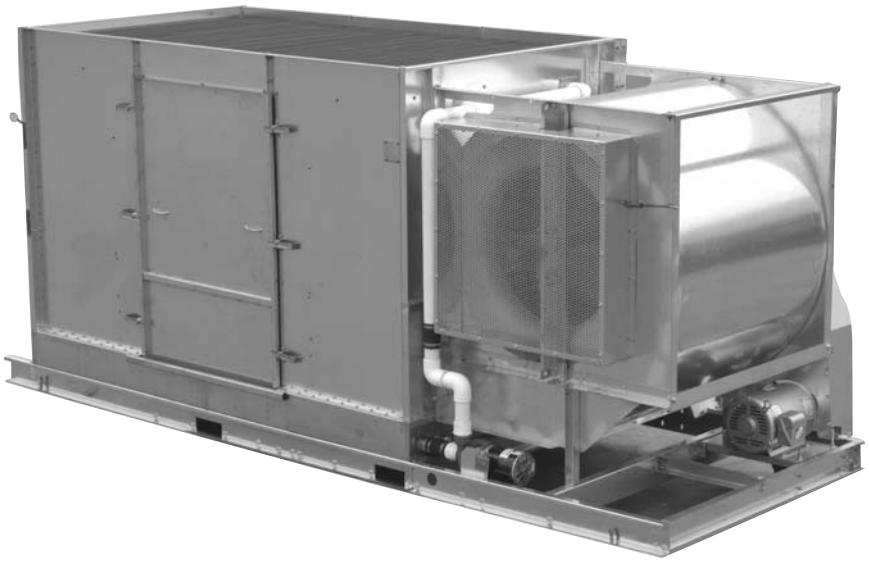
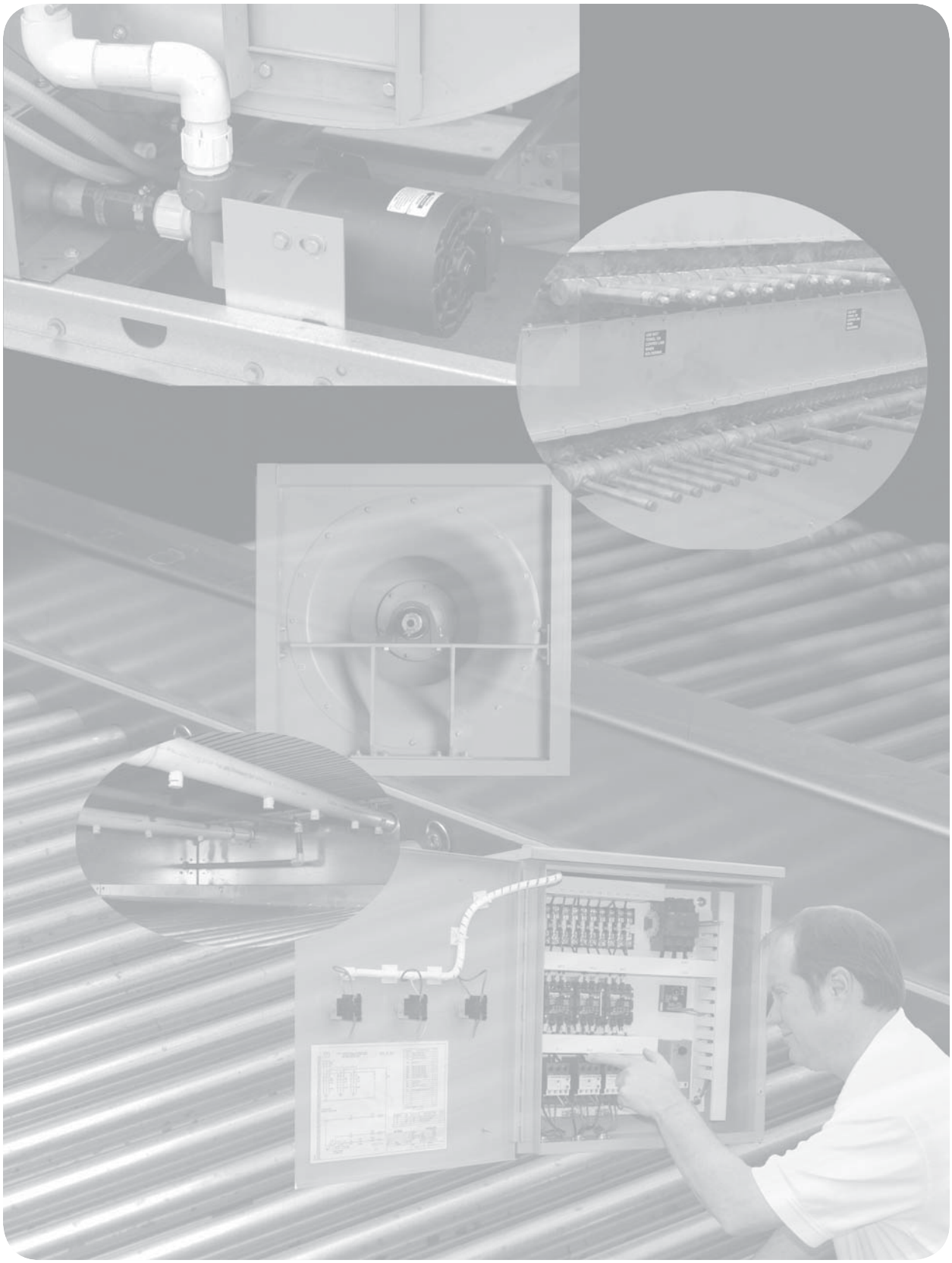
Form 350.10-SED1 (SEP 2004)
SPECIFICATIONS - ENGINEERING DATA - DIMENSIONS
Replaces: E200-206 SED (SEP 2004)

FRIGID COIL COPPER TUBE EVAPORATIVE FLUID COOLERS

YFC Series





CONTENTS

ALL YFC SERIES EVAPORATIVE FLUID COOLERS HAVE COPPER TUBING

Smart managers earn extra years of trouble-free operation
by choosing Copper Tube coil construction.

CHOOSE COPPER

- **Noncorrosive –** Copper tubing is classified as noncorrosive. This means more years of productivity and trouble-free operation. Copper tubing provides a clean interior surface for your process fluid system. Corrosion resistance means long service life.
- **Efficient Heat Transfer –** Copper is the most efficient heat transfer material available for evaporative fluid coolers. This allows smaller units and lower energy consumption to produce the required heat transfer.
- **Design Flexibility –** A closed-loop fluid cooler must be circuited with an eye toward optimal fluid velocity, to deliver proper heat transfer, while also maintaining a fluid pressure drop within the desired range for your process pump. Lower pressure drop through the cooling coil translates into lower process pump horsepower and operating costs. The Johnson Controls closed-circuit evaporative fluid coolers are offered with circuiting arrangements specifically tailored for low-flow, standard, or high-flow system requirements.
- **Light Weight...Economical Installation –** Copper is a light-weight material. It yields a more compact design that delivers results similar to other units using steel as the coil construction material. Less weight also means less required support structure and lower installation lifting costs.

ADVANTAGES OVER COOLING TOWERS

Closed-loop design means a cleaner cooling system.

In a standard cooling tower, the process water and sump water are one and the same fluid. A material known as “wet decking” is used in place of the heat transfer coil to cool the process water by direct evaporation in the air stream. The process water cooled by this method contains contaminants which are washed out of the air stream, and concentrated within the water as a large portion of the water evaporates away. These contaminants build up in the process heat transfer equipment, causing corrosion, scaling, and blockages that lead to performance degradation and down-time for service and maintenance. Closed-Circuit Fluid Coolers (or closed-loop towers as they are some times called), eliminate these problems, since the process water is isolated from the air stream, remaining pure and clean as it passes through the copper cooling coil.

There is a secondary benefit to using a closed-loop design for your cooling needs. It allows the selection of brine fluids for the circulating loop where protection from freezing temperatures is desired. The brine solution within the tubes never comes in contact with the recirculated spray water, thus delivering freeze protection in an economical fashion.

SAFETY and DURABILITY

Prevent leaks and make your investment last.

Welded stainless steel sumps are superior. Welded closures are permanent. They are secure and eliminate the water leaks that develop over time with flanged and gasketed construction. No water, no rust, no bacteria or standing water in your equipment room. This also provides a safety bonus by removing hazards for your operators working near electrical wiring.

SERVICE ACCESS DETERMINES MAINTENANCE COST

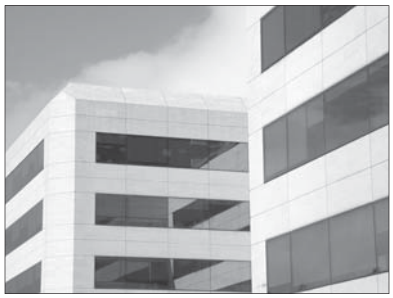
Don’t waste time trying to get to the equipment. Johnson Controls evaporative fluid coolers provide easy access for maintenance. This means less hours invested by your maintenance team to keep equipment in prime condition and lower cost for your bottom line.

LONGEVITY

Stainless steel can also be used for Johnson Controls upper cabinet construction. If you have adverse water conditions in your facility (i.e. heavy water, chlorine, low pH, or alkaline conditions), stainless construction is for you. Stainless steel resists corrosion and provides many additional years of service. Standard construction is galvanized.

WHERE TO FIND US

Hotels, Office Buildings, Schools, and Retail Facilities



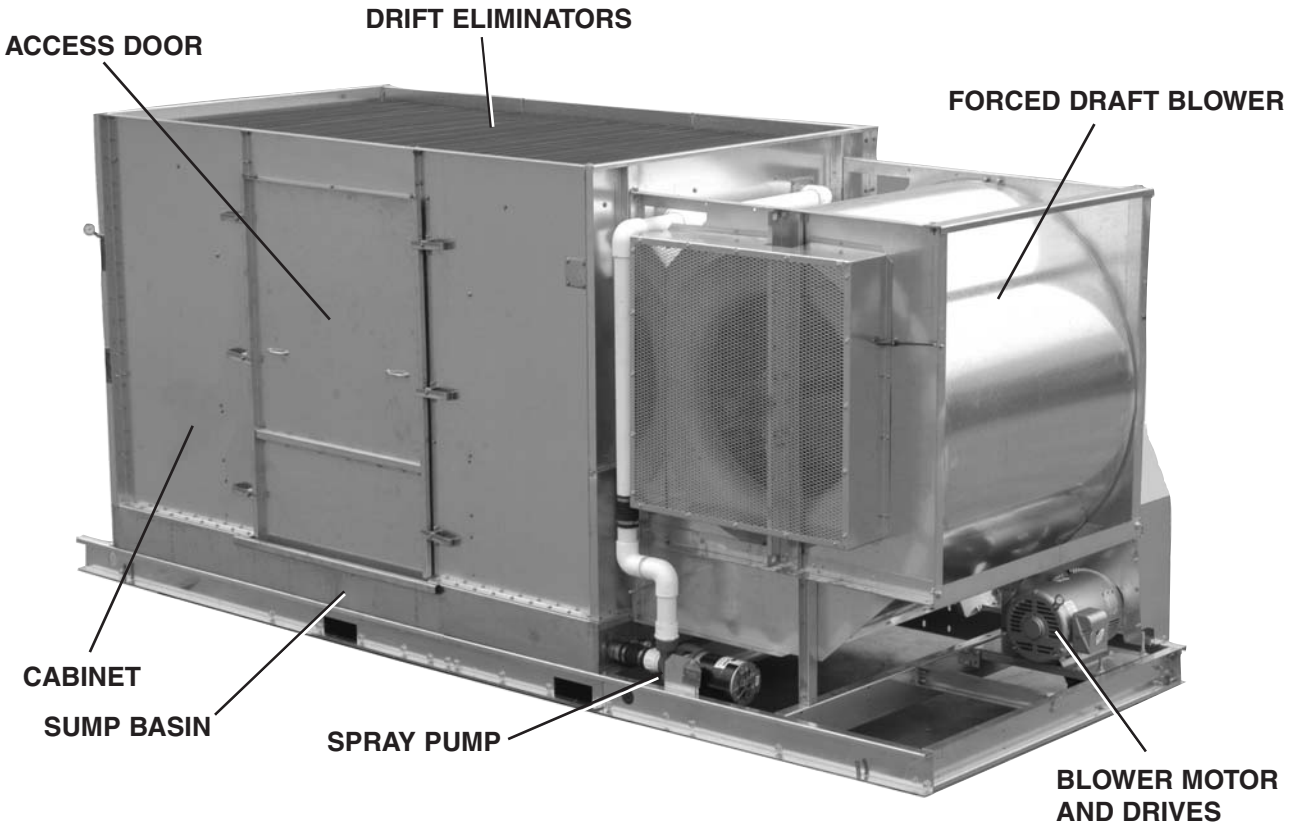
It is common for hotels, office buildings, schools, and retail facilities to utilize multiple water-source heat pump units, which are linked together by means of a fluid piping loop. A water-source heat pump (WSHP) is a reverse-cycle, air conditioning and heating unit which uses water as the heat source when in heating mode, and as the heat sink when in the cooling mode. When the loop water temperature exceeds a certain level during the cooling operation, the cooling tower or closed-loop fluid cooler dissipates heat from the water loop into the atmosphere. When the loop temperature drops below a prescribed level during heating operation, heat is added to the circulating loop water, usually with a boiler. In multiple-unit installations, some heat pumps may operate in the cooling mode while others operate in the heating mode simultaneously. The water for these closed-loop systems is usually circulated at a rate of 2 to 3 gallons-per-minute for each ton of cooling capacity.

The selection of a closed-circuit evaporative cooler in place of an open cooling tower for these water-source heat pump systems will ensure that system cleanliness and efficiency are not significantly degraded over time, as can occur with open-to-the-atmosphere type of systems.

Manufacturing

Closed-circuit evaporative fluid coolers are used across a wide variety of manufacturing processes, including wire drawing, plastic molding, metal forming, die casting, welding, and extrusion. For example, a typical bottling facility contains multiple heat-producing units, which utilize water-cooling jackets to keep the equipment temperature within acceptable limits. The use of a closed-loop fluid cooler for these applications offers the same benefits available for heat pumps, dramatically lowering the service and maintenance requirements (less down-time for your process). Likewise, applications involving air compressors with cooling-water jackets are a natural for closed-loop fluid coolers!

SPECIAL POINTS



BUILT IN BASICS

All of the standards you expect, and more.

Cabinet – Our standard construction is galvanized steel, flanged and gasketed to provide a watertight enclosure. All internal cooling coil support framing is constructed of stainless steel to avoid corrosion.

Access Doors – Gasketed, oversized, stainless steel access doors are made for easy entry to clean the sump basin. Quick-acting latches mean superior serviceability and ensure a watertight fit.

Sump Basin – Say goodbye to leaks with welded stainless steel construction. Pan includes stainless steel drain connection with removable plastic overflow standpipe installed. Overflow standpipe is easy to remove by hand and makes draining the sump pan for cleaning a snap!

Cooling Coil Assembly – Copper tubes (5/8" OD) and return bends with silver-brazed joints. Tubes are supported by rugged CPVC-insert tube sheets. All cooling coils are tested under water at 350 psig to ensure leak-free operation.

Spray System – Spray water system consists of a close-coupled centrifugal spray pump that draws water from the sump basin and distributes it over the entire cooling coil assembly. Spray headers and nozzles are durable ABS plastic and the nozzles incorporate large orifices to reduce the potential for clogging. Spray headers have easy-to-remove end caps located outside the unit casing to facilitate service. Spray pump motors are available as either 208 or 230-460 volt, 60 cycle, 3 phase. Consult factory for alternate voltage or cycle characteristics.

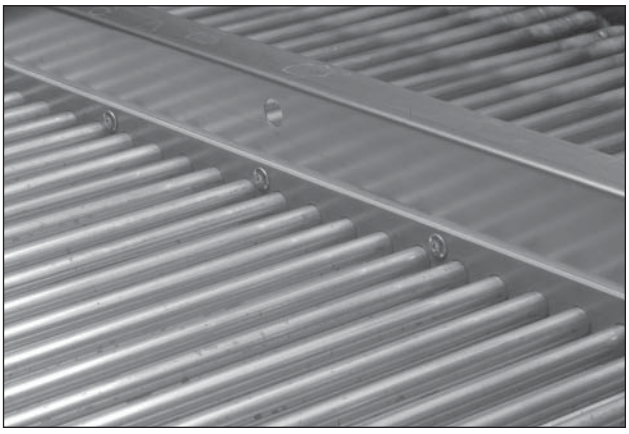


Figure 1 - Cooling Coil Assembly

Blower – Forward-curved centrifugal blower is constructed of galvanized steel. Wheels are balanced after unit assembly to enhance smooth operation. Blower wheels are keyed to a polished, precision-ground, solid steel shaft. Wheels are supported by rugged, prelubricated, self-aligning bearings, specially selected for long service life.

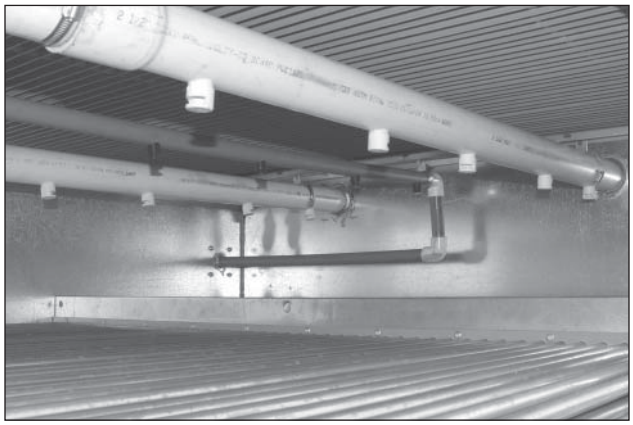


Figure 2 - Spray System

Blower Motors and Drives – 1800 RPM motors with 1.15 service factor are standard. Available as 208 or 230-460 volt, 60 cycle 3 phase. Consult factory for alternate voltage or cycle characteristics. All motors undergo complete factory run-testing prior to shipping.

Drive pulleys and V-belts are conservatively selected to provide continuous, trouble-free service. Motors are mounted on heavy-duty adjustable base to allow for fan belt tension adjustment.

Drift Eliminators – Shipped in lightweight, easily removable sections constructed from corrosion-resistant polyvinyl-chloride (PVC). Efficient design ensures removal of entrained water droplets from the leaving air stream, limiting drift rate to 0.002% of recirculating water rate.

Bleed Control – Factory calibrated automatic bleed trough minimizes scaling without excessive water loss.

Water Makeup System – The water makeup system is comprised of a solid brass float valve and arm. Stainless steel baffles surround the float ball on three sides to isolate the float. This prevents the ball from being bounced by internal air stream turbulence and gives stable operation.

Extended lube lines – Run from bearing to outside of the fan guard. With this easy access position, the fan guard can be left in place during service. Just place grease gun against fitting and squirt.

INDIVIDUAL CONTROL OPTIONS

Long Life – Stainless Steel is recognized as corrosion resistant, lasting longer than most other construction materials.

- Use it for your unit casings to ensure extended service life.
- Select Stainless Steel for the Blower Scroll. Inlet venturis and bearing supports are fabricated from epoxy-coated galvanized steel. Blower guards may be constructed from stainless if desired.

Access Means Serviceability – A Johnson Controls exclusive, our optional extra access door is available for cabinet sizes 1 through 3 (single door is standard). Make it safe and easy for your service team and minimize costs as well.

On-line Service – Our optional external float assembly provides an external float chamber. It houses the solid brass float valve and arm outside of the turbulent basin water and fan discharge airstream. As a result, the float assembly can be serviced without shutting down the unit.

Dampers for Simple Temperature Management – Dampers are for less sophisticated applications. They are perfect for environments with relatively constant fluid temperature over a range of ambient operating temperatures. A thermostatically controlled damper motor modulates a damper in response to sump water temperature. An integral end switch, located within the damper motor, may be adjusted to cycle the blower motor **off** when the damper fully closes and **on** with subsequent temperature rise.

Lower Energy Usage – Reduce your capacity requirements with a secondary pony motor. Its reduced horsepower can operate the blower at a reduced speed during periods of lower ambient temperatures or standby conditions, leaving your primary motor on idle. Lower energy usage means lower costs. Pony motor is mounted with its own pulleys and V-belts on a common shaft with the primary blower motor.

The pony motor is generally sized to provide 50% of full airflow. The horsepower is consistent with established fan laws. Consult factory to obtain horsepower requirements for alternate airflow reductions.

Handle Higher Static Pressure – For applications that exceed the function of our standard units (up to 1/4" of external static pressure), the factory can resize blower drives to compensate for additional static pressure up to 1/2".

Motors for Special Needs – TEFC, Severe-Duty TEFC, Explosion-Proof, Multi-Speed, and Energy-Efficient (Super E) motors are available to meet your specifications.

No Fuss Motor Control – Make work simple with our optional electric motor control panel. Installed on your unit and factory prewired to the blower and pump motors, the panel includes a NEMA-3R duty enclosure, main disconnect switch, control circuit fusing, and transformer, as required. Service personnel have convenient access to fuses and starters for the blower and spray pump motors. Also, toggle-type control circuit switches are installed on the face of the enclosure. Optional NEMA-12 and NEMA-4 enclosures are available.

Freeze Protection – Protect your sump water from freezing during low-ambient operation. Order a factory-installed, electric immersion heater (single or three-phase), control thermostat, and low-water-level cutout switch. This is protection you will be glad to have.

Prevent Heat Loss – Don't lose water heat during shutdown. The positive-closure damper option mounts on its own discharge hood. It is factory installed on the top of smaller-sized equipment, shipped loose for larger units. Johnson Controls recommends a single layer of closed-cell rubber foam applied to the exterior of the unit casing with positive-closure damper option applications.

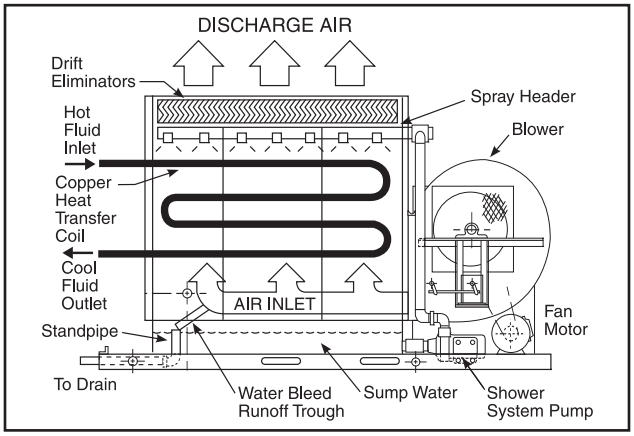
Reduce Debris – Keep unwanted debris and contaminants out of your system with a stainless steel screen-type pump inlet strainer.

PRINCIPLES OF OPERATION

The main component of the YFC Series Fluid Cooler is a copper heat transfer coil which is located inside the main cabinet. The hot fluid to be cooled is passed through the inside of this coil. The cooling effect is achieved by means of the evaporation of water on the outside surface of the coil.

The shower system pump draws water from the sump pan and discharges it through a spray tree positioned directly above the copper coil. The shower water cascades down over the coil and eventually falls back into the sump pan to be recirculated again in a continuous cycle. At the same time as the sump water is cascading down over the coil, the blower is forcing the inlet air upwards through the coil bundle. This counterflow action produces atomization of the water and an intense evaporation cooling effect upon the outside surface of the coil. The hot fluid flowing inside the coil is thus cooled as it passes through it. Warm moist air is discharged out of the top of the unit after having passed through the drift eliminators which remove water droplets still in suspension.

The evaporation of the shower water, and the "washing" of the air stream results in a buildup of contamination in the sump water. A water bleed trough continuously catches a small calibrated amount of falling water and funnels it down the drain. This prevents excessive buildup of contaminants, as fresh replacement water is introduced into the sump through a water makeup valve. The float valve also maintains a constant sump water level as water is lost due to the evaporation process.



ACCURATE SELECTION PROCEDURES

Closed-loop coolers can be used to cool numerous types of fluids other than water or ethylene glycol. However, as each fluid has its own individual heat transfers and flow properties, contact your local Johnson Controls representative when desiring selections for any special fluids.

GLOSSARY:

Range. This is the difference between the Entering (EWT) and Leaving Fluid Temperature (LWT)°F.

Range = (EWT – LWT)°F.

Approach. This is the difference between the Leaving Temperature of the Fluid (LWT) and the design Entering Wet Bulb Temperature (WB).

Approach = (LWT – WB)°F.

SELECTION STEPS:

1. Determine the design Range.
2. Determine the design Approach.
3. Select the Load Factor using Table 1. Use the relevant table for the given Wet Bulb Temperature.
4. Select the Unit Model Number from Table 2, interpolating between the tabulated figures where necessary.
5. Select Low or Normal Flow. Observing the GPM Min.-Max. column on Table 2, determine whether the unit selected in Step 4 should be a Low Flow YFCL or a Normal Flow YFC fluid cooler.
6. Determine the Coil Pressure Drop using Table 4.
7. If resulting Coil Pressure Drop exceeds desirable value, consult the factory regarding High Flow circuiting option.

WATER SELECTION EXAMPLE

A unit needs to cool 165 GPM of water from 105°F to 89°F. The wet bulb temperature is 78°F.

SOLUTION:

1. Determine design Range.
   105°F – 89°F = 16°F Range
2. Determine design Approach.
   89°F – 78°F = 11°F Approach
3. Select Load Factor. Using Table 1 for 78°F Wet Bulb Temperature, select the Load Factor based upon a 16°F Range and 11°F Approach. For this example, the factor is 4.2. For an odd-numbered Range, interpolate.
4. Select unit Model from Table 2. The Load Factor of 4.2, as determined in Step 3, falls between columns headed 4.0 and 4.5. Enter the 4.0 column and read down to the smallest unit Flow Rating which is greater than, or equal to, 165 GPM. Looking at Model 5-86, interpolate between 175 and 140 to give the Flow Rate at a 4.2 Load Factor. Interpolation gives 161 GPM, which is insufficient, so we go to the next-size-larger unit. Looking at Unit 6-92, the Flow Rate at 4.2 Factor is 171 GPM. Hence, unit 6-92 is chosen.
5. Select Low or Normal Flow unit. Observing the GPM Min.-Max. column of Table 2, for a flow of 165 GPM, Normal Flow YFC is indicated.
6. Determine Coil Pressure Drop. Using Table 4, for Unit YFC 6-92 and 165 GPM, interpolation gives a Pressure Drop of 1.7 PSI.

ETHYLENE GLYCOL SELECTION EXAMPLE

Select a unit to cool 45 GPM of 40 percent by volume ethylene glycol from 101°F to 89°F with a 72°F Wet Bulb.

SOLUTION:

1. Range = 101°F – 89°F = 12°F.
2. Approach = 89°F – 72°F = 17°F.
3. Select Unit Load Factor. Enter Table 1 for 72°F Wet Bulb and read off Load Factor at design Range and Approach. Factor of 3.0 selected.
4. Select Test Unit Model. Using Table 2 and 3.0 Load Factor column, read down to the lowest unit Flow Rating greater than or equal to, the design 45 GPM Test Model 1-15 selected.
5. Ethylene Glycol Flow Correction. Obtain Flow Correction Factor from Table 3, applicable factor is 1.13. Flow Correction is: 1.13 x 45 = 51 GPM.
6. Model Selection Adjustment. Re-enter Unit Rating Table 2 at 3.0 Load Factory and make a selection

based on Corrected Flow of 51 GPM. Adjusted selection is Model 2-17.

7. Select Normal or Low Flow unit. From GPM Max.-Min. column of Table 2, Normal Flow YFC 2-17 unit is needed.
8. Coil Pressure Drop. For ethylene glycol, the Conversion Factor from Table 5 must be applied to Design Flow before entering Table 4. For 40% ethylene glycol, factor is 1.06.

   45 GPM x 1.06 = 48 GPM

   The coil Pressure Drop for 48 GPM is: 2.3 PSI.

CRITICAL PROTECTION PACKAGES (CPP)

All Johnson Controls Evaporative Condensers are factory engineered to provide years of efficient operation and service. Our standard design incorporates serviceability, innovations such as man-sized access doors with quick-acting latches, and extended lubrication lines for fan bearings.

The following options packages are suggested as ways to optimize the lifetime and performance efficiency of your heat transfer products.

DURA-PLUS CPP

Highly recommended for applications where more stringent durability requirements apply.

- Cabinet casing material is upgraded to stainless steel to match the standard sump basin and access doors. Virtually every water contact surface is fabricated of corrosion-resistant stainless steel.
- A screen-type pump inlet strainer fabricated of stainless steel protects the spray pump from incoming debris.

SERVICE-PLUS CPP

Put the focus on convenience. Makes service easier and more efficient.

- Additional access door supplied for the smaller sized units (cabinets #1 through #3).
- Dual-sump-drain configuration allows for quick draining of the unit. Fan and pump operation are not interrupted.
- External float chamber allows adjustment and service of water makeup float valve while fan and pump are running.

CONTROL-PLUS CPP

When unit control is a priority, designed for applications.

- Factory prewiring
  - Customer only has to make a single power wiring connection to the unit. Weather-resistant, UL-approved motor control panel is prewired.
  - All motors are factory-wired to the control panel.
- Fan damper control package maintains a relatively constant process fluid temperature over a range of ambient operating temperatures.
- Convenience outlet furnished in a weather-tight housing, affixed to the outside of the control panel. Supplies power for customer's water treatment components or light-duty accessories such as service lights.

WEATHER-PLUS CPP

This option is the best protection for installations in extreme, cold-weather climates.

- Electric immersion-style sump heater, single-phase or three-phase, offers freeze protection for sump water.
- Closed-cell foam insulation, affixed to the outside of the cabinet and sump basin, holds the heat provided by the electric heater element within the unit.
- Positive-closure motorized damper is mounted atop a tapered discharge hood. Damper closes automatically when the unit is not operating. Maintains the correct minimum temperature within the unit for maximum protection against freezing process fluid and consequential equipment damage.

Ask your representative about the Critical Protection Package options. These groupings are exceptional values when added to the initial specification.

GEOGRAPHICAL TEMPERATURE DATA

1 = Design, Wet Bulb Temperature, °F; **2** = Winter, Dry Bulb Temperature, °F

STATE - CITY		(1)	(2)	STATE - CITY		(1)	(2)	STATE - CITY		(1)	(2)	STATE - CITY		(1)	(2)
AL	Birmingham	77	18	IL	Chicago	75	-6	MO	Kansas City	77	-1	PA	Pittsburgh	73	2
AZ	Phoenix	76	35		Peoria	77	-6		St. Louis	78	2	RI	Providence	74	5
AK	Little Rock	79	16		Springfield	77	-4	MT	Helena	61	-18	SC	Charleston	79	25
CA	Fresno	71	30	IN	Indianapolis	77	-3	NE	Omaha	77	-7	SD	Huron	74	-17
	Los Angeles	72	43	IA	Des Moines	76	-9	NV	Reno	62	8	TN	Chatanooga	77	15
	Oakland	63	37	KS	Dodge City	73	0		Las Vegas	71	28		Memphis	79	16
	Sacramento	71	31	KS	Wichita	76	2	NH	Concord	73	-8	TX	Austin	77	25
	San Francisco	63	37	KY	Louisville	77	6	NJ	Newark	76	10		Corpus Christi	80	32
CO	Denver	63	-3	LA	New Orleans	80	30	NM	Albuquerque	64	13		Fort Worth	77	17
CT	Hartford	74	2		Shreveport	79	22	NY	Albany	73	-7		Houston	80	29
	New Haven	74	2	ME	Portland	72	-3		New York	76	11	UT	Salt Lake City	65	6
DC	Washington	76	14	MD	Baltimore	76	11	NC	Charlotte	76	18	VT	Burlington	72	-11
FL	Jacksonville	79	29	MA	Boston	74	7	ND	Bismark	70	-21	WA	Seattle	65	23
	Key West	80	55	MI	Detroit	74	0	OH	Cleveland	74	1		Spokane	63	1
GA	Atlanta	76	18	MN	Duluth	69	-21	OK	Oklahoma City	76	9	WV	Parkersburg	75	4
	Augusta	78	21		Minneapolis	74	-16	OR	Portland	67	22	WI	Milwaukee	74	-7
ID	Boise	64	2	MS	Meridian	78	21	PA	Philadelphia	76	10	WY	Cheyenne	61	-7

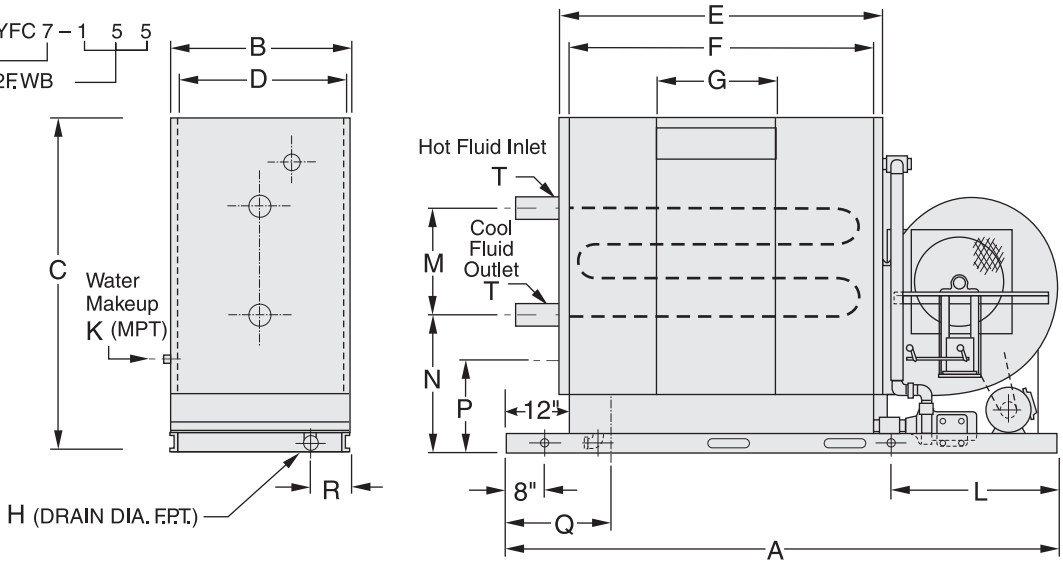
QUICK SELECTION CAPACITY RATINGS

Model	WATER-COOLED CONDENSER APPLICATION, 95°EWT/85°LWT										PROCESS COOLING APPLICATION		
	78°WB(1)		76°WB		74°WB		72°WB		68°WB		85°/75° 68°WB		
	Tons (2)	GPM	Tons (2)	GPM	Tons (2)	GPM	Tons (2)	GPM	Tons (2)	GPM	Tons (2)	GPM	EER
YFC 1-9	6½	19	7½	22	8	24	9	27	11	33	75	15	43
YFC 1-12	8	24	9	27	10	30	12	36	15	45	95	19	55
YFC 1-15	10	30	11	33	13	39	15	45	17	51	115	23	46
YFC 2-17	11	33	13	39	15	45	17	51	20	60	125	25	71
YFC 2-20	13	39	15	45	17	51	20	60	23	69	140	28	80
YFC 2-22	14	42	16	48	19	57	22	66	25	75	150	30	60
YFC 3-25	15	45	18	54	20	60	25	75	30	90	170	34	41
YFC 3-30	17	51	21	63	24	72	30	90	35	105	195	39	48
YFC 4-35	22	66	26	78	30	90	35	105	41	123	235	47	57
YFC 4-40	25	75	30	90	35	105	40	120	46	138	280	56	68
YFC 4-50	31	93	37	111	42	126	50	150	55	165	340	68	57
YFC 5-60	40	120	46	138	52	156	60	180	70	210	420	84	66
YFC 5-75	46	138	56	168	65	195	75	225	87	264	500	100	61
YFC 5-86	55	165	65	195	75	225	86	258	100	300	600	120	73
YFC 6-92	60	180	70	210	80	240	92	276	106	318	630	126	51
YFC 6-101	65	195	77	231	87	261	101	303	117	351	705	141	57
YFC 6-110	70	210	83	249	95	285	110	330	125	375	760	152	62
YFC 7-135	85	255	100	300	115	345	135	405	155	465	915	183	54
YFC 7-155	100	300	120	360	135	405	155	465	180	540	1,095	219	52
YFC 8-175	115	345	135	405	150	450	175	525	205	615	1,255	251	48
YFC 8-200	135	405	156	468	175	525	200	600	230	690	1,500	300	57
YFC 9-211	145	435	169	507	190	570	211	633	246	738	1,650	330	63
YFC 9-228	154	462	181	543	205	615	228	684	264	792	1,755	351	67
YFC 10-248	167	501	193	579	216	648	248	744	280	840	1,875	375	56
YFC 10-270	177	531	207	621	233	699	270	810	300	900	2,025	405	60
YFC 11-289	192	576	225	675	250	750	289	867	320	960	2,145	429	52
YFC 11-312	206	618	241	723	270	810	312	936	348	1,044	2,325	465	57
YFC 12-339	225	675	262	786	291	873	339	1,017	378	1,136	2,520	504	50
YFC 12-368	242	726	283	849	316	948	368	1,104	410	1,230	2,745	549	55

EWT *Entering Water Temperature (hot).*
WB *Design Wet Bulb Temperature.*
MBH *Thousand Btu per Hour of cooling capacity.*
EER *Energy Efficiency Ratio, Btu/watt. (Btu of cooling per watt of electrical input of fan + shower pump).*
LWT *Leaving Water Temperature (cool).*
GPM *Gallons (US) Per Minute.*
1. *ARI rating condition for Water Towers.*
2. *Compressor low side Tons of refrigeration @ 40° SST nominal (1 Ton = 15,000 Bru/Hr of rejected heat).*

For selections at other operating conditions, refer to Accurate Selection Procedures section on page 8.

Model Number Nomenclature: YFC 7 – 1 5 5
Cabinet Size
Nominal Tons at 72F WB



Connections

YFC/L **1-9 thru 6-110 have 1 inlet and 1 outlet fluid connection.**
YFC/L **7-135 and 7-155 have 2 inlet and 2 outlet fluid connections.**
YFC/L **8-175 thru 12-368 have 4 inlet and 4 outlet fluid connections.**

Doors

YFC/L **1-9 thru 3-30 have 1 door as standard, located on fan drive side of unit.**
YFC/L **4-35 thru 7-155 have 1 door on each side of unit.**
YFC/L **8-175 thru 12-368 have 2 doors on each side of unit.**

OPERATIONAL DATA

FLUID COOLER MODEL NO. (1)	FAN MOTOR H.P. (2)	SHOWER PUMP MOTOR H.P.	SHOWER WATER G.P.M.	AIR C.F.M.	COIL FLUID VOLUME (GAL)		SUMP HEATER STD. KW (3)	MIN. WALL CLEAR (IN.)	APPROXIMATE WEIGHT (LB)	
					YFC	YFCL			SHIPPING	OPER.
YFC/YFCL 1-9	2	1/3	40	3,900	12	11½	1.0	8	735	1,050
YFC/YFCL 1-12	2	1/3	40	3,600	16	16	1.0	8	750	1,080
YFC/YFCL 1-15	3	1/3	40	4,000	20	19½	1.0	8	800	1,150
YFC/YFCL 2-17	2	1/3	45	5,300	16	15	1.5	10	1,080	1,490
YFC/YFCL 2-20	2	1/3	45	5,100	22	20	1.5	10	1,200	1,630
YFC/YFCL 2-22	3	1/3	45	5,400	27	24½	1.5	10	1,270	1,700
YFC/YFCL 3-25	5	1/2	72	8,500	33½	31	2.0	10	1,400	2,020
YFC/YFCL 3-30	5	1/2	72	8,300	41	38	2.0	10	1,450	2,080
YFC/YFCL 4-35	5	3/4	85	11,600	39	37	2.6	12	1,750	2,640
YFC/YFCL 4-40	5	3/4	85	10,900	50	47½	2.6	12	1,850	2,760
YFC/YFCL 4-50	7½	3/4	85	12,200	62	58	2.6	12	1,950	2,870
YFC/YFCL 5-60	7½	1	112	19,000	57	54	4.0	16	3,200	4,460
YFC/YFCL 5-75	10	1	112	19,600	74	70½	4.0	16	3,500	4,840
YFC/YFCL 5-86	10	1	112	18,900	92	87	4.0	16	3,800	5,160
YFC/YFCL 6-92	15	1½	182	30,100	86	82	5.7	20	4,900	6,850
YFC/YFCL 6-101	15	1½	182	29,100	112	107	5.7	20	5,250	7,280
YFC/YFCL 6-110	15	1½	182	28,400	139	133	5.7	20	5,500	7,570
YFC/YFCL 7-135	20	3	300	37,000	151	146	8.0	28	7,670	10,600
YFC/YFCL 7-155	25	3	300	38,900	188	183	8.0	28	8,200	11,100
YFC/YFCL 8-175	30	5	355	48,000	185	180	10.0	30	9,400	12,200
YFC/YFCL 8-200	30	5	355	47,000	230	223	10.0	30	9,990	12,800
YFC/YFCL 9-211	30	5	365	56,450	200	199	12.0	40	10,500	16,800
YFC/YFCL 9-228	30	5	365	59,000	250	249	12.0	40	11,000	17,700
YFC/YFCL 10-248	40	5	400	66,200	235	234	14.0	40	11,400	18,900
YFC/YFCL 10-270	40	5	400	68,900	295	293	14.0	40	12,000	19,950
YFC/YFCL 11-289	50	5	450	75,000	270	269	16.0	40	12,350	20,100
YFC/YFCL 11-312	50	5	450	78,000	340	339	16.0	40	13,050	21,600
YFC/YFCL 12-339	60	7½	510	79,000	305	303	18.0	40	13,425	21,925
YFC/YFCL 12-368	60	7½	510	81,900	380	378	18.0	40	14,240	23,440

1. Model YFC has regular coil circuiting, model YFCL has coil circuited for low fluid flow applications. For high applications consult factory.
2. For over 1/4" external pressure use next size larger motor.
3. Sump heater is an optional item. KW is good for a minimum of 0°F ambient temperature.

PHYSICAL DATA

MODEL NO.	A	B	C	D	E	F	G	H	K	L	M	N	P	Q	R	T YFC	T YFCL
YFC/YFCL 1-9	80	28¾	63½	24½	47¾	44¾	23½	1½	½	24	13	32	18	17	23	2⅛	1⅝
YFC/YFCL 1-12	80	28¾	63½	24½	47¾	44¾	23½	1½	½	24	17½	28	18	17	23	2⅛	1⅝
YFC/YFCL 1-15	80	28¾	63½	24½	47¾	44¾	23½	1½	½	24	21½	23½	18	17	23	2⅛	1⅝
YFC/YFCL 2-17	90	31¼	65	27	53	50	23½	1½	½	22	13	34	18	17	5	2⅝	2⅛
YFC/YFCL 2-20	90	31¼	65	27	53	50	23½	1½	½	22	17½	29	18	17	5	2⅝	2⅛
YFC/YFCL 2-22	90	31¼	65	27	53	50	23½	1½	½	22	22	25	18	17	5	2⅝	2⅛
YFC/YFCL 3-25	110	37½	67½	33¼	65	62	23½	1½	½	28	18	31	18	24	10	3⅛	2⅝
YFC/YFCL 3-30	110	37½	67½	33¼	65	62	23½	1½	½	28	22½	27	18	24	10	3⅛	2⅝
YFC/YFCL 4-35	128	46¼	68	42	76¾	73¾	23½	2	½	32	14	37	19	24	12	3⅝	3⅛
YFC/YFCL 4-40	128	46¼	68	42	76¾	73¾	23½	2	½	32	18½	33	19	24	12	3⅝	3⅛
YFC/YFCL 4-50	128	46¼	68	42	76¾	73¾	23½	2	½	32	23	28	19	24	12	3⅝	3⅛
YFC/YFCL 5-60	150	56¼	75¾	52	92	89	40	2½	¾	45	14	42	19	24	12	3⅝	3⅛
YFC/YFCL 5-75	150	56¼	75¾	52	92	89	40	2½	¾	45	18½	37	19	24	12	3⅝	3⅛
YFC/YFCL 5-86	150	56¼	75¾	52	92	89	40	2½	¾	45	23	33	19	24	12	3⅝	3⅛
YFC/YFCL 6-92	186	67½	81¾	63¼	115	112	40	2½	¾	58	14	45½	20	33	12	3⅝	3⅛
YFC/YFCL 6-101	186	67½	81¾	63¼	115	112	40	2½	¾	58	18½	41	20	33	12	3⅝	3⅛
YFC/YFCL 6-110	186	67½	81¾	63¼	115	112	40	2½	¾	58	23	37	20	33	12	3⅝	3⅛
YFC/YFCL 7-135	194	93	91	88¾	115	112	40	3	¾	60	18½	48½	21	33	12	3⅝*	3⅛*
YFC/YFCL 7-155	194	93	91	88¾	115	112	40	3	¾	60	23	44½	21	33	12	3⅝*	3⅛*
YFC/YFCL 8-175	218	93	91	88¾	139	136	40	3	¾	65	18½	51	23	25	12	3⅛†	2⅝†
YFC/YFCL 8-200	218	93	91	88¾	139	136	40	3	¾	65	26	47	23	25	12	3⅛†	2⅝†
YFC/YFCL 9-211	225	101	112	96¼	139	136	40	5	1¼	39	21	64	29	25	15	3⅛†	2⅝†
YFC/YFCL 9-228	225	101	112	96¼	139	136	40	5	1¼	39	25¼	59¾	29	25	15	3⅞†	2⅝†
YFC/YFCL 10-248	250	101	112	96¼	163	160	40	5	1¼	39	21	64	29	25	15	3⅛†	2⅝†
YFC/YFCL 10-270	250	101	112	96¼	163	160	40	5	1¼	39	25¼	59¾	29	25	15	3⅛†	2⅝†
YFC/YFCL 11-289	275	101	112	96¼	187	184	40	5	1¼	39	21	64	29	25	15	3⅝†	3⅛†
YFC/YFCL 11-312	275	101	112	96¼	187	184	40	5	1¼	39	25¼	59¾	29	25	15	3⅝†	3⅛†
YFC/YFCL 12-339	299	101	112	96¼	211	208	40	5	1¼	39	21	64	29	25	15	3⅝†	3⅛†
YFC/YFCL 12-368	299	101	112	96¼	211	208	40	5	1¼	39	25¼	59¾	29	25	15	3⅝†	3⅛†

*** Models 7-135 and 7-155 have two inlet and two outlet connections as standard.**
† Models 8-175 thru 12-368 have four inlet and four outlet connections as standard.
Specifications subject to change without notice. Consult factory for certified drawings.

LOAD FACTORS – TABLE 1

60° Wet Bulb (WB)

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7			5.5	6.1	6.5	6.8	7.2	7.3	7.5	7.7	7.9	8.0	8.2	8.4				
8	4.1	4.6	5.3	5.6	6.0	6.4	6.7	6.9	7.1	7.3	7.5	7.6	7.8	7.9	8.0	8.3		
9	3.7	4.4	4.8	5.3	5.7	6.0	6.3	6.5	6.8	6.9	7.1	7.3	7.4	7.6	7.7	7.8	7.9	8.0
10	3.5	4.0	4.5	5.0	5.4	5.7	6.0	6.2	6.4	6.6	6.8	6.9	7.1	7.3	7.4	7.5	7.6	7.8
11	3.1	3.8	4.3	4.7	5.0	5.3	5.7	5.9	6.1	6.3	6.5	6.7	6.8	6.9	7.0	7.2	7.3	7.4
12	2.9	3.5	4.1	4.5	4.8	5.1	5.4	5.7	5.8	6.0	6.2	6.4	6.5	6.6	6.8	6.9	7.0	7.2
13	2.7	3.2	3.8	4.2	4.5	4.9	5.1	5.4	5.6	5.8	6.0	6.2	6.3	6.4	6.5	6.7	6.8	6.9
14	2.5	3.1	3.6	4.0	4.3	4.6	4.9	5.1	5.3	5.5	5.7	5.9	6.0	6.2	6.3	6.4	6.6	6.8
15	2.4	3.0	3.5	3.9	4.2	4.5	4.7	4.9	5.2	5.4	5.5	5.7	5.8	6.0	6.1	6.3	6.4	6.6
16	2.4	2.9	3.4	3.8	4.0	4.3	4.6	4.8	4.9	5.1	5.3	5.5	5.6	5.7	5.9	6.1	6.3	6.5
17	2.2	2.7	3.2	3.7	3.9	4.2	4.4	4.6	4.8	4.9	5.1	5.3	5.5	5.7	5.8	5.9	6.0	6.2
18	2.1	2.6	3.0	3.6	3.8	4.0	4.2	4.4	4.6	4.8	4.9	5.1	5.3	5.4	5.6	5.8	5.9	6.0
19	2.0	2.5	2.9	3.4	3.6	3.9	4.1	4.3	4.5	4.7	4.8	4.9	5.2	5.3	5.4	5.6	5.8	5.9
20	1.9	2.4	2.8	3.2	3.4	3.7	3.9	4.2	4.3	4.5	4.7	4.8	4.9	5.1	5.3	5.4	5.6	5.8
21	2.0	2.4	2.7	3.1	3.4	3.6	3.9	4.0	4.2	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.4	5.6
22	1.9	2.3	2.6	3.0	3.3	3.5	3.7	3.9	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.5
23	1.8	2.2	2.6	2.9	3.2	3.4	3.6	3.8	4.0	4.2	4.3	4.5	4.6	4.7	4.9	5.0	5.2	5.3
24	1.7	2.1	2.5	2.8	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.4	4.5	4.6	4.8	4.9	5.1	5.2
25	1.6	2.1	2.4	2.7	3.0	3.2	3.4	3.6	3.8	4.0	4.1	4.2	4.4	4.6	4.7	4.8	4.9	5.1
26	1.6	2.0	2.3	2.6	2.9	3.2	3.3	3.5	3.7	3.9	4.0	4.1	4.3	4.4	4.6	4.7	4.8	4.9
27	1.5	1.9	2.3	2.6	2.8	3.1	3.3	3.4	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.6	4.7	4.8
28	1.5	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.3	4.5	4.6	4.7
29	1.4	1.8	2.1	2.4	2.7	2.9	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.1	4.2	4.4	4.5	4.6
30	1.4	1.8	2.1	2.4	2.6	2.8	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.0	4.1	4.3	4.4	4.5

62° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7			5.3	5.8	6.3	6.6	6.9	7.1	7.3	7.5	7.7	7.9	8.0	8.1	8.2	8.3		
8		4.5	4.9	5.4	5.8	6.2	6.5	6.7	6.9	7.1	7.3	7.4	7.6	7.8	7.9	8.0	8.1	
9	3.5	4.1	4.6	5.0	5.4	5.8	6.1	6.4	6.5	6.7	6.9	7.0	7.2	7.3	7.5	7.6	7.8	7.9
10	3.2	3.8	4.3	4.8	5.1	5.5	5.8	6.0	6.2	6.4	6.6	6.8	6.9	7.0	7.2	7.3	7.4	7.6
11	3.1	3.6	4.2	4.6	4.9	5.2	5.5	5.7	6.0	6.2	6.3	6.5	6.7	6.8	7.0	7.1	7.2	7.3
12	2.9	3.5	4.0	4.4	4.7	5.0	5.3	5.5	5.7	5.9	6.1	6.3	6.4	6.5	6.7	6.8	7.0	7.1
13	2.7	3.3	3.7	4.1	4.5	4.8	5.1	5.3	5.5	5.7	5.9	6.0	6.2	6.3	6.5	6.6	6.8	6.9
14	2.5	3.1	3.5	3.9	4.3	4.6	4.8	5.0	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.3	6.5	6.7
15	2.3	2.9	3.3	3.7	4.1	4.3	4.6	4.8	5.0	5.2	5.4	5.5	5.7	5.9	6.0	6.1	6.3	6.4
16	2.3	2.8	3.2	3.6	3.9	4.2	4.4	4.6	4.8	5.1	5.2	5.4	5.5	5.7	5.8	6.0	6.1	6.3
17	2.2	2.7	3.1	3.5	3.8	4.1	4.3	4.5	4.7	4.9	5.0	5.2	5.4	5.5	5.7	5.8	6.0	6.1
18	2.1	2.5	3.0	3.4	3.7	3.9	4.2	4.4	4.5	4.7	4.9	5.0	5.2	5.3	5.5	5.6	5.8	6.0
19	2.0	2.4	2.9	3.2	3.5	3.8	4.0	4.2	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.4	5.6	5.8
20	1.9	2.3	2.8	3.1	3.4	3.6	3.9	4.1	4.2	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.5	5.6
21	1.8	2.3	2.7	3.0	3.3	3.5	3.8	4.0	4.1	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.3	5.5
22	1.9	2.2	2.6	2.9	3.2	3.4	3.7	3.9	4.0	4.2	4.4	4.5	4.7	4.8	4.9	5.1	5.2	5.4
23	1.7	2.1	2.5	2.8	3.1	3.3	3.5	3.7	3.9	4.1	4.2	4.4	4.6	4.7	4.8	4.9	5.1	5.3
24	1.6	2.1	2.5	2.7	3.0	3.2	3.4	3.6	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.8	5.0	5.1
25	1.6	2.0	2.4	2.6	2.9	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.7	4.8	5.0
26	1.6	2.0	2.3	2.6	2.8	3.1	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	4.5	4.6	4.7	4.9
27	1.5	1.9	2.2	2.5	2.7	3.0	3.2	3.4	3.6	3.7	3.8	4.0	4.1	4.3	4.4	4.5	4.6	4.7
28	1.5	1.8	2.2	2.4	2.7	2.9	3.1	3.3	3.5	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.5	4.6
29	1.4	1.8	2.1	2.3	2.6	2.8	3.0	3.2	3.4	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.5
30	1.4	1.7	2.0	2.3	2.5	2.8	3.0	3.1	3.3	3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.3	4.4

64° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7			5.1	5.6	6.1	6.4	6.7	7.0	7.2	7.4	7.5	7.7	7.8	8.0	8.1	8.2		
8		4.2	4.8	5.3	5.6	6.0	6.3	6.6	6.8	7.0	7.1	7.3	7.5	7.6	7.7	7.8	7.9	8.0
9	3.3	3.9	4.5	4.9	5.3	5.6	5.9	6.2	6.4	6.6	6.7	6.9	7.1	7.2	7.3	7.5	7.6	7.7
10	3.1	3.7	4.3	4.7	5.0	5.3	5.6	5.9	6.1	6.3	6.5	6.6	6.8	6.9	7.0	7.1	7.3	7.5
11	2.9	3.6	4.1	4.5	4.9	5.1	5.4	5.6	5.8	6.0	6.2	6.3	6.5	6.7	6.8	6.9	7.0	7.2
12	2.7	3.4	3.9	4.3	4.7	4.9	5.1	5.4	5.6	5.8	6.0	6.1	6.3	6.4	6.6	6.7	6.8	7.0
13	2.6	3.2	3.6	4.0	4.4	4.6	4.9	5.2	5.4	5.5	5.7	5.9	6.0	6.2	6.3	6.5	6.6	6.8
14	2.4	3.0	3.4	3.8	4.2	4.4	4.7	4.9	5.1	5.3	5.5	5.7	5.8	5.9	6.1	6.2	6.4	6.6
15	2.3	2.8	3.2	3.6	4.0	4.2	4.5	4.7	4.9	5.0	5.2	5.4	5.6	5.7	5.9	6.0	6.2	6.3
16	2.2	2.7	3.1	3.5	3.8	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.4	5.5	5.7	5.9	6.0	6.1
17	2.1	2.6	3.0	3.4	3.7	4.0	4.2	4.4	4.6	4.7	4.9	5.1	5.3	5.4	5.6	5.7	5.8	6.0
18	2.0	2.5	2.9	3.3	3.6	3.8	4.1	4.3	4.4	4.6	4.8	4.9	5.1	5.2	5.4	5.5	5.7	5.8
19	2.0	2.4	2.8	3.1	3.4	3.7	3.9	4.1	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.5	5.7
20	1.9	2.3	2.7	3.0	3.3	3.5	3.8	4.0	4.1	4.3	4.5	4.6	4.8	4.9	5.1	5.3	5.4	5.5
21	1.9	2.2	2.6	2.9	3.2	3.4	3.7	3.9	4.0	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.2	5.4
22	1.8	2.2	2.5	2.8	3.1	3.3	3.6	3.8	3.9	4.1	4.3	4.4	4.6	4.7	4.8	5.0	5.1	5.3
23	1.7	2.1	2.4	2.7	3.0	3.3	3.4	3.6	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.8	5.0	5.2
24	1.6	2.0	2.4	2.7	2.9	3.2	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.7	4.9	5.0
25	1.6	1.9	2.3	2.6	2.8	3.1	3.2	3.4	3.6	3.8	3.9	4.1	4.2	4.4	4.5	4.6	4.7	4.9
26	1.6	1.9	2.2	2.5	2.7	3.0	3.2	3.3	3.5	3.7	3.8	4.0	4.1	4.3	4.4	4.5	4.6	4.7
27	1.5	1.8	2.1	2.4	2.7	2.9	3.1	3.3	3.5	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.5	4.6
28	1.5	1.8	2.1	2.3	2.6	2.8	3.0	3.2	3.4	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.5
29	1.4	1.7	2.0	2.3	2.5	2.8	2.9	3.1	3.3	3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.3	4.4
30	1.4	1.6	1.9	2.2	2.4	2.7	2.9	3.0	3.2	3.3	3.4	3.6	3.7	3.9	4.0	4.1	4.2	4.3

66° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7			5.0	5.5	5.9	6.3	6.5	6.8	7.0	7.2	7.4	7.5	7.6	7.8	7.9	8.0	8.1	8.2
8		4.1	4.7	5.1	5.5	5.9	6.2	6.4	6.7	6.8	7.0	7.1	7.3	7.4	7.5	7.7	7.8	7.9
9	3.2	3.8	4.4	4.8	5.2	5.5	5.8	6.1	6.3	6.4	6.6	6.8	6.9	7.0	7.2	7.3	7.4	7.6
10	3.0	3.6	4.1	4.5	4.9	5.2	5.4	5.7	5.9	6.1	6.3	6.4	6.6	6.8	6.9	7.0	7.1	7.3
11	2.9	3.4	3.9	4.3	4.7	5.0	5.2	5.5	5.7	5.9	6.1	6.2	6.3	6.5	6.6	6.8	6.9	7.1
12	2.7	3.2	3.7	4.1	4.5	4.8	5.0	5.3	5.4	5.6	5.8	6.0	6.1	6.3	6.4	6.5	6.7	6.9
13	2.5	3.1	3.5	3.9	4.3	4.5	4.8	5.0	5.2	5.4	5.6	5.7	5.9	6.1	6.2	6.3	6.5	6.6
14	2.3	2.9	3.4	3.7	4.1	4.3	4.6	4.8	5.0	5.2	5.3	5.5	5.7	5.8	6.0	6.1	6.3	6.4
15	2.2	2.7	3.2	3.5	3.9	4.1	4.4	4.6	4.8	4.9	5.1	5.3	5.4	5.6	5.7	5.9	6.0	6.2
16	2.2	2.6	3.1	3.4	3.7	4.0	4.2	4.4	4.6	4.8	4.9	5.1	5.3	5.4	5.6	5.7	5.9	6.1
17	2.1	2.5	3.0	3.3	3.6	3.9	4.1	4.3	4.5	4.6	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9
18	2.0	2.4	2.8	3.2	3.5	3.7	4.0	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.5	5.7
19	1.9	2.3	2.7	3.0	3.4	3.6	3.8	4.0	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.2	5.4	5.5
20	1.8	2.2	2.6	2.9	3.2	3.5	3.7	3.9	4.1	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.2	5.4
21	1.7	2.2	2.5	2.8	3.1	3.4	3.6	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.1	5.2
22	1.7	2.1	2.5	2.8	3.0	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.7	4.8	5.0	5.1
23	1.6	2.0	2.4	2.7	3.0	3.2	3.4	3.6	3.8	3.9	4.0	4.2	4.4	4.5	4.6	4.7	4.9	5.0
24	1.6	1.9	2.3	2.6	2.9	3.1	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	4.5	4.6	4.7	4.9
25	1.5	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.3	4.4	4.5	4.6	4.8
26	1.5	1.8	2.2	2.4	2.7	2.9	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.5	4.6
27	1.5	1.8	2.1	2.4	2.6	2.9	3.0	3.2	3.4	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.5
28	1.4	1.7	2.0	2.3	2.5	2.8	2.9	3.1	3.3	3.4	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.4
29	1.3	1.6	2.0	2.2	2.4	2.7	2.9	3.0	3.2	3.4	3.5	3.6	3.7	3.9	4.0	4.1	4.2	4.3
30	1.3	1.6	1.9	2.1	2.3	2.6	2.8	2.9	3.1	3.3	3.4	3.5	3.6	3.8	3.9	4.0	4.1	4.2

68° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7		4.4	4.9	5.4	5.7	6.1	6.4	6.6	6.9	7.0	7.2	7.4	7.5	7.6	7.8	7.9	8.0	8.1
8		4.0	4.6	5.0	5.4	5.7	6.0	6.2	6.5	6.7	6.8	7.0	7.1	7.2	7.4	7.5	7.6	7.7
9	3.1	3.7	4.3	4.7	5.1	5.4	5.6	5.9	6.1	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.3	7.5
10	2.9	3.5	4.0	4.4	4.8	5.1	5.3	5.6	5.7	6.0	6.1	6.3	6.5	6.6	6.7	6.9	7.0	7.1
11	2.8	3.3	3.8	4.2	4.6	4.9	5.1	5.4	5.5	5.7	5.9	6.1	6.2	6.4	6.6	6.7	6.8	6.9
12	2.6	3.1	3.6	4.0	4.4	4.7	4.9	5.1	5.3	5.5	5.7	5.8	6.0	6.1	6.3	6.4	6.6	6.7
13	2.4	3.0	3.4	3.8	4.2	4.4	4.7	4.9	5.1	5.3	5.4	5.6	5.8	5.9	6.1	6.2	6.4	6.5
14	2.2	2.8	3.3	3.6	4.0	4.2	4.5	4.7	4.9	5.1	5.2	5.4	5.6	5.7	5.8	6.0	6.1	6.3
15	2.1	2.6	3.1	3.4	3.8	4.0	4.3	4.5	4.7	4.8	5.0	5.2	5.3	5.5	5.6	5.8	5.9	6.1
16	2.0	2.5	3.0	3.3	3.6	3.9	4.1	4.3	4.5	4.7	4.8	5.0	5.2	5.3	5.5	5.6	5.8	5.9
17	2.0	2.4	2.9	3.2	3.5	3.8	4.0	4.2	4.4	4.5	4.7	4.8	5.0	5.2	5.3	5.5	5.6	5.8
18	1.9	2.3	2.8	3.1	3.4	3.7	3.9	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.4	5.6
19	1.8	2.2	2.6	2.9	3.3	3.5	3.7	3.9	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.1	5.3	5.4
20	1.8	2.1	2.5	2.8	3.1	3.4	3.6	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.1	5.3
21	1.7	2.1	2.4	2.7	3.0	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.8	4.9	5.0	5.1
22	1.7	2.0	2.4	2.7	3.0	3.2	3.4	3.6	3.8	3.9	4.1	4.2	4.4	4.5	4.6	4.8	4.9	5.0
23	1.6	1.9	2.3	2.6	2.9	3.1	3.3	3.5	3.6	3.8	4.0	4.1	4.2	4.4	4.5	4.6	4.7	4.9
24	1.6	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.3	4.4	4.5	4.6	4.8
25	1.5	1.8	2.1	2.4	2.7	2.9	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.5	4.6
26	1.5	1.8	2.1	2.4	2.6	2.8	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.5
27	1.5	1.7	2.0	2.3	2.5	2.8	2.9	3.1	3.3	3.4	3.5	3.8	3.8	4.0	4.1	4.2	4.3	4.4
28	1.4	1.6	1.9	2.2	2.4	2.7	2.8	3.0	3.2	3.3	3.5	3.6	3.7	3.9	4.0	4.1	4.2	4.3
29	1.3	1.6	1.9	2.1	2.4	2.6	2.8	2.9	3.1	3.3	3.4	3.5	3.6	3.8	3.9	4.0	4.1	4.2
30	1.2	1.5	1.8	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4.0	4.1

70° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	3.5	4.2	4.8	5.2	5.6	6.0	6.3	6.5	6.7	6.9	7.1	7.2	7.4	7.5	7.7	7.8	7.9	8.0
8	3.3	3.9	4.4	4.9	5.3	5.6	5.9	6.1	6.3	6.5	6.7	6.9	7.0	7.1	7.3	7.4	7.5	7.6
9	3.0	3.6	4.2	4.6	4.9	5.2	5.5	5.8	5.9	6.2	6.3	6.5	6.7	6.8	6.9	7.0	7.2	7.3
10	2.8	3.4	3.9	4.3	4.6	4.9	5.2	5.4	5.6	5.8	6.0	6.2	6.3	6.4	6.6	6.7	6.9	7.0
11	2.6	3.3	3.7	4.1	4.4	4.7	5.0	5.2	5.4	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.7	6.8
12	2.5	3.1	3.5	3.9	4.2	4.5	4.8	5.0	5.2	5.4	5.6	5.7	5.9	6.0	6.1	6.3	6.4	6.6
13	2.3	2.9	3.3	3.7	4.1	4.3	4.6	4.8	5.0	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.4
14	2.2	2.7	3.2	3.5	3.9	4.1	4.4	4.6	4.7	4.9	5.1	5.2	5.4	5.5	5.7	5.8	6.0	6.2
15	2.1	2.5	3.0	3.3	3.7	3.9	4.2	4.4	4.5	4.7	4.9	5.0	5.2	5.3	5.5	5.6	5.8	6.0
16	2.0	2.4	2.9	3.2	3.6	3.8	4.0	4.2	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.5	5.7	5.8
17	1.9	2.3	2.8	3.1	3.4	3.7	3.9	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.5	5.7
18	1.9	2.3	2.7	3.0	3.3	3.6	3.8	4.0	4.1	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.3	5.5
19	1.8	2.2	2.6	2.9	3.2	3.4	3.7	3.8	4.0	4.2	4.3	4.5	4.6	4.8	4.9	5.0	5.2	5.3
20	1.7	2.1	2.5	2.8	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.8	4.9	5.0	5.2
21	1.6	2.0	2.4	2.7	3.0	3.2	3.4	3.6	3.8	3.9	4.1	4.2	4.4	4.5	4.6	4.8	4.9	5.0
22	1.6	2.0	2.3	2.6	2.9	3.1	3.3	3.5	3.7	3.8	4.0	4.1	4.3	4.4	4.5	4.6	4.8	4.9
23	1.5	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.6	3.7	3.9	4.0	4.1	4.3	4.4	4.5	4.6	4.8
24	1.5	1.9	2.2	2.5	2.7	2.9	3.1	3.3	3.5	3.6	3.8	3.9	4.0	4.1	4.3	4.4	4.5	4.7
25	1.4	1.8	2.1	2.4	2.6	2.8	3.0	3.2	3.4	3.5	3.7	3.8	3.9	4.0	4.2	4.3	4.4	4.5
26	1.4	1.7	2.0	2.3	2.5	2.7	2.9	3.1	3.3	3.4	3.6	3.7	3.8	3.9	4.1	4.2	4.3	4.4
27	1.3	1.7	2.0	2.2	2.5	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.7	3.8	4.0	4.1	4.2	4.3
28	1.3	1.6	1.9	2.2	2.4	2.6	2.8	3.0	3.1	3.3	3.4	3.5	3.7	3.8	3.9	4.0	4.1	4.2
29	1.2	1.6	1.9	2.1	2.3	2.5	2.7	2.9	3.0	3.2	3.3	3.4	3.6	3.7	3.8	3.9	4.0	4.1
30	1.2	1.5	1.8	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.3	3.5	3.6	3.7	3.8	3.9	4.0

LOAD FACTORS – TABLE 1

72° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	3.3	4.2	4.7	5.1	5.5	5.9	6.1	6.4	6.6	6.8	7.0	7.1	7.3	7.4	7.6	7.7	7.8	7.9
8	3.1	3.8	4.3	4.8	5.1	5.5	5.7	6.0	6.2	6.4	6.6	6.7	6.9	7.0	7.1	7.3	7.4	7.5
9	2.9	3.5	4.1	4.5	4.8	5.1	5.4	5.6	5.8	6.0	6.1	6.4	6.5	6.6	6.7	6.9	7.0	7.1
10	2.7	3.3	3.8	4.2	4.5	4.8	5.1	5.3	5.5	5.7	5.9	6.0	6.2	6.3	6.5	6.6	6.8	6.9
11	2.5	3.1	3.6	4.0	4.3	4.6	4.9	5.1	5.3	5.5	5.7	5.8	6.0	6.1	6.3	6.4	6.5	6.7
12	2.4	2.9	3.4	3.8	4.1	4.4	4.7	4.9	5.1	5.3	5.5	5.6	5.7	5.9	6.0	6.2	6.3	6.5
13	2.3	2.8	3.2	3.6	4.0	4.2	4.5	4.7	4.9	5.1	5.2	5.4	5.5	5.7	5.8	5.9	6.1	6.3
14	2.2	2.6	3.1	3.4	3.8	4.0	4.3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	6.1
15	2.1	2.5	2.9	3.2	3.6	3.8	4.1	4.3	4.4	4.6	4.8	4.9	5.1	5.2	5.4	5.5	5.7	5.9
16	2.0	2.4	2.8	3.1	3.5	3.7	3.9	4.1	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.6	5.8
17	1.9	2.3	2.7	3.0	3.3	3.6	3.8	4.0	4.2	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.6
18	1.8	2.2	2.6	2.9	3.2	3.5	3.7	3.9	4.0	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.2	5.4
19	1.7	2.1	2.5	2.8	3.1	3.3	3.6	3.7	3.9	4.1	4.2	4.4	4.5	4.7	4.8	4.9	5.1	5.2
20	1.6	2.0	2.4	2.7	3.0	3.2	3.4	3.6	3.8	3.9	4.1	4.2	4.4	4.5	4.7	4.8	4.9	5.1
21	1.6	2.0	2.3	2.6	2.9	3.1	3.3	3.5	3.7	3.8	4.0	4.1	4.3	4.4	4.5	4.7	4.8	4.9
22	1.5	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.5	4.7	4.8
23	1.5	1.8	2.2	2.4	2.7	2.9	3.1	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.5	4.7
24	1.4	1.8	2.1	2.4	2.6	2.8	3.0	3.2	3.4	3.5	3.7	3.8	3.9	4.0	4.2	4.3	4.4	4.6
25	1.4	1.7	2.0	2.3	2.5	2.7	2.9	3.1	3.3	3.4	3.6	3.7	3.8	3.9	4.1	4.2	4.3	4.4
26	1.3	1.7	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.3	3.5	3.6	3.7	3.8	4.0	4.1	4.2	4.3
27	1.3	1.6	1.9	2.1	2.4	2.6	2.8	2.9	3.1	3.3	3.4	3.5	3.6	3.7	3.9	4.0	4.1	4.2
28	1.2	1.5	1.8	2.1	2.3	2.5	2.7	2.9	3.0	3.2	3.3	3.4	3.6	3.7	3.8	3.9	4.0	4.1
29	1.2	1.5	1.7	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.3	3.5	3.6	3.7	3.8	3.9	4.0
30	1.1	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.2	3.4	3.5	3.6	3.7	3.8	3.9

74° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	3.2	4.0	4.5	5.0	5.4	5.7	6.0	6.3	6.4	6.7	6.8	7.0	7.2	7.3	7.4	7.5	7.7	7.8
8	3.0	3.7	4.2	4.7	5.0	5.3	5.6	5.8	6.0	6.2	6.4	6.6	6.7	6.8	6.9	7.1	7.4	7.5
9	2.8	3.4	3.9	4.3	4.7	4.9	5.2	5.4	5.6	5.9	6.0	6.2	6.4	6.5	6.6	6.8	6.9	7.1
10	2.6	3.1	3.7	4.1	4.4	4.7	4.9	5.1	5.4	5.6	5.8	5.9	6.0	6.2	6.3	6.4	6.6	6.8
11	2.5	3.0	3.5	3.9	4.2	4.5	4.7	4.9	5.2	5.4	5.5	5.7	5.8	6.0	6.1	6.2	6.4	6.6
12	2.4	2.9	3.3	3.7	4.0	4.3	4.5	4.7	4.9	5.1	5.3	5.4	5.6	5.8	5.9	6.0	6.2	6.4
13	2.2	2.7	3.2	3.5	3.8	4.1	4.3	4.6	4.7	4.9	5.1	5.2	5.4	5.5	5.7	5.8	6.0	6.2
14	2.1	2.6	3.0	3.4	3.7	3.9	4.1	4.4	4.5	4.7	4.9	5.0	5.2	5.3	5.5	5.6	5.8	5.9
15	2.0	2.4	2.8	3.2	3.5	3.7	3.9	4.2	4.3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7
16	1.9	2.3	2.7	3.1	3.4	3.6	3.8	4.0	4.2	4.3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6
17	1.8	2.2	2.6	3.0	3.2	3.5	3.7	3.9	4.1	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.3	5.4
18	1.8	2.2	2.5	2.8	3.1	3.4	3.6	3.8	3.9	4.1	4.3	4.4	4.6	4.7	4.8	5.0	5.1	5.2
19	1.7	2.1	2.4	2.7	3.0	3.2	3.5	3.7	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.8	4.9	5.1
20	1.6	2.0	2.3	2.6	2.9	3.1	3.3	3.5	3.7	3.9	4.0	4.1	4.3	4.4	4.5	4.7	4.8	5.0
21	1.6	1.9	2.3	2.5	2.8	3.0	3.2	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.8
22	1.5	1.9	2.2	2.5	2.7	2.9	3.1	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.4	4.5	4.7
23	1.4	1.8	2.1	2.4	2.6	2.9	3.1	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.3	4.4	4.5
24	1.4	1.7	2.0	2.3	2.5	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.8	3.9	4.1	4.2	4.3	4.4
25	1.3	1.7	2.0	2.2	2.4	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.7	3.8	3.9	4.1	4.2	4.3
26	1.3	1.6	1.9	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.6	3.7	3.8	4.0	4.1	4.2
27	1.2	1.6	1.8	2.1	2.3	2.5	2.7	2.9	3.0	3.2	3.3	3.4	3.5	3.6	3.8	3.9	4.0	4.1
28	1.2	1.5	1.8	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.3	3.5	3.6	3.7	3.8	3.9	4.0
29	1.1	1.5	1.7	1.9	2.1	2.4	2.5	2.7	2.9	3.0	3.1	3.3	3.4	3.5	3.6	3.7	3.8	3.9
30	1.1	1.4	1.6	1.9	2.1	2.3	2.4	2.6	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.6	3.7	3.8

76° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	3.1	3.8	4.3	4.8	5.2	5.5	5.8	6.1	6.3	6.5	6.6	6.8	7.0	7.1	7.2	7.3	7.5	7.6
8	2.9	3.5	4.0	4.5	4.8	5.1	5.4	5.6	5.8	6.0	6.2	6.4	6.5	6.6	6.7	6.9	7.1	7.2
9	2.7	3.3	3.8	4.2	4.5	4.8	5.1	5.3	5.5	5.7	5.9	6.0	6.2	6.3	6.5	6.6	6.8	6.9
10	2.5	3.1	3.6	4.0	4.3	4.6	4.8	5.0	5.2	5.4	5.6	5.7	5.9	6.0	6.2	6.3	6.5	6.6
11	2.4	2.9	3.4	3.8	4.1	4.4	4.6	4.8	5.0	5.2	5.4	5.5	5.7	5.8	6.0	6.1	6.3	6.4
12	2.3	2.8	3.2	3.6	3.9	4.2	4.4	4.6	4.8	5.0	5.2	5.3	5.5	5.6	5.8	5.9	6.1	6.2
13	2.1	2.7	3.1	3.4	3.8	4.0	4.2	4.5	4.6	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	6.0
14	2.0	2.5	2.9	3.3	3.6	3.8	4.0	4.3	4.4	4.6	4.8	4.9	5.1	5.2	5.4	5.5	5.7	5.8
15	1.8	2.3	2.7	3.1	3.4	3.6	3.8	4.1	4.2	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.5	5.6
16	1.8	2.2	2.6	3.0	3.3	3.5	3.7	3.9	4.1	4.2	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.4
17	1.7	2.1	2.5	2.9	3.1	3.4	3.6	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3
18	1.7	2.1	2.4	2.7	3.0	3.3	3.5	3.7	3.8	4.0	4.2	4.3	4.5	4.6	4.7	4.9	5.0	5.1
19	1.6	2.0	2.3	2.6	2.9	3.1	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.7	4.8	4.9
20	1.6	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.7	4.8
21	1.5	1.8	2.2	2.4	2.7	2.9	3.1	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.5	4.6	4.7
22	1.5	1.8	2.1	2.4	2.6	2.8	3.0	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.3	4.4	4.6
23	1.4	1.7	2.0	2.3	2.5	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.4
24	1.4	1.6	1.9	2.2	2.4	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.7	3.8	4.0	4.1	4.2	4.3
25	1.3	1.6	1.9	2.1	2.3	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.6	3.7	3.8	4.0	4.1	4.2
26	1.3	1.5	1.8	2.1	2.3	2.5	2.7	2.9	3.0	3.1	3.3	3.4	3.5	3.6	3.7	3.9	4.0	4.1
27	1.2	1.5	1.8	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.6	3.7	3.8	3.9	4.0
28	1.2	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.2	3.4	3.5	3.6	3.7	3.8	3.9
29	1.1	1.4	1.6	1.8	2.1	2.3	2.4	2.6	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.6	3.7	3.8
30	1.1	1.4	1.6	1.8	2.0	2.2	2.4	2.5	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7

78° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	3.0	3.6	4.2	4.6	5.0	5.3	5.6	5.9	6.0	6.3	6.4	6.6	6.8	6.9	7.0	7.1	7.3	7.4
8	2.8	3.4	3.9	4.3	4.6	4.9	5.2	5.4	5.6	5.8	6.0	6.2	6.3	6.5	6.6	6.7	6.9	7.0
9	2.6	3.2	3.6	4.0	4.4	4.7	4.9	5.1	5.3	5.5	5.7	5.9	6.0	6.2	6.3	6.5	6.6	6.8
10	2.4	2.9	3.5	3.8	4.1	4.4	4.7	4.9	5.1	5.3	5.5	5.6	5.7	5.9	6.0	6.2	6.3	6.5
11	2.3	2.8	3.3	3.7	4.0	4.2	4.5	4.7	4.9	5.1	5.2	5.4	5.5	5.7	5.8	6.0	6.1	6.3
12	2.2	2.7	3.1	3.5	3.8	4.0	4.3	4.5	4.7	4.9	5.0	5.2	5.3	5.5	5.6	5.8	5.9	6.1
13	2.1	2.5	3.0	3.3	3.6	3.9	4.1	4.3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9
14	2.0	2.4	2.8	3.2	3.4	3.7	3.9	4.1	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.5	5.7
15	1.9	2.3	2.7	3.0	3.3	3.5	3.7	3.9	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.5
16	1.8	2.2	2.6	2.9	3.2	3.4	3.6	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3
17	1.7	2.1	2.5	2.8	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.9	5.0	5.2
18	1.6	2.0	2.4	2.7	2.9	3.2	3.4	3.6	3.7	3.9	4.1	4.2	4.3	4.5	4.6	4.7	4.8	5.0
19	1.6	1.9	2.3	2.6	2.8	3.1	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.3	4.5	4.6	4.7	4.8
20	1.5	1.8	2.2	2.5	2.7	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.0	4.2	4.3	4.4	4.5	4.6
21	1.5	1.8	2.1	2.4	2.6	2.9	3.1	3.2	3.4	3.5	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.5
22	1.4	1.7	2.0	2.3	2.5	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.4
23	1.4	1.6	2.0	2.2	2.5	2.7	2.9	3.0	3.2	3.4	3.5	3.6	3.7	3.8	4.0	4.1	4.2	4.3
24	1.3	1.6	1.9	2.2	2.4	2.6	2.8	2.9	3.1	3.3	3.4	3.5	3.6	3.7	3.9	4.0	4.1	4.2
25	1.3	1.5	1.8	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.3	3.4	3.5	3.6	3.8	3.9	4.0	4.1
26	1.2	1.5	1.8	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4.0
27	1.2	1.4	1.7	1.9	2.2	2.4	2.5	2.7	2.9	3.0	3.1	3.2	3.3	3.4	3.6	3.7	3.8	3.9
28	1.1	1.4	1.6	1.9	2.1	2.3	2.5	2.6	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.6	3.7	3.8
29	1.1	1.4	1.6	1.8	2.0	2.2	2.4	2.5	2.7	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7
30	1.0	1.3	1.5	1.7	2.0	2.1	2.3	2.5	2.6	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6

80° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	2.9	3.5	4.1	4.5	4.8	5.1	5.4	5.7	5.9	6.1	6.2	6.4	6.6	6.7	6.8	7.0	7.1	7.2
8	2.7	3.3	3.8	4.2	4.5	4.8	5.1	5.3	5.5	5.7	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9
9	2.5	3.0	3.5	3.9	4.3	4.5	4.8	5.0	5.2	5.4	5.6	5.7	5.9	6.1	6.2	6.3	6.5	6.6
10	2.4	2.8	3.3	3.7	4.0	4.3	4.5	4.8	4.9	5.1	5.3	5.5	5.6	5.8	5.9	6.1	6.2	6.4
11	2.2	2.7	3.2	3.6	3.9	4.1	4.4	4.6	4.7	4.9	5.1	5.3	5.4	5.6	5.7	5.9	6.0	6.2
12	2.1	2.6	3.0	3.4	3.7	4.0	4.2	4.4	4.6	4.8	4.9	5.1	5.2	5.4	5.5	5.7	5.8	6.0
13	2.0	2.4	2.9	3.2	3.5	3.8	4.0	4.2	4.4	4.6	4.7	4.9	5.0	5.2	5.3	5.5	5.6	5.8
14	1.9	2.3	2.7	3.1	3.3	3.6	3.8	4.0	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6
15	1.8	2.2	2.6	2.9	3.2	3.4	3.6	3.8	4.0	4.2	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.4
16	1.7	2.1	2.5	2.8	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.8	4.9	5.1	5.2
17	1.6	2.0	2.4	2.7	3.0	3.2	3.4	3.6	3.8	3.9	4.1	4.2	4.3	4.5	4.6	4.8	4.9	5.0
18	1.6	2.0	2.3	2.6	2.8	3.1	3.3	3.5	3.6	3.8	4.0	4.1	4.2	4.4	4.5	4.6	4.7	4.9
19	1.5	1.9	2.2	2.5	2.7	3.0	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.4	4.5	4.6	4.7
20	1.5	1.9	2.1	2.4	2.6	2.9	3.1	3.2	3.4	3.5	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.5
21	1.4	1.8	2.0	2.3	2.5	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.4
22	1.4	1.7	1.9	2.2	2.4	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.7	3.9	4.0	4.1	4.2	4.3
23	1.3	1.6	1.9	2.1	2.4	2.6	2.8	2.9	3.1	3.3	3.4	3.5	3.6	3.7	3.9	4.0	4.1	4.2
24	1.3	1.6	1.8	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.3	3.4	3.5	3.6	3.8	3.9	4.0	4.1
25	1.2	1.5	1.7	2.0	2.2	2.4	2.6	2.7	2.9	3.1	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4.0
26	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.2	3.3	3.4	3.6	3.7	3.8	3.9
27	1.1	1.4	1.6	1.9	2.1	2.3	2.4	2.6	2.8	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7	3.8
28	1.1	1.3	1.6	1.8	2.0	2.2	2.4	2.5	2.7	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.6	3.7
29	1.0	1.3	1.5	1.7	1.9	2.1	2.3	2.4	2.6	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6
30	1.0	1.2	1.5	1.7	1.9	2.1	2.2	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5

82° Wet Bulb

Approach	RANGE																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	2.8	3.4	3.9	4.3	4.7	5.0	5.3	5.5	5.7	5.9	6.1	6.3	6.4	6.5	6.7	6.8	6.9	7.1
8	2.6	3.2	3.6	4.0	4.4	4.7	4.9	5.2	5.4	5.6	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8
9	2.4	3.0	3.4	3.8	4.1	4.4	4.7	4.8	5.0	5.3	5.4	5.6	5.8	5.9	6.2	6.4	6.5	6.6
10	2.2	2.7	3.2	3.6	3.9	4.2	4.4	4.6	4.8	5.0	5.1	5.3	5.5	5.6	5.8	5.9	6.1	6.2
11	2.1	2.6	3.0	3.4	3.7	4.0	4.2	4.4	4.6	4.8	4.9	5.1	5.3	5.4	5.6	5.7	5.9	6.0
12	2.0	2.5	2.9	3.3	3.6	3.8	4.1	4.2	4.4	4.6	4.8	4.9	5.1	5.3	5.4	5.5	5.7	5.8
13	1.9	2.4	2.8	3.2	3.4	3.7	3.9	4.1	4.3	4.4	4.6	4.7	4.9	5.1	5.2	5.3	5.5	5.6
14	1.8	2.3	2.7	3.0	3.2	3.5	3.7	3.9	4.1	4.2	4.4	4.5	4.7	4.9	5.0	5.1	5.3	5.4
15	1.7	2.1	2.5	2.8	3.1	3.3	3.6	3.7	3.9	4.1	4.2	4.4	4.5	4.7	4.8	4.9	5.1	5.2
16	1.7	2.0	2.4	2.7	3.0	3.2	3.5	3.6	3.8	4.0	4.1	4.2	4.4	4.5	4.6	4.8	4.9	5.1
17	1.6	2.0	2.3	2.6	2.9	3.1	3.3	3.5	3.7	3.9	4.0	4.1	4.3	4.4	4.5	4.6	4.8	4.9
18	1.5	1.9	2.2	2.5	2.7	3.0	3.2	3.4	3.6	3.7	3.8	4.0	4.2	4.3	4.4	4.5	4.6	4.7
19	1.5	1.8	2.1	2.4	2.6	2.9	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.1	4.2	4.3	4.4	4.6
20	1.4	1.7	2.0	2.3	2.5	2.8	3.0	3.2	3.3	3.5	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.4
21	1.4	1.7	2.0	2.2	2.4	2.7	2.9	3.1	3.2	3.4	3.5	3.6	3.7	3.9	4.0	4.1	4.2	4.3
22	1.3	1.6	1.9	2.1	2.4	2.6	2.8	3.0	3.1	3.3	3.4	3.5	3.6	3.8	3.9	4.0	4.1	4.2
23	1.3	1.5	1.8	2.1	2.3	2.5	2.7	2.9	3.0	3.2	3.3	3.4	3.5	3.6	3.8	3.9	4.0	4.1
24	1.2	1.5	1.7	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.8	3.9	4.0
25	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.2	3.3	3.4	3.6	3.7	3.8	3.9
26	1.1	1.4	1.6	1.9	2.1	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7	3.8
27	1.1	1.3	1.6	1.8	2.0	2.2	2.4	2.5	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7
28	1.0	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.6	2.7	2.8	3.0	3.1	3.2	3.3	3.4	3.5	3.6
29	1.0	1.2	1.5	1.7	1.9	2.1	2.2	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5
30	0.9	1.2	1.4	1.6	1.8	2.0	2.2	2.3	2.4	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4

Consult factory for selections not coverd by these tables.

FLUID COOLER FLOW CAPACITY RATINGS – TABLE 2

MODEL		GPM Min.–Max. Limitation	UNIT LOAD FACTORS														
Model No.	Coil Circuiting		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
			GALLONS PER MINUTE														
1-9	YFCL	10-29	145	90	60	40	30	24	20	17	15	13	12	11	10	9	
	YFC	30-115															
1-12	YFCL	10-35	160	100	70	50	38	30	25	21	18	16	14	12	11	10	9
	YFC	36-115															
1-15	YFCL	19-56	190	120	85	60	48	38	30	25	22	20	18				
	YFC	57-230															
2-17	YFCL	11-32		140	95	70	55	43	35	29	24	20	18	16	15	14	13
	YFC	33-130															
2-20	YFCL	21-62	240	175	115	85	65	50	40	32	27	23	21	19			
	YFC	33-130															
2-22	YFCL	21-62	260	180	125	95	70	55	43	35	29	25	22	20			
	YFC	63-250															
3-25	YFCL	26-77	325	210	145	105	80	60	48	40	33	28	24				
	YFC	78-310															
3-30	YFCL	26-77	355	245	175	125	95	70	55	45	37	30	26	23			
	YFC	78-310															
4-35	YFCL	33-98	380	275	200	150	115	90	70	55	45	36	30				
	YFC	99-400															
4-40	YFCL	33-98	420	305	220	170	130	100	80	65	54	45	37	30			
	YFC	99-400															
4-50	YFCL	33-98	480	355	265	200	155	125	100	80	65	55	47	40	34	29	
	YFC	99-400															
5-60	YFCL	41-122	610	450	340	260	195	155	125	100	80	65	55	46	40		
	YFC	123-490															
5-75	YFCL	41-122		535	410	315	245	190	150	120	95	80	65	55	47	40	
	YFC	123-490															
5-86	YFCL	41-122		610	470	365	280	220	175	140	115	95	78	65	55	48	43
	YFC	123-490															
6-92	YFCL	50-149		685	515	390	300	235	185	150	120	100	83	70	60	52	45
	YFC	150-600															
6-101	YFCL	50-149		720	550	425	330	260	210	165	135	110	92	77	67	58	50
	YFC	150-600															
6-110	YFCL	50-149		760	585	455	355	280	225	180	145	120	100	85	72	63	55
	YFC	150-600															
7-135	YFCL	70-209		880	705	550	430	340	270	215	175	145	120	100	85	73	65
	YFC	210-840															
7-155	YFCL	70-209		1005	825	645	505	400	320	255	210	170	140	115	100	87	77
	YFC	210-840															
8-175	YFCL	70-209		1100	925	745	568	447	362	292	241	201	165	140	121	106	93
	YFC	210-1200															
8-200	YFCL	70-209		1200	1080	850	650	520	430	350	287	240	205	172	145	125	110
	YFC	210-1200															
9-211	YFCL	110-280	1700	1400	1147	922	692	570	465	383	315	262	216	183	158	139	122
	YFC	281-1700															
9-228	YFCL	110-280	1800	1500	1272	1012	737	615	498	408	336	300	240	201	170	146	129
	YFC	281-1700															
10-248	YFCL	130-320	1900	1595	1341	1068	783	648	535	445	356	300	243	207	179	160	137
	YFC	321-1800															
10-270	YFCL	130-320	1950	1650	1415	1112	845	699	570	470	390	322	273	229	193	170	150
	YFC	321-1800															
11-289	YFCL	150-360	2065	1780	1490	1200	900	750	620	510	410	335	275	234	202	177	155
	YFC	361-1900															
11-312	YFCL	150-360		1885	1647	1299	980	810	665	545	444	370	316	265	224	193	170
	YFC	361-1900															
12-339	YFCL	150-360		2106	1763	1420	1065	873	727	598	481	393	323	275	237	208	182
	YFC	361-1900															
12-368	YFCL	150-360			1942	1532	1156	948	784	643	524	437	373	313	265	228	200
	YFC	361-1900															

Do not exceed the minimum and maximum flow rates given for each unit in column 3. Extrapolation of flow ratings should not exceed the flow range printed for each unit.

GLYCOL FLOW CORRECTION FACTORS – TABLE 3

UNIT MODEL YFC/YFCL	Ethylene Glycol (By Vol.)	DESIGN FLOW (GPM)								
		40	50	70	90	100	125	150	175	Above
1-9 thru 5-86	20%	1.08	1.05	1.02	1.01	1.00	1.00	1.00	1.00	1.00
	30%	1.11	1.07	1.03	1.01	1.01	1.00	1.00	1.00	1.00
	40%	1.14	1.11	1.05	1.02	1.01	1.00	1.00	1.00	1.00
	50%	1.17	1.13	1.07	1.02	1.01	1.01	1.00	1.00	1.00
6-92 thru 6-110	20%	1.13	1.09	1.06	1.03	1.02	1.01	1.00	1.00	1.00
	30%	1.16	1.12	1.08	1.04	1.03	1.01	1.01	1.00	1.00
	40%	1.20	1.16	1.11	1.07	1.04	1.02	1.01	1.00	1.00
	50%	1.24	1.21	1.15	1.08	1.05	1.02	1.01	1.00	1.00
7-135 thru 12-368	20%	1.16	1.12	1.09	1.06	1.04	1.03	1.01	1.00	1.00
	30%	1.24	1.18	1.11	1.08	1.05	1.03	1.02	1.01	1.00
	40%	1.28	1.21	1.15	1.11	1.08	1.05	1.03	1.01	1.00
	50%		1.23	1.20	1.16	1.11	1.07	1.05	1.02	1.01

ETHYLENE GLYCOL (By Volume)

	20%	30%	40%	50%
Freeze Pt (°F)	+14	+3	-14	-39

PRESSURE DROP DETERMINATION – TABLE 4

GPM	MODELS YFC & YFCL																												
	1-9	1-12	1-15	2-17	2-20	2-22	3-25	3-30	4-35	4-40	4-50	5-60	5-75	5-86	6-92	6-101	6-110	7-135	7-155	8-175	8-200	9-211	9-228	10-248	10-270	11-289	11-312	12-339	12-368
10	1.1	1.5		1.1																									
20	3.8	5.0	1.0	3.5	0.7	0.9																							
25	5.6	7.4	1.6	5.2	1.1	1.3	0.8	1.0																					
30	1.1	1.5	2.2	6.9	1.5	1.8	1.1	1.3	0.7	0.8	1.1																		
35	1.5	2.0	2.9	9.1	1.9	2.3	1.5	1.8	0.9	1.0	1.4	0.7	0.9	1.1															
40	1.9	2.5	3.6	1.7	2.4	2.9	1.8	2.2	1.1	1.4	1.7	0.9	1.1	1.3	0.7	1.0	1.2												
45	2.4	3.1	4.6	2.1	3.0	3.6	2.3	2.8	1.4	1.8	2.1	1.0	1.3	1.6	0.9	1.2	1.5												
50	2.9	3.6	5.4	2.5	3.6	4.3	2.7	3.3	1.6	2.1	2.6	1.2	1.6	1.9	1.1	1.4	1.8												
55	3.4	4.3	6.5	3.0	4.3	5.0	3.2	3.9	1.9	2.5	3.0	1.5	1.9	2.3	1.3	1.7	2.1												
60	3.9	5.0	1.5	3.5	5.0	5.9	3.7	4.6	2.2	2.8	3.4	1.7	2.3	2.7	1.5	1.9	2.4												
65	4.5	5.8	1.7	4.0	1.0	1.3	4.3	5.2	2.6	3.4	4.1	1.9	2.6	3.1	1.7	2.2	2.8												
70	5.1	6.5	2.0	4.5	1.2	1.4	4.7	5.8	2.9	3.7	4.5	2.2	2.9	3.5	1.9	2.6	3.1	1.5	1.8										
75	5.8	7.4	2.2	5.0	1.4	1.6	5.4	6.5	3.3	4.2	5.2	2.5	3.4	4.0	2.2	2.9	3.5	1.7	2.1										
80	6.5	8.3	2.5	5.6	1.5	1.8	1.1	1.3	3.7	4.8	5.9	2.8	3.7	4.3	2.5	3.2	4.0	1.8	2.3										
85	7.3	9.3	2.8	6.3	1.7	2.0	1.2	1.4	4.2	5.4	6.5	3.2	4.2	5.0	2.8	3.6	4.5	2.0	2.5										
90	8.0	10.2	3.1	6.9	1.9	2.2	1.3	1.6	4.5	5.8	6.9	3.5	4.6	5.4	3.0	3.9	4.8	2.2	2.8										
95	8.8	11.3	3.5	7.7	2.1	2.4	1.5	1.7	0.8	1.0	1.3	3.8	5.0	6.1	3.3	4.3	5.4	2.4	3.1										
100	9.6	12.4	3.8	8.5	2.2	2.7	1.6	1.9	0.9	1.1	1.4	4.2	5.4	6.5	3.6	4.8	5.8	2.6	3.3	3.0	3.7	1.7	**2.4**	2.1	2.9	2.6	3.4	3.1	4.1
110	11.4	14.9	4.5	10.0	2.8	3.2	1.9	2.2	1.1	1.3	1.6	4.8	6.3	7.8	4.3	5.6	6.9	3.1	3.8	3.5	4.3	2.1	**2.8**	2.4	3.5	3.0	4.1	3.6	4.9
120			5.3	11.8	3.3	3.8	2.2	2.6	1.2	1.6	1.9	1.1	1.3	1.6	5.0	6.5	8.0	3.5	4.5	4.0	5.0	2.4	**3.3**	2.7	4.0	3.5	4.7	4.2	5.6
130			6.2	13.5	3.8	4.3	2.6	3.0	1.4	1.8	2.2	1.2	1.5	1.8	5.6	7.4	9.1	4.2	5.2	4.6	5.7	2.7	**3.8**	3.0	4.6	4.0	5.4	4.8	6.5
140			7.0		4.3	4.9	2.9	3.4	1.6	2.0	2.5	1.4	1.7	2.1	6.5	8.3	10.4	4.6	5.8	5.2	6.4	3.1	**4.3**	3.7	5.2	4.6	6.1	5.5	7.3
150			8.0		4.8	5.6	3.2	3.8	1.8	2.3	2.8	1.6	1.9	2.3	1.4	1.7	2.1	5.1	6.5	5.9	7.2	3.5	**4.9**	4.4	5.8	5.2	6.9	6.2	8.3
160			9.1		5.4	6.3	3.7	4.3	2.1	2.6	3.2	1.8	2.2	2.6	1.6	1.9	2.3	5.7	7.3	6.5	8.0	4.0	**5.4**	4.9	6.5	5.8	7.7	7.0	9.2
170			10.2		6.1	7.1	4.1	4.8	2.3	2.9	3.5	2.0	2.5	2.9	1.8	2.2	2.6	6.3	8.1	7.1	8.9	4.4	**6.0**	5.4	7.3	6.5	8.6	7.8	10.3
180			11.3		6.7	7.8	4.5	5.3	2.5	3.2	3.9	2.2	2.7	3.2	1.9	2.4	2.8	7.0	8.9	7.8	9.8	4.9	**6.6**	6.0	8.0	7.1	9.4	8.5	11.2
190			12.4		7.4	8.5	5.0	5.9	2.8	3.5	4.2	2.4	3.0	3.5	2.2	2.6	3.2	7.6	9.8	8.6	10.7	5.3	**7.3**	6.5	1.3	7.8	10.3	9.3	12.3
200			13.5		8.0	9.3	5.4	6.4	3.1	3.9	4.6	2.6	3.2	3.9	2.4	2.9	3.5	8.2	10.5	9.4	11.7	5.7	**7.9**	7.0	1.7	1.4	1.8	1.7	2.1
225			16.9		10.1	11.6	6.7	7.9	3.8	4.8	5.8	3.2	4.0	4.8	3.0	3.6	4.3	2.0	2.4	1.9	2.0	7.1	**1.8**	1.7	2.1	1.8	2.3	2.2	2.1
250					12.1	13.9	8.2	9.5	4.5	5.8	6.9	3.9	4.8	5.8	3.5	4.3	5.2	2.3	2.9	2.3	2.6	1.9	**2.2**	2.2	2.6	2.2	2.8	2.6	3.4
275							9.9	11.3	5.4	6.8	8.2	4.7	5.8	6.8	4.2	5.2	6.2	2.8	3.4	2.7	3.1	2.3	**2.7**	2.6	3.2	2.7	3.4	3.2	4.1
300							11.5	13.0	6.4	7.8	9.5	5.4	6.7	7.8	4.9	6.1	7.2	3.3	3.9	3.1	3.6	2.7	**3.2**	3.1	3.8	3.2	4.1	3.8	4.9
350									8.4	10.4	12.6	7.3	8.3	10.4	6.5	7.9	9.5	3.8	4.6	4.0	4.7	3.5	**4.3**	3.9	4.9	4.3	5.2	5.2	6.2
400									10.6	13.0	15.6	9.2	9.4	2.8	6.8	8.5	10.3	4.3	5.3	5.1	5.9	4.4	**5.4**	5.1	6.2	5.4	6.5	6.5	7.8
450													2.3	3.3	8.3	2.0	3.1	5.2	6.4	6.2	7.1	5.3	**6.6**	6.1	7.6	6.6	8.1	7.9	9.7
500													2.7	4.0	9.9	2.3	3.7	6.3	7.7	7.4	8.5	6.4	**8.1**	7.4	9.1	8.1	9.6	9.7	11.5
550													3.1	4.6		2.7	4.3	7.5	9.2	8.7	10.0	7.5	**9.4**	8.7	1.2	9.4	1.4	11.2	1.7
600													3.5	5.5		3.1	5.0	8.6	2.5	1.7	2.9	8.8	**1.2**	9.9	1.4	1.9	1.7	2.3	2.0
650													3.9	6.2		3.6	5.7	9.9	2.8	2.0	3.3	9.9	**1.4**	1.9	1.6	2.2	1.9	2.6	2.3
700													4.5	7.0		4.1	6.6	1.9	3.2	2.2	3.7	2.0	**1.6**	2.2	1.8	2.5	2.1	3.0	2.5
750													5.1	8.0		4.6	7.3	2.1	3.6	2.5	4.2	2.3	**1.8**	2.5	2.0	2.8	2.4	3.4	2.9
800														9.0			8.1	2.4	4.0	2.8	4.7	2.5	**2.0**	2.7	2.3	3.1	2.7	3.7	3.2
850														10.0			9.0	2.7	4.4	3.1	5.2	2.7	**2.3**	3.1	2.6	3.5	3.0	4.2	3.6
900																	10.0		4.8	3.4	6.0	3.1	**2.5**	3.5	2.9	3.9	3.3	4.7	4.0
950																			5.2	3.8	6.4	3.4	**2.8**	3.7	3.1	4.3	3.6	5.2	4.3
1000																			5.7	4.1	7.0	3.7	**3.0**	4.2	3.4	4.7	4.0	5.6	4.8
1100																			6.6		8.4	4.5	**3.6**	5.1	4.1	5.5	4.6	6.6	5.5
1200																			7.6		10.0	5.2	**4.3**	5.8	4.8	6.6	5.4	7.9	6.5
1300																			8.7			6.1	**5.0**	6.7	5.5	7.4	6.0	8.9	7.2
1400																			9.8			6.9	**5.5**	7.7	6.4	8.5	7.0	10.2	8.2
1500																						7.9	**6.4**	8.6	7.2	9.6	8.0	11.5	9.4
1600																						8.8	**7.0**	9.5	8.0	11.1	9.0	13.3	10.5
1700																						9.8	**8.0**	10.8	9.0	12.1	10.0	14.5	11.5
1800																												15.8	12.8
1900																												16.5	14.2

Pressure drop figures are in PSI. Shaded area applies to YFC standard models. Values below shaded area to high flow units.

ETHYLENE GLYCOL FLOW CONVERSION

TABLE 5

	ETHYLENE GLYCOL (By Volume)			
	20%	30%	40%	50%
Factor	1.04	1.05	1.06	1.07

NOTE: For ethylene glycol pressure drop calculation, the conversion factor form Table 5 must be applied to design flow before entering Table 4.

Form 350.10-SED1 (904)
Supersedes: E200-206 SED (904)
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