BARNHART-TAYLOR, INC.

INFINITY 42” x 42” SERIES EVAPORATIVE COOLERS SPECIFICATIONS - DRAW THROUGH THE EVAPORATIVE MEDIA - SINGLE AND DOUBLE BLOWER UNITS WITH FORWARD CURVE FANS AND SINGLE AIR INLET

Barnhart-Taylor, Inc. Infinity series draw through units per model numbers listed in the equipment schedule. Units shall be suitable for floor mounting on concrete slabs or roof mounting on structural steel bases by others.

FAN CASING: Wall thickness: 1-1/2” for units with panels’ height less than 8ft., 2” for units with panels’ height greater than 8ft. Galvanneal a60 with welded uniframe construction (painted black steel is not allowed). 18 gauge walls, roof and floors, with 18 gauge hinged access doors for internal static pressures 2” and less. 16 gauge walls, roof and floors, with 18 gauge hinged access doors for internal static pressures greater than 2” but less than 3”.

Unit construction shall include as a minimum C6 x 8.2 structural steel bases with lifting lugs (C8 x 10.5 on larger units). Each access door shall be double wall and shall included one keyed access latch, one compression type latch for positive closure, heavy duty galvanized steel hinges with hard plastic bearings and each door is to be sealed with automotive type gaskets – neoprene gaskets are not allowed.

WALL, ROOF, FLOOR AND STRUCTURAL STEEL COATING: Internal wall and roof areas are painted with 4 mils dry gray two-component 70% by volume epoxy primer followed by 5 mils dry gray two component 74% by volume epoxy semi-gloss finish. Floors are coated with an ultra-high build, single component 6 mils dry 70% by volume coal tar mastic, after application of 4 mils dry two-component 70% by volume epoxy primer. All external wall and roof areas shall be painted with 4 mils dry gray two component 70% by volume epoxy primer and finished with 3 to 4 mils DTM Acrylic 42% solids by volume – Granite Gray or color selected by the architect.

Structural steel bases are to be painted with two coats red oxide primer, followed by 4 mils dry two-component 70% by volume epoxy and finished with 3 to 4 mils DTM Acrylic 42% solids by volume – Granite Gray or color selected by the architect.

All coatings are low VOC.

(Optional) External finishes such as polyurethanes are available.

(Optional) STAINLESS STEEL FAN CASING: 1-1/2” single wall 304 stainless steel, welded uniframe construction and is to include 18 gauge walls, roof and floors, with 18 gauge hinged access doors. Unit construction shall include as a minimum C6 x 8.2 structural steel bases with lifting lugs (C8 x 10.5 on larger units). Each access door shall be double wall 304

stainless steel and shall included one keyed access latch, one compression type latch for positive closure, heavy duty 304 stainless steel hinges with hard plastic bearings and each door is to be sealed with automotive type gaskets – neoprene gaskets are not allowed.

Stainless steel casing is unpainted; welds are coated with aluminum paint.

FAN WHEELS, SHAFTS AND BEARINGS: Econoclimas size 42" x 42" forward curved fans which are not AMCA certified, double width, double inlet, hot dipped galvanized steel wheels and housings. Wheel blades are to be welded to the wheel's external ring and internal hub plate. Shafts are coated to prevent oxidation. Bearings are self-aligning, pillow block, medium duty, ball type with contact seals. Fan housings are coated with 4 mils dry gray two-component 70% by volume epoxy primer followed by 5 mils dry gray two component 74% by volume epoxy semi-gloss finish..

DRIVES: Sheaves shall be type B, C or V and fabricated from heavy duty cast iron. Belts are sized for 130% of Bhp. Supply fan motors will be furnished with adjustable motor bases. Belt guards shall be constructed of expanded metal with solid backs, tops, and ends.

MOTORS: Motors shall be TEFC, premium efficiency, single speed, two speeds, or VFD driven as listed in the equipment schedule. 1800 rpm, rated for 230/460 volts, 3ϕ, 60 hertz.

Motors as manufactured by BALDOR, WEG, or US motors.

(OPTIONAL) FAN AND MOTOR VIBRATION ISOLATION: Furnish structural steel bases, minimum C6 x 8.2 under the fan, motor, drives and belt guard. Mount structural steel bases on seismic (1" deflection) vibrations isolators sized per load requirements of the components. Vibration isolators are to be hot dipped galvanized steel with adjusting and shipping bolt.

Structural steel vibration isolation bases for are coated with 4 mils dry gray two-component 70% by volume epoxy primer followed by 5 mils dry gray two component 74% by volume epoxy semi-gloss finish.

DIRECT MEDIA: Evaporative media shall be Munters 12-inch thick CELDEK. Media is composed of cellulose paper, impregnated with insoluble anti-rot salts and rigidifying saturates. The evaporative media face area will be sized for a maximum face velocity of 520 fpm.

DIRECT MEDIA CASING AND SUMP: All metal in contact with water shall be welded construction, 18 gauge 304 stainless steel. Plumbing connections shall include 2" overflow (CPVC), 1" NPT drain (stainless steel), and bronze heavy duty make-up water valve by Flippen or Roberts with polyethylene floats and brass rods.

(OPTIONAL) DIRECT MEDIA CASING AND SUMP: All metal in contact with water shall be welded construction, 18 gauge, Galvanneal a60. Plumbing connections shall include 2" overflow (CPVC), 1" NPT drain (galvanized steel), and bronze heavy duty make-up water valve by Flippen or Roberts with polyethylene floats and brass rods.

WATER PIPING: Schedule 40 PVC piping and fittings shall be used for the water recirculation piping. Water recirculation rate required to wet the evaporative media is to be set at the factory with minor adjustments made at the job site.

An adjustable bleed system shall be included and is to include a needle valve and vinyl tubing that drains to the units overflow drain.
(Optional) Timed flush pump bleed system for wiring by others or wired to the unit mounted motor control panel.

(Optional) Fill and drain kit with freeze protection for wiring by others or wired to the unit mounted motor control panel.

PUMPS: Circulating pumps shall be Little Giant WGP series with model selected per the flow rate required by the Celdek media. Construction shall include oil-less construction, air filled housings, single mechanical seals with thermal overload protection, motor with stainless steel housing, Noryl impeller, and polypropylene pump housing. Pumps shall be rated for 115 volts, 1ϕ, 60 hertz. Pump is to be wired by others or wired to the optional unit mounted motor control panel.

AIR DISCHARGE LOCATION: Unit shall be fabricated as an up-blast, down-blast or straight (horizontal) discharge with outlet dimensions B per the standard unit drawings. Refer to the equipment schedules and plans for air discharge location of each unit.

TYPE OF AIR INLET – LOUVERED INLET WITH OR WITHOUT FILTERS: Specify if air inlet is to be with or without filter section(s).

LOUVERED INLET WITHOUT FILTER SECTION: Louvers are 2” 20 gauge Galvanneal a60 and include expanded metal bird-screen mounted before the wet section.

FILTER SECTION WITH LOUVERED INLET:

Filter sections shall be constructed of 18 gauge Galvanneal a60 using 1-1/2” single wall with uniframe welded construction, and shall include quick opening hinged access doors with metal gauges, hardware, and gaskets specified in the casing section. Filter sections shall have a plenum between the filters and the evaporative cooling media to provide access to the inside of the filter section for filter removal and media maintenance. Units without a maintenance plenum will not be allowed.

Several types of filters may be selected as follows:

Filter sections accommodate 2” thick 25-30% efficient, 420 fpm maximum, high capacity throw away filters which slide freely on channels, equal to American Air Filter Merv 8 PerfectPleat HC, or (optional) 2” aluminum, permanent, washable filters.

(Optional) Aluminum pre-filter section shall be included after the louvers and before the throwaway filters. 2” aluminum filters are to be encased in an aluminum sheet metal frame

which slide freely on channels. The filter media consists of multiple layers of pleated aluminum media.

(Optional) 12" thick Merv 8, 12, 14 and 15 extended surface rigid air filters with synthetic media are available. These filters are AAF VariCel RF mounted on AAF mounting brackets, spring loaded and supported, and include a neoprene gasket between the mounting bracket and the filter. AAF Merv 8 PerfectPleat filter or aluminum filter is added before the 12" VariCel RF with AAF's mounting brackets specially designed to attach the 2" pre-filters to the 12" VariCel RF.

4" intake louvers shall be drainable fixed blade type constructed of Galvanneal a60 with expanded metal bird-screen.

(Optional) MOTOR STARTER/CONTROL PANELS – REMOTE CONTROLS BY OTHERS:

Single point wiring motor starter control panel shall be furnished with each unit. Each control panel is to include a disconnect switch, motor starter (single or two speed per equipment schedule), controls transformer, pump relay and terminal strips for use by the controls contractor to incorporate the building management system controls. Enclosure is to be oversized to provide room for use by the controls contractor.

All components are to be UL listed and motor starters are to be NEMA rated.

(Optional) ETL inspection and listing is available.

(Optional) Dirty Filter switches and pressure gauge is to be provided for each filter section and wired to the terminal strip in the motor control panel mounted on the unit.

(Optional) Motor control is to include a variable frequency drive without by-pass. Each control panel is to include a disconnect switch, variable frequency drive by Eaton, Baldor, ABB or Siemens, controls transformer, pump relay and terminal strips for use by the controls contractor to incorporate the building management system controls. Enclosure is to be oversized to provide room for use by the controls contractor.

(Optional) Motor control is to include a variable frequency drive **with** by-pass. Each control panel is to include a disconnect switch, variable frequency drive by Eaton, Baldor, ABB or Siemens, controls transformer, pump relay and terminal strips for use by the controls contractor to incorporate the building management system controls. Enclosure is to be oversized to provide room for use by the controls contractor.

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