be completely drainable with sloping tubes for free drainage of fluid. Each coil is pneumatically tested at 375 psig (2,568 kPa) and is fabricated per ASME B31.5 standards to ensure the highest quality and integrity.

► **MULTIPLE CIRCUIT COILS (OPTION)**

Split coil configurations are available to allow separate process fluid loops through the same unit. Separate loops may be needed for multiple applications requiring different temperature processes or multiple types of process fluids.



Extended Surface (finned coil)



Straight-Through Cleanable Coil



NOTE: A Canadian Registration Number (CRN) is required for all pressure vessels over 15 psig entering Canada. The CRN identifies that the design of a boiler, pressure vessel, or fitting has been accepted and registered for use in Canada.

PF2 Custom Features & Options

> Drive System Options

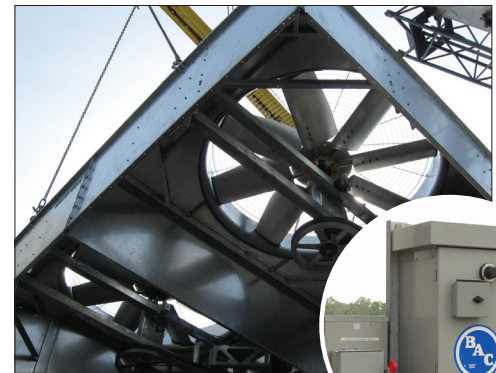
The fan drive system provides the cooling air necessary to reject unwanted heat from the system to the atmosphere. All BAC drive systems use premium efficient cooling tower duty motors and include BAC's comprehensive 5-year motor and drive warranty. Cooling tower duty motors are specially designed for the harsh environment inside a closed circuit cooling tower and have permanently lubricated bearings, drastically decreasing the maintenance requirement of the motor. BAC belt drive systems are the most durable and maintenance friendly drive systems on the market, including single nut adjustment for belt tensioning to make belt tensioning simple.



▶ STANDARD INDEPENDENT DIRECT DRIVE MOTORS

Standard on PF2-0406 and PF2-0412

The direct drive dual motor system with TEAO motors is factory mounted, alleviating the need for field installation and includes independent fans and motors for capacity control and redundancy in critical applications. Direct drive systems have the benefit of simplicity by having fewer moving parts, which reduces maintenance requirements and friction losses within the drive system.



BALTIDRIVE® Power Train Fan System
Used for VFD Applications



STANDARD BALTIDRIVE® POWER TRAIN

Standard on all models except PF2-0406 and PF2-0412

The BALTIDRIVE® Power Train utilizes special corrosion resistant materials of construction and state-of-the-art technology to ensure ease of maintenance and reliable year-round performance. This BAC engineered drive system consists of a specially designed powerband and two cast aluminum sheaves located at minimal shaft centerline distances to maximize belt life. When compared to a gear drive system, this specially engineered belt drive system provides many advantages. The BALTIDRIVE® Power Train requires only periodic inspection of components and belt tensioning, which is simple with a single nut adjustment and requires less downtime. Only fan bearing lubrication is required for routine maintenance. Belt drive systems also have the added advantage of being suitable for variable frequency drive (VFD) applications without requiring expensive optional accessories.



► **STANDARD INDEPENDENT FAN OPERATION**

Standard on PF2-1218.

Two fan PF2-1218 models are available with an independent fan as standard. The drive system consists of one fan motor and drive assembly for each fan to allow independent operation, adding an additional step of fan cycling for capacity control. This ensures redundancy for the fan and motor system. Each fan and motor combination is supplied with the BALTIDRIVE® Power Train fan drive system and includes all the same benefits of the one fan BALTIDRIVE® Power Train (see the previous description) with the added capability of redundancy.

► **STANDARD EXTENDED LUBRICATION LINES**

Extended lubrication lines are available for lubrication of the fan shaft bearings. Fittings are located on the exterior casing panel next to the access door.

► **VIBRATION CUTOFF SWITCH (OPTION)**

A factory mounted vibration cutoff switch is available to effectively protect against rotating equipment failure. BAC can provide either a mechanical or solid-state electronic vibration cutoff switch in a NEMA 4 enclosure to ensure reliable protection. Additional contacts can be provided on either switch type to activate an alarm. Remote reset capability is also available on either switch type.

► **AUTOMATIC BEARING GREASER (OPTION)**

Automatic bearing greasers come with BAC recommended grease, compatible with all BAC bearings and provide a continuous supply of new grease to eliminate the need for periodic bearing maintenance. Life of the bearing is extended by eliminating under and over greasing problems. Positive displacement pumps allow for mounting up to 30 feet away from the bearing. When the grease pouch is nearly depleted, after three months to a year depending on bearing size, simply replace the pouch.



Vibration Cutoff Switch



Automatic Bearing Greaser

PF2 Custom Features & Options

> Cold Water Basin

The spray water collects in the cold water basin and is then pumped back over the coil. During operation, the PF2 basin eliminates any stagnant water zones, which are susceptible to biological growth.

▶ **STANDARD MECHANICAL WATER LEVEL CONTROL**

Mechanical make-up valves must operate continuously in the moist and turbulent environment within evaporative cooling equipment. Due to this environment, the operation of the valve must be simple and the valve must be durable. BAC's high quality mechanical water level control assembly is standard with all units and has been specially designed to provide the most reliable operation while being easy to maintain. This accessory is omitted for remote sump applications.

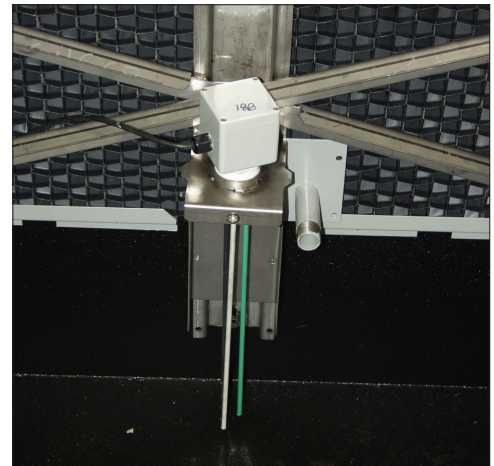


Mechanical Water Level Control



▶ **ELECTRIC WATER LEVEL CONTROL (OPTION)**

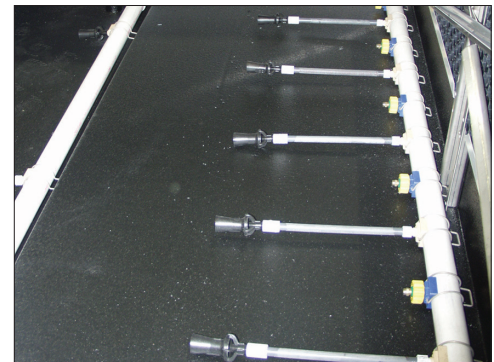
BAC's electric water level control (EWLC) is a state-of-the-art, conductivity actuated, probe type liquid level control. The hermetically sealed EWLC is engineered and manufactured specifically for use in evaporative cooling systems and is equipped with an error code LED to indicate status, including when the water and/or probes are dirty. The EWLC option replaces the standard mechanical make-up valve and includes a slow closing, solenoid activated valve in the make-up water line to minimize water hammer. EWLC is recommended when more precise water level control is required and in areas that experience sub-freezing conditions.



Electric Water Level Control

▶ **BASIN SWEEPER PIPING (OPTION)**

Basin sweeper piping is an effective method of eliminating sediment that may collect in the basin. A complete piping system, including nozzles, is provided in the basin to connect to side stream filtration equipment (provided by others). For more information on filtration systems, consult "Filtration Guide" found in the Technical Resource Section of the Product and Application Handbook.



Basin Sweeper Piping

▶ **LOW AND HIGH LEVEL ALARM FLOAT SWITCHES (OPTION)**

Low and high level alarm float switches are available to provide added control to your equipment operation. Level alarms can alert operators to an abnormal operating condition to ensure the highest system efficiency with minimal water usage.



► BASIN HEATERS (OPTION)

Evaporative cooling equipment exposed to below freezing ambient temperatures require protection to prevent freezing of the water in the cold water basin when the unit is idle. Factory-installed electric immersion heaters, which maintain 40°F (4.4°C) water temperature, are a simple and inexpensive way of providing such protection.

HEATER kW DATA

Model Number	0°F (-17.8°C) Ambient Heaters		-20°F (-28.9°C) Ambient Heaters	
	Number of Heaters	kW per Heater	Number of Heaters	kW per Heater
PF2-0406A-X	1	3	1	3
PF2-0412A-X	1	5	1	6
PF2-0709A-X	1	6	1	8
PF2-0718A-X	1	12	1	15
PF2-1012A-X	1	10	1	14
PF2-1024A-X	2	10	2	14
PF2-2012A-X	2	10	2	14
PF2-1212A-X	1	12	1	16
PF2-1224A-X	2	12	2	16
PF2-2412A-X	2	12	2	16
PF2-2424A-X	4	12	4	16
PF2-1218A-X	1	18	1	24
PF2-1236A-X	2	18	2	24
PF2-2418A-X	2	18	2	24
PF2-2436A-X	4	18	4	24



Basin Heater



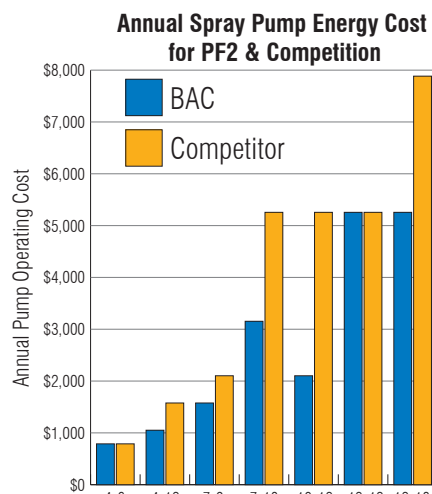
NOTE: This table is based on 460V/ 3 phase/60 Hz power.

► OptiSpray™ Technology Water Distribution System

BAC provides the lowest spray water pump HP in the industry for closed circuit cooling tower products, keeping operating costs as low as possible. BAC has optimized the spray water coverage over the coil in order to maximize capacity.

► STANDARD SPRAY WATER PUMP

The PF2 water distribution system comes standard with an integral spray water pump sized to distribute the recirculating water over the coil, maximizing capacity. The patented BAC 360™ Spray Nozzles are non-clog to ensure even flow over the coil area, and are grommeted for easy removal. BAC's exclusive OptiSpray™ Technology can save you over \$2,000 in annual operating costs.



PF2 Custom Features & Options

► REDUNDANT PUMPS (OPTION)

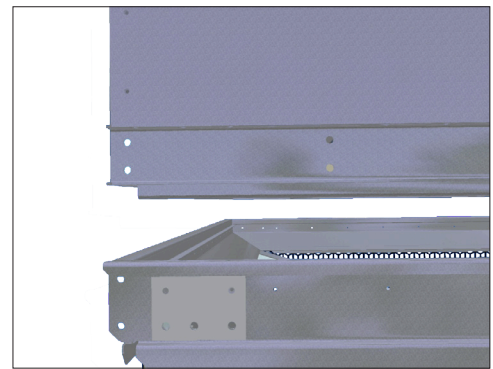
An optional secondary spray pump is available. This pump can be switched easily and maintained while the unit remains in operation.

> Shipping and Rigging

BAC units are factory-assembled to ensure uniform quality with minimum field assembly. Each unit has been designed with rigging and assembly in mind and includes features to minimize the number of tools required and installation time.

► INTERLOK™ SYSTEM

The InterLok™ System is a self-aligning casing/basin joint that makes assembly easier. The alignment of the casing and basin joint determines the leak resistance of the joint. With the InterLok™ System, the joint is now inside the unit, therefore eliminating the possibility of water leakage at these seams.



InterLok™ System

► KNOCKDOWN UNITS (OPTION)

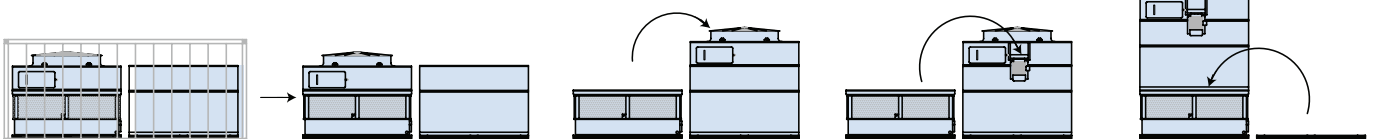
Knockdown units are available for jobs where access to the tower location is limited by elevators, doorways, or similar obstacles, where lifting methods impose very strict weight limits, or where the shipping cost of a fully assembled unit is excessive. All materials of construction and design features are the same as those of a factory assembled unit. Welded Type 304 stainless steel cold water basins and TriArmor® Corrosion Protection System basins are excluded due to the need for in-plant assembly.

► CONTAINERIZED UNITS (OPTION)

The PF2-0406, PF2-0412, PF2-0709, and PF2-0718 can be containerized in a standard shipping container for easy export, allowing for the lowest transportation cost possible when providing high quality BAC units to all parts of the world.



PF2-0406, PF2-0412, PF2-0709, and PF2-0718
Can Be Containerized



Easily Assembled Containerized Units



➤ Sound Options

Recognition of the importance of sound restriction is growing and can be a very important design criterion for any project. BAC maintains the widest selection of sound mitigating options in the market place and can provide the most cost effective option to meet any requirement.

▶ **STANDARD FAN**

The fan provided for all PF2 Closed Circuit Cooling Towers is selected to optimize low sound levels and maximize thermal performance. Thermal performance with the Standard Fan has been certified in accordance with CTI Standard STD-201.

▶ **LOW SOUND FAN (OPTION)**

The Low Sound Fan option reduces sound up to 8 dBA. Adding a high solidity fan allows for decreased fan speed, which proportionally decreases sound levels. Thermal performance with the Low Sound Fan has been certified in accordance with CTI Standard STD-201.

▶ **WHISPER QUIET FAN (OPTION)**

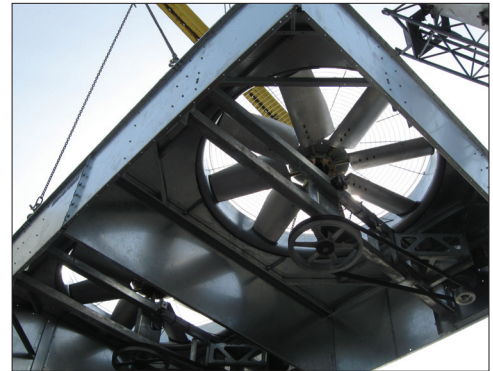
The Whisper Quiet Fan reduces sound up to 15 dBA. This single piece, high solidity fan is made from chemical resistant fiber reinforced polyester (FRP) and comes standard with blade leading protection. As a single piece fan, the non-corrosive blades are permanently pitched and require minimal maintenance. Thermal performance with the Whisper Quiet Fan has been certified in accordance with CTI Standard STD-201.

▶ **WATER SILENCERS (OPTION)**

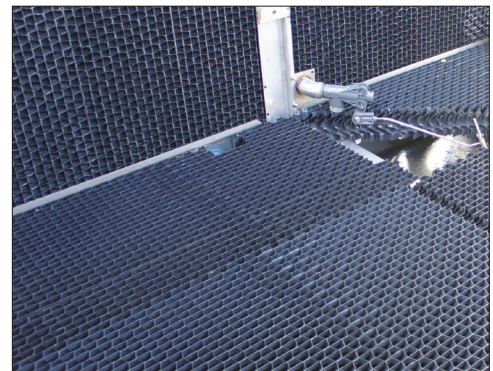
Water silencers are available to reduce the sound of falling water inherent in induced draft counterflow evaporative condensers. When utilized with one of BAC's Low Sound Fans, the sound contribution due to water noise can be reduced to negligible levels. Thermal performance with the water silencers has been certified in accordance with CTI Standard STD-201.

▶ **DISCHARGE SOUND ATTENUATION (OPTION)**

Factory designed, tested, and rated sound attenuation options are available on the air discharge for models PF2-0406 and PF2-0412. Thermal performance with the discharge attenuation has been certified in accordance with CTI Standard STD-201.



Low Sound Fan



Water Silencers

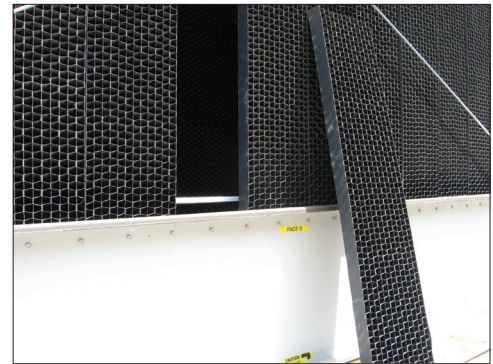
PF2 Custom Features & Options

> Air Intake

In a closed circuit cooling tower, airborne debris can be entrained in the water through the unit's air intake. Reducing the amount of debris that enters the tower lowers maintenance requirements and helps to maintain thermal efficiency.

▶ COMBINED INLET SHIELDS

The combined inlet shields' (CIS) bent flow path blocks sunlight from the cold water basin and acts as a screen to prevent debris from entering the unit. These benefits result in a significant reduction in algae growth, debris accumulation, and scale build-up. CIS are constructed from corrosion and UV resistant PVC and are installed in easy to handle sections to facilitate removal, inspection, and replacement. The use of CIS results in lower maintenance costs and ease of maintenance over the life of the unit.



Combined Inlet Shields

> Air Discharge Options

BAC offers a full line of air discharge options that are built, tested, and rated specifically for all PF2 Closed Circuit Cooling Towers. During idle periods, discharge hoods with PCDs and insulation are designed to minimize heat loss. When it is not possible to position cooling towers at the proper height above all other structures, fan cowl extensions can be provided to achieve the correct elevation for the fan discharge.



PCD HOODS AND INSULATION (OPTION)

The innovative design of BAC closed circuit cooling towers results in a low heat loss when the unit is idle. When additional heat loss prevention is desired, factory mounted PCDs with stainless steel linkages and damper actuators can be provided. The motor actuators are easily accessible. The addition of factory mounted insulation to the hood and/or coil casing further reduces the heat loss by minimizing losses due to conduction. Per ASHRAE 90.1-2010 either an automatic 3 way valve or PCDs are required on closed circuit cooling towers used on heat pump applications in climate zones 3 through 8.



PF2-1218 with a PCD Hood



► FAN COWL EXTENSIONS (OPTION)

Fan cowl extensions allow for unobstructed airflow on the discharge side, which help ensure that the units are providing maximum capacity. When closed circuit cooling towers cannot be located above adjacent structures, fan cowl extensions will be necessary so that discharge air flows out of the tower properly and is not circulated back toward the air intake by the combination of wind pressure and adjacent structures.



NOTE: Modular platforms, ladders, handrails, safety gates, and safety cages can be added at the time of order or as an aftermarket item.

> Access Options

BAC provides a broad offering of access options. Our evaporative equipment is designed to be easily maintained for sustaining capacity over a longer life. All BAC platforms and ladders are OSHA compliant to ensure personnel safety and code compliance.



► MOTOR REMOVAL SYSTEM (OPTION)

All motor removal system options include davit arm(s) to facilitate motor replacement.

► BASIN LEVEL PLATFORM AND LADDER PACKAGES (OPTION)

An basin level platform is available to allow access to the unit when installed on elevated supports. This option allows for safe access to the unit, as well as a working platform to stage tools for maintenance.



► MODULAR EXTERNAL PLATFORMS AND LADDER PACKAGES (OPTION)

Every modular external platform is pre-assembled and pre-fitted at the factory to ensure that every component will fit and function exactly as described. The platform is rigged easily in the field with minimum fasteners and drastically reduces the time required for rigging external access platforms.

► EXTERNAL LADDER (OPTION)

The PF2 can be furnished with an inclined ladder - a 75° angled ladder - extending from the base of the unit to the access door, providing safe access with minimal space requirements. All components are designed to meet OSHA requirement.



Motor Removal Davit Arm



Modular External Platform with Ladder and Safety Cage

PF2 Engineering Data

Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP
PF2-0406AA-31-3	12	3	PF2-0412AA-51-6	38	6	PF2-0709AC-51-20	71	20	PF2-0718AA-61-10	104	10
PF2-0406AA-32-3	15	3	PF2-0412AA-52-6	43	6	PF2-0709AC-52-20	74	20	PF2-0718AA-61-15	117	15
PF2-0406AA-31-5	15	5	PF2-0412AA-51-10	44	10	PF2-0709AA-61-5	49	5	PF2-0718AA-61-20	128	20
PF2-0406AA-32-5	18	5	PF2-0412AA-52-10	49	10	PF2-0709AA-62-5	55	5	PF2-0718AA-61-30	144	30
PF2-0406AA-41-3	15	3	PF2-0412AA-51-15	50	15	PF2-0709AA-61-7.5	55	7.5	PF2-0718AA-61-40	157	40
PF2-0406AA-42-3	18	3	PF2-0412AA-52-15	55	15	PF2-0709AA-62-7.5	62	7.5	PF2-0718AC-71-10	119	10
PF2-0406AA-41-5	19	5	PF2-0412AA-61-6	43	6	PF2-0709AA-61-10	60	10	PF2-0718AC-71-15	134	15
PF2-0406AA-42-5	22	5	PF2-0412AA-62-6	47	6	PF2-0709AA-62-10	67	10	PF2-0718AC-71-20	147	20
PF2-0406AA-51-3	17	3	PF2-0412AA-61-10	49	10	PF2-0709AA-61-15	68	15	PF2-0718AC-71-30	166	30
PF2-0406AA-52-3	20	3	PF2-0412AA-62-10	54	10	PF2-0709AA-62-15	69	15	PF2-0718AC-71-40	181	40
PF2-0406AA-51-5	20	5	PF2-0412AA-61-15	56	15	PF2-0709AA-61-20	73	20	PF2-1012AA-41-7.5	70	7.5
PF2-0406AA-52-5	23	5	PF2-0412AA-62-15	60	15	PF2-0709AA-62-20	81	20	PF2-1012AA-42-7.5	80	7.5
PF2-0406AA-51-7.5	22	7.5	PF2-0709AA-41-5	39	5	PF2-0709AC-71-5	56	5	PF2-1012AA-41-10	76	10
PF2-0406AA-52-7.5	26	7.5	PF2-0709AA-42-5	44	5	PF2-0709AC-72-5	62	5	PF2-1012AA-42-10	87	10
PF2-0406AA-61-3	20	3	PF2-0709AA-41-7.5	44	7.5	PF2-0709AC-71-7.5	63	7.5	PF2-1012AA-41-15	87	15
PF2-0406AA-62-3	22	3	PF2-0709AA-42-7.5	50	7.5	PF2-0709AC-72-7.5	70	7.5	PF2-1012AA-42-15	99	15
PF2-0406AA-61-5	23	5	PF2-0709AA-41-10	49	10	PF2-0709AC-71-10	69	10	PF2-1012AA-41-20	97	20
PF2-0406AA-62-5	26	5	PF2-0709AA-42-10	56	10	PF2-0709AC-72-10	76	10	PF2-1012AA-42-20	111	20
PF2-0406AA-61-7.5	25	7.5	PF2-0709AA-41-15	57	15	PF2-0709AC-71-15	78	15	PF2-1012AA-41-25	106	25
PF2-0406AA-62-7.5	29	7.5	PF2-0709AA-42-15	65	15	PF2-0709AC-72-15	85	15	PF2-1012AA-42-25	120	25
PF2-0412AA-31-6	28	6	PF2-0709AA-41-20	63	20	PF2-0709AC-71-20	85	20	PF2-1012AA-41-30	114	30
PF2-0412AA-32-6	33	6	PF2-0709AA-42-20	72	20	PF2-0709AC-72-20	92	20	PF2-1012AA-42-30	128	30
PF2-0412AA-31-10	35	10	PF2-0709AC-51-5	48	5	PF2-0718AA-41-10	83	10	PF2-1012AA-51-7.5	80	7.5
PF2-0412AA-32-10	40	10	PF2-0709AC-52-5	50	5	PF2-0718AA-41-15	94	15	PF2-1012AA-52-7.5	90	7.5
PF2-0412AA-31-15	40	15	PF2-0709AC-51-7.5	54	7.5	PF2-0718AA-41-20	105	20	PF2-1012AA-51-10	87	10
PF2-0412AA-32-15	46	15	PF2-0709AC-52-7.5	56	7.5	PF2-0718AA-41-30	123	30	PF2-1012AA-52-10	98	10
PF2-0412AA-41-6	34	6	PF2-0709AC-51-10	59	10	PF2-0718AA-41-40	137	40	PF2-1012AA-51-15	98	15
PF2-0412AA-42-6	38	6	PF2-0709AC-52-10	60	10	PF2-0718AC-51-10	103	10	PF2-1012AA-52-15	110	15
PF2-0412AA-41-10	42	10	PF2-0709AC-51-15	66	15	PF2-0718AC-51-15	115	15	PF2-1012AA-51-20	107	20
PF2-0412AA-42-10	47	10	PF2-0709AC-52-15	68	15	PF2-0718AC-51-20	126	20	PF2-1012AA-52-20	119	20
PF2-0412AA-41-15	48	15				PF2-0718AC-51-30	142	30	PF2-1012AA-51-25	114	25
PF2-0412AA-42-15	54	15				PF2-0718AC-51-40	154	40	PF2-1012AA-52-25	127	25
									PF2-1012AA-51-30	120	30
									PF2-1012AA-52-30	133	30



NOTE: For notes on pages 19 and 20, see page 24.

Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP
PF2-1012AB-61-7.5	90	7.5	PF2-1024AB-61-15	181	15	PF2-2012AB-61-15	181	15	PF2-1212AB-61-10	117	10
PF2-1012AB-61-10	99	10	PF2-1024AB-61-20	197	20	PF2-2012AB-61-20	197	20	PF2-1212AB-61-15	132	15
PF2-1012AB-61-15	111	15	PF2-1024AB-61-30	223	30	PF2-2012AB-61-30	223	30	PF2-1212AB-61-20	144	20
PF2-1012AB-61-20	121	20	PF2-1024AB-61-40	242	40	PF2-2012AB-61-40	242	40	PF2-1212AB-61-25	153	25
PF2-1012AB-61-25	130	25	PF2-1024AB-61-50	259	50	PF2-2012AB-61-50	259	50	PF2-1212AB-61-30	162	30
PF2-1012AB-61-30	137	30	PF2-1024AB-61-60	273	60	PF2-2012AB-61-60	273	60	PF2-1212AB-61-40	176	40
PF2-1012AC-71-7.5	102	7.5	PF2-1024AC-71-15	204	15	PF2-2012AC-71-15	204	15	PF2-1212AC-71-10	129	10
PF2-1012AC-71-10	111	10	PF2-1024AC-71-20	223	20	PF2-2012AC-71-20	223	20	PF2-1212AC-71-15	146	15
PF2-1012AC-71-15	126	15	PF2-1024AC-71-30	252	30	PF2-2012AC-71-30	252	30	PF2-1212AC-71-20	160	20
PF2-1012AC-71-20	137	20	PF2-1024AC-71-40	275	40	PF2-2012AC-71-40	275	40	PF2-1212AC-71-25	171	25
PF2-1012AC-71-25	147	25	PF2-1024AC-71-50	295	50	PF2-2012AC-71-50	295	50	PF2-1212AC-71-30	180	30
PF2-1012AC-71-30	155	30	PF2-1024AC-71-60	311	60	PF2-2012AC-71-60	311	60	PF2-1212AC-71-40	196	40
PF2-1024AA-41-15	140	15	PF2-2012AA-41-15	140	15	PF2-1212AA-41-10	89	10	PF2-1224AA-41-20	178	20
PF2-1024AA-42-15	160	15	PF2-2012AA-42-15	160	15	PF2-1212AA-42-10	101	10	PF2-1224AA-42-20	203	20
PF2-1024AA-41-20	153	20	PF2-2012AA-41-20	153	20	PF2-1212AA-41-15	101	15	PF2-1224AA-41-30	201	30
PF2-1024AA-42-20	174	20	PF2-2012AA-42-20	174	20	PF2-1212AA-42-15	114	15	PF2-1224AA-42-30	228	30
PF2-1024AA-41-30	173	30	PF2-2012AA-41-30	173	30	PF2-1212AA-41-20	111	20	PF2-1224AA-41-40	223	40
PF2-1024AA-42-30	198	30	PF2-2012AA-42-30	198	30	PF2-1212AA-42-20	126	20	PF2-1224AA-42-40	253	40
PF2-1024AA-41-40	195	40	PF2-2012AA-41-40	195	40	PF2-1212AA-41-25	122	25	PF2-1224AA-41-50	244	50
PF2-1024AA-42-40	221	40	PF2-2012AA-42-40	221	40	PF2-1212AA-42-25	138	25	PF2-1224AA-42-50	276	50
PF2-1024AA-41-50	213	50	PF2-2012AA-41-50	213	50	PF2-1212AA-41-30	131	30	PF2-1224AA-41-60	262	60
PF2-1024AA-42-50	241	50	PF2-2012AA-42-50	241	50	PF2-1212AA-42-30	148	30	PF2-1224AA-42-60	296	60
PF2-1024AA-41-60	227	60	PF2-2012AA-41-60	227	60	PF2-1212AA-41-40	146	40	PF2-1224AA-41-80	292	80
PF2-1024AA-42-60	256	60	PF2-2012AA-42-60	256	60	PF2-1212AA-42-40	163	40	PF2-1224AA-42-80	327	80
PF2-1024AA-51-15	160	15	PF2-2012AA-51-15	160	15	PF2-1212AA-51-10	101	10	PF2-1224AA-51-20	203	20
PF2-1024AA-52-15	180	15	PF2-2012AA-52-15	180	15	PF2-1212AA-52-10	114	10	PF2-1224AA-52-20	228	20
PF2-1024AA-51-20	174	20	PF2-2012AA-51-20	174	20	PF2-1212AA-51-15	114	15	PF2-1224AA-51-30	229	30
PF2-1024AA-52-20	196	20	PF2-2012AA-52-20	196	20	PF2-1212AA-52-15	128	15	PF2-1224AA-52-30	257	30
PF2-1024AA-51-30	196	30	PF2-2012AA-51-30	196	30	PF2-1212AA-51-20	124	20	PF2-1224AA-51-40	249	40
PF2-1024AA-52-30	220	30	PF2-2012AA-52-30	220	30	PF2-1212AA-52-20	139	20	PF2-1224AA-52-40	277	40
PF2-1024AA-51-40	213	40	PF2-2012AA-51-40	213	40	PF2-1212AA-51-25	133	25	PF2-1224AA-51-50	265	50
PF2-1024AA-52-40	238	40	PF2-2012AA-52-40	238	40	PF2-1212AA-52-25	147	25	PF2-1224AA-52-50	295	50
PF2-1024AA-51-50	227	50	PF2-2012AA-51-50	227	50	PF2-1212AA-51-30	140	30	PF2-1224AA-51-60	279	60
PF2-1024AA-52-50	253	50	PF2-2012AA-52-50	253	50	PF2-1212AA-52-30	155	30	PF2-1224AA-52-60	311	60
PF2-1024AA-51-60	240	60	PF2-2012AA-51-60	240	60	PF2-1212AA-51-40	152	40	PF2-1224AA-51-80	304	80
PF2-1024AA-52-60	265	60	PF2-2012AA-52-60	265	60	PF2-1212AA-52-40	168	40	PF2-1224AA-52-80	336	80

PF2 Engineering Data

Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP
PF2-1224AB-61-20	234	20	PF2-2412AA-51-20	203	20	PF2-2424AA-41-100	488	100	PF2-1218AA-51-10	140	10
PF2-1224AB-61-30	264	30	PF2-2412AA-52-20	228	20	PF2-2424AA-42-100	552	100	PF2-1218AA-51-15	158	15
PF2-1224AB-61-40	287	40	PF2-2412AA-51-30	229	30	PF2-2424AA-41-120	524	120	PF2-1218AA-51-20	172	20
PF2-1224AB-61-50	307	50	PF2-2412AA-52-30	257	30	PF2-2424AA-42-120	592	120	PF2-1218AA-51-25	184	25
PF2-1224AB-61-60	323	60	PF2-2412AA-51-40	249	40	PF2-2424AA-41-160	584	160	PF2-1218AA-51-30	194	30
PF2-1224AB-61-80	352	80	PF2-2412AA-52-40	277	40	PF2-2424AA-42-160	654	160	PF2-1218AA-51-40	211	40
PF2-1224AC-71-20	259	20	PF2-2412AA-51-50	265	50	PF2-2424AA-51-40	406	40	PF2-1218AB-61-10	160	10
PF2-1224AC-71-30	292	30	PF2-2412AA-52-50	295	50	PF2-2424AA-52-40	456	40	PF2-1218AB-61-15	181	15
PF2-1224AC-71-40	320	40	PF2-2412AA-51-60	279	60	PF2-2424AA-51-60	458	60	PF2-1218AB-61-20	198	20
PF2-1224AC-71-50	342	50	PF2-2412AA-52-60	311	60	PF2-2424AA-52-60	513	60	PF2-1218AB-61-25	212	25
PF2-1224AC-71-60	361	60	PF2-2412AA-51-80	304	80	PF2-2424AA-51-80	498	80	PF2-1218AB-61-30	223	30
PF2-1224AC-71-80	393	80	PF2-2412AA-52-80	336	80	PF2-2424AA-52-80	555	80	PF2-1218AB-61-40	244	40
PF2-2412AA-41-20	178	20	PF2-2412AB-61-20	234	20	PF2-2424AA-51-100	530	100	PF2-1218AB-61-50	260	50
PF2-2412AA-42-20	203	20	PF2-2412AB-61-30	264	30	PF2-2424AA-52-100	589	100	PF2-1218AB-61-60	274	60
PF2-2412AA-41-30	201	30	PF2-2412AB-61-40	287	40	PF2-2424AA-51-120	559	120	PF2-1218AB-71-10	171	10
PF2-2412AA-42-30	228	30	PF2-2412AB-61-50	307	50	PF2-2424AA-52-120	622	120	PF2-1218AB-71-15	194	15
PF2-2412AA-41-40	223	40	PF2-2412AB-61-60	323	60	PF2-2424AA-51-160	608	160	PF2-1218AB-71-20	212	20
PF2-2412AA-42-40	253	40	PF2-2412AB-61-80	352	80	PF2-2424AA-52-160	672	160	PF2-1218AB-71-25	227	25
PF2-2412AA-41-50	244	50	PF2-2412AC-71-20	259	20	PF2-2424AB-61-40	467	40	PF2-1218AB-71-30	239	30
PF2-2412AA-42-50	276	50	PF2-2412AC-71-30	292	30	PF2-2424AB-61-60	527	60	PF2-1218AB-71-40	261	40
PF2-2412AA-41-60	262	60	PF2-2412AC-71-40	320	40	PF2-2424AB-61-80	574	80	PF2-1218AB-71-50	279	50
PF2-2412AA-42-60	296	60	PF2-2412AC-71-50	342	50	PF2-2424AB-61-100	613	100	PF2-1218AB-71-60	295	60
PF2-2412AA-41-80	292	80	PF2-2412AC-71-60	361	60	PF2-2424AB-61-120	647	120	PF2-1236AA-41-20	245	20
PF2-2412AA-42-80	327	80	PF2-2412AC-71-80	393	80	PF2-2424AB-61-160	704	160	PF2-1236AA-41-30	277	30
			PF2-2424AA-41-40	357	40	PF2-2424AC-71-40	517	40	PF2-1236AA-41-40	302	40
			PF2-2424AA-42-40	406	40	PF2-2424AC-71-60	585	60	PF2-1236AA-41-50	324	50
			PF2-2424AA-41-60	402	60	PF2-2424AC-71-80	639	80	PF2-1236AA-41-60	347	60
			PF2-2424AA-42-60	455	60	PF2-2424AC-71-100	683	100	PF2-1236AA-41-80	390	80
			PF2-2424AA-41-80	445	80	PF2-2424AC-71-120	722	120	PF2-1236AA-51-20	278	20
			PF2-2424AA-42-80	506	80	PF2-2424AC-71-160	785	160	PF2-1236AA-51-30	313	30
						PF2-1218AA-41-10	123	10	PF2-1236AA-51-40	342	40
						PF2-1218AA-41-15	139	15	PF2-1236AA-51-50	365	50
						PF2-1218AA-41-20	152	20	PF2-1236AA-51-60	385	60
						PF2-1218AA-41-25	163	25	PF2-1236AA-51-80	419	80
						PF2-1218AA-41-30	175	30			
						PF2-1218AA-41-40	197	40			



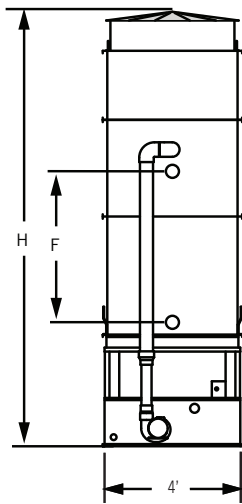
NOTE: For notes on pages 21 and 22, see page 24.

Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP	Model Number	Nominal Tons ⁽¹⁾	Fan HP
PF2-1236AB-61-20	317	20	PF2-2418AB-61-20	320	20	PF2-2436AB-61-40	630	40
PF2-1236AB-61-30	359	30	PF2-2418AB-61-30	362	30	PF2-2436AB-61-60	714	60
PF2-1236AB-61-40	392	40	PF2-2418AB-61-40	396	40	PF2-2436AB-61-80	779	80
PF2-1236AB-61-50	420	50	PF2-2418AB-61-50	424	50	PF2-2436AB-61-100	835	100
PF2-1236AB-61-60	443	60	PF2-2418AB-61-60	447	60	PF2-2436AB-61-120	880	120
PF2-1236AB-61-80	483	80	PF2-2418AB-61-80	487	80	PF2-2436AB-61-160	960	160
PF2-1236AB-61-100	516	100	PF2-2418AB-61-100	520	100	PF2-2436AB-61-200	1,024	200
PF2-1236AB-61-120	544	120	PF2-2418AB-61-120	549	120	PF2-2436AB-61-240	1,081	240
PF2-1236AB-71-20	340	20	PF2-2418AB-71-20	343	20	PF2-2436AB-71-40	675	40
PF2-1236AB-71-30	385	30	PF2-2418AB-71-30	388	30	PF2-2436AB-71-60	765	60
PF2-1236AB-71-40	420	40	PF2-2418AB-71-40	423	40	PF2-2436AB-71-80	834	80
PF2-1236AB-71-50	450	50	PF2-2418AB-71-50	454	50	PF2-2436AB-71-100	894	100
PF2-1236AB-71-60	475	60	PF2-2418AB-71-60	479	60	PF2-2436AB-71-120	944	120
PF2-1236AB-71-80	518	80	PF2-2418AB-71-80	522	80	PF2-2436AB-71-160	1,029	160
PF2-1236AB-71-100	553	100	PF2-2418AB-71-100	558	100	PF2-2436AB-71-200	1,099	200
PF2-1236AB-71-120	586	120	PF2-2418AB-71-120	590	120	PF2-2436AB-71-240	1,163	240
PF2-2418AA-41-20	247	20	PF2-2436AA-41-40	486	40			
PF2-2418AA-41-30	279	30	PF2-2436AA-41-60	550	60			
PF2-2418AA-41-40	304	40	PF2-2436AA-41-80	600	80			
PF2-2418AA-41-50	326	50	PF2-2436AA-41-100	643	100			
PF2-2418AA-41-60	350	60	PF2-2436AA-41-120	689	120			
PF2-2418AA-41-80	393	80	PF2-2436AA-41-160	775	160			
PF2-2418AA-51-20	280	20	PF2-2436AA-51-40	552	40			
PF2-2418AA-51-30	316	30	PF2-2436AA-51-60	622	60			
PF2-2418AA-51-40	344	40	PF2-2436AA-51-80	678	80			
PF2-2418AA-51-50	368	50	PF2-2436AA-51-100	726	100			
PF2-2418AA-51-60	388	60	PF2-2436AA-51-120	765	120			
PF2-2418AA-51-80	422	80	PF2-2436AA-51-160	832	160			

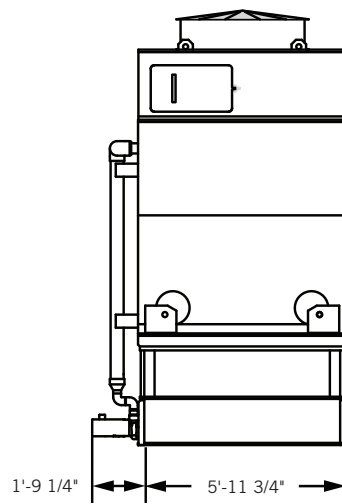
PF2 Engineering Data



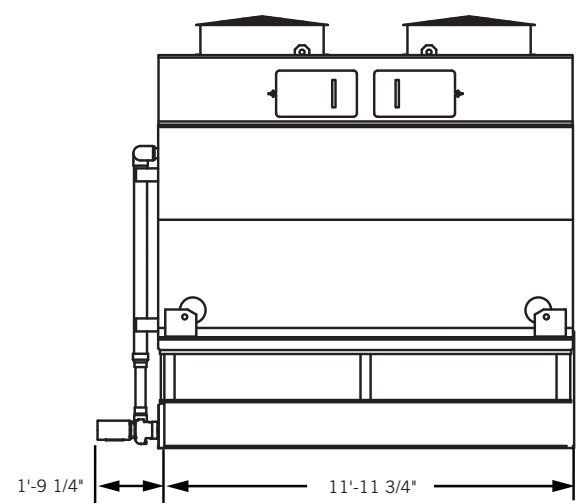
NOTE: Up-to-date engineering data, free product selection software, and more can be found at www.BaltimoreAircoil.com.



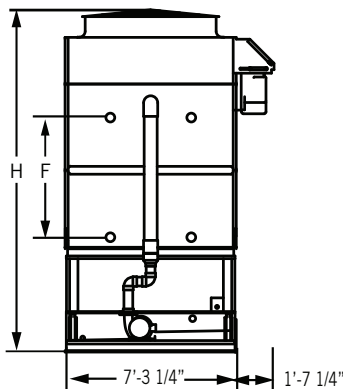
Face A:
PF2-0406 and PF2-0412 Units



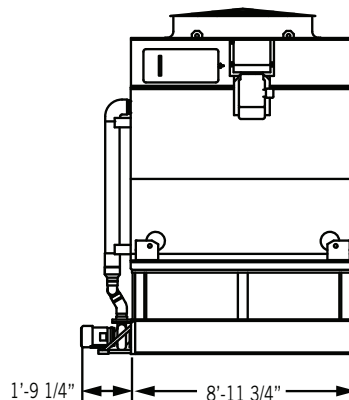
Face D:
PF2-0406 Units



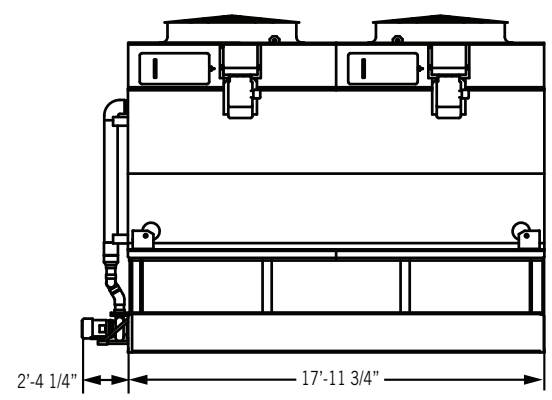
Face D:
PF2-0412 Units



Face A:
PF2-0709 and PF2-0718 Units



Face D:
PF2-0709 Units



Face D:
PF2-0718 Units

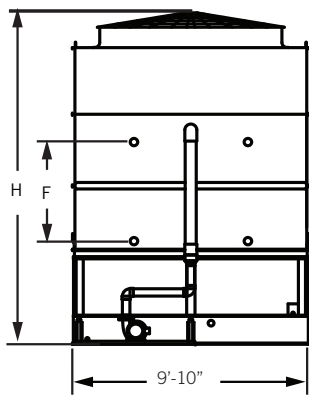
Model Number	Pump Motor HP	CFM ⁽²⁾	Approximate Weight (lbs)			Dimensions					Connection Size ^(4,7)		Spray Pump (USGPM)	Internal Coil Volume (gal)	Riser Pipe Dia.
			Operating Weight ⁽³⁾	Shipping Weight	Heaviest Section	L	W	H	F	P	Make-Up Water	Coil			
PF2-0406AA-31-x	0.75	16,980	4,190	2,690	2,060	6'-0"	4'-0"	10'-0"	2'-0"	1'-7"	1 1/2"	4	60	48	4
PF2-0406AA-32-x								10'-9"	2'-10"					62	
PF2-0406AA-41-x		15,810	4,660	3,050	2,420			11'-6"	3'-7"					76	
PF2-0406AA-42-x								12'-3"	4'-4"					91	
PF2-0406AA-51-x		16,820	5,270	3,540	2,910	12'-0"	4'-0"	10'-0"	2'-0"	1'-8"	1 1/2"	4	130	91	4
PF2-0406AA-52-x								10'-9"	2'-10"					120	
PF2-0406AA-61-x	1	16,010	5,740	3,890	3,260			11'-6"	3'-7"					149	
PF2-0406AA-62-x								12'-3"	4'-4"					177	
PF2-0412AA-31-x		38,360	7,860	4,900	3,980	9'-0"	7'-4"	12'-4"	2'-10"	1'-8"	1 1/2"	4	180	165	6
PF2-0412AA-32-x								13'-1"	3'-7"					241	
PF2-0412AA-41-x		35,730	8,750	5,550	4,630			13'-10"	4'-4"					243	
PF2-0412AA-42-x								14'-7"	5'-1"					334	
PF2-0412AA-51-x	1.5	33,700	9,650	6,210	5,290	18'-0"	7'-4"	13'-0"	2'-10"	2'-2"	1 1/2"	4	370	326	6
PF2-0412AA-52-x								13'-9"	3'-7"					480	
PF2-0412AA-61-x		32,090	10,540	6,870	5,940			14'-7"	4'-4"					483	
PF2-0412AA-62-x								15'-4"	5'-1"					669	
PF2-0709AA-41-x	3	49,340	11,060	7,190	6,000	18'-0"	7'-4"	13'-0"	2'-10"	2'-2"	1 1/2"	4	370	326	6
PF2-0709AA-42-x								13'-9"	3'-7"					480	
PF2-0709AC-51-x		42,160	13,300	8,800	7,610			14'-7"	4'-4"					483	
PF2-0709AC-52-x								15'-4"	5'-1"					669	
PF2-0709AA-61-x	1.5	44,130	13,500	8,990	7,790	18'-0"	7'-4"	13'-0"	2'-10"	2'-2"	1 1/2"	4	370	326	6
PF2-0709AA-62-x								13'-9"	3'-7"					480	
PF2-0709AC-71-x		38,240	16,160	10,890	9,690			14'-7"	4'-4"					483	
PF2-0709AC-72-x								15'-4"	5'-1"					669	
PF2-0718AA-41-x	3	98,810	22,250	14,550	11,890	18'-0"	7'-4"	13'-0"	2'-10"	2'-2"	1 1/2"	4	370	326	6
PF2-0718AC-51-x								13'-9"	3'-7"					480	
PF2-0718AA-61-x		84,800	26,750	17,760	15,100			14'-7"	4'-4"					483	
PF2-0718AC-71-x		88,690	27,060	18,040	15,380			15'-4"	5'-1"					669	
PF2-0718AC-72-x		77,130	32,390	21,830	19,170										

NOTES:

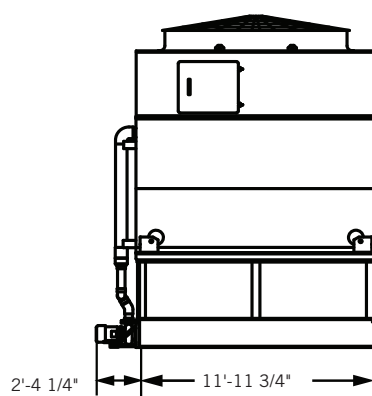
- Nominal tons of cooling represents 3 USGPM of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temperature.
- CFM listed is for the highest fan motor HP and vary with the fan HP.
- Operating weight is for the unit with the water level in the cold water basin at the overflow.
- The actual size of the coil inlet and outlet connection may vary with the design flow rate. Consult unit print for dimensions.
- Coil inlet and outlet connections are beveled for welding.
- Models with Whisper Quiet Fans may have heights up to 5 1/2" greater than shown.
- Standard make-up, drain and overflow connections are located near the bottom of the unit. Make-up connection is 1 1/2" MPT standpipe, drain is 2" FPT, and overflow is 3" FPT. Standard make-up, drain, and overflow connections are MPT.

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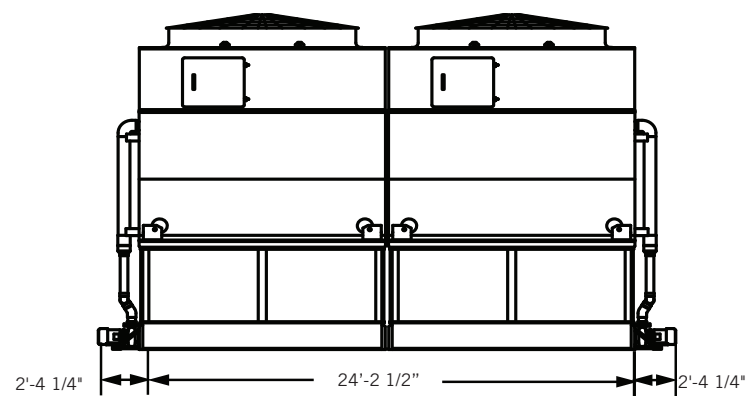
PF2 Engineering Data



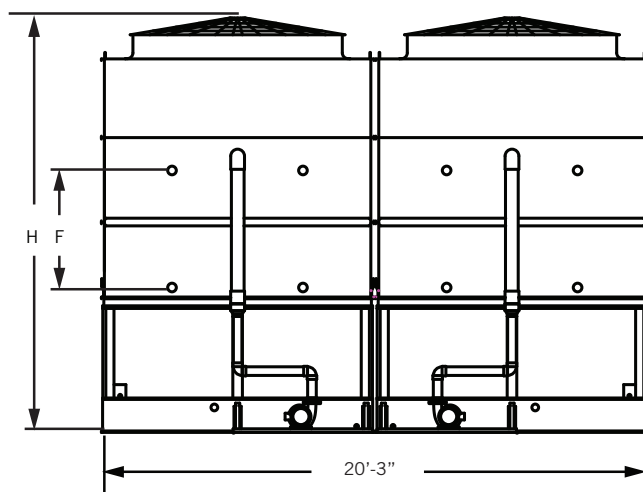
Face A:
PF2-1012 and PF2-1024 Units



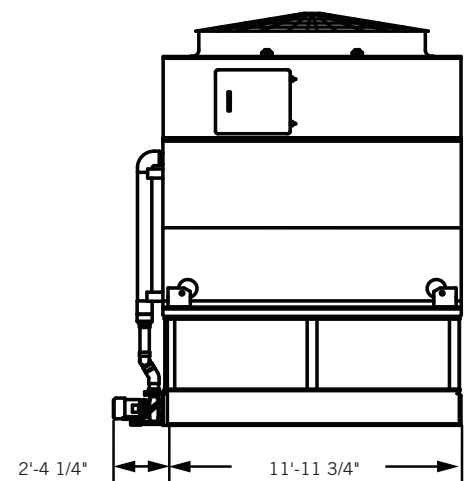
Face D:
PF2-1012 Units



Face D:
PF2-1024 Units



Face A:
PF2-2012 Units



Face D:
PF2-2012 Units



Model Number	Pump Motor HP	CFM ⁽²⁾	Approximate Weight (lbs)			Dimensions					Connection Size ^(4,7)		Spray Pump (USGPM)	Internal Coil Volume (gal)	Riser Pipe Dia.
			Operating Weight ⁽³⁾	Shipping Weight	Heaviest Section	L	W	H	F	P	Make-Up Water	Coil			
PF2-1012AA-41-x	2	86,590	18,430	11,750	9,930	12'-0"	9'-10"	14'-1"	2'-10"	1'-8"	1 1/2"	4	340	303	6
PF2-1012AA-42-x								14'-11"	3'-7"					375	
PF2-1012AA-51-x								15'-8"	4'-4"					498	
PF2-1012AA-52-x								16'-5"	5'-1"					626	
PF2-1012AB-61-x															
PF2-1012AC-71-x		67,440	27,810	18,450	16,620										
PF2-1024AA-41-x	(2) 2	173,180	37,100	23,730	9,930	24'-3"	9'-10"	15'-1"	2'-10"	1'-8"	1 1/2"	4	680	606	6
PF2-1024AA-42-x								15'-11"	3'-7"					750	
PF2-1024AA-51-x								16'-8"	4'-4"					996	
PF2-1024AA-52-x								17'-5"	5'-1"					1,251	
PF2-1024AB-61-x		144,420	48,510	31,900	14,010										
PF2-1024AC-71-x		134,870	55,860	37,120	16,620										
PF2-2012AA-41-x	(2) 2	173,180	37,100	23,730	9,930	12'-0"	20'-1"	15'-1"	2'-10"	1'-8"	1 1/2"	4	680	606	6
PF2-2012AA-42-x								15'-11"	3'-7"					750	
PF2-2012AA-51-x								16'-8"	4'-4"					996	
PF2-2012AA-52-x								17'-5"	5'-1"					1,251	
PF2-2012AB-61-x		144,420	48,510	31,900	14,010										
PF2-2012AC-71-x		134,870	55,860	37,120	16,620										

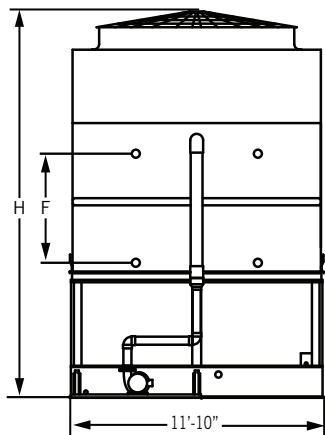


NOTES:

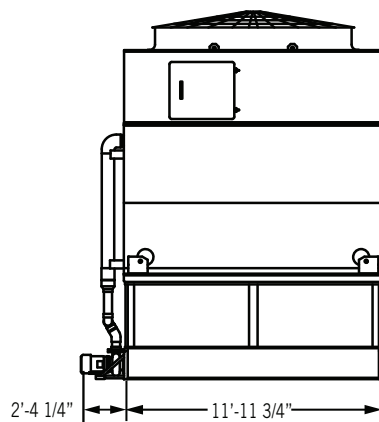
1. Nominal tons of cooling represents 3 USGPM of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temperature.
2. CFM listed is for the highest fan motor HP and vary with the fan HP.
3. Operating weight is for the unit with the water level in the cold water basin at the overflow.
4. The actual size of the coil inlet and outlet connection may vary with the design flow rate. Consult unit print for dimensions.
5. Coil inlet and outlet connections are beveled for welding.
6. Models with Whisper Quiet Fans may have heights up to 5 1/2" greater than shown.
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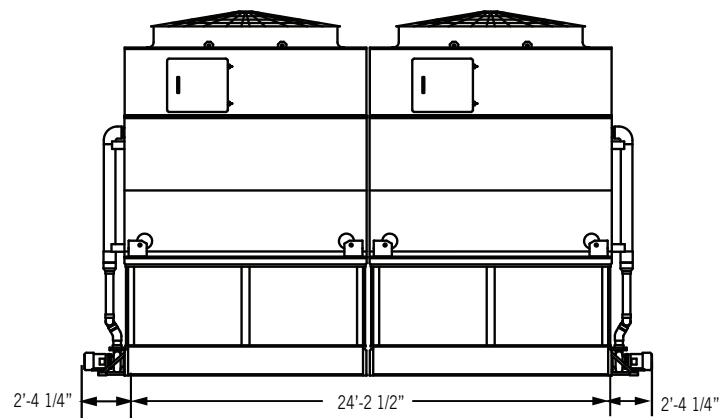
PF2 Engineering Data



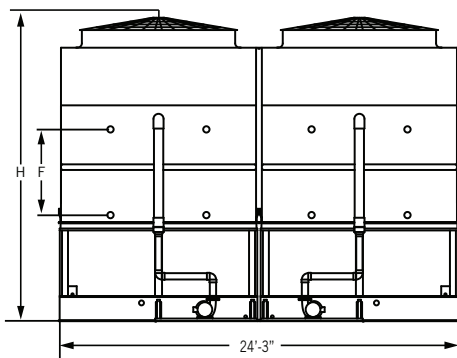
Face A:
PF2-1212 and PF2-1224 Units



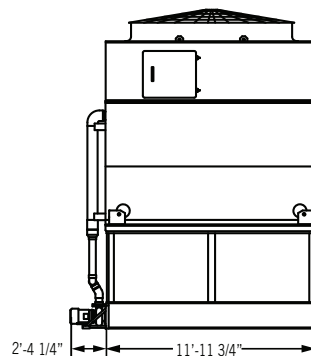
Face D:
PF2-1212 Units



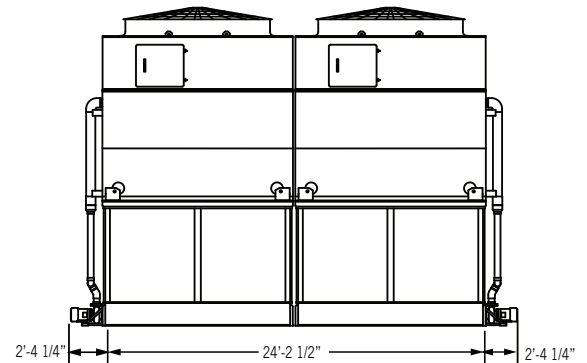
Face D:
PF2-1224 Units



Face A:
PF2-2412 and PF2-2424 Units



Face D:
PF2-2412 Units



Face D:
PF2-2424 Units



Model Number	Pump Motor HP	CFM ⁽²⁾	Approximate Weight (lbs)			Dimensions					Connection Size ^(4,7)		Spray Pump (USGPM)	Internal Coil Volume (gal)	Riser Pipe Dia.
			Operating Weight ⁽³⁾	Shipping Weight	Heaviest Section	L	W	H	F	P	Make-Up Water	Coil			
PF2-1212AA-41-x	5	110,150	22,150	14,300	11,810	12'-0"	11'-10"	14'-9"	2'-10"	2'-3"	1 1/2"	4	410	373	6
PF2-1212AA-42-x								15'-6"	3'-7"					462	
PF2-1212AA-51-x								16'-3"	4'-4"					602	
PF2-1212AA-52-x								17'-1"	5'-1"					770	
PF2-1212AB-61-x															
PF2-1212AC-71-x		85,230	33,600	22,460	19,960										
PF2-1224AA-41-x	(2) 5	220,300	44,530	28,830	11,810	24'-3"	11'-10"	15'-9"	2'-10"	2'-3"	1 1/2"	4	820	745	6
PF2-1224AA-42-x								16'-6"	3'-7"					924	
PF2-1224AA-51-x								17'-3"	4'-4"					1,203	
PF2-1224AA-52-x								18'-1"	5'-1"					1,539	
PF2-1224AB-61-x		186,240	57,840	38,340	16,560										
PF2-1224AC-71-x		170,460	67,440	45,140	19,960										
PF2-2412AA-41-x	(2) 5	220,300	44,530	28,830	11,810	12'-0"	24'-1"	15'-9"	2'-10"	2'-3"	1 1/2"	4	820	745	6
PF2-2412AA-42-x								16'-6"	3'-7"					924	
PF2-2412AA-51-x								17'-3"	4'-4"					1,203	
PF2-2412AA-52-x								18'-1"	5'-1"					1,539	
PF2-2412AB-61-x		186,240	57,840	38,340	16,560										
PF2-2412AC-71-x		170,460	67,440	45,140	19,960										
PF2-2424AA-41-x	(4) 5	440,590	89,990	58,580	11,810	24'-3"	24'-1"	17'-9"	2'-10"	2'-3"	1 1/2"	4	1,640	1,490	6
PF2-2424AA-42-x								18'-6"	3'-7"					1,847	
PF2-2424AA-51-x								19'-3"	4'-4"					2,405	
PF2-2424AA-52-x								"20'-1"	5'-1"					3,077	
PF2-2424AB-61-x		372,480	116,620	77,600	16,560										
PF2-2424AC-71-x		340,920	135,810	91,210	19,960										

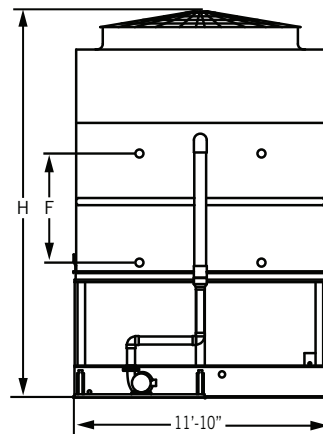


NOTES:

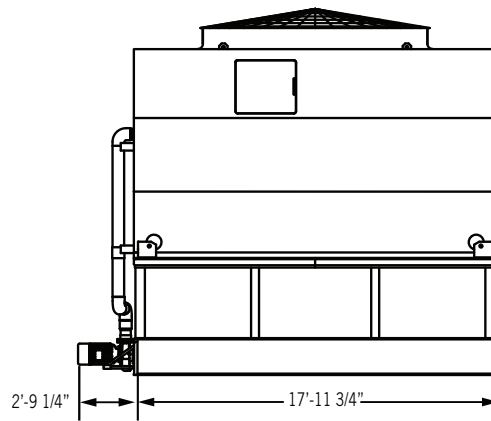
1. Nominal tons of cooling represents 3 USGPM of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temperature.
2. CFM listed is for the highest fan motor HP and vary with the fan HP.
3. Operating weight is for the unit with the water level in the cold water basin at the overflow.
4. The actual size of the coil inlet and outlet connection may vary with the design flow rate. Consult unit print for dimensions.
5. Coil inlet and outlet connections are beveled for welding.
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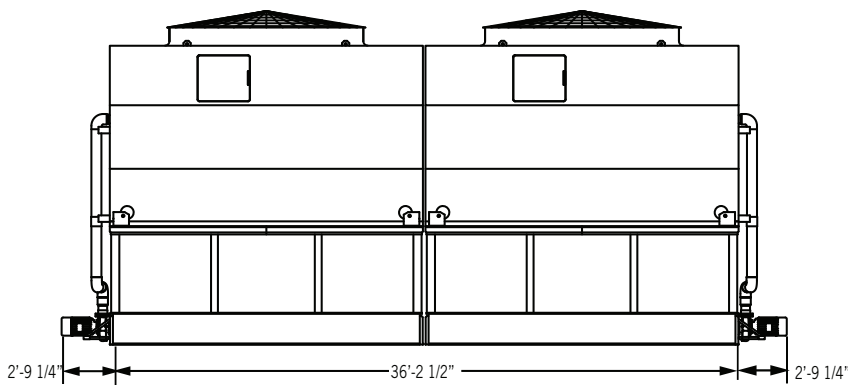
PF2 Engineering Data



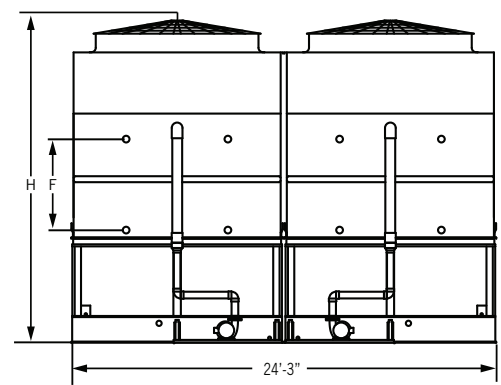
Face A:
PF2-1218 and PF2-1236 Units



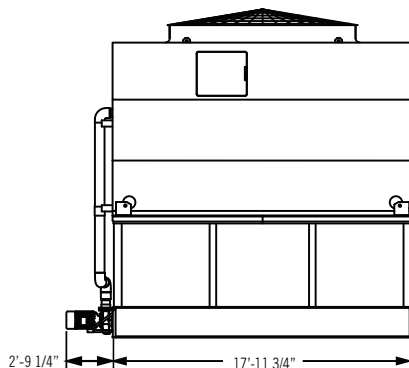
Face D:
PF2-1218 Units



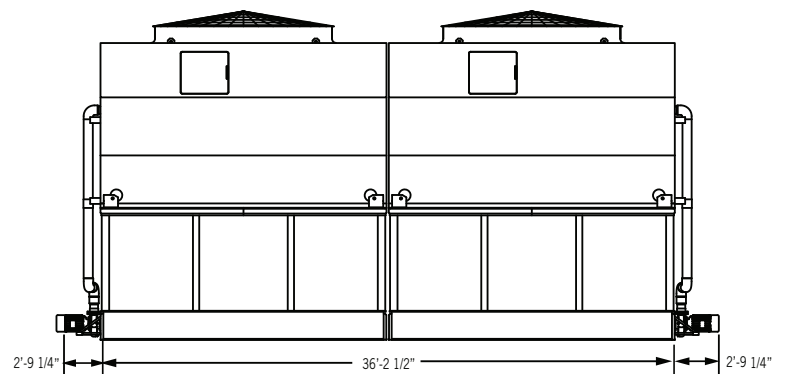
Face D:
PF2-1236 Units



Face A:
PF2-2418 and PF2-2436 Units



Face D:
PF2-2418 Units



Face D:
PF2-2436 Units



Model Number	Pump Motor HP	CFM ⁽²⁾	Approximate Weight (lbs)			Dimensions					Connection Size ^(4,7)		Spray Pump (USGPM)	Internal Coil Volume (gal)	Riser Pipe Dia.
			Operating Weight ⁽³⁾	Shipping Weight	Heaviest Section	L	W	H	F	P	Make-Up Water	Coil			
PF2-1218AA-41-x	5	146,900	34,550	22,190	18,160	18'-0"	11'-10"	15'-7"	2'-10"	2'-3"	1 1/2"	4	610	556	6
PF2-1218AA-51-x		138,860	38,500	25,020	20,980			16'-4"	3'-7"					691	
PF2-1218AB-61-x		140,490	44,690	29,460	25,420			17'-1"	4'-4"					902	
PF2-1218AB-71-x		134,590	48,990	32,530	28,490			17'-10"	5'-1"					1,049	
PF2-1236AA-41-x	(2) 5	291,460	69,390	44,670	18,160	36'-3"	11'-10"	16'-7"	2'-10"	2'-3"	1 1/2"	4	1,220	1,111	6
PF2-1236AA-51-x		275,510	77,280	50,320	20,980			17'-4"	3'-7"					1,381	
PF2-1236AB-61-x		278,750	89,670	59,200	25,420			18'-1"	4'-4"					1,803	
PF2-1236AB-71-x		267,040	98,270	65,350	28,490			18'-10"	5'-1"					2,098	
PF2-2418AA-41-x	(2) 5	293,790	69,540	44,810	18,160	18'-0"	24'-1"	17'-1"	2'-10"	2'-3"	1 1/2"	4	1,220	1,111	6
PF2-2418AA-51-x		277,720	77,420	50,460	20,980			17'-10"	3'-7"					1,381	
PF2-2418AB-61-x		280,980	89,820	59,340	25,420			18'-7"	4'-4"					1,803	
PF2-2418AB-71-x		269,180	98,420	65,490	28,490			19'-4"	5'-1"					2,098	
PF2-2436AA-41-x	(4) 5	578,870	139,650	90,200	18,160	36'-3"	24'-1"	18'-1"	2'-10"	2'-3"	1 1/2"	4	2,440	2,221	6
PF2-2436AA-51-x		547,190	155,420	101,490	20,980			18'-10"	3'-7"					2,761	
PF2-2436AB-61-x		553,620	180,210	119,260	25,420			19'-7"	4'-4"					3,605	
PF2-2436AB-71-x		530,370	197,410	131,550	28,490			20'-4"	5'-1"					4,196	



NOTES:

1. Nominal tons of cooling represents 3 USGPM of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temperature.
2. CFM listed is for the highest fan motor HP and vary with the fan HP.
3. Operating weight is for the unit with the water level in the cold water basin at the overflow.
4. The actual size of the coil inlet and outlet connection may vary with the design flow rate. Consult unit print for dimensions.
5. Coil inlet and outlet connections are beveled for welding.
6. Models with Whisper Quiet Fans may have heights up to 5 1/2" greater than shown.
7. Standard make-up, drain and overflow connections are located near the bottom of the unit. Make-up connection is 1 1/2" MPT standpipe, drain is 2" FPT, and overflow is 3" FPT. Standard make-up, drain, and overflow connections are MPT.

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PF2 Engineering Data

PF2 HEAT LOSS DATA (BTUH)

Model Number	Standard Unit ^[1]	Unit with PCD Hood ^[2]	Unit with PCD Hood and Insulation
PF2-0406X-3X	68,850	58,724	30,095
PF2-0406X-4X	84,564	67,619	32,385
PF2-0406X-5X	100,087	76,455	34,661
PF2-0406X-6X	115,423	85,234	36,922
PF2-0412X-3X	153,907	96,672	54,065
PF2-0412X-4X	191,305	109,744	57,200
PF2-0412X-5X	227,505	122,563	60,280
PF2-0412X-6X	262,565	135,144	63,309
PF2-0709X-4X	252,792	122,992	74,004
PF2-0709X-5X	302,073	135,934	76,984
PF2-0709X-6X	349,582	148,648	79,923
PF2-0709X-7X	395,411	161,149	82,823
PF2-0718X-4X	698,568	194,759	129,566
PF2-0718X-5X	828,268	210,801	132,011
PF2-0718X-6X	948,287	226,325	134,463
PF2-0718X-7X	1,059,584	241,398	136,925
PF2-1012X-4X	469,984	159,318	104,693
PF2-1012X-5X	562,042	175,689	108,111
PF2-1012X-6X	649,726	191,671	111,472
PF2-1012X-7X	733,320	207,294	114,784
PF2-1024X-4X	939,969	318,636	209,385
PF2-1024X-5X	1,124,083	413,011	295,103
PF2-1024X-6X	1,299,452	444,133	300,751
PF2-1024X-7X	1,466,640	474,583	306,354
PF2-2012X-4X	941,821	382,356	290,314
PF2-2012X-5X	1,126,767	414,608	296,244
PF2-2012X-6X	1,303,074	446,157	302,121
PF2-2012X-7X	1,471,292	477,060	307,953
PF2-1212X-4X	576,709	179,304	124,770
PF2-1212X-5X	692,356	198,661	129,180

Model Number	Standard Unit ^[1]	Unit with PCD Hood ^[2]	Unit with PCD Hood and Insulation
PF2-1212X-6X	802,999	217,741	133,549
PF2-1212X-7X	908,924	236,565	137,883
PF2-1224X-4X	1,128,668	412,894	334,483
PF2-1224X-5X	1,348,812	446,103	339,449
PF2-1224X-6X	1,557,516	478,414	344,391
PF2-1224X-7X	1,755,579	509,905	349,314
PF2-2412X-4X	1,128,668	412,894	334,483
PF2-2412X-5X	1,348,812	446,103	339,449
PF2-2412X-6X	1,557,516	478,414	344,391
PF2-2412X-7X	1,755,579	509,905	349,314
PF2-2424X-4X	2,157,180	1,014,245	968,462
PF2-2424X-5X	2,553,604	1,053,861	955,646
PF2-2424X-6X	2,922,150	1,091,231	943,907
PF2-2424X-7X	3,265,349	1,126,635	933,171
PF2-1218X-4X	1,026,703	221,173	167,354
PF2-1218X-5X	1,225,263	242,470	171,123
PF2-1218X-6X	1,410,839	263,231	174,879
PF2-1218X-7X	1,584,530	283,516	178,628
PF2-1236X-4X	1,972,328	492,044	433,562
PF2-1236X-5X	2,334,595	522,377	431,904
PF2-1236X-6X	2,667,558	551,260	430,671
PF2-1236X-7X	2,974,276	578,900	429,836
PF2-2418X-4X	1,972,328	492,044	433,562
PF2-2418X-5X	2,334,595	522,377	431,904
PF2-2418X-6X	2,667,558	551,260	430,671
PF2-2418X-7X	2,974,276	578,900	429,836
PF2-2436X-4X	3,944,656	1,302,827	1,353,303
PF2-2436X-5X	4,669,190	1,353,388	1,334,572
PF2-2436X-6X	5,335,117	1,401,895	1,317,984
PF2-2436X-7X	5,948,553	1,448,674	1,303,349



NOTES:

1. Heat Loss based on 50°F (10°C) entering coil water and -10°F (-23.3°C) ambient with 45 MPH wind (fans and pumps off).
2. One inch thick PVC nitrile rubber blend thermal insulation on both the PCD hood and the casing panels surrounding the coil.



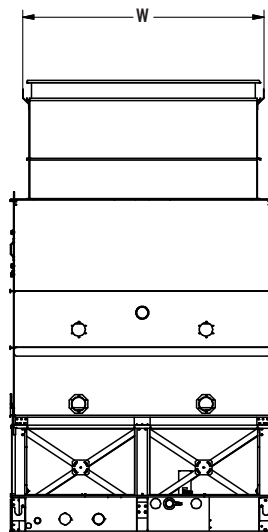
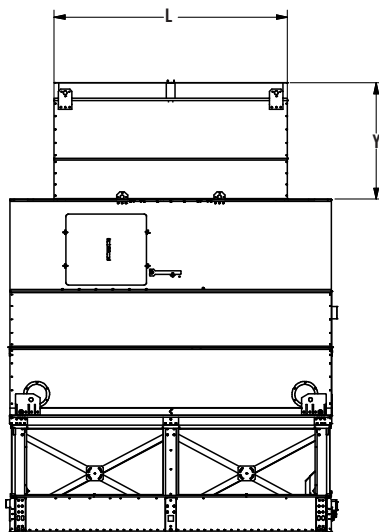
DIMENSIONAL DATA OF POSITIVE CLOSURE DAMPER HOOD

Model Number	Number of PCD Hoods	Length (L)	Width (W)	Height (Y)	Hood Shipping Weight	Hood Operating Weight ⁽¹⁾
PF2-0406	1	4'-6"	4'-7"	1'-10"	275	205
PF2-0412	2	4'-6"	4'-7"	1'-10"	275	410
PF2-0709	1	7'-6 1/2"	7'-8"	3'-4 3/4"	756	606
PF2-0718	2	7'-6 1/2"	7'-8"	3'-4 3/4"	756	1,211
PF2-1012	1	8'-11 5/8"	9'-2 1/4"	2'-11"	937	697
PF2-1024	2	8'-11 5/8"	9'-2 1/4"	2'-11"	937	697
PF2-2012	2	8'-11 5/8"	9'-2 1/4"	2'-11"	937	697
PF2-1212	1	10'-8"	10'-5"	2'-9 7/8"	1,181	941
PF2-1224	2	10'-8"	10'-5"	2'-9 7/8"	1,181	941
PF2-2412	2	10'-8"	10'-5"	2'-9 7/8"	1,181	941
PF2-2424	4	10'-8"	10'-5"	2'-9 7/8"	1,181	941
PF2-1218	1	9'-5 1/2"	8'-8 1/4"	2'-11"	1,955	1,715
PF2-1236	2	9'-5 1/2"	8'-8 1/4"	2'-11"	1,955	1,715
PF2-2418	2	9'-5 1/2"	8'-8 1/4"	2'-11"	1,955	1,715
PF2-2436	4	9'-5 1/2"	8'-8 1/4"	2'-11"	1,955	1,715



NOTE:

1. Hood shipping weight includes shipping skid weight.
2. Hood dimensions are for units with a standard fan. For alternate fans, please consult your local BAC Representative.



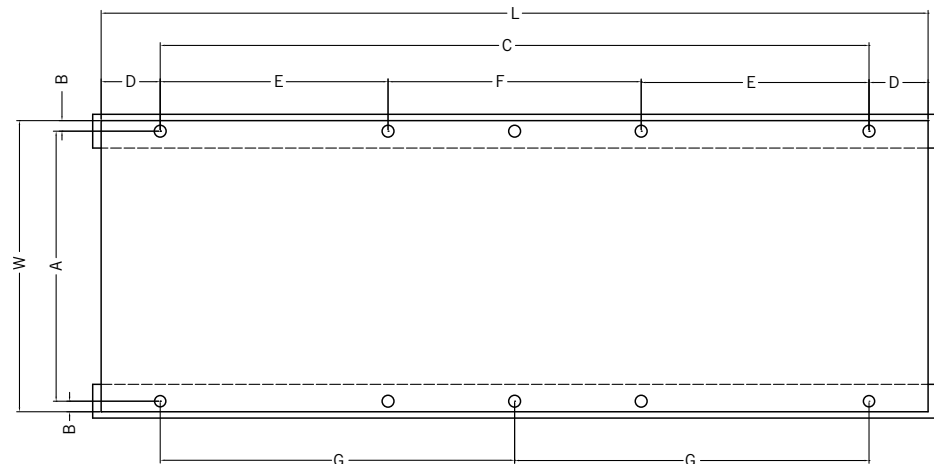
PF2 Structural Support

The recommended support arrangement for the PF2 Closed Circuit Cooling Tower consists of parallel I-beams positioned as shown on the drawing below. Besides providing adequate support, the steel also serves to raise the unit above any solid foundation to assure access to the bottom of the unit. The PF2 Closed Circuit Cooling Tower may also be supported on columns at the anchor bolt locations shown.

A minimum bearing surface of 12 in² (77,742 mm²) must be provided under each of the concentrated load points. To support a PF2 Closed Circuit Cooling Tower on columns with an alternate steel support arrangement, or the optional structurally upgraded unit, consult your local BAC Representative.

NOTES:

1. Contact your local BAC Representative for multi-cell or structurally upgraded unit steel support.
2. Support beams and anchor bolts to be selected and installed by others.
3. All support steel must be level at the top.
4. Structural supports should be designed in accordance with the strength and serviceability requirements of the applicable building code, typically defined by the IBC. For instance, the IBC criteria for commercial roof beams with plaster ceiling require the deflections of support members to be limited to $l/360$, where l is the span length of the bending member, or the distance between the center of supports.
5. If vibration isolators are used, a rail or channel must be provided between the unit and the isolators to provide continuous support. Refer to vibration isolators drawings for the length of the rails and mounting hole locations, which may differ from the length and the hole location of the unit itself.



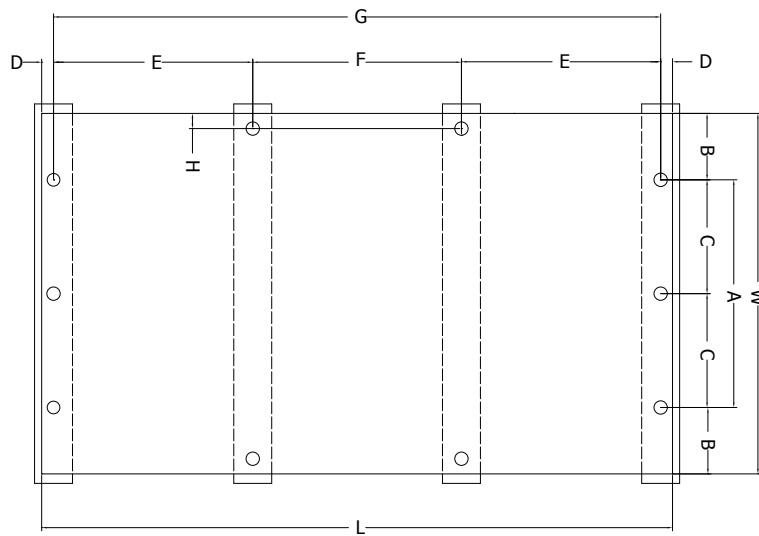
Single Cell Standard Unit Only

SINGLE CELL STANDARD UNIT ONLY

Box Size	L	W	A	B	C	D	E	F	G
4' x 6'	5'-11 3/4"	4'	3'-9 3/4"	1 1/8"	2'-5 1/4"	9 1/4"	—	—	—
4' x 12'	11'-11 3/4"	4'	3'-9 3/4"	1 1/8"	10'-5 1/4"	9 1/4"	—	—	—
7' x 9'	8'-11 3/4"	7'-3 1/4"	7'-1"	1 1/8"	8'-3 3/4"	4"	—	—	4'-1 7/8"
7' x 18'	17'-11 3/4"	7'-3 1/4"	7'-1"	1 1/8"	17'-3 3/4"	4"	5'-8 3/32"	5'-11 1/2"	—
10' x 12'	11'-11 3/4"	9'-10"	7'-7 3/4"	1 1/8"	11'-3 3/4"	4"	—	—	5'-7 7/8"
12' x 12'	11'-11 3/4"	11'-10"	11'-7 3/4"	1 1/8"	11'-3 3/4"	4"	—	—	5'-7 7/8"
12' x 18'	17'-11 3/4"	11'-10"	11'-7 3/4"	1 1/8"	17'-3 3/4"	4"	5'-8 3/32"	5'-11 1/2"	—

Alternative Structural Support

For replacement installations, the PF2 Closed Circuit Cooling Tower has been designed to match the supporting steel of many existing evaporative condensers without modifications. Shown below is the most common steel support arrangements which can be accommodated by the PF2. **IBC wind and seismic load ratings are not available on alternate steel support arrangements.** If individual point support is required, or if the existing steel arrangement is not shown as below, consult your local BAC Representative for assistance.



Single Cell Standard Unit – Alternative Steel Support



NOTES:

1. Contact your local BAC Representative for multi-cell or structurally upgraded unit steel support.
2. Support beams and anchor bolts to be selected and installed by others.
3. All support steel must be level at the top.
4. Structural supports should be designed in accordance with the strength and serviceability requirements of the applicable building code, typically defined by the IBC. For instance, the IBC criteria for commercial roof beams with plaster ceiling require the deflections of support members to be limited to $l/360$, where l is the span length of the bending member, or the distance between the center of supports.
5. If vibration isolators are used, a rail or channel must be provided between the unit and the isolators to provide continuous support. Refer to vibration isolators drawings for the length of the rails and mounting hole locations, which may differ from the length and the hole location of the unit itself.

SINGLE CELL STANDARD UNIT – ALTERNATIVE STEEL SUPPORT

Box Size	L	W	A	B	C	D	E	F	G	H
4' x 6'	5'-11 3/4"	4'-0"	3'-4"	4"	3'-9 1/2"	1 1/8"	—	—	—	—
4' x 12'	11'-11 3/4"	4'-0"	3'-4"	4"	11'-9 1/2"	1 1/8"	—	—	—	—
7' x 9'	8'-11 3/4"	7'-3 1/4"	6'-7 1/4"	4"	—	1 1/8"	—	—	—	—
7' x 18'	17'-11 3/4"	7'-3 1/4"	6'-7 1/4"	4"	—	1 1/8"	5'-11"	5'-11 1/2"	17'-9 1/2"	1 1/8"
10' x 12'	11'-11 3/4"	9'-0"	9'-2"	4"	4'-7"	1 1/8"	—	—	11'-9 1/2"	—
12' x 12'	11'-11 3/4"	11'-10"	11'-2"	4"	5'-7"	1 1/8"	—	—	—	—
12' x 18'	17'-11 3/4"	11'-10"	11'-2"	4"	5'-7"	1 1/8"	5'-11"	5'-11 1/2"	17'-9 1/2"	1 1/8"

