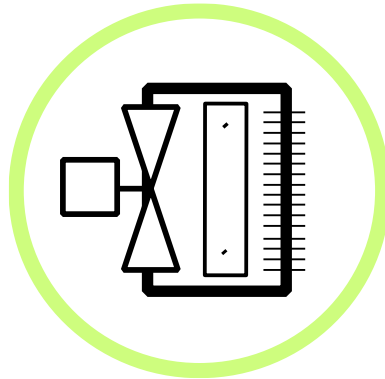


LOW TEMP UNIT HEATERS



UHHL

TECHNICAL CATALOG



MANUFACTURERS OF HYDRONIC HEATING AND COOLING
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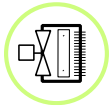


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1. PRODUCT OVERVIEW

OVERVIEW

The Sigma UHHL Unit Heater product family covers a wide performance range and is ideally suited to low-temperature warm-water applications. These are loosely defined as hydronic heating applications where the Entering Water Temperature (EWT) is 140° F or less. Typical applications include: condensing boiler installations or low-grade waste-heat systems. In more general terms, the UHHL models are ideally suited wherever the combination of the fluid-to-air thermal gradient is low and/or required water-side Delta-T is high and/or a high-ratio glycol solution is utilized.

The overall product range is consolidated to reduce the number of different models, simplifying selection, ordering and installation activities.

A comprehensive set of options are offered to meet the most demanding of applications including use in hazardous locations and/or wet or corrosive environments and also at elevated supply water pressures.

All units feature side-entry coil connections permitting installation in clearance-critical low ceiling environments.

PERFORMANCE

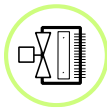
All units are designed for maximum heat transfer capacity per given unit size and for optimum air distribution given a variety of possible installation applications.

CONFIGURATION

All units are equipped with multi-row coils for enhanced unit capacity and water-side Delta-T under given low fluid (water/glycol)-to-air temperature gradients.

All units are equipped with horizontal louvers for simple vertical air distribution adjustment. Optional Louver Fin Diffusers (LFDs) permit enhanced air distribution adjustment. That is to say, LFDs can be positioned to create a nozzle effect for increased discharge air throw; or conversely, positioned to deliver a broad air pattern for near field but wide coverage. In addition, a Discharge Nozzle option permits for increased mounting height and longer discharge air throws.

All units also can also be configured with a number of line-voltage and/or 24 VAC enabled control options, whether unit-mounted and/or shipped-loose for field installation to complete the facilitate the overall procurement of required components per jobsite conditions.



2. APPLICATION CONSIDERATIONS

Although, Leaving Water and Air Temperatures (LWT & LAT) are important factors for equipment selection, they take on much more importance within Low-Temperature Warm-Water (LTWW) applications.

In general traditional Hot Water Unit Heaters simply cannot meet these new LTWW application requirements while also meeting new additional constraints on LWT & LAT.

The following explains the pitfalls and the design considerations for proper Unit Heater (UHHL) selections in LTWW applications.

Firstly, LWT Needs To Be More Closely Checked and Considered.

In many Low-Temperature Warm-Water (LTWW) applications, the operation of the heat generator is highly dependent upon the return water temperature from the terminal units (unit heaters, etc.).

It is very important for the system designer to understand how the system heat source operates.

A system driven by condensing boilers will only operate at optimum efficiency if the flue gases from the boiler condense. The Dew Point of the flue gases (with Natural Gas fired equipment) range from roughly 125 to 135 °F (depending on % of excess air). At 20% excess air for stoichiometric combustion, exhaust flue gas dew point is 132 °F.

It is therefore imperative that the flue gas cooling medium (return water) be sufficiently cooler to enable the boiler to condense. In this case, the return water temperature (LWT) is generally below 120 °F, and, in many cases closer to 100 °F.

Standard Unit Heaters (typically constructed with 1 or 2 rows of heating coil) are not inherently designed with sufficient serpentine circuiting to result in such “untraditional” cool LWTs.

Why Lowering Water-Flow (GPM) To Obtain Lowest Possible Leaving Water Temperature Is Rarely The Correct Solution.

To obtain low LWTs, isn't it a simple case of throttling the water-flow to increase the water-side delta-T ?

No, in these LTWW applications, this is often not a good idea, especially when applying equipment originally designed for “traditional” (160-200 °F EWT) hot water applications.

The simple answer is that at significantly lower flow rates than design, the water-flow through the heat exchanger (AL-fin CU-tube coil) may fall into the laminar regime. If this happens, heat transfer capacity decreases significantly. To the best of our knowledge, no one in the industry publishes real capacity data taking into account a decreased capacity due to operation of their equipment in the laminar regime. It is as if everyone conveniently forgets that Laminar Flows and their effects exist.

Be assured that the Sigma UHHL capacity tables, herein, exclude any selections which that have flow velocities in the Laminar regime.

The table below lists the minimum permissible flow velocities and flow rates based on laminar and transitional flow regimes.

With 1/2" OD Tubes		Min. Velocity [ft/s]		Min. Flow Rate* [US gpm]		With 5/8" OD Tubes		Min. Velocity [ft/s]		Min. Flow Rate* [US gpm]	
Fluid Temperature:		120 °F	180 °F	120 °F	180 °F	Fluid Temperature :		120 °F	180 °F	120 °F	180 °F
Water	-	0.39	0.25	0.21	0.13	Water	-	0.31	0.20	0.26	0.17
Propylene Glycol	20%	0.67	0.38	0.36	0.20	Propylene Glycol	20%	0.53	0.30	0.45	0.26
	30%	0.89	0.48	0.48	0.25		30%	0.71	0.38	0.60	0.32
	40%	1.18	0.60	0.63	0.32		40%	0.94	0.47	0.80	0.40
	50%	1.61	0.75	0.85	0.40		50%	1.27	0.60	1.08	0.51

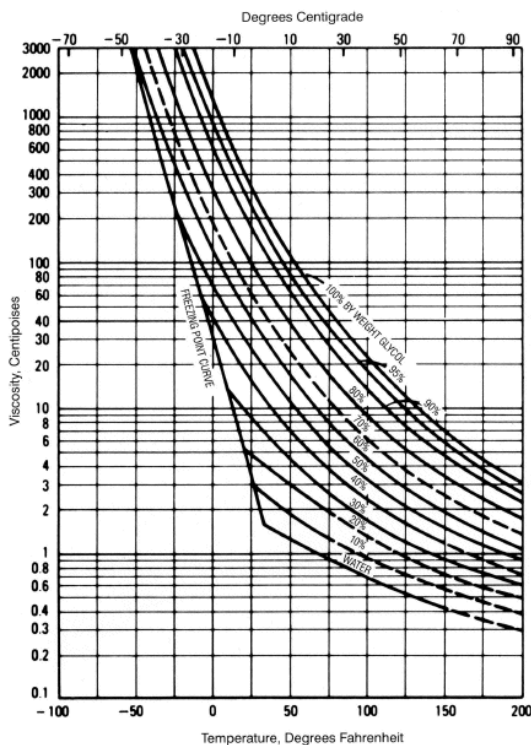
*Flow rate is expressed on a per circuit basis. Most finned-tube heat exchangers consist of several circuits.

2. APPLICATION CONSIDERATIONS

At first glance, these minimum flow velocities and flow rates appear to be much lower than what is generally used in the hydronic heating industry.

The main driver is the increased viscosity. The viscosity of glycol solutions is too often solely viewed as its only significant effect is to increase water pressure drop, but its effect upon the resultant flow regime (expressed as a Reynolds number) is not nearly as understood nor accounted for.

Viscosity of Propylene Glycol Solutions



From the above graph, we can gather the following values for the viscosity (cP) for various Water / Propylene solutions and/or conditions :

Water : @180 °F = 0.35, @120 °F = 0.56; ratio = 1.6
 PP-20%: @180 °F = 0.54, @120 °F = 0.97; ratio = 1.8
 PP-30%: @180 °F = 0.68, @120 °F = 1.30; ratio = 1.9
 PP-40%: @180 °F = 0.85, @120 °F = 1.73; ratio = 2.0
 PP-50%: @180 °F = 1.08, @120 °F = 2.36; ratio = 2.2

Because the viscosity increases significantly with both lower fluid temperatures and higher concentrations, the effect on the flow characteristics within the Unit Heater cannot be ignored. These effects are two-fold.

Firstly, the water pressure drop will rise. For smooth pipes or tubes (as is the case with typical Copper-Tube Aluminum-Fin heat exchangers) the relationship between pressure drop and viscosity is roughly proportional, that is, a doubling of viscosity causes a doubling in pressure drop. So, in glycol systems, it is generally good practice to limit flow velocities.

However and secondly, we have the “Reynolds Numbers” effects. What is generally meant by this, is that the flow regime may in one of 3 zones (or types of flow): a) laminar, b) transitional or c) turbulent.

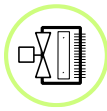
All heating/cooling equipment should be designed and applied to ensure that the flow regimes remain turbulent within the applicable range of the product.

TABLE 2.1 is based on a threshold Reynolds Number (Re) of 2500. Although there is some disagreement within the scientific / engineering community as to the exact threshold Re No. for Laminar and Turbulent Flow, Sigma has used a value for Re of 2500 to establish a rule which can be broadly applied without being overly conservative nor fool-hardly optimistic. Since Re is directly proportional to velocity, it is generally good practice to keep velocities away from the laminar region, that is, to avoid low flow velocities.

Obviously, we have a conflict and the more viscous the fluid (cooler temperatures and/or glycol mixtures) the worse the situation with a narrower range of permissible flow velocities within the heat exchanger.

This is a fundamental reason where and why these LTWW applications require a new and specific design solution for its terminal heating units given that standard unit heaters do not comply from a “system” point of view.

In the preceding charts and discussion, only data for water and for propylene glycol mixtures is given. Please note that Ethylene Glycol mixtures will behave in a very similar fashion to that of Propylene.



2. APPLICATION CONSIDERATIONS

So far, we've only discussed the physics at low velocities—but what about at high flow velocities ?

At high flow velocities, our only concern is the increasing fluid pressure drops, there are no fundamental show-stoppers (similar to Laminar Flow) that manifest. As such, the same maximum velocity rule can apply regardless of fluid and temperature. As a maximum upper bound, fluid velocities should be limited to no more than 8.5 ft/s since velocities exceeding 8.5 ft/s will accelerate dramatically erosion of the copper tubes. However, in a practical sense, water pressure drops become much too high for most applications and thus, designs are usually limited to a maximum that is closer to 6 ft/s; with most ideal selections in the 2.5–4 ft/s range.

The following table summarily illustrates the inherent narrowing of acceptable usage of hydronic equipment that are meant for use with both water and with up to 50% glycol :

Table 2.2 - Flow Range Ratio **					
		1/2" OD Tubes		5/8" OD Tubes	
Fluid Temperature:		120 °F	180 °F	120 °F	180 °F
Water	-	15	24	19	30
	20%	9	16	11	20
Propylene Glycol	30%	7	13	8	16
	40%	5	10	6	13
	50%	4	8	5	10

**Flow Range Ratio is the ratio of Maximum "Practical" Velocity (6 ft/s) vs Minimum as listed on page 4.

It is important to note that the above ratios are much lower than what some competitors publish. For instance, we've seen brand X publish data suggesting a ratio of 65:1 of maximum to minimum flow rate (i.e. fluid velocity). Since their water pressure drops are not unusually high, it is clear that they have published data for which the flow velocities are much too low and; most assuredly, would fall into the laminar regime.

The capacity data published herein also lists the actual fluid velocities within the tubes to allow for immediate verification of compliance for the intended application.

Summary re. Flow Rates :

A few important guidelines come to the fore :

1. Conditions causing such low flow velocities to cause a terminal unit to fall into the laminar regime are to be avoided in all cases.
2. As application temperatures decrease and with increasing glycol %, the manifestation of laminar flow occurs at much higher velocities than at "traditional" heating temperatures.
3. For a given fluid, the minimum permissible velocity at 120 °F is roughly double the minimum at 180 °F. The lower the fluid temperature, the less tolerant it is for use at very low velocities.
4. At a given fluid temperature, the minimum permissible velocity with 30% glycol is slightly more than double the minimum for water; whereas with 50% glycol, the minimum is roughly 4 times that of water.
5. Although minimum velocities are lower with 5/8" tubes vs 1/2"; it is the minimum acceptable flow rates that are of greatest interest in order to obtain highest possible delta T's. As such, low-temperature unit heaters are generally better suited for the application if based on 1/2" rather than 5/8"-diameter tubes.
6. It is important all data be presented so that the selection of unit heaters be as transparent as possible, so for instance, complete data shows including the actual fluid flow velocity within the heat exchanger.

2. APPLICATION CONSIDERATIONS

The Leaving Air Temperature (LAT) Needs To Be More Closely Checked And Considered.

The other major fundamental constraint on LTWW applications is the Leaving Air Temperature (LAT).

Why More Air Is Not Necessarily A Good Thing.

Unlike traditional unit heaters which are often sized to deliver high air volume flows and velocities, low temperature units have the additional constraint that too much air is not necessarily a good thing!

One might assume that the preceding issues re. the necessity to obtain high water-side delta-T's could be solved/alleviated by deploying higher airflows. This would "theoretically" increase capacity and thus enable lower LWT's at the same "high" water-flow rates, and thus avoid the troublesome Laminar regime discussed earlier.

While this is all true, the most important factor to consider is what is the starting point?

With "traditional" hot-water applications, the LATs tend to be fairly warm. However with LTWW applications, since the EWTs are lower, the LATs will tend to be lower as well. This is true for any hydronic air handling equipment.

Given traditional unit heaters with operating entering water temperatures (EWTs) of 180 °F, low LATS are rarely an issue since LATs are generally always above 100 °F, if not closer to 120-130 °F. In steam applications, LATs will be higher still with these same traditional unit heaters. As such, most, if not all standard unit heaters ensure an over-abundance of airflow to ensure LATs are less than 130-140 °F in all applications, including steam.

As such, traditional unit heaters are built to deliver very high air volumes – in short, to maximize the airside delivery for a given unit size without unduly raising fan and air noise to unacceptable levels.

Theoretically, any air flow at less than human skin temperature will feel like a cold draft. This does not

strictly mean that LATs must be above 98 °F. In a practical sense, if LAT is above 90 °F and in some cases, as low as 85 °F, then the 'cold draft' feeling is usually not an issue. Further to that, even lower LATs may be perfectly acceptable in some special situations : community hockey arenas and parking garages to name two such common applications.

Notwithstanding all of the above, the ideal goal of LTWW terminal heating units (in this case, model UHHL unit heaters) is to enable the lowest possible LWTs while generating highest possible LATs, whilst operating with optimum water-side flow rates and pressure drops.

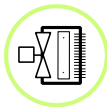
The implications on the heat exchanger are two-fold:

1. Heat exchangers must be multi-row with a cross-flow arrangement.
2. To alleviate the resultant higher air-side pressure drops from multi-row coils, it is often necessary to design the heat exchangers with large face areas operating at lower air velocities. This often results in units where the fans "appear" to be too small for the size of cabinet / coil.

One must not be fooled by appearances, but remember that solutions to LTWW applications are rarely the same as those to "traditional" hot-water applications. Coils & Fans will be different.

Throw Considerations & Discharge Air Distribution

Given the additional constraints inherent with LTWW applications, it is nonetheless desired that maximum air-discharge patterns not be adversely affected. As such, discharge air velocities can be increased, if required, through deployment of an Air Discharge Nozzle (AND). If installation requirements dictate the highest possible mounting heights and throws, then use of the ADN option (with or without Louvre Fin Diffusers [LFDs]) can be utilized successfully.



2. APPLICATION CONSIDERATIONS

Summary:

So, in general the fundamental differences between LTWW-designed Unit Heaters (UHHL) and Traditional (Standard) Unit Heaters are:

<u>LTWW Applications</u> Sigma UHHL	<u>Standard Hot Water</u> Sigma SUH
Optimized for: Fluid 100-140 °F Water and/ or Glycol solutions of up to 50%	Optimized for: Water at 160 °F- 200 °F
Not used for steam	Can be used with Low- Pressure Steam (LPS) Units adaptable for High-Pressure Steam (HPS)
Designed for limited Airflow rates to ensure LATs are not too low to avoid “cold draft” feeling	Designed for maximum Airflow rates to ensure LATs are not too high at hottest Water or Steam conditions
Multi-row coil (3 or 4 row)	Limited to 1 or 2-row
“Small” Fan vs Cabinet Size	Fan Diameter maximized for highest practical CFMs
Designed for lowest practical LWTs (110 °F or lower)	Optimized for ~20 °F delta-T at 180-200 °F EWT LWTs as low as 120 °F not generally possi- ble.

3. FEATURES AND BENEFITS

CABINETS

Cabinets are constructed from heavy-duty, cold-rolled, corrosion-resistant steel finished in grey baked enamel. Enhanced corrosion protection options are available. These included use of 304 or 316 Stainless Steel for cabinet material or enhanced coatings such as Heresite or E-coating.

Back panels on the air-inlet side have integral fan inlet collars for additional stiffness and enhanced air-side performance.

COILS

All coils are pressure-tested at no less than 450 psig and are rated for design pressures of up to 600 psig across all standard models. Coils are constructed from heavy-duty 1/2" diameter copper tube with mechanically bounded aluminum fins. Special coils for even more demanding applications are available upon request. For example, coils with Cu-Ni or Carbon Steel or Stainless Steel (304 or 316) tubes and/or with Copper, Steel or Stainless fins can be requested.

FANS

All Fans are statically and dynamically balanced. The entire fan-motor assembly is supported by a sturdy wire-form mount, which in itself is a rated OSHA fan guard. The fan blades are aluminum and as such all units comply with AMCA Type C spark-resistant construction. All units at 120V/1/60 and TEAO come with OSHA-rated fan guards.

LOUVRES

All louvre blades have rugged retaining springs keeping blades at their set position. These springs permit unlimited blade adjustment over the unit's life without decreasing the blade holding force.

MOTORS

Standard 120/1/60 motors are of TEAO (Totally-Enclosed Air-Over) construction, with automatic thermal overload protection and are resilient

mounted for quiet, low-vibration operation. TE-type motors are ideally suited for long trouble-free life on Unit Heaters since the units are often placed in hard-to-access locations (ceiling-mounted at elevations out of normal reach). Air-Over implies that the motor requires air movement provided by other means for its cooling. Since all UHHL Unit Heaters inherently draw ambient air over the motor via its driven axial fan, ample motor cooling is achieved without requiring a more expensive and energy consuming TEFC (totally-enclosed fan-cooled) motor. Washdown and/or Explosion-Proof motors are also part of the standard product offering across most sizes and voltages.

SIMPLE INSTALLATION AND MAINTENANCE

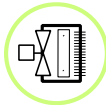
All units are designed with all coil connections to the side(s) of the unit. The air inlet side of the unit, incorporating the fan & motor are unimpeded and thus, readily accessible.

All units come equipped with an electrical junction box for simple electrical hook-up.

DESIGN SPECIALS

Although the list of standard options is quite extensive, jobsite conditions may require alternative types of construction. This may be as simple as a particular brand of electrical switchgear (for harmonization with existing jobsite equipment) or can be more fundamental in nature. For example, cases where the combination of input temperatures, glycol % and/or required delta-T may require special coil designs to meet the application requirements. These and many more are always available upon request.





4. PRODUCT OPTIONS

4.1.1 MODEL NUMBER BREAKDOWN

Sample Product Number:

UHHL-A.0-480-230/3/60-TEAO-NT-NDSC-24R-OSHA-LFD-HG-GREYBF-NAT-24T-MS-DRY

1. Product

2. Generation

3. Capacity

Available Sizes:

Cab A: 160

Cab B: 200

Cab C: 220 240 260 280

Cab D: 320 360 400

Cab E: 440 480

Cab F: 520

Cab G: 560 600 640

4. Voltage/Phases/Frequency

120/1/60

208/1/60 208/3/60

230/1/60 230/3/60

460/1/60 460/3/60

575/1/60 575/3/60

5. Motor Style

TEAO- Totally Enclosed Air Over (NEMA 1)

XP - Explosion Proof

WDXXXX- Washdown (WD)*

WHL - WD and Hazardous Location

6. Thermostat & Aquastat

See Table*

7. Unit-Mounted Line Voltage

Motor-Rated Manual

Switchgear

See Table*

8. 24VAC Enabled Options

See Table*

9. Fan/Air Inlet Guard

OSHA - OSHA Fan Guard

OPG - Standard Open Guard

13. Fan & Coil Finish

See Table*

12. Cabinet Finish

GreyBF - Grey BEF

WHTBF - White BEF

NF - No Finish (SS material)

EC - E-Coating

HC - Heresite Coating

11. Material

HG - Heavy Gauge Galvannealed

EHG - X-Heavy Gauge Galvannealed

SS304 - Stainless Steel 304

SS316 - Stainless Steel 316

10. Discharge

LFD - LFD Kit - Field Installed

DNZ - Discharge Nozzle w/o LFD

DNL - Discharge Nozzle w/ LFD

SHIPPED LOOSE ITEMS

14. Field Installed Thermostat

See Table*

15. Field Installed Line

Voltage Switchgear

See Table*

16. Location Environment for

Shipped-Loose Switchgear

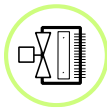
See Control option chart*

*See Details (Table 4.1.1) on next page

4. PRODUCT OPTIONS

4.1.2 Details

Table 4.1.1 - Model Number Nomenclature – Unit-Mounted & Field-Installed Switchgear (Controls)				
Digit	Model Number Category	Valid Codes	Description	Item Codes
5	Washdown Motor Options	WD55	IP55-Baked Enamel Finish	WD55
		WD55S	IP55-White Epoxy– Stainless Steel Shaft	WD55S
		WD55SS	IP55-Stainless Steel	WD55SS
		WD56SS	IP56-Stainless Steel	WD56SS
		WD56ES	IP56– Stainless Steel-Double Sealed BRGS	WD56ES
6	Unit-Mounted Thermostat and/or Aquastat *1,2	N	None Selected	-
		TS	Unit-Mounted Thermostat	TS
		AQ	Unit-Mounted Aquastat	AQ
		TA	Thermostat + Aquastat, both unit-mounted	TS + AQ
7	Unit-Mounted Line-Voltage Motor-Rated Manual Switchgear *1,2	N	None Selected	-
		MS	Manual Motor Starter	MS
		MSP	Motor Starter with Pilot Light	MSP
		MSO	Motor Starter with Overload	MSO
		MSOP	Motor Starter with Overload and Pilot Light	MSOP
		DSC	Manual Motor Starter rated as Suitable Disconnecting Means	DSC
		MSD	Manual Motor Starter + Disconnect	MS + DSC
		MSOD	Motor Starter with Pilot Light + Disconnect	MSO + DSC
		MSPD	Motor Starter with Overload + Disconnect	MSP + DSC
		MSOPD	Motor Starter with Overload and Pilot Light + Disconnect	MSOP + DSC
8	24VAC (Low-Voltage) Enabled Options *1 (Nema 1 Only)	N	None Selected	-
		24R	Motor Relay / Contactor (non-wetted)	24R
		24COL	Motor Contactor with Overload (non-wetted)	24COL
		24RW	Motor Relay / Contactor with Step-Down Transformer (wetted)	24RW
		24COW	Motor Contactor with Overload and with Step-Down Transformer (wetted)	24COW
13	Fan and Coil Finish Options	NAT	Natural (No Coatings)	NAT
		FE	E-Coating - Fan Only	FE
		CE	E-Coating - Coil Only	CE
		FH	Heresite Coating - Fan Only	FH
		CH	Heresite Coating - Coil Only	CH
		E	E-Coating - Both Fan and Coil	E
		H	Heresite Coating - Both Fan and Coil	H



4. PRODUCT NOMENCLATURE

4.1.2 DETAILS (CONT'D)

Table 4.1.1 - Model Number Nomenclature – Unit-Mounted & Field-Installed Switchgear (Controls)				
Digit	Model Number Category	Valid Codes	Description	Item Codes
14	Field-Installed Thermostat *1,4	N	None Selected	-
		24T	24VAC Thermostat (no Line-Voltage Contacts)	24T
		FT	Field-Installed Line-Voltage Thermostat (Nema 1)	FT
		XFT	Field-Installed Line-Voltage Thermostat (Explosion-Proof / Hazardous Location)	XFT
		WFT	Field-Installed Line-Voltage Thermostat (Water-Tight Construction - Nema 4X)	WFT
15	Field-Installed Line-Voltage Switchgear *3,4 (enclosure rating defined by Digit 15)	N	None Selected	-
		MS	Manual Motor Starter	MS
		MSP	Motor Starter with Pilot Light	MSP
		MSO	Motor Starter with Overload	MSO
		MSOP	Motor Starter with Overload and Pilot Light	MSOP
		DSC	Manual Motor Starter rated as Suitable Disconnecting Means	DSC
		MSD	Manual Motor Starter + Disconnect	MS + DSC
		MSOD	Motor Starter with Pilot Light + Disconnect	MSO + DSC
		MSPD	Motor Starter with Overload + Disconnect	MSP + DSC
		MSOPD	Motor Starter with Overload and Pilot Light + Disconnect	MSOP + DSC
16	Location Environment for Shipped-Loose Switchgear *3 (for items listed in Digit 14)	N	None Selected / Not Applicable	-
		DRY	Devices to be rated Nema 1 Only	-
		WET	Devices to be of Water-Tight Construction	-
		XP	Devices for Use in Hazardous Locations with ratings no less than of XP motors specified in Digit 5 of Model Number	-

*1 Please refer to Tables 4.2.1.x thru 4.2.3.x regarding the availability of selected option, given selected Unit Voltage (Digit 4) and selected Motor Type (Digit 5)

*2 Nema Rating of Electrical Switch and/or Switchgear Enclosure(s) to be as per rating of selected Motor Type (Digit 5) (i.e., Nema 1, Water-tight [Washdown] or Hazardous Location [Explosion-Proof])

*3 Nema Rating of Shipped-Loose Switchgear enclosure(s) (Digit 14) to have rating as defined by Digit 15 (i.e., Nema 1, Water-tight [Washdown] or Hazardous Location [Explosion-Proof])

*4 Shipped-loose for installation by Installing Contractor

4.2 DETAILED DESCRIPTIONS, AVAILABILITY & APPLICABILITY

CONSTRUCTION

All UHHL model can have the following construction features and in combination, if required. Please specify as needed.

A. AISI304 Stainless-Steel Cabinet

This option extends to also include all cabinet fasteners and any and all specified louvers.

NOTE : Standard wire-form OSHA-guard motor-mounts remain as low-carbon steel welded assemblies with Baked Enamel Finish.

B. AISI316 Stainless-Steel Cabinet

As per A. above, but in 316 S. Stl.

C. Heresite-or E-Coated Corrosion Protection

1. Coating on Fan Only
2. Coating on Coil Only
3. Coating on Cabinet Only

NOTE : When Cabinet is Heresite Coated, all cabinet fasteners will be upgraded to AISI 304 S. Stl.

4. Coating on any combination of the above.
Please specify as required.

Heresite P-413C is a thin-film, high performance coating principally used on lighter gauge fabricated metal products. In addition to marine and salt-air environments, P-413C will withstand exposure to an extensive variety of corrosive and chemical fumes.

E-Coating is a Black Cathodic Electrocoat of Dupont Cormax VI. The coating meets or exceeds the most rigorous automotive specification requirements for Salt Spray, Cyclic and Accelerated Corrosion Tests.

NOTE: Standard OSHA-guard motor-mounts will not be Heresite nor E-coated as it already has a rugged baked enamel polyester finish coating.

Motors cannot be Heresite nor E-coated. If extra corrosion protection is required on the motor, Sigma recommends use of washdown type motors.

MOTORS

The following motor types are available:

A. TEAO

These motors have NEMA 1 enclosures.

All single phase 120V, 208V and 230V motors have built-in automatic thermal overloads. As such, an additional separate motor overload is usually not required. Check local electrical codes for compliance.

TEFC motors are available as design special if required. However, please note that TEAO should be a satisfactory fulfillment in most cases of any spec requesting TEFC.

B. WASH-DOWN

Wash-Down rated motors are standard on a per unit model basis and are of TEFC or TENV construction. These can specified with varying degrees of ingress protection (IP rating) and/or corrosion protection. (painted motor housing vs 304 S. STI vs 316 S. Stl.).

C. EXPLOSION-PROOF

Sigma can furnish all UHHL models with Explosion-proof TEFC motors rated for Hazardous Locations. Typical compliance is per Division 1 and 2; Class I, Groups C & D and Class II, Groups F & G.

D. WASH-DOWN and HAZARDOUS LOCATION

On 3-phase equipment, combination Washdown and Hazardous Location rated motors are available. These are of painted aluminum construction with IP55 ingress compliance. They are CSA approved for Division 2, Class I, Groups A, B, C & D.

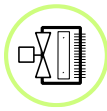
If Stainless Steel Shaft is required, please advise as design special.

Please specify as needed.

SWITCHGEAR (ELECTRICAL CONTROLS)

Motor starters, switches, disconnects; with or without pilot lights and/or overloads (as applicable) when unit-mounted are as per rating of motor enclosure (i.e. NEMA 1 for TEAO motors; NEMA 3 or 4 [Water-tight] for WASH-DOWN motors; and NEMA 7, 8 or 9 [Hazardous Location] for EXPLOSION-PROOF motors.

Shipped-Loose Switchgear do not by default inherit the motor's attributes. Enclosure type is specified separately for such items.



4.2 DETAILED DESCRIPTIONS, AVAILABILITY & APPLICABILITY

Table 4.2.1.1 - Line Voltage Switchgear (Controls) - 120V Single Phase					Location Rating		
Model # Digit	Item Code	Control Device	Description	Detail Code	Nema 1	Water-Tight	Hazardous Location
6,13	TS	Thermostat - 1 pole	SPST Line Voltage Thermostat	TS1	✓	✓	✓
6	AQ	Aquastat	Line Voltage SPST Switch	AQ1	✓	✓	-
7,14	MS	Manual Motor Starter	Motor-rated Interrupting Switch	MS	✓	✓	✓
	MSP	Motor Starter with Pilot Light	Motor-rated Interrupting Switch with Pilot Light	MSPL	✓	Contact Factory	-
	MSO	Motor Starter with Overload	Motor-rated Interrupting Switch with Overload	MSOL	✓	✓	✓
	MSOP	Motor Starter with Overload and Pilot Light	Motor-rated Interrupting Switch with Overload and Pilot Light	MSOLPL	✓	Contact Factory	-
	DSC	Disconnect	Manual Motor Starter rated as Suitable Disconnecting Means	DSC	✓	✓	✓

Table 4.2.1.2 - Line Voltage Switchgear (Controls) - 208V, 230V Single Phase					Location Rating		
Model # Digit	Item Code	Control Device	Description	Detail Code	Nema 1	Water-Tight	Hazardous Location
6,13	TS	Thermostat - 2 pole	DPST Line Voltage Thermostat	TS2	✓	✓	✓
6	AQ	Aquastat	Line Voltage SPST Switch	AQ	✓	-	-
7,14	MS	Manual Motor Starter	Motor-rated Interrupting Switch	MS	✓	✓	✓
	MSP	Motor Starter with Pilot Light	Motor-rated Interrupting Switch with Pilot Light	MSPL	✓	Contact Factory	-
	MSO	Motor Starter with Overload	Motor-rated Interrupting Switch with Overload	MSOL	✓	✓	✓
	MSOP	Motor Starter with Overload and Pilot Light	Motor-rated Interrupting Switch with Overload and Pilot Light	MSOLPL	✓	Contact Factory	-
	DSC	Disconnect	Manual Motor Starter rated as Suitable Disconnecting Means	DSC	✓	✓	✓

✓ Standard Option

- Non-Applicable. Other, more suitable alternatives are listed herein.

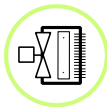
4.2 DETAILED DESCRIPTIONS, AVAILABILITY & APPLICABILITY

Table 4.2.1.3 - Line Voltage Switchgear (Controls) - 277V Single Phase					Location Rating		
Model # Digit	Item Code	Control Device	Description	Detail Code	Nema 1	Water-Tight	Hazardous Location
6,13	TS	Thermostat - 2 pole	SPST Line Voltage Thermostat	TS1	✓	✓	-
6	AQ	Aquastat	Line Voltage SPST Switch	AQ	Not Available		
7,14	MS	Manual Motor Starter	Motor-rated Interrupting Switch	MS	✓	✓	✓
	MSP	Motor Starter with Pilot Light	Motor-rated Interrupting Switch with Pilot Light	MSPL	✓	Contact Factory	-
	MSO	Motor Starter with Overload	Motor-rated Interrupting Switch with Overload	MSOL	✓	✓	✓
	MSOP	Motor Starter with Overload and Pilot Light	Motor-rated Interrupting Switch with Overload and Pilot Light	MSOLPL	✓	Contact Factory	-
	DSC	Disconnect	Manual Motor Starter rated as Suitable Disconnecting Means	DSC	✓	✓	✓

Table 4.2.2.1 - Line Voltage Switchgear (Controls) - 208V, 230V Three Phase					Location Rating		
Model # Digit	Item Code	Control Device	Description	Detail Code	Nema 1	Water-Tight	Hazardous Location
6,13	TS	Thermostat - 2 pole - w/ controlled Contactor	SPST Line Voltage Thermostat with enabled 3-pole Contactor	TSC	Contact Factory		
6	AQ	Aquastat-controlled w/ 3-pole Contactor	Line Voltage SPST Switch with enabled 3-pole Contactor	AQMC	✓	-	-
7,14	MS	Manual Motor Starter Switch	Motor-rated 3-pole Interrupting Switch	MMS	✓	✓	✓
	MSP	Manual Motor Starter Contactor	Motor-rated 3-pole Contactor	MC	Contact Factory		
	MSO	Motor Starter Contactor with Overload	Motor-rated 3-pole Contactor with Overload	MCOL	Contact Factory		
	MSOP	Manual Motor Contactor with Overload and Pilot Light	Motor-rated 3-pole Contactor with Overload and Pilot Light	MCOLPL	Contact Factory		-
	DSC	Disconnect	Manual Motor Starter / 3-pole Interrupting Switch rated as Suitable Disconnecting Means	DSC	✓	✓	✓

✓ Standard Option

- Non-Applicable. Other, more suitable alternatives are listed herein.



4.2 DETAILED DESCRIPTIONS, AVAILABILITY & APPLICABILITY

Table 4.2.2.2 - Line Voltage Switchgear (Controls) - 460V (480V) Three Phase					Location Rating		
Model # Digit	Item Code	Control Device	Description	Detail Code	Nema 1	Water-Tight	Hazardous Location
6,13	TS	Thermostat - 2 pole - w/ controlled Contactor	SPST Line Voltage Thermostat with enabled 3-pole Contactor	TSC	Contact Factory		
6	AQ	Aquastat-controlled w/ 3-pole Contactor	Line Voltage SPST Switch with enabled 3-pole Contactor	-	Not Available		
7,14	MS	Manual Motor Starter Switch	Motor-rated 3-pole Interrupting Switch	MMS	✓	✓	✓
	MSP	Manual Motor Starter Contactor	Motor-rated 3-pole Contactor	MC	Contact Factory		
	MSO	Motor Starter Contactor with Overload	Motor-rated 3-pole Contactor with Overload	MCOL	Contact Factory		
	MSO P	Manual Motor Contactor with Overload and Pilot Light	Motor-rated 3-pole Contactor with Overload and Pilot Light	MCOLPL	Contact Factory		
	DSC	Disconnect	Manual Motor Starter / 3-pole Interrupting Switch rated as Suitable Disconnecting Means	DSC	✓	✓	✓

Table 4.2.2.3 - Line Voltage Switchgear (Controls) - 575V (600V) Three Phase					Location Rating		
Model # Digit	Item Code	Control Device	Description	Detail Code	Nema 1	Water-Tight	Hazardous Location
6,13	TS	Thermostat - 2 pole - w/ controlled Contactor	SPST Line Voltage Thermostat with enabled 3-pole Contactor	TSC	Contact Factory		
6	AQ	Aquastat-controlled w/ 3-pole Contactor	Line Voltage SPST Switch with enabled 3-pole Contactor	-	Not Available		
7,14	MS	Manual Motor Starter Switch	Motor-rated 3-pole Interrupting Switch	MMS	✓	✓	✓
	MSP	Manual Motor Starter Contactor	Motor-rated 3-pole Contactor	MC	Contact Factory		
	MSO	Motor Starter Contactor with Overload	Motor-rated 3-pole Contactor with Overload	MCOL	Contact Factory		
	MSO P	Manual Motor Contactor with Overload and Pilot Light	Motor-rated 3-pole Contactor with Overload and Pilot Light	MCOLPL	Contact Factory		
	DSC	Disconnect	Manual Motor Starter / 3-pole Interrupting Switch rated as Suitable Disconnecting Means	DSC	✓	✓	✓

✓ Standard Option

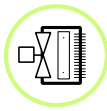
- Non-Applicable. Other, more suitable alternatives are listed herein.

4.2 DETAILED DESCRIPTIONS, AVAILABILITY & APPLICABILITY

Table 4.2.3.1 - Unit-Mounted 24VAC-Enabled Controls - NEMA 1 only				Applicable Voltage									
Digit	Type	Code	Description	115/60/1 (120V)	208/60/1	230/60/1 (240V)	277/60/1	460/60/1 (480V)	575/60/1 (600V)	230/60/3 (240V)	460/60/3 (480V)	575/60/3 (600V)	
8	Motor Relay / Contactor (non-wetted)	24R	SPST Motor-rated Relay - with 24VAC coil	✓	-	-	-	-	-	-	-	-	
			DPST Motor-rated Relay - with 24VAC coil	-	✓	✓	✓	✓	✓	-	-	-	
			3-pole Motor Contactor - with 24VAC coil	-	-	-	-	-	-	✓	✓	✓	
	Motor Relay / Contactor (non-wetted)	24COL	3-pole Contactor with Overload - with 24VAC coil	-	-	-	-	-	-	Consult Factory			
	Motor Relay / Contactor (wetted)	24RW	SPST Motor-rated Relay - with 24VAC coil & Class 2 Step-down 24VAC Transformer	✓	-	-	-	-	-	-	-	-	-
			DPST Motor-rated Relay - with 24VAC coil & Class 2 Step-down 24VAC Transformer	-	✓	✓	Consult Factory			-	-	-	
			3-pole Motor Contactor - with 24VAC coil & with Step-Down 24VAC Transformer	-	-	-	-	-	-	Consult Factory			
	Motor Contac- tor with Over- load	24COW	3-pole Contactor with Overload - with 24VAC coil & with Step-Down 24VAC Transformer	-	-	-	-	-	-	Consult Factory			

✓ Standard Option

- Non-Applicable. Other, more suitable alternatives are listed herein.



5. UNIT DIMENSIONS

5.1 MAIN UNIT DIMENSIONS (w/ TEAO 120V MOTORS)

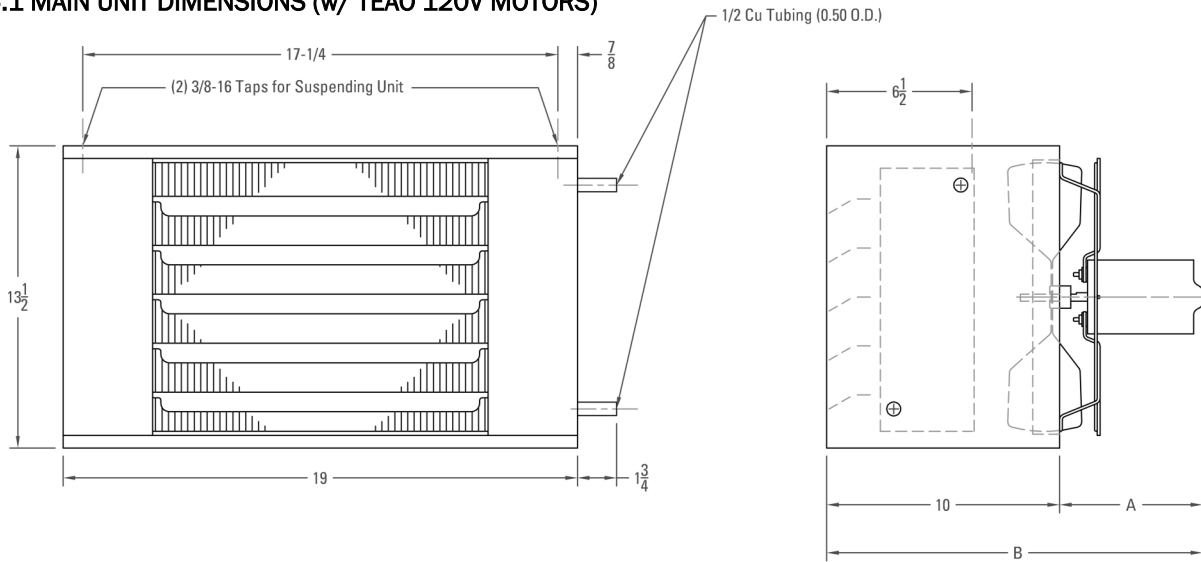


Figure 5.1.1—Same End Sweat Connections

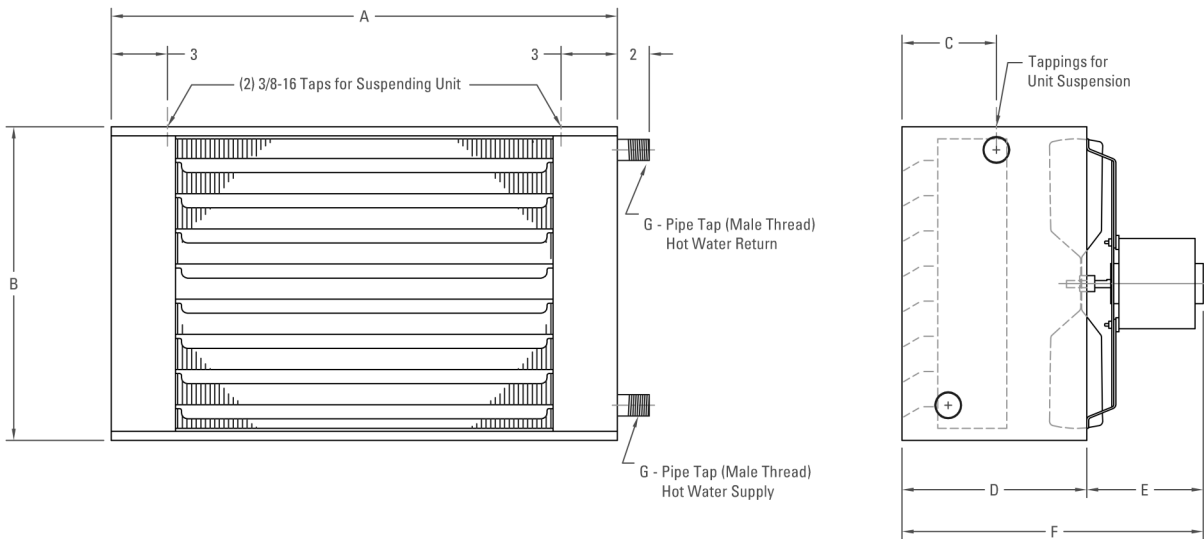


Figure 5.1.2—Same End Threaded Connections

Table 5.1.1 - Unit Dimensions A											
Models	Reference Figure	Dimensions							Coil Volume (US GAL)	Dry Weight (lbs)	Operating Weight (lbs)
		A	B	C	D	E	F	G			
UHHL-160	5.1.1	7-1/2	17-1/2	-	-	-	-	-	0.3	45	48
UHHL-200	5.1.2	25	16-3/4	6-1/2	10-3/4	7-1/2	18-1/4	1/2	0.7	65	70

5. UNIT DIMENSIONS

5.1 MAIN UNIT DIMENSIONS (w/ TEAO 120V MOTORS)(CONT'D)

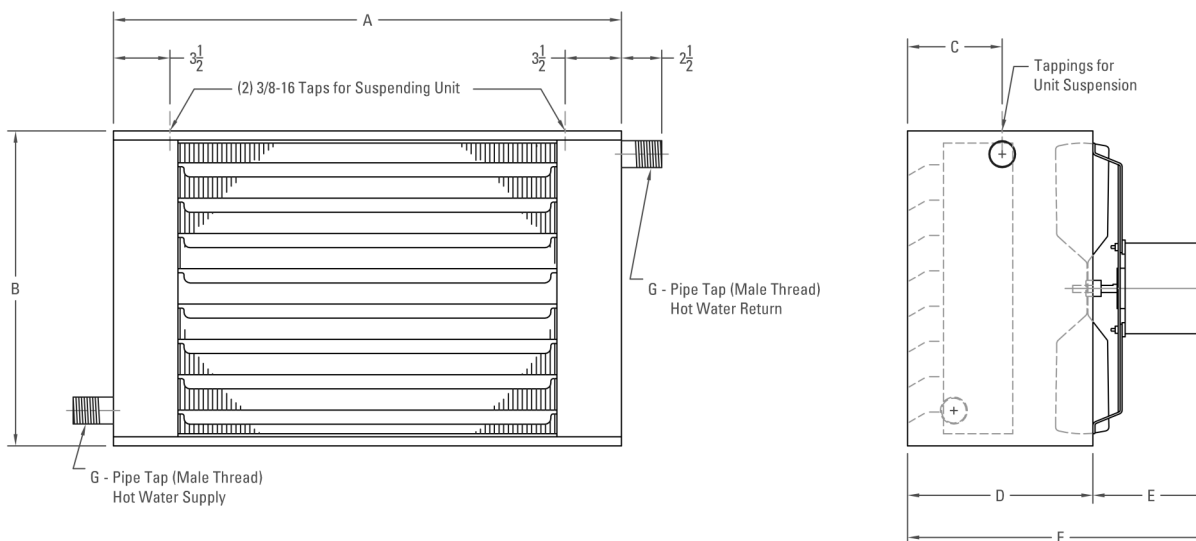


Figure 5.1.3—Opposite End Threaded Connections

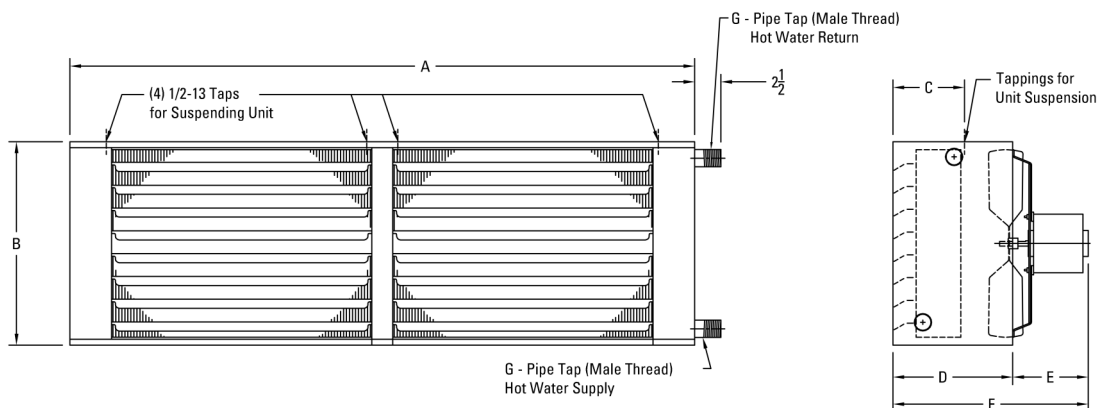
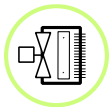


Figure 5.1.4—Same End Threaded Connections (Double Motor)

Models	Reference Figure	Dimensions							Coil Volume (US GAL)	Dry Weight (lbs)	Operating Weight (lbs)
		A	B	C	D	E	F	G			
UHHL-220 to UHHL-280	5.1.3	30	20-1/2	6-1/4	10-3/4	7-3/4	18-1/2	3/4	1.1	85	95
UHHL-320 to UHHL-400	5.1.3	36	24	6-1/2	11-1/4	7-3/4	19	1	1.6	130	145
UHHL-440 to UHHL-480	5.1.3	41-1/2	26-3/4	8	13	7-3/4	20-3/4	1	2.7	170	195
UHHL-520	5.1.3	46-1/2	31-3/4	7	13	8	21	1-1/2	2.8	195	220
UHHL-560 to UHHL-640	5.1.4	83	32	9	18	8	26	2	6.6	450	505



5. UNIT DIMENSIONS

5.2 Discharge Nozzle Dimensions

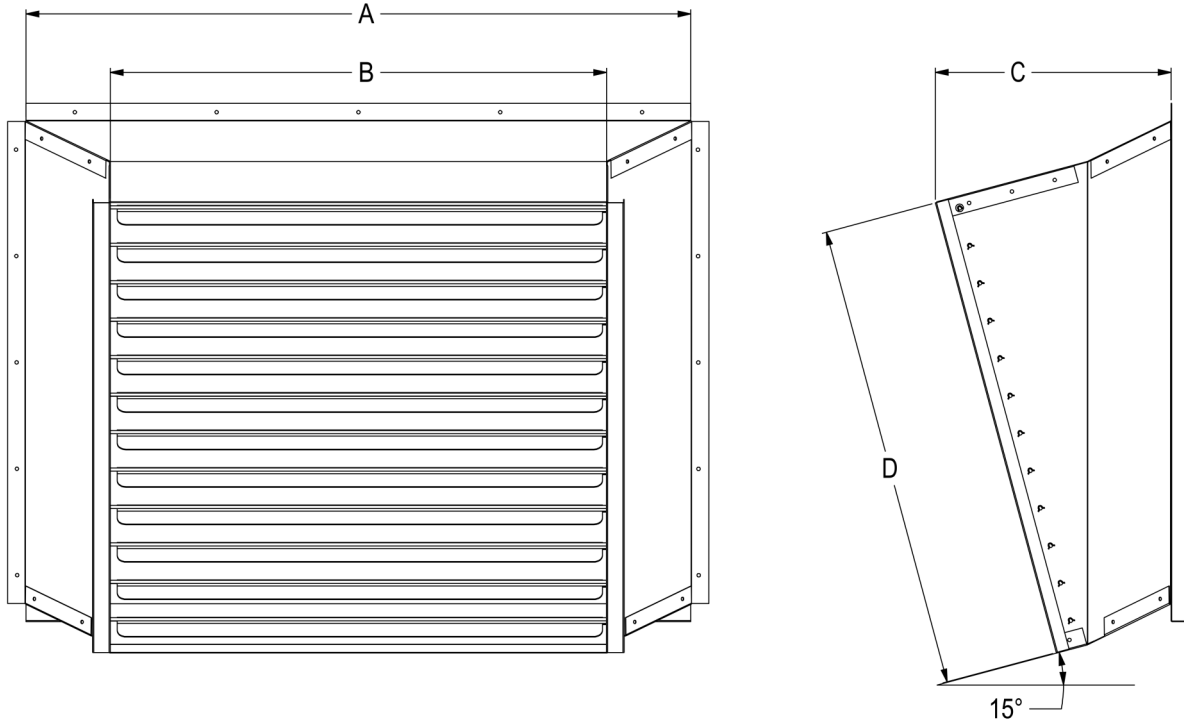
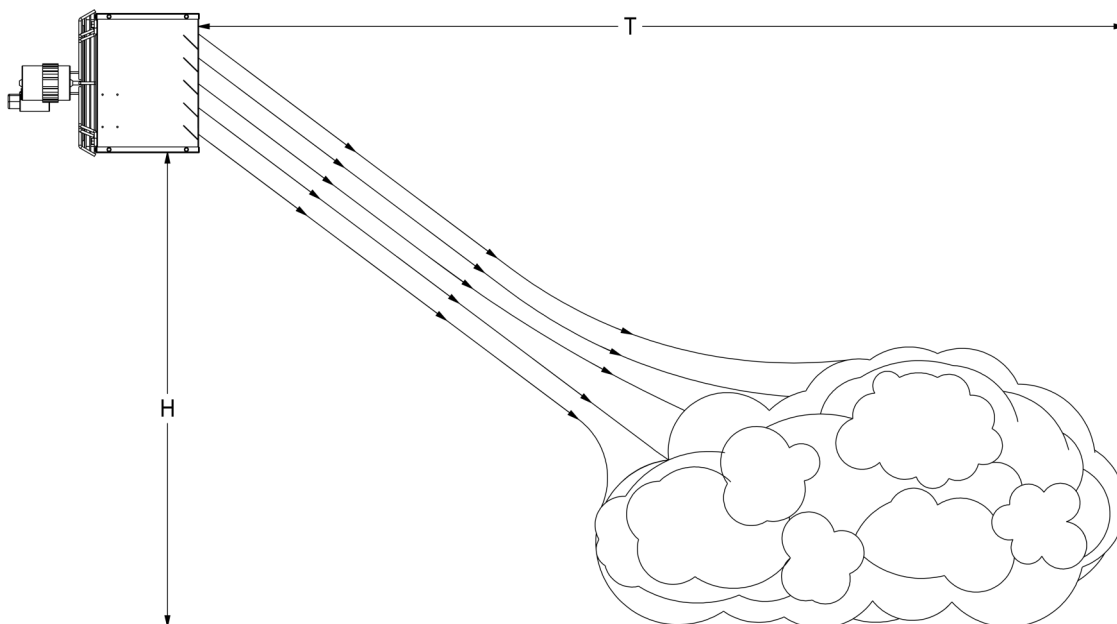


Table 5.2.1 - Discharge Nozzle Dimensions

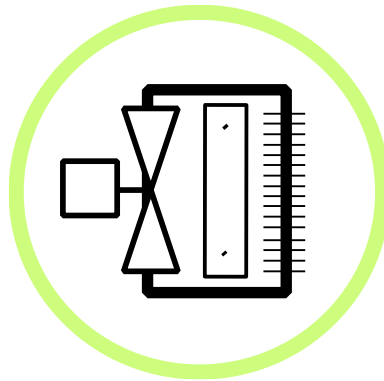
Unit Model	A "in"	B "in"	C "in"	D "in"
UHHL-160	12	9	8-3/4	9
UHHL-200	18-3/4	15	9.5	12
UHHL-220	22-1/2	18	10-1/4	15
UHHL-240				
UHHL-260				
UHHL-280	28	22-1/2	11-1/8	18
UHHL-320				
UHHL-360				
UHHL-400	33-1/2	28	12-1/4	22-1/2
UHHL-440				
UHHL-480				
UHHL-520	37-1/2	28	13-1/4	26-1/4
UHHL-560	34-3/4	28	13-1/4	26-1/4
UHHL-600				
UHHL-640				

5.3 HEAT THROW

Table 5.1.4 Unit Size	Maximum Mounting Height "H" [ft]		Maximum Throw "T" [ft]		
	w/o Nozzle	with Nozzle	w/o Nozzle	with Nozzle (no LFD)	with Nozzle & LFD kit
UHHL-160	7	9	10	13	16
UHHL-200	8	10	13	16	19
UHHL-220	8	10	13	15	18
UHHL-240	9	11	14	18	22
UHHL-260	9	11	15	19	23
UHHL-280	10	12	16	20	24
UHHL-320	10	12	14	18	22
UHHL-360	11	13	18	22	27
UHHL-400	12	14	22	26	32
UHHL-440	12	14	22	26	32
UHHL-480	13	15	23	28	34
UHHL-520	12	14	22	26	32
UHHL-560	12	14	24	29	36
UHHL-600	13	15	35	42	52
UHHL-640	14	16	42	50	60



6. PERFORMANCE DATA



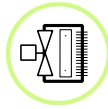
LOW TEMPERATURE WARM WATER

110 °F - 140 °F EWT

6.1 SOUND CLASS

Unit Model	Sound Class
UHHL-160	I
UHHL-200	I
UHHL-220	I
UHHL-240	II
UHHL-260	II
UHHL-280	III
UHHL-320	II
UHHL-360	III
UHHL-400	III
UHHL-440	III
UHHL-480	IV
UHHL-520	IV
UHHL-560	IV
UHHL-600	IV
UHHL-640	V

Sound Class Application Information	
Sound Class Rating	Location Description
I	Hospitals, Museums, Schools, Offices, Foyers, Restrooms
II	Department Stores, Showrooms, Commercial Dining Facilities
III	Gymnasiums, Bars, Warehouse Storage, Grocery Stores
II - VI	Garages, Factories, Stadium Common Areas



6.2.1.0 PERFORMANCE—LTWW APPLICATION

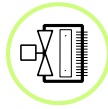
Water Performance Data @ 45°F Ambient Air																								
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details	
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V
UHHL-160	300	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	22.8	2.3	112	6.1	4.0	20.0	2.0	104	5.0	3.5	17.2	1.7	96	3.9	3.0	14.4	1.5	88	2.9	2.5	1/20	1.1
		30	21.2	1.4	108	2.7	2.5	18.3	1.2	99	2.1	2.1	15.4	1.0	91	1.6	1.8	12.3	0.8	82	1.1	1.4		
		40	19.4	1.0	102	1.4	1.7	16.3	0.8	93	1.1	1.4	13.1	0.7	84	0.7	1.1	9.6	0.5	73	0.4	0.8		
UHHL-200	540	10	41.8	8.5	114	16.9	7.4	37.0	7.5	106	14.0	6.5	32.3	6.6	98	11.3	5.7	27.6	5.6	90	8.8	4.8	1/20	1.1
		20	39.3	4.0	110	4.6	3.5	34.5	3.5	102	3.7	3.0	29.7	3.0	94	2.9	2.6	24.9	2.5	86	2.2	2.2		
		30	36.6	2.5	105	2.0	2.1	31.7	2.1	97	1.6	1.9	26.6	1.8	89	1.2	1.6	21.3	1.4	80	0.8	1.2		
		40	33.6	1.7	100	1.1	1.5	28.2	1.4	91	0.8	1.2	22.6	1.1	82	0.6	1.0	16.4	0.8	72	0.3	0.7		
UHHL-220	560	10	50.8	10.4	126	11.4	6.0	45.2	9.2	117	9.5	5.3	39.5	8.0	108	7.7	4.6	33.9	6.9	99	6.0	4.0	1/20	1.1
		20	48.5	4.9	122	3.2	2.8	42.7	4.3	113	2.6	2.5	37.0	3.8	104	2.1	2.2	31.1	3.2	94	1.6	1.8		
		30	45.8	3.1	118	1.4	1.8	39.9	2.7	108	1.1	1.6	33.6	2.3	98	0.9	1.3	27.1	1.8	88	0.6	1.1		
		40	42.4	2.2	112	0.8	1.2	35.9	1.8	102	0.6	1.0	28.9	1.5	91	0.4	0.8	20.9	1.1	78	0.2	0.6		
UHHL-240	700	10	61.4	12.5	123	15.9	7.2	54.5	11.1	114	13.2	6.4	47.7	9.7	106	10.6	5.6	40.8	8.2	97	8.3	4.8	1/20	1.1
		20	58.3	5.9	119	4.4	3.4	51.3	5.2	110	3.6	3.0	44.3	4.5	101	2.8	2.6	37.3	3.8	92	2.1	2.2		
		30	54.8	3.7	115	1.9	2.1	47.7	3.2	106	1.6	1.9	40.3	2.7	96	1.2	1.6	32.5	2.2	86	0.8	1.3		
		40	50.9	2.6	110	1.0	1.5	43.0	2.2	100	0.8	1.3	34.6	1.8	89	0.6	1.0	25.4	1.3	77	0.3	0.7		
UHHL-260	840	10	-	-	-	-	-	63.3	12.9	112	17.1	7.4	55.3	11.2	104	13.8	6.5	47.4	9.6	95	10.8	5.5	1/20	1.1
		20	67.5	6.9	116	5.6	4.0	59.4	6.0	108	4.6	3.5	51.3	5.2	99	3.6	3.0	43.1	4.4	91	2.7	2.5		
		30	63.3	4.3	112	2.5	2.5	55.0	3.7	103	2.0	2.1	46.6	3.1	94	1.5	1.8	37.5	2.5	85	1.1	1.5		
		40	58.6	3.0	107	1.3	1.7	49.6	2.5	97	1.0	1.4	40.0	2.0	87	0.7	1.2	29.5	1.5	76	0.4	0.9		
UHHL-280	940	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	73.8	7.5	115	6.6	4.3	64.9	6.6	106	5.4	3.8	55.9	5.7	98	4.2	3.3	47.0	4.7	89	3.2	2.7	1/20	1.1
		30	69.0	4.7	110	2.9	2.7	59.9	4.1	102	2.3	2.3	50.7	3.4	93	1.8	2.0	41.0	2.8	84	1.3	1.6		
		40	63.8	3.2	105	1.5	1.9	54.1	2.7	96	1.2	1.6	43.7	2.2	86	0.8	1.3	32.2	1.6	75	0.5	0.9		
UHHL-320	1050	10	94.7	19.3	125	10.8	6.7	84.1	17.1	116	9.0	5.9	73.6	14.9	107	7.3	5.2	63.0	12.8	98	5.7	4.4	1/20	1.1
		20	90.0	9.2	121	3.0	3.2	79.2	8.1	112	2.4	2.8	68.5	6.9	103	1.9	2.4	57.6	5.8	94	1.5	2.0		
		30	84.6	5.7	117	1.3	2.0	73.6	5.0	107	1.1	1.7	61.9	4.2	97	0.8	1.4	49.5	3.3	87	0.6	1.2		
		40	78.2	4.0	111	0.7	1.4	65.7	3.3	101	0.5	1.2	52.3	2.6	89	0.4	0.9	36.4	1.8	76	0.2	0.6		
UHHL-360	1375	10	-	-	-	-	-	105.3	21.4	113	13.2	7.4	92.0	18.6	104	10.7	6.4	78.7	15.9	96	8.3	5.5	1/8	2.0
		20	112.1	11.4	117	4.4	4.0	98.5	10.0	109	3.6	3.5	85.0	8.6	100	2.8	3.0	71.3	7.2	91	2.1	2.5		
		30	104.9	7.1	113	1.9	2.5	91.0	6.2	104	1.5	2.1	76.9	5.2	95	1.2	1.8	61.5	4.1	85	0.8	1.4		
		40	96.8	4.9	108	1.0	1.7	81.6	4.1	98	0.8	1.4	65.2	3.3	87	0.5	1.1	46.4	2.3	75	0.3	0.8		
UHHL-400	1680	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	131.3	13.4	114	5.8	4.6	115.3	11.7	106	4.7	4.1	99.3	10.1	98	3.7	3.5	83.2	8.4	89	2.8	2.9	1/6	2.0
		30	122.4	8.3	110	2.5	2.9	106.0	7.2	101	2.0	2.5	89.5	6.0	92	1.5	2.1	72.0	4.8	83	1.1	1.7		
		40	112.4	5.7	104	1.3	2.0	95.4	4.8	95	1.0	1.7	76.2	3.9	85	0.7	1.3	54.9	2.8	74	0.4	1.0		
UHHL-440	2050	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	155.1	15.8	112	5.4	3.9	136.5	13.9	104	4.4	3.4	117.8	12.0	96	3.5	3.0	99.0	10.0	88	2.6	2.5	1/6	2.0
		30	145.3	9.9	108	2.4	2.4	126.3	8.5	100	1.9	2.1	107.1	7.2	91	1.5	1.8	86.4	5.8	82	1.0	1.4		
		40	134.6	6.8	103	1.3	1.7	114.1	5.8	94	1.0	1.4	92.2	4.7	85	0.7	1.2	68.0	3.4	74	0.4	0.8		
UHHL-480	2600	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	185.4	18.9	108	7.4	4.7	163.0	16.6	101	6.1	4.1	140.5	14.2	93	4.8	3.5	117.9	11.9	85	3.6	2.9	1/4	3.5
		30	173.1	11.7	104	3.3	2.9	150.2	10.2	96	2.6	2.5	127.2	8.6	88	2.0	2.1	103.1	6.9	80	1.4	1.7		
		40	159.6	8.1	100	1.7	2.0	136.0	6.9	91	1.3	1.7	109.9	5.6	83	0.9	1.4	81.6	4.1	73	0.6	1.0		
UHHL-520	2900	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	229.5	23.4	115	7.6	5.1	201.8	20.5	107	6.2	4.4	174.0	17.7	98	4.9	3.8	146.1	14.8	90	3.7	3.2	1/4	3.5
		30	214.6	14.6	111	3.4	3.1	186.3	12.6	102	2.7	2.7	157.7	10.7	93	2.1	2.3	128.1	8.6	84	1.5	1.9		
		40	198.2	10.1	106	1.8	2.2	168.8	8.6	97	1.4	1.8	136.6	6.9	87	1.0	1.5	100.4	5.1	76	0.6	1.1		
UHHL-560	3325	10	291.2	59.4	123	13.3	6.4	259.0	52.6	114	11.1	5.7	226.7	45.9	106	9.0	5.0	194.5	39.3	97	7.0	4.3	1/4	4.0
		20	278.0	28.3	119	3.7	3.1	245.4	25.0	111	3.0	2.7	212.6	21.6	102	2.4	2.3	179.6	18.2	93	1.8	2.0		
		30	263.3	17.9	115	1.7	1.9	229.9	15.6	106	1.3	1.7	194.6	13.1	97	1.0	1.4	157.4	10.6	87	0.7	1.1		
		40	245.3	12.5	111	0.9	1.3	208.1	10.5	101	0.7	1.1	168.4	8.5	90	0.5	0.9	119.7	6.0	77	0.3	0.7		
UHHL-600	4460	10	-	-	-	-	-	329.2	66.9	111	16.9	7.2	288.0	58.4	102	13.6	6.3	246.7	49.9	94	10.7	5.4	1/3	4.0
		20	351.9	35.8	115	5.6	3.9	310.1	31.5	107	4.6	3.4	268.2	27.2	98	3.6	2.9	226.2	22.9	90	2.8	2.5		
		30	331.6	22.5	111	2.5	2.4	289.0	19.6	103	2.0	2.1	245.7	16.6	94	1.5	1.8	199.1	13.4	85	1.1	1.4		
		40	308.8	15.7	107	1.3	1.7	262.7	13.3	97	1.0	1.4	213.5	10.8	88	0.7	1.2	157.3	7.9	76	0.4	0.9		
UHHL-640	5200	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	396.6	40.4	113	6.9	4.4	349.2	35.5	105	5.6	3.8	301.8	30.6	97	4.4	3.3	254.2	25.7	88	3.4	2.8	1/2	6.4
		30	372.6	25.3	109	3.1	2.7	324.4	21.9	100	2.5	2.4	275.8	18.6	92	1.9	2.0	224.2	15.1	83	1.3	1.6		
		40	346.2	17.6	104	1.6	1.9	295.6	15.0	96	1.3	1.6	240.3	12.1	86	0.9	1.3	178.9	9.0	76	0.6	1.0		

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

6.2.1.1 PERFORMANCE—LTWW APPLICATION

50% Ethylene Glycol Performance Data @ 45°F Ambient Air																										
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details			
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	Total HP	FLA @120V		
UHHL-160	300	10	-	-	-	-	-	-	-	-	-	-	18.0	4.1	98	24.4	7.2	15.3	3.5	90	19.0	6.1	1/20	1.1		
		20	21.5	2.5	109	9.3	4.3	18.6	2.1	100	7.5	3.7	15.5	1.8	91	5.7	3.1	12.2	1.4	81	3.9	2.4				
		30	18.8	1.4	101	3.7	2.5	15.4	1.2	91	2.7	2.1	-	-	-	-	-	-	-	-	-	-			-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-200	540	10	-	-	-	-	36.0	8.2	104	22.6	7.1	31.2	7.2	96	18.3	6.2	26.5	6.1	89	14.2	5.3	1/20	1.1			
		20	37.3	4.3	106	7.0	3.7	32.1	3.7	98	5.6	3.2	26.8	3.1	89	4.3	2.7	-	-	-	-			-	-	
		30	32.6	2.5	99	2.8	2.2	26.7	2.0	89	2.0	1.8	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-220	560	10	49.8	11.4	124	18.4	6.6	44.1	10.1	115	15.5	5.8	38.4	8.8	106	12.6	5.1	32.6	7.5	97	9.8	4.3	1/20	1.1		
		20	46.2	5.3	118	4.9	3.1	40.0	4.6	108	3.9	2.6	33.4	3.9	98	3.0	2.2	-	-	-	-	-			-	
		30	40.9	3.1	110	2.0	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-240	700	10	-	-	-	-	53.1	12.2	112	21.3	7.0	46.2	10.6	104	17.4	6.1	39.3	9.1	95	13.6	5.2	1/20	1.1			
		20	55.7	6.4	116	6.7	3.7	48.1	5.5	106	5.5	3.2	40.3	4.7	96	4.2	2.7	-	-	-	-			-	-	
		30	49.3	3.8	108	2.7	2.2	40.5	3.1	96	2.0	1.8	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-260	840	10	-	-	-	-	-	-	-	-	8.1	53.6	12.3	102	22.4	7.1	45.5	10.5	93	17.6	6.0	1/20	1.1			
		20	64.4	7.4	113	8.7	4.3	55.8	6.4	104	7.1	3.7	46.8	5.4	95	5.4	3.1	37.2	4.3	84	3.8			2.5		
		30	57.2	4.4	106	3.5	2.5	47.2	3.6	95	2.6	2.1	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-280	940	10	-	-	-	-	-	-	-	-	8.1	53.6	12.3	102	22.4	7.1	45.5	10.5	93	17.6	6.0	1/20	1.1			
		20	70.3	8.0	111	10.2	4.6	61.1	7.0	103	8.2	4.0	51.2	5.9	93	6.3	3.4	40.8	4.7	84	4.4			2.7		
		30	62.6	4.8	104	4.1	2.8	51.7	4.0	94	3.1	2.3	-	-	-	-	-	-	-	-	-			-	-	-
		40	51.5	3.0	94	1.8	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-320	1050	10	92.5	21.1	123	17.3	7.3	81.9	18.7	114	14.5	6.5	71.2	16.4	105	11.8	5.7	60.3	13.9	96	9.2	4.8	1/20	1.1		
		20	85.4	9.8	117	4.6	3.4	73.6	8.5	107	3.7	2.9	61.1	7.0	97	2.7	2.4	-	-	-	-	-			-	
		30	74.4	5.7	108	1.8	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-360	1375	10	-	-	-	-	-	-	-	-	-	88.7	20.3	102	17.3	7.0	75.2	17.4	94	13.5	6.0	1/8	2.0			
		20	106.4	12.2	114	6.7	4.2	91.9	10.6	104	5.4	3.7	76.5	8.8	94	4.1	3.1	59.7	6.9	84	2.7			2.4		
		30	93.2	7.1	105	2.7	2.5	75.6	5.8	94	1.9	2.0	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-400	1680	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88.0	20.3	92	17.7	7.0	1/6	2.0			
		20	124.2	14.2	111	8.8	4.9	107.9	12.4	102	7.1	4.3	89.9	10.4	93	5.4	3.6	70.6	8.2	82	3.7			2.8		
		30	109.6	8.4	103	3.5	2.9	89.4	6.9	92	2.6	2.4	-	-	-	-	-	-	-	-	-			-	-	-
		40	87.0	5.0	91	1.5	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-440	2050	10	-	-	-	-	-	-	-	-	-	123.6	28.4	99	21.8	7.0	105.0	24.2	91	17.0	6.0	1/6	2.0			
		20	148.7	17.0	109	8.5	4.2	129.0	14.8	101	6.9	3.7	108.3	12.5	92	5.3	3.1	86.2	10.0	82	3.7			2.5		
		30	132.5	10.1	102	3.5	2.5	109.4	8.4	92	2.6	2.1	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-480	2600	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125.5	28.9	88	23.3	7.1	1/4	3.5			
		20	177.3	20.3	106	11.5	5.0	154.5	17.8	98	9.4	4.4	130.0	15.0	89	7.2	3.7	104.0	12.0	81	5.1			3.0		
		30	158.8	12.1	99	4.8	3.0	131.8	10.1	90	3.6	2.5	-	-	-	-	-	-	-	-	-			-	-	-
		40	132.2	7.6	90	2.1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-520	2900	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
		20	218.3	25.0	112	11.7	5.4	190.2	21.9	103	9.6	4.7	160.0	18.4	94	7.3	4.0	127.3	14.7	84	5.1	3.2				
		30	195.6	14.9	105	4.8	3.2	161.5	12.4	95	3.6	2.7	-	-	-	-	-	-	-	-	-	-	-	-		
		40	160.5	9.2	94	2.1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-560	3325	10	286.5	65.4	122	21.6	7.1	254.0	58.2	113	18.2	6.3	221.5	50.9	104	14.8	5.5	188.6	43.5	95	11.7	4.7	1/4	4.0		
		20	267.8	30.6	117	5.8	3.3	232.4	26.7	107	4.7	2.9	195.2	22.5	97	3.6	2.4	-	-	-	-	-			-	-
		30	239.1	18.3	109	2.4	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-600	4460	10	-	-	-	-	-	-	-	-	-	280.7	64.6	101	22.5	7.0	239.1	55.1	93	17.6	6.0	1/3	4.0			
		20	339.4	38.9	113	8.8	4.2	295.4	34.0	104	7.2	3.7	248.9	28.7	95	5.5	3.1	198.7	23.0	85	3.9			2.5		
		30	305.1	23.3	106	3.7	2.5	252.6	19.4	95	2.7	2.1	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-640	5200	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269.4	62.1	91	21.7	6.7	1/2	6.4			
		20	381.8	43.7	110	10.8	4.7	333.4	38.3	102	8.8	4.1	281.3	32.4	93	6.8	3.5	225.5	26.1	84	4.8			2.8		
		30	344.6	26.3	104	4.5	2.8	286.9	22.0	94	3.4	2.4	-	-	-	-	-	-	-	-	-			-	-	-
		40	287.2	16.5	94	2.0	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



SIGMA UHHL

50% Propylene Glycol
110 - 140 °F EWT
45 °F Entering Air

6.2.1.2 PERFORMANCE—LTWW APPLICATION

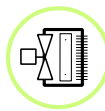
50% Propylene Glycol Performance Data @ 45°F Ambient Air																											
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details				
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V			
UHHL-160	300	10	-	-	-	-	20.4	4.3	106	26.8	7.5	17.6	3.8	97	21.9	6.5	14.6	3.1	88	16.6	5.4	1/20	1.1				
		20	20.6	2.2	106	7.9	3.8	17.4	1.8	96	6.2	3.2	13.9	1.5	86	4.4	2.6	-	-	-	-			-	-		
		30	16.9	1.2	95	2.8	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-200	540	10	40.2	8.5	111	24.0	7.3	35.4	7.5	103	20.1	6.5	30.5	6.5	95	16.3	5.6	25.3	5.4	87	12.5	4.7	1/20	1.1			
		20	35.7	3.8	104	5.9	3.3	30.1	3.2	95	4.6	2.8	23.8	2.5	84	3.3	2.2	-	-	-	-	-			-	-	
		30	28.9	2.0	93	2.1	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	
UHHL-220	560	10	49.3	10.4	123	16.3	6.0	43.6	9.2	114	13.8	5.3	37.5	8.0	105	11.2	4.6	31.2	6.7	95	8.6	3.8	1/20	1.1			
		20	44.3	4.7	115	4.1	2.7	37.4	4.0	104	3.2	2.3	-	-	-	-	-	-	-	-	-	-			-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-240	700	10	59.4	12.5	120	22.6	7.2	52.5	11.1	112	19.1	6.4	45.3	9.6	103	15.6	5.5	37.7	8.1	93	12.0	4.6	1/20	1.1			
		20	53.5	5.7	113	5.8	3.3	45.2	4.8	102	4.5	2.8	35.8	3.8	91	3.2	2.2	-	-	-	-	-			-	-	
		30	43.7	3.1	101	2.1	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-260	840	10	-	-	-	-	-	60.8	12.8	109	24.7	7.4	52.6	11.2	101	20.2	6.4	43.9	9.4	91	15.6	5.4	1/20	1.1			
		20	62.1	6.5	111	7.4	3.8	52.7	5.6	101	5.9	3.2	42.1	4.5	90	4.2	2.6	-	-	-	-	-			-	-	
		30	51.4	3.6	99	2.7	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-280	940	10	-	-	-	-	-	-	-	-	-	8.1	57.5	12.2	99	23.6	7.0	48.0	10.3	90	18.2	5.9	1/20	1.1			
		20	68.0	7.2	109	8.7	4.1	57.6	6.1	100	6.9	3.5	46.3	4.9	89	5.0	2.9	-	-	-	-	-			-	-	
		30	56.6	4.0	98	3.2	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-320	1050	10	91.5	19.2	122	15.3	6.7	80.7	17.1	113	13.0	5.9	69.4	14.8	104	10.5	5.1	57.6	12.3	94	8.0	4.3	1/20	1.1			
		20	81.5	8.6	114	3.8	3.0	68.0	7.2	103	2.9	2.5	-	-	-	-	-	-	-	-	-	-			-	-	
		30	61.5	4.3	97	1.2	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-360	1375	10	-	-	-	-	-	100.6	21.3	110	19.0	7.4	87.0	18.5	101	15.5	6.4	72.1	15.4	92	11.8	5.3	1/8	2.0			
		20	102.0	10.8	111	5.7	3.7	85.7	9.1	100	4.4	3.1	66.6	7.1	88	3.0	2.5	-	-	-	-	-			-	-	
		30	81.0	5.7	97	1.9	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-400	1680	10	-	-	-	-	-	-	-	-	-	8.9	101.8	21.6	99	20.4	7.5	84.9	18.1	90	15.7	6.3	1/6	2.0			
		20	119.9	12.7	108	7.5	4.4	100.9	10.7	98	5.8	3.7	79.6	8.5	87	4.1	2.9	-	-	-	-	-			-	-	
		30	96.8	6.8	96	2.6	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-440	2050	10	-	-	-	-	-	140.3	29.6	106	24.0	7.3	121.6	25.9	98	19.7	6.4	101.5	21.7	89	15.2	5.4	1/6	2.0			
		20	143.8	15.2	107	7.3	3.7	122.0	13.0	98	5.8	3.2	97.7	10.4	87	4.1	2.6	-	-	-	-	-			-	-	
		30	119.4	8.4	97	2.7	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-480	2600	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122.0	26.0	87	20.9	6.4	1/4	3.5			
		20	172.6	18.2	104	10.0	4.5	146.9	15.6	95	8.0	3.9	118.7	12.7	86	5.8	3.1	-	-	-	-	-			-	-	
		30	145.1	10.2	95	3.7	2.5	106.6	7.6	81	2.3	1.9	-	-	-	-	-	-	-	-	-	-			-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-520	2900	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150.1	32.1	91	21.3	6.9	1/4	3.5			
		20	212.5	22.4	110	10.2	4.8	180.2	19.1	100	8.0	4.1	144.5	15.4	89	5.8	3.3	-	-	-	-	-			-	-	
		30	176.8	12.5	99	3.7	2.7	122.6	8.7	83	2.1	1.9	-	-	-	-	-	-	-	-	-	-			-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-560	3325	10	284.2	59.8	121	19.3	6.5	251.6	53.2	112	16.4	5.8	217.4	46.2	103	13.4	5.0	181.8	38.9	94	10.3	4.2	1/4	4.0			
		20	258.5	27.3	114	5.0	3.0	218.6	23.2	103	3.9	2.5	165.7	17.7	89	2.6	1.9	-	-	-	-	-			-	-	
		30	202.5	14.3	99	1.7	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-600	4460	10	-	-	-	-	-	318.8	67.4	109	24.8	7.3	276.8	58.8	100	20.3	6.4	231.9	49.5	91	15.8	5.4	1/3	4.0			
		20	329.2	34.7	111	7.6	3.8	280.2	29.7	101	6.0	3.2	224.0	23.9	90	4.3	2.6	-	-	-	-	-			-	-	
		30	274.6	19.4	100	2.8	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-640	5200	10	-	-	-	-	-	-	-	-	-	8.2	312.0	66.3	98	25.1	7.2	262.3	56.1	90	19.6	6.1	1/2	6.4			
		20	372.1	39.3	109	9.4	4.2	317.5	33.7	99	7.5	3.6	256.1	27.3	89	5.4	3.0	-	-	-	-	-			-	-	
		30	314.5	22.2	99	3.6	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

6.2.2.0 PERFORMANCE—LTWW APPLICATION

Water Performance Data @ 60°F Ambient Air																								
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details	
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	Total HP	FLA @120V
UHHL-160	300	10	19.5	4.0	120	15.5	6.9	16.8	3.4	112	12.3	5.9	14.2	2.9	104	9.3	5.0	11.5	2.3	95	6.6	4.0	1/20	1.1
		20	18.0	1.8	115	4.1	3.2	15.3	1.6	107	3.1	2.7	12.6	1.3	99	2.3	2.2	9.8	1.0	90	1.5	1.7		
		30	16.4	1.1	110	1.7	1.9	13.6	0.9	102	1.3	1.6	10.6	0.7	93	0.8	1.2	7.4	0.5	83	0.5	0.9		
		40	14.5	0.7	105	0.8	1.3	11.3	0.6	95	0.6	1.0	7.9	0.4	84	0.3	0.7	-	-	-	-	-		
UHHL-200	540	10	33.5	6.8	117	11.5	5.9	29.0	5.9	109	9.1	5.1	24.4	4.9	102	6.9	4.3	19.9	4.0	94	5.0	3.5	1/20	1.1
		20	31.1	3.2	113	3.0	2.7	26.5	2.7	105	2.3	2.3	21.8	2.2	97	1.7	1.9	17.0	1.7	89	1.1	1.5		
		30	28.4	1.9	108	1.3	1.7	23.5	1.6	100	0.9	1.4	18.3	1.2	91	0.6	1.1	12.8	0.9	82	0.3	0.7		
		40	25.0	1.3	103	0.6	1.1	19.6	1.0	93	0.4	0.9	13.5	0.7	83	0.2	0.6	-	-	-	-	-		
UHHL-220	560	10	40.9	8.3	127	7.8	4.8	35.4	7.2	118	6.2	4.2	30.0	6.1	109	4.8	3.5	24.6	5.0	100	3.4	2.9	1/20	1.1
		20	38.5	3.9	123	2.1	2.3	33.0	3.4	114	1.7	1.9	27.3	2.8	105	1.2	1.6	21.4	2.2	95	0.8	1.2		
		30	35.7	2.4	119	0.9	1.4	29.7	2.0	109	0.7	1.2	23.4	1.6	99	0.5	0.9	16.3	1.1	87	0.3	0.6		
		40	31.9	1.6	113	0.5	0.9	25.1	1.3	101	0.3	0.7	17.1	0.9	88	0.2	0.5	-	-	-	-	-		
UHHL-240	700	10	49.3	10.0	125	10.8	5.8	42.7	8.7	116	8.6	5.0	36.1	7.3	108	6.6	4.2	29.5	6.0	99	4.7	3.5	1/20	1.1
		20	46.3	4.7	121	2.9	2.7	39.5	4.0	112	2.3	2.3	32.8	3.3	103	1.7	1.9	25.7	2.6	94	1.1	1.5		
		30	42.8	2.9	116	1.3	1.7	35.6	2.4	107	0.9	1.4	28.0	1.9	97	0.6	1.1	19.7	1.3	86	0.3	0.8		
		40	38.2	1.9	110	0.6	1.1	30.1	1.5	100	0.4	0.9	20.9	1.1	87	0.2	0.6	-	-	-	-	-		
UHHL-260	840	10	57.3	11.7	123	14.1	6.7	49.6	10.1	114	11.2	5.8	41.9	8.5	106	8.5	4.9	34.2	6.9	98	6.1	4.0	1/20	1.1
		20	53.5	5.5	119	3.8	3.1	45.7	4.6	110	2.9	2.7	37.8	3.8	102	2.1	2.2	29.7	3.0	93	1.4	1.7		
		30	49.3	3.3	114	1.6	1.9	41.2	2.8	105	1.2	1.6	32.4	2.2	96	0.8	1.3	22.8	1.5	85	0.5	0.9		
		40	44.1	2.2	108	0.8	1.3	34.8	1.8	98	0.5	1.0	24.3	1.2	87	0.3	0.7	-	-	-	-	-		
UHHL-280	940	10	62.7	12.8	122	16.5	7.4	54.3	11.0	113	13.1	6.4	45.8	9.3	105	9.9	5.4	37.4	7.6	97	7.1	4.4	1/20	1.1
		20	58.5	6.0	117	4.4	3.4	49.9	5.1	109	3.4	2.9	41.2	4.2	100	2.5	2.4	32.5	3.3	92	1.7	1.9		
		30	53.7	3.6	113	1.9	2.1	44.9	3.0	104	1.4	1.8	35.3	2.4	95	0.9	1.4	24.9	1.7	84	0.5	1.0		
		40	48.1	2.4	107	0.9	1.4	37.9	1.9	97	0.6	1.1	26.6	1.3	86	0.4	0.8	-	-	-	-	-		
UHHL-320	1050	10	76.1	15.5	127	7.4	5.4	66.0	13.4	118	5.9	4.6	55.8	11.3	109	4.5	3.9	45.6	9.2	100	3.2	3.2	1/20	1.1
		20	71.5	7.3	123	2.0	2.5	61.1	6.2	114	1.5	2.1	50.6	5.1	104	1.1	1.8	39.4	4.0	95	0.8	1.4		
		30	66.1	4.5	118	0.9	1.6	54.7	3.7	108	0.6	1.3	42.6	2.9	97	0.4	1.0	28.9	1.9	85	0.2	0.7		
		40	58.4	3.0	111	0.4	1.0	45.4	2.3	100	0.3	0.8	29.2	1.5	86	0.1	0.5	-	-	-	-	-		
UHHL-360	1375	10	95.3	19.4	124	10.9	6.7	82.4	16.7	115	8.6	5.8	69.6	14.1	107	6.6	4.9	56.8	11.5	98	4.7	4.0	1/8	2.0
		20	88.9	9.1	120	2.9	3.1	75.8	7.7	111	2.3	2.7	62.6	6.3	102	1.6	2.2	49.1	5.0	93	1.1	1.7		
		30	81.6	5.5	115	1.2	1.9	68.0	4.6	106	0.9	1.6	53.1	3.6	96	0.6	1.2	36.5	2.5	84	0.3	0.8		
		40	72.5	3.7	109	0.6	1.3	56.5	2.9	98	0.4	1.0	37.8	1.9	85	0.2	0.7	-	-	-	-	-		
UHHL-400	1680	10	-	-	-	-	96.8	19.7	113	11.4	6.8	81.7	16.6	105	8.7	5.7	66.5	13.5	97	6.2	4.7	1/6	2.0	
		20	104.0	10.6	117	3.8	3.7	88.5	9.0	109	3.0	3.1	73.0	7.4	100	2.2	2.6	57.3	5.8	91	1.4			2.0
		30	95.1	6.5	112	1.6	2.2	79.1	5.4	103	1.2	1.9	62.0	4.2	94	0.8	1.4	42.9	2.9	84	0.4			1.0
		40	84.7	4.3	106	0.8	1.5	66.1	3.3	96	0.5	1.2	44.8	2.3	85	0.3	0.8	-	-	-	-			-
UHHL-440	2050	10	131.8	26.3	109	13.6	6.6	114.1	23.2	111	10.8	5.7	96.4	19.6	103	8.3	4.8	78.7	16.0	95	5.9	3.9	1/6	2.0
		20	123.0	12.6	115	3.6	3.1	105.0	10.7	107	2.8	2.6	86.9	8.8	99	2.1	2.2	68.4	6.9	91	1.4	1.7		
		30	113.2	7.7	111	1.6	1.9	94.6	6.4	103	1.2	1.6	74.5	5.0	94	0.8	1.2	52.6	3.5	84	0.4	0.9		
		40	101.3	5.1	106	0.8	1.3	80.0	4.1	96	0.5	1.0	55.9	2.8	85	0.3	0.7	-	-	-	-	-		
UHHL-480	2600	10	-	-	-	-	136.8	27.8	109	14.8	6.9	115.4	23.4	101	11.2	5.8	94.1	19.1	93	8.1	4.7	1/4	3.5	
		20	146.9	15.0	112	4.9	3.7	125.3	12.7	104	3.8	3.1	103.5	10.5	97	2.8	2.6	81.5	8.3	89	1.9			2.0
		30	134.7	9.1	108	2.1	2.3	112.4	7.6	100	1.6	1.9	88.9	6.0	92	1.1	1.5	63.1	4.3	82	0.6			1.1
		40	120.8	6.1	103	1.1	1.5	95.5	4.8	94	0.7	1.2	67.4	3.4	84	0.4	0.8	-	-	-	-			-
UHHL-520	2900	10	-	-	-	-	168.9	34.4	114	15.1	7.4	142.6	28.9	105	11.5	6.3	116.3	23.6	97	8.3	5.1	1/4	3.5	
		20	182.0	18.6	118	5.1	4.0	155.2	15.8	109	3.9	3.4	128.2	13.0	101	2.9	2.8	101.0	10.2	92	1.9			2.2
		30	167.1	11.3	113	2.2	2.5	139.4	9.4	104	1.6	2.0	110.5	7.5	95	1.1	1.6	77.9	5.2	85	0.6			1.1
		40	150.2	7.6	108	1.1	1.6	118.7	6.0	98	0.7	1.3	82.6	4.2	86	0.4	0.9	-	-	-	-			-
UHHL-560	3325	10	234.2	47.7	125	9.1	5.2	203.1	41.2	116	7.2	4.5	172.1	34.9	108	5.5	3.8	140.9	28.5	99	4.0	3.1	1/4	4.0
		20	221.2	22.5	121	2.5	2.4	189.6	19.3	113	1.9	2.1	157.7	16.0	104	1.4	1.7	124.1	12.6	94	1.0	1.4		
		30	206.2	14.0	117	1.1	1.5	172.0	11.6	108	0.8	1.3	136.0	9.2	98	0.6	1.0	94.4	6.4	86	0.3	0.7		
		40	185.2	9.4	111	0.6	1.0	146.3	7.4	101	0.4	0.8	95.2	4.8	86	0.2	0.5	-	-	-	-	-		
UHHL-600	4460	10	297.7	60.6	122	13.8	6.6	258.0	52.4	113	11.0	5.7	218.2	44.2	105	8.4	4.8	178.5	36.1	97	6.0	3.9	1/3	4.0
		20	279.5	28.5	118	3.7	3.1	239.2	24.3	109	2.9	2.6	198.6	20.2	101	2.1	2.2	156.9	15.9	92	1.5	1.7		
		30	259.1	17.6	114	1.6	1.9	217.3	14.7	105	1.2	1.6	172.0	11.6	96	0.8	1.3	122.0	8.2	85	0.5	0.9		
		40	233.7	11.9	108	0.8	1.3	185.5	9.4	98	0.6	1.0	129.2	6.5	87	0.3	0.7	-	-	-	-	-		
UHHL-640	5200	10	336.3	68.6	120	17.1	7.4	291.3	59.2	112	13.6	6.4	246.3	49.9	104	10.4	5.4	201.1	40.6	96	7.4	4.4	1/2	6.4
		20	314.9	32.1	116	4.6	3.5	269.1	27.4	108	3.6	3.0	223.1	22.6	100	2.6	2.4	176.7	17.9	91	1.8	1.9		
		30	291.0	19.8	112	2.0	2.1	243.9	16.5	103	1.5	1.8	193.6	13.1	94	1.0	1.4	138.2	9.3	84	0.6	1.0		
		40	262.8	13.4	107	1.0	1.4	209.0	10.6	97	0.7	1.1	147.5	7.5	86	0.4	0.8	-	-	-	-	-		

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



6.2.2.1 PERFORMANCE—LTWW APPLICATION

30% Ethylene Glycol Performance Data @ 60°F Ambient Air																								
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details	
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V
UHHL-160	300	10	19.1	4.1	119	19.6	7.1	16.5	3.5	111	15.5	6.1	13.8	3.0	103	11.8	5.2	11.2	2.4	94	8.4	4.2	1/20	1.1
		20	17.4	1.9	114	5.0	3.2	14.7	1.6	105	3.9	2.7	11.9	1.3	96	2.7	2.2	8.8	1.0	87	1.7	1.7		
		30	15.4	1.1	107	2.0	1.9	12.3	0.9	98	1.4	1.5	9.0	0.7	88	0.9	1.1	-	-	-	-	-		
		40	12.7	0.7	99	0.9	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-200	540	10	33.0	7.1	116	14.5	6.1	28.5	6.1	109	11.6	5.3	23.9	5.2	101	8.8	4.5	19.4	4.2	93	6.4	3.6	1/20	1.1
		20	30.2	3.3	112	3.8	2.8	25.5	2.7	103	2.9	2.4	20.5	2.2	95	2.0	1.9	15.3	1.7	86	1.3	1.4		
		30	26.6	1.9	105	1.5	1.7	21.3	1.5	96	1.1	1.3	-	-	-	-	-	-	-	-	-	-		
		40	21.9	1.2	97	0.7	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-220	560	10	40.4	8.7	127	9.9	5.0	35.0	7.5	118	7.9	4.3	29.5	6.4	109	6.1	3.7	24.0	5.2	100	4.4	3.0	1/20	1.1
		20	37.6	4.1	122	2.6	2.3	31.8	3.4	112	2.0	2.0	25.7	2.8	102	1.5	1.6	19.2	2.1	92	0.9	1.2		
		30	33.5	2.4	115	1.1	1.4	26.9	1.9	104	0.8	1.1	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-240	700	10	48.7	10.5	124	13.7	6.0	42.1	9.1	115	11.0	5.2	35.5	7.6	107	8.4	4.4	28.8	6.2	98	6.0	3.6	1/20	1.1
		20	45.1	4.9	119	3.6	2.8	38.2	4.1	110	2.8	2.4	30.9	3.3	101	2.0	1.9	23.2	2.5	91	1.3	1.4		
		30	40.3	2.9	113	1.5	1.7	32.4	2.3	103	1.1	1.3	-	-	-	-	-	-	-	-	-	-		
		40	33.5	1.8	104	0.7	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-260	840	10	56.5	12.2	122	17.9	7.0	48.8	10.5	114	14.3	6.1	41.1	8.9	105	10.9	5.1	33.4	7.2	97	7.8	4.1	1/20	1.1
		20	52.1	5.6	117	4.7	3.2	44.2	4.8	109	3.6	2.8	35.8	3.9	99	2.6	2.2	27.0	2.9	90	1.6	1.7		
		30	46.7	3.4	111	1.9	1.9	37.6	2.7	101	1.4	1.6	27.6	2.0	90	0.8	1.1	-	-	-	-	-		
		40	39.0	2.1	103	0.9	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-280	940	10	-	-	-	-	53.4	11.5	112	16.6	6.6	44.9	9.7	104	12.7	5.6	36.4	7.9	96	9.1	4.5	1/20	1.1	
		20	56.9	6.1	116	5.4	3.5	48.2	5.2	107	4.2	3.0	39.2	4.2	98	3.0	2.4	29.5	3.2	89	1.9			1.8
		30	51.0	3.7	110	2.2	2.1	41.1	3.0	100	1.6	1.7	30.3	2.2	90	1.0	1.3	-	-	-	-			-
		40	42.7	2.3	102	1.0	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-320	1050	10	75.1	16.2	126	9.4	5.6	64.9	14.0	117	7.5	4.8	54.7	11.8	108	5.8	4.1	44.4	9.6	99	4.1	3.3	1/20	1.1
		20	69.5	7.5	121	2.5	2.6	58.6	6.3	111	1.9	2.2	47.2	5.1	101	1.3	1.8	34.7	3.8	90	0.8	1.3		
		30	61.4	4.4	114	1.0	1.5	48.7	3.5	103	0.7	1.2	-	-	-	-	-	-	-	-	-	-		
		40	49.1	2.6	103	0.4	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-360	1375	10	93.9	20.2	123	13.8	7.0	81.0	17.4	114	11.0	6.0	68.1	14.7	106	8.4	5.1	55.3	12.0	97	6.0	4.1	1/8	2.0
		20	86.3	9.3	118	3.6	3.2	73.1	7.9	109	2.8	2.7	58.9	6.4	99	2.0	2.2	43.6	4.7	89	1.2	1.6		
		30	76.6	5.5	111	1.5	1.9	61.0	4.4	101	1.0	1.5	-	-	-	-	-	-	-	-	-	-		
		40	62.3	3.4	102	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-400	1680	10	-	-	-	-	95.1	20.5	112	14.6	7.1	79.8	17.2	104	11.1	6.0	64.6	13.9	95	7.9	4.8	1/6	2.0	
		20	100.7	10.8	115	4.7	3.8	85.2	9.2	107	3.6	3.2	69.0	7.5	98	2.6	2.6	51.3	5.5	88	1.6			1.9
		30	89.7	6.4	109	1.9	2.2	71.6	5.2	99	1.3	1.8	51.3	3.7	88	0.8	1.3	-	-	-	-			-
		40	73.4	4.0	100	0.8	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-440	2050	10	130.2	28.0	119	17.3	6.9	112.5	24.2	111	13.8	6.0	94.7	20.5	103	10.6	5.1	76.9	16.7	95	7.6	4.1	1/6	2.0
		20	120.1	12.9	114	4.5	3.2	102.0	11.0	106	3.5	2.7	82.8	8.9	97	2.5	2.2	62.4	6.7	88	1.6	1.7		
		30	107.7	7.7	108	1.9	1.9	87.0	6.3	99	1.3	1.5	63.8	4.6	89	0.8	1.1	-	-	-	-	-		
		40	90.3	4.9	101	0.8	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-480	2600	10	-	-	-	-	134.7	29.0	108	18.9	7.2	113.3	24.4	100	14.4	6.0	91.9	19.9	93	10.4	4.9	1/4	3.5	
		20	143.2	15.4	111	6.2	3.8	121.5	13.1	103	4.8	3.2	99.1	10.7	95	3.4	2.6	74.9	8.1	87	2.2			2.0
		30	128.8	9.3	106	2.6	2.3	104.2	7.5	97	1.8	1.9	77.3	5.6	87	1.1	1.4	-	-	-	-			-
		40	108.5	5.8	98	1.2	1.4	77.8	4.2	88	0.7	1.0	-	-	-	-	-	-	-	-	-			-
UHHL-520	2900	10	-	-	-	-	-	-	-	-	-	139.7	30.1	104	14.6	6.5	113.3	24.5	96	10.6	5.3	1/4	3.5	
		20	176.9	19.0	116	6.3	4.1	149.9	16.2	108	4.9	3.5	122.5	13.2	99	3.5	2.9	92.2	10.0	89	2.2			2.2
		30	159.5	11.5	111	2.6	2.5	128.5	9.2	101	1.9	2.0	94.2	6.8	90	1.1	1.5	-	-	-	-			-
		40	133.4	7.2	102	1.2	1.6	92.9	5.0	90	0.7	1.1	-	-	-	-	-	-	-	-	-			-
UHHL-560	3325	10	232.0	49.8	124	11.6	5.4	200.9	43.2	116	9.3	4.7	169.7	36.5	107	7.1	3.9	138.5	29.9	98	5.2	3.2	1/4	4.0
		20	217.0	23.4	120	3.1	2.5	184.1	19.9	111	2.4	2.1	149.7	16.2	102	1.7	1.7	112.2	12.1	91	1.1	1.3		
		30	195.3	14.0	114	1.3	1.5	157.4	11.3	104	0.9	1.2	-	-	-	-	-	-	-	-	-	-		
		40	161.4	8.7	105	0.6	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-600	4460	10	294.6	63.2	121	17.6	6.8	254.8	54.7	113	14.1	5.9	215.0	46.2	104	10.8	5.0	175.1	37.8	96	7.8	4.1	1/3	4.0
		20	273.8	29.5	117	4.7	3.2	233.3	25.2	108	3.7	2.7	190.1	20.5	99	2.6	2.2	144.0	15.6	90	1.7	1.7		
		30	247.7	17.8	111	2.0	1.9	200.8	14.4	102	1.4	1.6	146.8	10.6	90	0.8	1.1	-	-	-	-	-		
		40	209.2	11.3	103	0.9	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-640	5200	10	-	-	-	-	287.6	61.8	111	17.4	6.7	242.4	52.2	103	13.3	5.6	197.2	42.5	95	9.6	4.6	1/2	6.4	
		20	308.1	33.2	115	5.8	3.6	262.1	28.2	106	4.5	3.1	214.4	23.1	98	3.3	2.5	163.0	17.6	89	2.1			1.9
		30	279.3	20.1	110	2.4	2.2	226.9	16.3	100	1.7	1.8	168.3	12.1	90	1.1	1.3	-	-	-	-			-
		40	237.0	12.8	102	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

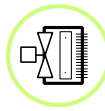
50% Ethylene Glycol
110 - 140 °F EWT
60 °F Entering Air



6.2.2.2 PERFORMANCE—LTWW APPLICATION

50% Ethylene Glycol Performance Data @ 60°F Ambient Air																										
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details			
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V		
UHHL-160	300	10	18.8	4.3	118	24.4	7.4	16.2	3.7	110	19.4	6.4	13.5	3.1	101	14.7	5.4	10.7	2.5	93	10.3	4.3	1/20	1.1		
		20	16.7	1.9	111	6.0	3.3	13.8	1.6	102	4.5	2.7	10.7	1.2	93	3.0	2.1	-	-	-	-	-			-	
		30	13.9	1.1	103	2.2	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-200	540	10	32.5	7.4	116	18.2	6.4	28.0	6.4	108	14.5	5.5	23.4	5.4	100	11.0	4.6	18.6	4.3	92	7.8	3.7	1/20	1.1		
		20	29.0	3.3	109	4.5	2.9	23.8	2.7	101	3.3	2.4	-	-	-	-	-	-	-	-	-	-			-	
		30	23.9	1.8	101	1.6	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-220	560	10	39.9	9.1	126	12.5	5.3	34.4	7.9	117	10.0	4.5	28.8	6.6	107	7.6	3.8	23.0	5.3	98	5.4	3.1	1/20	1.1		
		20	36.0	4.1	119	3.2	2.4	29.8	3.4	109	2.4	2.0	-	-	-	-	-	-	-	-	-	-			-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-240	700	10	48.1	11.0	123	17.3	6.3	41.4	9.5	115	13.8	5.5	34.8	8.0	106	10.6	4.6	27.8	6.4	97	7.4	3.7	1/20	1.1		
		20	43.4	5.0	117	4.4	2.9	35.9	4.1	107	3.3	2.4	-	-	-	-	-	-	-	-	-	-			-	
		30	36.3	2.8	108	1.6	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-260	840	10	55.7	12.7	121	22.4	7.3	48.0	11.0	113	17.9	6.3	40.2	9.3	104	13.7	5.3	32.2	7.4	95	9.6	4.3	1/20	1.1		
		20	50.4	5.8	115	5.7	3.3	41.7	4.8	106	4.2	2.8	32.5	3.8	96	2.9	2.2	-	-	-	-	-			-	
		30	42.3	3.2	106	2.1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-280	940	10	-	-	-	-	8.0	52.5	12.0	111	20.9	6.9	43.9	10.1	103	15.9	5.8	35.3	8.1	95	11.3	4.7	1/20	1.1		
		20	55.1	6.3	114	6.6	3.6	45.7	5.3	105	5.0	3.0	35.7	4.1	95	3.4	2.4	-	-	-	-	-			-	
		30	46.4	3.5	105	2.5	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-320	1050	10	74.1	16.9	125	11.8	5.9	63.8	14.6	116	9.4	5.1	53.4	12.3	107	7.2	4.3	42.5	9.8	97	5.0	3.4	1/20	1.1		
		20	66.4	7.6	118	2.9	2.6	54.5	6.3	108	2.2	2.2	-	-	-	-	-	-	-	-	-	-			-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-360	1375	10	92.4	21.1	122	17.2	7.3	79.5	18.2	113	13.7	6.3	66.5	15.3	105	10.5	5.3	53.1	12.3	96	7.4	4.3	1/8	2.0		
		20	82.9	9.5	116	4.3	3.3	68.2	7.8	106	3.2	2.7	52.2	6.0	95	2.1	2.1	-	-	-	-	-			-	
		30	67.9	5.2	106	1.5	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-400	1680	10	-	-	-	-	8.9	93.1	21.3	111	18.2	7.4	77.8	17.9	103	13.8	6.2	62.4	14.4	94	9.7	5.0	1/6	2.0		
		20	97.3	11.2	113	5.7	3.9	80.1	9.2	104	4.2	3.2	61.7	7.1	94	2.8	2.5	-	-	-	-	-			-	
		30	80.2	6.1	104	2.0	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-440	2050	10	128.5	29.3	118	21.7	7.3	110.7	25.4	110	17.3	6.3	92.9	21.3	102	13.2	5.3	74.6	17.3	94	9.5	4.3	1/6	2.0		
		20	116.4	13.3	112	5.5	3.3	96.6	11.1	103	4.1	2.7	75.5	8.7	94	2.8	2.1	-	-	-	-	-			-	
		30	98.2	7.5	104	2.1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-480	2600	10	-	-	-	-	8.9	132.5	30.3	107	23.7	7.5	111.0	25.5	99	18.1	6.3	89.5	20.7	92	13.0	5.1	1/4	3.5		
		20	139.3	16.0	109	7.6	3.9	115.9	13.3	101	5.7	3.3	91.0	10.5	92	3.9	2.6	-	-	-	-	-			-	
		30	118.3	9.1	102	2.8	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-520	2900	10	-	-	-	-	8.9	-	-	-	-	8.1	136.6	31.4	103	18.4	6.8	110.0	25.3	95	13.1	5.5	1/4	3.5		
		20	171.5	19.7	115	7.7	4.3	142.7	16.4	105	5.8	3.5	111.4	12.8	95	3.9	2.8	-	-	-	-	-			-	
		30	145.0	11.1	106	2.9	2.4	107.2	8.2	94	1.8	1.8	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-560	3325	10	229.7	52.4	124	14.6	5.7	198.5	45.5	115	11.8	4.9	166.8	38.3	106	9.0	4.1	133.7	30.9	97	6.4	3.3	1/4	4.0		
		20	209.6	24.0	118	3.8	2.6	174.0	20.0	108	2.8	2.2	-	-	-	-	-	-	-	-	-	-			-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-600	4460	10	291.4	66.6	120	22.3	7.2	251.5	57.5	112	17.8	6.2	211.5	48.7	104	13.7	5.3	170.2	39.2	95	9.7	4.2	1/3	4.0		
		20	266.3	30.5	115	5.8	3.3	221.8	25.5	106	4.3	2.8	173.9	20.1	96	3.0	2.2	-	-	-	-	-			-	
		30	226.7	17.4	107	2.2	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-640	5200	10	-	-	-	-	8.1	283.6	64.9	110	22.0	7.0	238.3	54.8	102	16.9	5.9	192.3	44.3	94	12.1	4.8	1/2	6.4		
		20	300.6	34.4	113	7.1	3.7	250.6	28.8	104	5.4	3.1	197.6	22.8	95	3.7	2.5	-	-	-	-	-			-	
		30	257.3	19.7	106	2.7	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



6.2.2.3 PERFORMANCE—LTWW APPLICATION

30% Propylene Glycol Performance Data @ 60°F Ambient Air																										
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details			
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V		
UHHL-160	300	10	19.0	3.7	118	17.1	6.5	16.3	3.2	110	13.7	5.6	13.7	2.7	102	10.5	4.7	3.8	11.0	2.2	94	7.5	3.8	1/20	1.1	
		20	17.1	1.7	113	4.3	2.9	14.2	1.4	104	3.3	2.5	11.2	1.1	94	2.3	1.9	8.0	0.8	84	1.3	1.4				
		30	14.6	1.0	105	1.7	1.7	11.3	0.8	95	1.1	1.3	-	-	-	-	-	-	-	-	-	-	-			
		40	11.2	0.6	94	0.7	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-200	540	10	32.8	6.5	116	12.8	5.6	28.2	5.6	108	10.2	4.8	23.7	4.7	100	7.9	4.1	19.0	3.8	92	5.7	3.3	1/20	1.1		
		20	29.6	2.9	111	3.3	2.5	24.6	2.5	102	2.5	2.1	19.4	1.9	93	1.7	1.7	-	-	-	-	-			-	
		30	25.2	1.7	103	1.2	1.4	19.3	1.3	93	0.8	1.1	-	-	-	-	-	-	-	-	-	-			-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-220	560	10	40.2	7.9	126	8.7	4.6	34.7	6.9	117	7.0	4.0	29.2	5.8	108	5.5	3.4	23.5	4.7	99	3.9	2.7	1/20	1.1		
		20	36.8	3.6	121	2.3	2.1	30.7	3.1	111	1.7	1.8	24.2	2.4	100	1.2	1.4	-	-	-	-	-			-	
		30	31.7	2.1	112	0.9	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-240	700	10	48.4	9.5	124	12.1	5.5	41.8	8.3	115	9.7	4.8	35.1	7.0	106	7.5	4.0	28.3	5.7	97	5.4	3.3	1/20	1.1		
		20	44.3	4.4	118	3.1	2.5	37.0	3.7	109	2.4	2.1	29.3	2.9	99	1.7	1.7	20.4	2.1	87	0.9	1.2				
		30	38.3	2.5	110	1.2	1.5	29.3	2.0	99	0.8	1.1	-	-	-	-	0.8	-	-	-	-	-			-	
		40	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	0.5	-	-	-	-			-	-
UHHL-260	840	10	56.2	11.1	122	15.6	6.4	48.4	9.6	113	12.6	5.5	40.7	8.1	105	9.7	4.7	32.8	6.6	96	7.0	3.8	1/20	1.1		
		20	51.4	5.1	116	4.1	2.9	42.9	4.3	107	3.1	2.5	34.1	3.4	97	2.2	2.0	24.1	2.4	86	1.3	1.4				
		30	44.4	2.9	109	1.6	1.7	34.4	2.3	98	1.1	1.3	-	-	-	-	-	-	-	-	-	-			-	
		40	33.6	1.7	97	0.6	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-280	940	10	61.4	12.1	120	18.3	7.0	53.0	10.5	112	14.7	6.0	44.4	8.8	104	11.3	5.1	35.9	7.2	95	8.2	4.1	1/20	1.1		
		20	56.1	5.5	115	4.8	3.2	47.0	4.7	106	3.6	2.7	37.3	3.7	97	2.6	2.2	26.5	2.7	86	1.5	1.5				
		30	48.6	3.2	108	1.9	1.9	37.7	2.5	97	1.3	1.4	-	-	-	-	-	-	-	-	-	-			-	
		40	37.3	1.9	97	0.7	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-320	1050	10	74.6	14.7	126	8.2	5.1	64.4	12.8	117	6.7	4.4	54.1	10.8	108	5.1	3.7	43.4	8.7	98	3.7	3.0	1/20	1.1		
		20	68.0	6.7	120	2.1	2.3	56.5	5.6	110	1.6	1.9	44.0	4.4	99	1.1	1.5	-	-	-	-	-			-	
		30	57.4	3.8	110	0.8	1.3	41.3	2.7	96	0.5	1.0	-	-	-	-	-	-	-	-	-	-			-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-360	1375	10	93.2	18.4	123	12.1	6.4	80.3	15.9	114	9.7	5.5	67.4	13.5	105	7.5	4.7	54.3	10.9	96	5.4	3.8	1/8	2.0		
		20	84.9	8.4	117	3.1	2.9	70.6	7.0	107	2.4	2.4	55.3	5.5	97	1.6	1.9	37.0	3.7	85	0.9	1.3				
		30	72.1	4.8	108	1.2	1.7	54.0	3.6	96	0.8	1.2	-	-	-	-	-	-	-	-	-	-			-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-400	1680	10	109.4	21.5	120	16.0	7.4	94.1	18.7	112	12.9	6.5	78.8	15.7	103	9.9	5.4	63.5	12.8	95	7.1	4.4	1/6	2.0		
		20	99.1	9.8	114	4.1	3.4	82.8	8.2	105	3.1	2.8	65.1	6.5	96	2.2	2.3	44.7	4.5	85	1.2	1.6				
		30	84.8	5.6	107	1.6	1.9	64.4	4.3	95	1.0	1.5	-	-	-	-	-	-	-	-	-	-			-	
		40	60.6	3.0	93	0.5	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-440	2050	10	129.4	25.5	118	15.1	6.3	111.6	22.1	110	12.2	5.5	93.8	18.7	102	9.5	4.6	75.8	15.2	94	6.9	3.8	1/6	2.0		
		20	118.6	11.7	113	4.0	2.9	99.2	9.9	105	3.0	2.4	78.8	7.9	95	2.1	2.0	55.5	5.6	85	1.2	1.4				
		30	102.8	6.8	106	1.6	1.7	79.5	5.3	96	1.0	1.3	-	-	-	-	-	-	-	-	-	-			-	
		40	76.9	3.8	95	0.6	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-480	2600	10	-	-	-	-	-	133.7	26.5	107	16.7	6.5	112.2	22.3	100	12.9	5.5	90.7	18.2	92	9.4	4.5	1/4	3.5		
		20	141.4	14.0	110	5.4	3.5	118.9	11.8	102	4.2	2.9	94.7	9.5	94	2.9	2.3	68.0	6.9	84	1.7	1.7				
		30	123.3	8.2	104	2.1	2.0	96.5	6.4	94	1.5	1.6	-	-	-	-	-	-	-	-	-	-			-	
		40	96.0	4.8	94	0.9	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-520	2900	10	-	-	-	-	-	164.7	32.7	112	17.1	7.1	138.2	27.5	104	13.1	6.0	111.6	22.4	95	9.5	4.8	1/4	3.5		
		20	174.2	17.2	115	5.5	3.7	146.8	14.6	107	4.2	3.2	116.6	11.7	97	3.0	2.5	82.4	8.3	86	1.7	1.8				
		30	152.0	10.1	108	2.2	2.2	117.7	7.8	97	1.5	1.7	-	-	-	-	-	-	-	-	-	-			-	
		40	115.2	5.7	97	0.8	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-560	3325	10	230.9	45.6	124	10.3	4.9	199.8	39.6	115	8.3	4.3	168.5	33.5	107	6.4	3.6	135.9	27.2	98	4.6	2.9	1/4	4.0		
		20	213.3	21.1	119	2.7	2.3	178.8	17.8	110	2.1	1.9	141.4	14.2	99	1.5	1.5	-	-	-	-	-				
		30	185.2	12.3	111	1.1	1.3	134.6	9.0	97	0.6	1.0	-	-	-	-	-	-	-	-	-	-			-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-600	4460	10	293.2	57.8	121	15.6	6.2	253.2	50.1	112	12.5	5.4	213.3	42.5	104	9.7	4.6	172.7	34.6	96	7.0	3.7	1/3	4.0		
		20	270.7	26.8	116	4.1	2.9	227.3	22.6	107	3.2	2.4	181.4	18.2	98	2.2	2.0	126.0	12.7	86	1.3	1.4				
		30	237.0	15.7	109	1.6	1.7	182.7	12.2	98	1.1	1.3	-	-	-	-	-	-	-	-	-	-			-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-640	5200	10	330.8	65.1	119	19.1	7.0	285.7	56.6	111	15.5	6.1	240.4	47.9	103	12.0	5.2	194.9	39.0	95	8.7	4.2	1/2	6.4		
		20	304.6	30.1	114	5.0	3.3	256.5	25.5	105	3.9	2.8	205.3	20.6	96	2.8	2.2	146.2	14.7	86	1.6	1.6				
		30	268.0	17.7	108	2.0	1.9	209.1	13.9	97	1.4	1.5	-	-	-	-	-	-	-	-	-	-			-	
		40	203.9	10.2	96	0.8	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

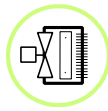
**50% Propylene Glycol
110 - 140 °F EWT
60 °F Entering Air**



6.2.2.4 PERFORMANCE—LTWW APPLICATION

50% Propylene Glycol Performance Data @ 60°F Ambient Air																												
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details					
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V				
UHHL-160	300	10	18.5	3.9	117	21.5	6.7	15.8	3.3	109	17.1	5.8	13.0	2.8	100	12.8	4.8	10.0	2.1	91	8.6	3.7	1/20	1.1				
		20	15.8	1.7	108	4.9	2.9	12.5	1.3	98	3.5	2.3	-	-	-	-	-	-	-	-	-	-			-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-200	540	10	32.1	6.7	115	16.0	5.8	27.4	5.8	107	12.8	5.0	22.5	4.8	98	9.7	4.2	17.3	3.7	90	6.5	3.2	1/20	1.1				
		20	27.3	2.9	107	3.7	2.5	21.5	2.3	97	2.6	2.0	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-220	560	10	39.5	8.3	125	11.0	4.8	33.7	7.1	115	8.8	4.1	27.8	5.9	106	6.7	3.4	21.4	4.6	95	4.5	2.6	1/20	1.1				
		20	33.9	3.6	116	2.6	2.1	26.4	2.8	103	1.8	1.6	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-240	700	10	47.5	10.0	123	15.2	5.7	40.7	8.6	114	12.3	5.0	33.5	7.1	104	9.2	4.1	26.0	5.6	94	6.3	3.2	1/20	1.1				
		20	41.0	4.3	114	3.6	2.5	32.4	3.4	103	2.5	2.0	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-260	840	10	55.0	11.6	120	19.8	6.7	47.2	10.0	112	15.9	5.7	38.9	8.3	103	12.0	4.8	30.2	6.5	93	8.1	3.7	1/20	1.1				
		20	47.7	5.0	112	4.7	2.9	38.0	4.0	102	3.3	2.3	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-280	940	10	60.2	12.7	119	23.1	7.3	51.6	10.9	111	18.6	6.3	42.6	9.0	102	14.0	5.2	33.1	7.1	92	9.5	4.1	1/20	1.1				
		20	52.3	5.5	111	5.5	3.2	41.7	4.4	101	3.9	2.6	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	38.1	2.7	97	1.6	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-320	1050	10	73.1	15.3	124	10.3	5.3	62.4	13.2	115	8.3	4.6	51.2	10.9	105	6.2	3.8	39.0	8.4	94	4.1	2.9	1/20	1.1				
		20	61.9	6.5	114	2.4	2.3	46.7	5.0	101	1.5	1.7	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-360	1375	10	91.1	19.2	121	15.2	6.6	78.0	16.5	112	12.2	5.7	64.2	13.7	103	9.2	4.7	49.2	10.6	93	6.1	3.7	1/8	2.0				
		20	77.8	8.2	112	3.5	2.8	60.4	6.4	100	2.4	2.2	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-400	1680	10	-	-	-	-	7.7	91.3	19.3	110	16.1	6.7	75.4	16.0	101	12.1	5.5	58.1	12.5	92	8.2	4.3	1/6	2.0				
		20	91.6	9.7	110	4.7	3.3	71.9	7.6	99	3.2	2.6	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-440	2050	10	127.0	26.7	117	19.2	6.6	109.1	23.1	109	15.5	5.7	90.2	19.2	101	11.8	4.8	70.1	15.0	92	8.0	3.7	1/6	2.0				
		20	110.6	11.7	110	4.6	2.9	88.1	9.4	100	3.3	2.3	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-480	2600	10	-	-	-	-	7.9	130.4	27.5	106	21.1	6.8	108.2	23.0	98	16.0	5.7	84.6	18.1	90	11.1	4.5	1/4	3.5				
		20	133.0	14.0	107	6.4	3.5	106.8	11.3	98	4.6	2.8	73.3	7.8	86	2.5	1.9	-	-	-	-	-			-	-		
		30	99.2	7.0	95	1.9	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-520	2900	10	-	-	-	-	8.5	160.3	33.9	111	21.4	7.3	133.2	28.3	102	16.3	6.1	103.6	22.2	93	11.2	4.8	1/4	3.5				
		20	163.4	17.3	112	6.4	3.7	130.3	13.8	101	4.6	3.0	84.2	9.0	87	2.3	1.9	-	-	-	-	-			-			
		30	116.7	8.3	97	1.8	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-560	3325	10	227.6	47.9	123	13.1	5.2	195.1	41.2	114	10.5	4.5	161.3	34.3	105	7.9	3.7	124.5	26.6	95	5.3	2.9	1/4	4.0				
		20	198.4	21.0	115	3.1	2.3	152.4	16.2	102	2.1	1.8	-	-	-	-	-	-	-	-	-	-			-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-600	4460	10	288.5	60.7	120	19.8	6.6	248.2	52.4	111	15.9	5.7	205.7	43.7	103	12.1	4.7	160.5	34.3	93	8.3	3.7	1/3	4.0				
		20	254.0	26.8	113	4.8	2.9	202.3	21.5	102	3.4	2.3	-	-	-	-	-	-	-	-	-	-			-			
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-			
UHHL-640	5200	10	325.4	68.5	118	24.4	7.4	279.8	59.1	110	19.7	6.4	232.6	49.4	101	15.0	5.3	182.1	38.9	92	10.4	4.2	1/2	6.4				
		20	287.5	30.3	111	6.0	3.3	230.9	24.5	101	4.3	2.6	-	-	-	-	-	-	-	-	-	-			-			
		30	197.4	14.0	95	1.6	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-			

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



6.2.3.0 PERFORMANCE—LTWW APPLICATION

Water Performance Data @ 75°F Ambient Air																								
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details	
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V
UHHL-160	300	10	14.9	3.0	123	9.7	5.3	12.4	2.5	115	7.2	4.3	9.9	2.0	107	4.9	3.5	7.3	1.5	98	3.0	2.6	1/20	1.1
		20	13.5	1.4	118	2.5	2.4	10.9	1.1	110	1.7	1.9	8.2	0.8	101	1.1	1.4	5.3	0.5	92	0.5	0.9		
		30	11.9	0.8	113	1.0	1.4	8.9	0.6	104	0.6	1.0	5.8	0.4	94	0.3	0.7	-	-	-	-	-		
		40	9.6	0.5	106	0.4	0.8	6.2	0.3	95	0.2	0.5	-	-	-	-	-	-	-	-	-	-		
UHHL-200	540	10	25.7	5.2	121	7.2	4.5	21.3	4.3	113	5.4	3.8	17.0	3.5	105	3.7	3.0	12.6	2.6	97	2.2	2.2	1/20	1.1
		20	23.3	2.4	116	1.8	2.1	18.8	1.9	109	1.3	1.7	14.2	1.4	100	0.8	1.2	9.1	0.9	91	0.4	0.8		
		30	20.4	1.4	111	0.7	1.2	15.4	1.0	102	0.5	0.9	9.9	0.7	93	0.2	0.6	-	-	-	-	-		
		40	16.6	0.8	104	0.3	0.7	10.5	0.5	94	0.1	0.5	-	-	-	-	-	-	-	-	-	-		
UHHL-220	560	10	31.4	6.4	129	4.9	3.7	26.2	5.3	120	3.7	3.1	21.0	4.3	111	2.6	2.5	15.7	3.2	102	1.6	1.8	1/20	1.1
		20	29.1	3.0	125	1.3	1.7	23.7	2.4	116	0.9	1.4	17.9	1.8	106	0.6	1.0	11.7	1.2	95	0.3	0.7		
		30	25.9	1.8	119	0.5	1.0	19.8	1.3	109	0.3	0.8	12.6	0.9	97	0.2	0.5	-	-	-	-	-		
		40	21.4	1.1	112	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-240	700	10	37.9	7.7	127	6.8	4.5	31.6	6.4	118	5.1	3.7	25.2	5.1	110	3.5	3.0	18.9	3.8	101	2.2	2.2	1/20	1.1
		20	34.9	3.6	123	1.8	2.1	28.4	2.9	114	1.3	1.7	21.5	2.2	105	0.8	1.3	14.1	1.4	94	0.4	0.8		
		30	31.1	2.1	118	0.7	1.2	23.7	1.6	107	0.5	0.9	15.3	1.0	96	0.2	0.6	-	-	-	-	-		
		40	25.6	1.3	110	0.3	0.8	16.2	0.8	97	0.1	0.5	-	-	-	-	-	-	-	-	-	-		
UHHL-260	840	10	44.0	9.0	125	8.9	5.2	36.6	7.4	117	6.5	4.3	29.2	6.0	108	4.6	3.4	21.8	4.4	100	2.8	2.6	1/20	1.1
		20	40.3	4.1	121	2.3	2.4	32.7	3.3	112	1.6	1.9	24.8	2.5	103	1.0	1.5	16.3	1.6	94	0.5	0.9		
		30	35.9	2.4	116	0.9	1.4	27.3	1.9	106	0.6	1.1	17.8	1.2	95	0.3	0.7	-	-	-	-	-		
		40	29.6	1.5	109	0.4	0.9	19.0	1.0	97	0.2	0.6	-	-	-	-	-	-	-	-	-	-		
UHHL-280	940	10	48.2	9.8	124	10.4	5.7	40.1	8.1	116	7.7	4.7	31.9	6.5	108	5.3	3.7	23.8	4.8	99	3.2	2.8	1/20	1.1
		20	44.0	4.5	120	2.7	2.6	35.7	3.6	111	1.9	2.1	27.1	2.8	103	1.2	1.6	17.8	1.8	93	0.6	1.0		
		30	39.1	2.7	115	1.1	1.5	29.8	2.0	105	0.7	1.2	19.5	1.3	95	0.3	0.8	-	-	-	-	-		
		40	32.3	1.6	108	0.5	0.9	20.8	1.1	96	0.2	0.6	-	-	-	-	-	-	-	-	-	-		
UHHL-320	1050	10	58.5	12.0	129	4.7	4.1	48.8	10.0	120	3.5	3.4	39.0	7.9	111	2.4	2.7	29.1	5.9	102	1.5	2.0	1/20	1.1
		20	53.9	5.5	124	1.2	1.9	43.8	4.5	115	0.9	1.5	33.0	3.3	105	0.5	1.2	21.0	2.1	94	0.3	0.7		
		30	47.7	3.2	119	0.5	1.1	35.9	2.4	108	0.3	0.8	21.8	1.5	95	0.1	0.5	-	-	-	-	-		
		40	38.5	2.0	110	0.2	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-360	1375	10	73.2	14.9	126	6.9	5.2	60.9	12.4	118	5.1	4.3	48.6	9.9	109	3.5	3.4	36.1	7.3	100	2.2	2.5	1/8	2.0
		20	66.8	6.8	122	1.8	2.4	54.2	5.5	113	1.3	1.9	41.0	4.2	104	0.8	1.4	26.3	2.7	93	0.4	0.9		
		30	59.3	4.0	116	0.7	1.4	44.7	3.0	106	0.4	1.0	27.9	1.9	95	0.2	0.7	-	-	-	-	-		
		40	47.9	2.4	108	0.3	0.8	28.5	1.4	95	0.1	0.5	-	-	-	-	-	-	-	-	-	-		
UHHL-400	1680	10	85.9	17.5	124	9.1	6.1	71.4	14.5	116	6.7	5.0	56.9	11.6	107	4.6	4.0	42.2	8.6	99	2.8	3.0	1/6	2.0
		20	78.1	8.0	120	2.3	2.8	63.1	6.4	111	1.6	2.2	47.9	4.9	102	1.0	1.7	30.8	3.1	93	0.5	1.1		
		30	69.0	4.7	114	0.9	1.6	52.2	3.5	105	0.6	1.2	33.0	2.2	94	0.3	0.8	-	-	-	-	-		
		40	56.1	2.9	107	0.4	1.0	34.3	1.7	95	0.2	0.6	-	-	-	-	-	-	-	-	-	-		
UHHL-440	2050	10	101.2	20.7	122	8.6	5.1	84.2	17.2	114	6.4	4.2	67.2	13.7	106	4.4	3.4	50.1	10.2	98	2.7	2.5	1/6	2.0
		20	92.6	9.4	118	2.2	2.3	75.2	7.6	110	1.6	1.9	57.2	5.8	102	1.0	1.4	37.5	3.8	93	0.5	0.9		
		30	82.4	5.6	114	0.9	1.4	62.9	4.3	104	0.6	1.1	41.0	2.8	94	0.3	0.7	-	-	-	-	-		
		40	68.0	3.5	107	0.4	0.9	43.4	2.2	95	0.2	0.5	-	-	-	-	-	-	-	-	-	-		
UHHL-480	2600	10	121.4	24.8	120	11.8	6.1	100.9	20.6	112	8.7	5.1	80.4	16.4	105	6.0	4.0	59.8	12.1	97	3.7	3.0	1/4	3.5
		20	110.5	11.3	116	3.0	2.8	89.5	9.1	108	2.1	2.2	68.2	6.9	100	1.4	1.7	44.8	4.5	92	0.7	1.1		
		30	98.0	6.6	111	1.2	1.6	75.0	5.1	103	0.8	1.3	49.3	3.3	93	0.4	0.8	-	-	-	-	-		
		40	81.2	4.1	105	0.5	1.0	52.8	2.7	95	0.3	0.7	-	-	-	-	-	-	-	-	-	-		
UHHL-520	2900	10	149.9	30.5	125	12.0	6.6	124.7	25.3	116	8.9	5.5	99.5	20.2	108	6.2	4.4	74.1	15.0	100	3.8	3.3	1/4	3.5
		20	136.9	14.0	120	3.1	3.0	111.0	11.3	112	2.2	2.4	84.7	8.6	103	1.4	1.9	55.5	5.6	93	0.7	1.2		
		30	121.7	8.3	115	1.2	1.8	93.3	6.3	106	0.8	1.4	60.6	4.1	95	0.4	0.9	-	-	-	-	-		
		40	101.0	5.1	108	0.6	1.1	64.2	3.3	96	0.3	0.7	-	-	-	-	-	-	-	-	-	-		
UHHL-560	3325	10	180.2	36.7	127	5.7	4.0	150.4	30.5	118	4.3	3.3	120.6	24.5	110	3.0	2.7	90.6	18.4	101	1.9	2.0	1/4	4.0
		20	167.2	17.0	123	1.5	1.8	136.5	13.9	114	1.1	1.5	103.9	10.5	105	0.7	1.1	68.0	6.9	95	0.3	0.7		
		30	150.1	10.2	118	0.6	1.1	114.9	7.8	108	0.4	0.8	71.3	4.8	96	0.2	0.5	-	-	-	-	-		
		40	124.3	6.3	111	0.3	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-600	4460	10	228.9	46.6	124	8.7	5.0	190.8	38.8	116	6.5	4.2	152.6	30.9	108	4.5	3.3	114.3	23.2	100	2.8	2.5	1/3	4.0
		20	210.9	21.5	120	2.3	2.3	171.9	17.5	112	1.6	1.9	131.4	13.3	103	1.0	1.4	86.8	8.8	94	0.5	0.9		
		30	189.4	12.9	116	0.9	1.4	145.4	9.8	106	0.6	1.1	94.7	6.4	95	0.3	0.7	-	-	-	-	-		
		40	157.9	8.0	109	0.4	0.9	98.6	5.0	96	0.2	0.5	-	-	-	-	-	-	-	-	-	-		
UHHL-640	5200	10	258.4	52.6	123	10.8	5.7	215.3	43.8	115	8.0	4.7	172.0	34.9	107	5.5	3.8	128.5	25.9	99	3.4	2.8	1/2	6.4
		20	237.3	24.2	119	2.8	2.6	193.1	19.6	111	2.0	2.1	147.8	15.0	102	1.3	1.6	98.0	9.9	93	0.6	1.1		
		30	212.9	14.5	114	1.2	1.6	163.7	11.1	105	0.7	1.2	107.8	7.3	95	0.4	0.8	-	-	-	-	-		
		40	177.9	9.0	108	0.5	1.0	114.6	5.8	96	0.2	0.6	-	-	-	-	-	-	-	-	-	-		

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

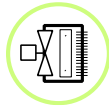
30% Ethylene Glycol
110 - 140 °F EWT
75 °F Entering Air



6.2.3.1 PERFORMANCE—LTWW APPLICATION

30% Ethylene Glycol Performance Data @ 75°F Ambient Air																									
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details		
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V	
UHHL-160	300	10	14.6	3.1	122	12.2	5.4	12.1	2.6	114	9.1	4.5	9.5	2.1	106	6.2	3.6	6.9	1.5	97	3.7	2.6	1/20	1.1	
		20	13.0	1.4	117	3.0	2.4	10.2	1.1	108	2.0	1.9	7.3	0.8	98	1.2	1.4	-	-	-	-	-			-
		30	10.7	0.8	109	1.1	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-200	540	10	25.2	5.4	120	9.1	4.7	20.9	4.5	112	6.8	3.9	16.5	3.6	104	4.6	3.1	12.0	2.6	96	2.7	2.2	1/20	1.1	
		20	22.4	2.4	115	2.2	2.1	17.6	1.9	106	1.5	1.6	12.6	1.4	97	0.9	1.2	-	-	-	-	-			-
		30	18.4	1.3	108	0.8	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-220	560	10	31.0	6.7	128	6.2	3.8	25.8	5.6	119	4.7	3.2	20.5	4.4	110	3.2	2.6	15.0	3.2	101	1.9	1.9	1/20	1.1	
		20	28.0	3.0	123	1.6	1.7	22.2	2.4	113	1.1	1.4	-	-	-	-	-	-	-	-	-	-			-
		30	23.3	1.7	115	0.6	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-240	700	10	37.3	8.0	126	8.6	4.6	31.0	6.7	118	6.4	3.8	24.6	5.3	109	4.5	3.1	18.0	3.9	100	2.7	2.2	1/20	1.1	
		20	33.7	3.6	121	2.2	2.1	26.7	2.9	112	1.5	1.7	19.2	2.1	101	0.9	1.2	-	-	-	-	-			-
		30	28.1	2.0	114	0.8	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-260	840	10	43.3	9.3	125	11.2	5.4	35.9	7.7	116	8.3	4.4	28.5	6.1	108	5.7	3.5	20.9	4.5	99	3.5	2.6	1/20	1.1	
		20	39.0	4.2	120	2.8	2.4	30.9	3.3	110	1.9	1.9	22.3	2.4	100	1.1	1.4	-	-	-	-	-			-
		30	32.6	2.3	112	1.0	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-280	940	10	47.4	10.2	123	13.1	5.9	39.2	8.4	115	9.7	4.9	31.1	6.7	107	6.7	3.9	22.9	5.0	98	4.1	2.9	1/20	1.1	
		20	42.5	4.6	118	3.3	2.6	33.8	3.6	109	2.3	2.1	24.4	2.6	100	1.3	1.5	-	-	-	-	-			-
		30	35.7	2.6	111	1.2	1.5	25.1	1.8	101	0.7	1.0	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-320	1050	10	57.6	12.4	128	5.9	4.3	47.8	10.3	119	4.4	3.6	38.0	8.2	110	3.0	2.8	27.6	6.0	100	1.8	2.1	1/20	1.1	
		20	51.6	5.6	122	1.5	1.9	40.6	4.4	112	1.0	1.5	28.5	3.1	101	0.6	1.1	-	-	-	-	-			-
		30	42.1	3.0	114	0.5	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-360	1375	10	71.9	15.5	125	8.7	5.3	59.6	12.9	117	6.5	4.5	47.2	10.2	108	4.4	3.5	34.4	7.5	99	2.6	2.6	1/8	2.0	
		20	64.4	6.9	120	2.2	2.4	50.7	5.5	110	1.5	1.9	35.9	3.9	100	0.8	1.3	-	-	-	-	-			-
		30	52.8	3.8	112	0.8	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-400	1680	10	84.3	18.1	123	11.5	6.3	69.8	15.0	115	8.5	5.2	55.2	11.9	107	5.8	4.1	40.4	8.8	98	3.5	3.0	1/6	2.0	
		20	75.1	8.1	118	2.8	2.8	59.4	6.4	109	1.9	2.2	42.3	4.6	99	1.1	1.6	-	-	-	-	-			-
		30	62.0	4.5	110	1.0	1.5	42.1	3.0	99	0.5	1.0	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-440	2050	10	99.7	21.4	122	10.8	5.3	82.8	17.9	114	8.1	4.4	65.7	14.2	106	5.6	3.5	48.2	10.4	98	3.4	2.6	1/6	2.0	
		20	89.8	9.7	117	2.7	2.4	71.3	7.7	108	1.9	1.9	51.6	5.6	99	1.1	1.4	-	-	-	-	-			-
		30	75.4	5.4	110	1.0	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-480	2600	10	119.6	25.7	119	14.9	6.4	99.0	21.3	112	11.0	5.3	78.5	17.0	104	7.6	4.2	57.8	12.5	96	4.6	3.1	1/4	3.5	
		20	107.0	11.5	115	3.7	2.9	85.4	9.2	107	2.6	2.3	62.1	6.7	98	1.5	1.7	-	-	-	-	-			-
		30	90.4	6.5	108	1.4	1.6	64.2	4.6	99	0.8	1.1	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-520	2900	10	147.4	31.6	124	15.1	6.8	122.1	26.3	115	11.2	5.7	96.8	20.9	107	7.8	4.5	71.3	15.4	99	4.7	3.3	1/4	3.5	
		20	132.1	14.2	119	3.8	3.1	105.6	11.4	110	2.6	2.5	76.3	8.2	100	1.5	1.8	-	-	-	-	-			-
		30	111.6	8.0	112	1.4	1.7	78.0	5.6	101	0.8	1.2	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-560	3325	10	178.2	38.3	126	7.3	4.1	148.3	31.9	118	5.5	3.4	118.3	25.5	109	3.8	2.8	86.9	18.8	100	2.3	2.0	1/4	4.0	
		20	162.1	17.5	122	1.9	1.9	129.1	13.9	112	1.3	1.5	92.5	10.0	102	0.8	1.1	-	-	-	-	-			-
		30	136.4	9.8	114	0.7	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-600	4460	10	226.1	48.6	124	11.1	5.3	187.9	40.4	115	8.3	4.4	149.6	32.2	107	5.7	3.5	110.4	23.9	99	3.5	2.6	1/3	4.0	
		20	205.6	22.2	119	2.8	2.4	163.9	17.7	110	2.0	1.9	119.2	12.9	101	1.2	1.4	-	-	-	-	-			-
		30	174.4	12.5	113	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-640	5200	10	255.1	54.9	122	13.7	5.9	211.8	45.6	114	10.2	4.9	168.5	36.3	106	7.1	3.9	124.5	26.9	98	4.3	2.9	1/2	6.4	
		20	231.0	24.9	118	3.5	2.7	184.9	19.9	109	2.4	2.2	135.1	14.6	100	1.5	1.6	-	-	-	-	-			-
		30	197.1	14.2	111	1.3	1.5	139.3	10.0	101	0.7	1.1	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

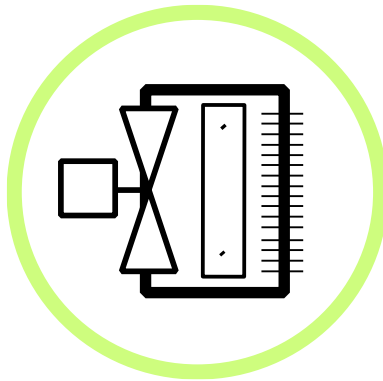


6.2.3.2 PERFORMANCE—LTWW APPLICATION

30% Propylene Glycol Performance Data @ 75°F Ambient Air																								
Model	CFM	WTD (°F)	140°F EWT					130°F EWT					120°F EWT					110°F EWT					Motor Details	
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	Total HP	FLA @120V
UHHL-160	300	10	14.5	2.9	121	10.7	4.9	11.9	2.4	113	8.0	4.1	9.4	1.9	105	5.4	3.2	6.6	1.3	96	3.2	2.3	1/20	1.1
		20	12.5	1.2	115	2.5	2.1	9.7	1.0	106	1.7	1.7	6.6	0.7	96	0.9	1.1	-	-	-	-	-		
		30	9.8	0.6	106	0.8	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-200	540	10	25.0	4.9	119	8.0	4.3	20.7	4.1	112	6.0	3.6	16.2	3.2	104	4.1	2.8	11.5	2.3	95	2.3	2.0	1/20	1.1
		20	21.7	2.1	114	1.9	1.9	16.7	1.7	105	1.3	1.4	-	-	-	-	-	-	-	-	-	-		
		30	16.7	1.1	105	0.6	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-220	560	10	30.8	6.1	128	5.5	3.5	25.5	5.1	119	4.1	2.9	20.0	4.0	109	2.8	2.3	14.3	2.9	100	1.7	1.7	1/20	1.1
		20	27.1	2.7	121	1.3	1.5	20.9	2.1	111	0.9	1.2	-	-	-	-	-	-	-	-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-240	700	10	37.1	7.3	126	7.6	4.2	30.7	6.1	117	5.7	3.5	24.2	4.8	108	3.9	2.8	17.3	3.5	99	2.3	2.0	1/20	1.1
		20	32.6	3.2	120	1.8	1.9	25.3	2.5	110	1.2	1.5	-	-	-	-	-	-	-	-	-	-		
		30	25.4	1.7	110	0.6	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-260	840	10	43.0	8.5	124	9.8	4.9	35.5	7.0	116	7.3	4.1	28.0	5.6	107	5.1	3.2	20.0	4.0	98	3.0	2.3	1/20	1.1
		20	37.8	3.7	118	2.4	2.2	29.4	2.9	109	1.6	1.7	19.7	2.0	98	0.8	1.1	-	-	-	-	-		
		30	29.8	2.0	109	0.8	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-280	940	10	47.0	9.2	123	11.4	5.3	38.8	7.7	115	8.6	4.4	30.6	6.1	106	5.9	3.5	21.9	4.4	97	3.5	2.5	1/20	1.1
		20	41.4	4.1	117	2.8	2.4	32.1	3.2	108	1.9	1.8	21.8	2.2	97	1.0	1.3	-	-	-	-	-		
		30	32.7	2.2	108	0.9	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-320	1050	10	57.1	11.3	127	5.2	3.9	47.3	9.4	118	3.9	3.3	37.0	7.4	109	2.6	2.6	26.1	5.3	99	1.5	1.8	1/20	1.1
		20	49.8	4.9	121	1.2	1.7	37.9	3.8	110	0.8	1.3	-	-	-	-	-	-	-	-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-360	1375	10	71.3	14.1	125	7.6	4.9	58.9	11.7	116	5.7	4.0	46.3	9.3	107	3.9	3.2	32.8	6.6	98	2.2	2.3	1/8	2.0
		20	62.2	6.2	118	1.8	2.1	47.6	4.7	108	1.2	1.6	29.7	3.0	96	0.6	1.0	-	-	-	-	-		
		30	46.7	3.1	108	0.6	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-400	1680	10	83.5	16.5	123	10.0	5.7	68.9	13.7	114	7.5	4.7	54.3	10.8	106	5.2	3.7	38.6	7.8	97	3.0	2.7	1/6	2.0
		20	73.0	7.2	117	2.4	2.5	56.1	5.6	107	1.6	1.9	36.4	3.6	96	0.8	1.3	-	-	-	-	-		
		30	55.8	3.7	107	0.8	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-440	2050	10	99.1	19.6	121	9.6	4.8	82.0	16.3	113	7.2	4.0	64.7	12.9	105	5.0	3.2	46.4	9.3	97	2.9	2.3	1/6	2.0
		20	87.3	8.6	116	2.3	2.1	67.9	6.8	107	1.6	1.7	45.4	4.6	96	0.8	1.1	-	-	-	-	-		
		30	69.0	4.6	107	0.8	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-480	2600	10	118.6	23.4	119	13.0	5.8	98.1	19.5	111	9.8	4.8	77.5	15.5	104	6.8	3.8	55.7	11.2	96	4.0	2.8	1/4	3.5
		20	104.7	10.4	114	3.2	2.6	81.6	8.1	105	2.2	2.0	55.9	5.6	96	1.2	1.4	-	-	-	-	-		
		30	83.7	5.5	106	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-520	2900	10	146.2	28.8	123	13.3	6.2	120.8	24.0	115	10.0	5.2	95.4	19.1	107	6.9	4.1	68.6	13.8	98	4.1	3.0	1/4	3.5
		20	129.4	12.8	118	3.3	2.8	100.5	10.0	108	2.2	2.2	67.5	6.8	97	1.2	1.5	-	-	-	-	-		
		30	102.0	6.7	109	1.1	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-560	3325	10	177.2	34.9	126	6.4	3.8	147.3	29.2	118	4.9	3.2	116.1	23.2	109	3.4	2.5	83.3	16.7	99	2.0	1.8	1/4	4.0
		20	157.6	15.6	121	1.6	1.7	121.9	12.1	110	1.1	1.3	-	-	-	-	-	-	-	-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-600	4460	10	224.6	44.2	123	9.7	4.8	186.4	36.9	115	7.3	4.0	147.5	29.4	107	5.1	3.2	106.4	21.4	98	3.0	2.3	1/3	4.0
		20	200.3	19.8	118	2.4	2.1	156.3	15.6	109	1.6	1.7	101.8	10.2	97	0.8	1.1	-	-	-	-	-		
		30	158.4	10.5	109	0.8	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
UHHL-640	5200	10	253.4	49.9	122	12.0	5.4	210.0	41.6	114	9.0	4.5	166.5	33.2	106	6.3	3.6	120.3	24.2	97	3.8	2.6	1/2	6.4
		20	226.2	22.4	117	3.0	2.4	177.0	17.6	108	2.0	1.9	119.6	12.0	97	1.1	1.3	-	-	-	-	-		
		30	181.5	12.0	109	1.0	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

6. PERFORMANCE DATA



ULTRA-LOW WARM WATER

90 °F - 105 °F EWT

30% Ethylene Glycol
90 - 105 °F EWT
45 °F Entering Air



6.3.1.1 PERFORMANCE—ULWW APPLICATION

30% Ethylene Glycol Performance Data @ 45°F Ambient Air																													
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details						
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V					
UHHL-160	300	10	14.3	3.1	87	13.1	5.3	12.9	2.8	83	11.2	4.8	11.5	2.5	79	9.3	4.3	10.1	2.2	75	7.6	3.8	1/20	1.1					
		20	12.0	1.3	81	2.9	2.2	10.4	1.1	76	2.3	2.0	8.8	1.0	71	1.8	1.6	-	-	-	-	-			-	-			
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-		
UHHL-200	540	10	24.7	5.3	86	9.8	4.6	22.3	4.8	82	8.4	4.2	20.0	4.3	78	7.1	3.7	17.5	3.8	74	5.7	3.3	1/20	1.1					
		20	20.8	2.2	79	2.2	1.9	18.0	2.0	75	1.7	1.7	-	-	-	-	-	-	-	-	-	-			-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
UHHL-220	560	10	30.5	6.6	93	6.8	3.8	27.6	6.0	89	5.8	3.5	24.7	5.3	84	4.9	3.1	21.7	4.7	79	4.0	2.7	1/20	1.1					
		20	26.1	2.8	86	1.6	1.6	22.6	2.5	81	1.2	1.4	-	-	-	-	-	-	-	-	-	-			-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
UHHL-240	700	10	36.7	7.9	92	9.3	4.6	33.2	7.2	87	8.0	4.1	29.7	6.4	83	6.7	3.7	26.1	5.7	78	5.5	3.3	1/20	1.1					
		20	31.4	3.4	85	2.2	2.0	27.3	3.0	80	1.7	1.7	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-260	840	10	42.4	9.2	90	12.1	5.3	38.4	8.3	86	10.4	4.8	34.4	7.4	81	8.7	4.3	30.3	6.5	77	7.1	3.8	1/20	1.1					
		20	36.4	3.9	83	2.8	2.3	31.7	3.4	79	2.2	2.0	26.8	2.9	73	1.7	1.7	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-280	940	10	46.4	10.0	89	14.1	5.8	42.0	9.0	85	12.0	5.2	37.5	8.1	80	10.1	4.7	33.1	7.2	76	8.3	4.1	1/20	1.1					
		20	39.8	4.3	83	3.3	2.5	34.7	3.8	78	2.6	2.2	29.3	3.2	73	2.0	-	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-320	1050	10	56.5	12.2	93	6.4	4.2	51.2	11.1	88	5.5	3.8	45.7	9.9	84	4.6	3.4	40.0	8.7	79	3.7	3.0	1/20	1.1					
		20	47.6	5.2	85	1.4	1.8	40.9	4.4	80	1.1	1.5	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-360	1375	10	70.3	15.2	90	9.3	5.2	63.6	13.7	86	7.9	4.7	56.9	12.3	82	6.7	4.3	50.0	10.9	77	5.5	3.8	1/8	2.0					
		20	59.5	6.4	83	2.1	2.2	51.4	5.6	78	1.7	1.9	42.7	4.6	73	1.2	1.6	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-400	1680	10	82.3	17.8	89	12.3	6.2	74.4	16.1	84	10.5	5.6	66.4	14.4	80	8.7	5.0	58.5	12.7	76	7.2	4.4	1/6	2.0					
		20	69.8	7.6	82	2.8	2.6	60.4	6.5	77	2.2	2.3	50.5	5.5	72	1.6	1.9	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-440	2050	10	97.8	21.1	87	11.7	5.2	88.6	19.2	83	10.1	4.7	79.3	17.2	79	8.5	4.3	69.9	15.2	75	6.9	3.8	1/6	2.0					
		20	84.1	9.1	81	2.7	2.2	73.4	8.0	77	2.2	2.0	62.0	6.7	72	1.7	1.7	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-480	2600	10	116.9	25.2	85	15.9	6.2	105.8	22.9	81	13.7	5.6	94.7	20.5	77	11.5	5.1	83.5	18.2	74	9.5	4.5	1/4	3.5					
		20	100.8	10.9	79	3.7	2.7	88.0	9.5	75	3.0	2.4	74.7	8.1	71	2.3	2.0	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-520	2900	10	144.2	31.1	89	16.3	6.7	130.4	28.2	85	13.9	6.1	116.6	25.2	81	11.7	5.4	102.9	22.3	77	9.6	4.8	1/4	3.5					
		20	124.4	13.5	83	3.8	2.9	108.4	11.7	78	3.1	2.5	91.5	9.9	73	2.3	2.1	72.6	7.9	67	1.6	1.7			-	-	-	-	
		30	88.9	6.4	72	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-560	3325	10	175.7	38.0	92	8.0	4.1	159.4	34.4	88	6.9	3.7	142.6	30.8	83	5.7	3.3	125.6	27.2	79	4.7	2.9	1/4	4.0					
		20	152.1	16.5	86	1.9	1.8	132.1	14.3	80	1.5	1.5	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-600	4460	10	222.3	48.0	89	12.1	5.2	201.6	43.6	85	10.4	4.7	180.8	39.1	81	8.7	4.2	159.5	34.5	77	7.1	3.7	1/3	4.0					
		20	193.5	21.0	84	2.9	2.3	169.1	18.3	79	2.3	2.0	142.8	15.5	73	1.8	1.7	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
UHHL-640	5200	10	250.6	54.1	88	14.9	5.9	227.0	49.1	84	12.7	5.3	203.5	44.0	80	10.7	4.8	179.8	38.9	76	8.8	4.2	1/2	6.4					
		20	218.4	23.6	82	3.5	2.6	191.3	20.7	78	2.9	2.2	162.5	17.6	73	2.2	1.9	-	-	-	-	-			-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



50% Ethylene Glycol
 90 - 105 °F EWT
 45 °F Entering Air

6.3.1.2 PERFORMANCE—ULWW APPLICATION

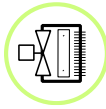
50% Ethylene Glycol Performance Data @ 45°F Ambient Air																										
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details			
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Ft)	WVEL (ft/s)			Total HP	FLA @120V
UHHL-160	300	10	13.9	3.2	86	16.4	5.5	12.4	2.9	82	13.7	5.0	10.9	2.5	77	11.2	4.4	9.4	2.2	73	8.8	3.8	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			1.1	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				1.1
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-200	540	10	24.0	5.5	84	12.2	4.8	21.4	5.0	80	10.3	4.3	18.9	4.4	76	8.5	3.8	16.3	3.8	72	6.7	3.3	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			1.1	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				1.1
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-220	560	10	29.6	6.8	92	8.5	3.9	26.5	6.1	87	7.1	3.5	23.4	5.4	82	5.9	3.1	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			1.1	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				1.1
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-240	700	10	35.7	8.2	90	11.7	4.7	32.0	7.4	86	9.9	4.3	28.2	6.5	81	8.2	3.8	24.4	5.7	76	6.5	3.3	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			1.1	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				1.1
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-260	840	10	41.4	9.6	89	15.2	5.5	37.1	8.6	84	12.9	4.9	32.8	7.6	80	10.6	4.4	28.3	6.6	75	8.4	3.8	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			1.1	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				1.1
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-280	940	10	45.2	10.5	88	17.8	6.0	40.7	9.4	83	15.1	5.4	35.9	8.3	79	12.4	4.8	31.0	7.2	74	9.8	4.2	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			1.1	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				1.1
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-320	1050	10	54.7	12.7	91	7.9	4.4	48.9	11.4	86	6.7	3.9	43.0	10.0	81	5.5	3.5	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			1.1	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				1.1
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-360	1375	10	68.4	15.8	89	11.7	5.5	61.2	14.1	85	9.8	4.9	53.9	12.5	80	8.1	4.3	46.3	10.8	75	6.3	3.7	1/8	2.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			2.0	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				2.0
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-400	1680	10	80.0	18.5	87	15.4	6.4	71.9	16.6	83	13.0	5.8	63.3	14.7	78	10.7	5.1	54.5	12.7	74	8.4	4.4	1/6	2.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			2.0	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				2.0
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-440	2050	10	95.7	22.1	86	14.8	5.5	85.9	19.9	82	12.6	4.9	76.0	17.7	78	10.4	4.4	65.8	15.3	74	8.3	3.8	1/6	2.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			2.0	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				2.0
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-480	2600	10	114.3	26.4	84	20.2	6.5	103.0	23.8	80	17.2	5.9	91.1	21.1	76	14.2	5.2	79.0	18.4	72	11.4	4.6	1/4	3.5		
		20	89.9	10.4	76	4.1	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			3.5	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				3.5
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-520	2900	10	140.5	32.4	88	20.5	7.0	126.7	29.3	84	17.5	6.3	112.1	26.0	79	14.4	5.6	97.1	22.6	75	11.5	4.9	1/4	3.5		
		20	109.3	12.7	79	4.0	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			3.5	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				3.5
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-560	3325	10	171.4	39.5	91	10.1	4.3	154.1	35.6	86	8.5	3.8	136.3	31.6	81	7.1	3.4	-	-	-	-	-	1/4	4.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			4.0	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				4.0
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-600	4460	10	218.1	50.4	88	15.4	5.4	196.1	45.4	84	13.0	4.9	173.7	40.3	80	10.8	4.4	150.6	35.0	75	8.6	3.8	1/3	4.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			4.0	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				4.0
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
UHHL-640	5200	10	245.8	56.7	87	18.9	6.1	221.6	51.3	83	16.1	5.5	196.3	45.4	79	13.3	4.9	170.5	39.6	74	10.7	4.3	1/2	6.4		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			6.4	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				6.4
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

6.3.1.3 PERFORMANCE—ULWW APPLICATION

30% Propylene Glycol Performance Data @ 45°F Ambient Air																												
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details					
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V				
UHHL-160	300	10	14.1	2.8	87	11.9	4.9	12.6	2.5	82	10.1	4.4	11.2	2.3	78	8.4	3.9	9.7	2.0	74	6.7	3.4	1/20	1.1				
		20	11.1	1.1	78	2.4	1.9	9.4	0.9	73	1.8	1.6	-	-	-	-	-	-	-	-	-	-			-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-200	540	10	24.3	4.9	85	8.9	4.2	21.9	4.4	81	7.6	3.8	19.3	3.9	77	6.3	3.4	16.7	3.4	73	5.1	2.9	1/20	1.1				
		20	19.1	1.9	76	1.8	1.7	15.8	1.6	71	1.3	1.4	-	-	-	-	-	-	-	-	-	-			-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-220	560	10	30.0	6.0	93	6.2	3.5	27.0	5.5	88	5.3	3.1	23.9	4.9	83	4.4	2.8	20.7	4.2	78	3.5	2.4	1/20	1.1				
		20	23.8	2.4	83	1.3	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
UHHL-240	700	10	36.2	7.3	91	8.5	4.2	32.5	6.6	86	7.3	3.8	28.8	5.8	82	6.1	3.4	25.1	5.1	77	4.9	2.9	1/20	1.1				
		20	28.9	2.9	82	1.8	1.7	23.9	2.4	75	1.3	1.4	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-260	840	10	41.9	8.4	89	11.0	4.8	37.8	7.6	85	9.4	4.4	33.5	6.8	80	7.8	3.9	29.1	5.9	76	6.4	3.4	1/20	1.1				
		20	33.8	3.4	81	2.3	2.0	28.2	2.9	75	1.7	1.7	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-280	940	10	45.8	9.2	88	12.8	5.3	41.3	8.3	84	11.0	4.8	36.6	7.4	80	9.2	4.3	31.8	6.4	75	7.4	3.7	1/20	1.1				
		20	37.0	3.7	80	2.7	2.2	31.1	3.2	74	2.1	1.8	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-320	1050	10	55.6	11.2	92	5.8	3.9	49.9	10.1	87	4.9	3.5	44.1	8.9	82	4.1	3.1	38.0	7.7	77	3.2	2.7	1/20	1.1				
		20	42.4	4.3	81	1.1	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-360	1375	10	69.3	13.9	90	8.5	4.8	62.4	12.6	85	7.3	4.4	55.2	11.2	81	6.0	3.9	47.7	9.7	76	4.8	3.4	1/8	2.0				
		20	54.1	5.5	80	1.7	1.9	43.6	4.4	73	1.2	1.5	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-400	1680	10	81.1	16.3	88	11.1	5.6	73.1	14.7	84	9.5	5.1	64.8	13.1	79	8.0	4.5	56.1	11.4	75	6.4	3.9	1/6	2.0				
		20	64.0	6.5	79	2.3	2.2	52.7	5.3	73	1.7	1.8	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-440	2050	10	96.7	19.5	87	10.8	4.8	87.2	17.6	83	9.2	4.4	77.4	15.7	79	7.7	3.9	67.3	13.7	74	6.2	3.4	1/6	2.0				
		20	78.2	7.9	79	2.3	2.0	65.2	6.6	73	1.7	1.6	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-480	2600	10	115.5	23.2	84	14.6	5.7	104.3	21.0	81	12.5	5.2	92.8	18.8	77	10.6	4.7	80.8	16.4	73	8.5	4.1	1/4	3.5				
		20	94.4	9.5	77	3.1	2.4	79.8	8.1	72	2.4	2.0	61.6	6.3	66	1.6	1.5	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-520	2900	10	142.2	28.6	89	14.8	6.2	128.4	25.9	84	12.7	5.6	114.5	23.2	80	10.8	5.0	99.5	20.3	75	8.7	4.4	1/4	3.5				
		20	115.6	11.7	80	3.2	2.5	96.9	9.8	75	2.4	2.1	71.5	7.3	67	1.5	1.6	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-560	3325	10	173.5	34.8	91	7.3	3.8	156.3	31.5	87	6.2	3.4	138.7	28.0	82	5.2	3.0	120.7	24.6	77	4.2	2.7	1/4	4.0				
		20	137.5	13.9	82	1.5	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-600	4460	10	220.1	44.2	89	11.0	4.8	198.8	40.1	85	9.5	4.3	176.6	35.7	80	7.9	3.9	154.0	31.2	76	6.4	3.4	1/3	4.0				
		20	179.9	18.2	81	2.4	2.0	148.0	15.0	74	1.7	1.6	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
UHHL-640	5200	10	247.9	49.7	87	13.6	5.4	224.3	45.1	83	11.7	4.9	199.5	40.3	79	9.8	4.4	174.1	35.3	75	7.9	3.8	1/2	6.4				
		20	204.5	20.6	80	3.0	2.2	171.6	17.4	74	2.3	1.9	-	-	-	-	-	-	-	-	-	-			-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



SIGMA UHHL

50% Propylene Glycol
90 - 105 °F EWT
45 °F Entering Air

6.3.1.4 PERFORMANCE—ULWW APPLICATION

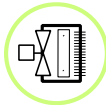
50% Propylene Glycol Performance Data @ 45°F Ambient Air																										
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details			
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V		
UHHL-160	300	10	13.1	2.8	84	14.1	4.9	11.5	2.5	79	11.6	4.3	9.8	2.1	74	9.1	3.7	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-200	540	10	22.6	4.9	82	10.6	4.2	19.9	4.3	78	8.7	3.7	16.9	3.7	73	6.8	3.2	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-220	560	10	28.0	6.0	89	7.4	3.5	24.5	5.3	84	6.0	3.0	-	-	-	-	-	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-240	700	10	33.8	7.2	88	10.2	4.2	29.7	6.4	83	8.4	3.7	25.2	5.5	77	6.6	3.2	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-260	840	10	39.4	8.4	87	13.3	4.9	34.6	7.4	82	10.9	4.3	29.6	6.4	76	8.6	3.7	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-280	940	10	43.1	9.2	86	15.6	5.3	38.0	8.2	81	12.8	4.7	32.5	7.0	76	10.1	4.0	26.5	5.8	70	7.4	3.3	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-320	1050	10	51.3	11.0	88	6.8	3.8	44.5	9.6	83	5.5	3.3	36.5	7.9	76	4.0	2.7	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-360	1375	10	64.4	13.8	87	10.0	4.8	56.3	12.2	81	8.2	4.2	47.3	10.2	76	6.3	3.5	-	-	-	-	-	1/8	2.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-400	1680	10	75.9	16.3	85	13.3	5.6	66.4	14.3	80	10.9	4.9	56.4	12.2	75	8.5	4.2	44.2	9.6	68	5.8	3.3	1/6	2.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-440	2050	10	91.3	19.6	85	13.1	4.9	80.4	17.4	80	10.8	4.3	68.7	14.9	75	8.5	3.7	-	-	-	-	-	1/6	2.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-480	2600	10	109.6	23.5	82	17.9	5.8	96.8	20.8	78	14.8	5.1	83.5	18.1	74	11.9	4.5	68.2	14.8	68	8.7	3.7	1/4	3.5		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-520	2900	10	134.6	28.8	86	18.1	6.2	118.6	25.5	81	15.0	5.5	101.7	22.0	76	11.9	4.8	82.1	17.8	70	8.5	3.9	1/4	3.5		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-560	3325	10	162.9	34.9	89	8.8	3.8	142.4	30.6	83	7.2	3.3	116.8	25.2	76	5.2	2.7	-	-	-	-	-	1/4	4.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-600	4460	10	208.5	44.7	87	13.5	4.8	184.0	39.6	82	11.2	4.3	156.6	33.7	76	8.7	3.6	-	-	-	-	-	1/3	4.0		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-640	5200	10	236.1	50.6	85	16.8	5.5	208.8	44.9	81	14.0	4.9	179.3	38.7	76	11.1	4.2	142.4	30.8	69	7.6	3.3	1/2	6.4		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

6.3.2.0 PERFORMANCE—ULWW APPLICATION

Water Performance Data @ 60°F Ambient Air																									
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details		
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V	
UHHL-160	300	10	10.2	2.1	91	5.4	3.6	8.9	1.8	87	4.3	3.1	7.6	1.5	83	3.3	2.6	6.2	1.3	79	2.4	2.2	1/20	1.1	
		20	8.4	0.8	86	1.2	1.5	6.9	0.7	81	0.8	1.2	5.3	0.5	76	0.5	0.9	3.6	0.4	71	0.3	0.6			
		30	5.7	0.4	77	0.3	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-200	540	10	17.6	3.6	90	4.1	3.1	15.3	3.1	86	3.2	2.7	13.1	2.6	82	2.5	2.3	10.7	2.2	78	1.8	1.9	1/20	1.1	
		20	14.5	1.5	85	0.9	1.3	11.9	1.2	80	0.6	1.0	9.1	0.9	76	0.4	0.8	-	-	-	-	-			
		30	9.6	0.6	76	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-220	560	10	21.8	4.4	96	2.8	2.5	19.1	3.9	91	2.3	2.2	16.3	3.3	87	1.7	1.9	13.4	2.7	82	1.3	1.6	1/20	1.1	
		20	18.4	1.9	90	0.6	1.1	15.1	1.5	85	0.5	0.9	11.6	1.2	79	0.3	0.7	-	-	-	-	-			
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-240	700	10	26.2	5.3	95	3.9	3.1	22.9	4.6	90	3.1	2.7	19.6	4.0	86	2.4	2.3	16.1	3.3	81	1.7	1.9	1/20	1.1	
		20	22.0	2.2	89	0.9	1.3	18.2	1.8	84	0.6	1.1	14.1	1.4	79	0.4	0.8	-	-	-	-	-			
		30	14.8	1.0	79	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-260	840	10	30.3	6.1	93	5.0	3.5	26.5	5.4	89	4.0	3.1	22.6	4.6	85	3.1	2.6	18.7	3.8	80	2.2	2.2	1/20	1.1	
		20	25.5	2.6	88	1.1	1.5	21.0	2.1	83	0.8	1.2	16.3	1.6	78	0.5	0.9	10.8	1.1	72	0.3	0.6			
		30	17.3	1.2	79	0.3	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-280	940	10	33.1	6.7	92	5.8	3.8	28.9	5.8	88	4.7	3.4	24.6	5.0	84	3.6	2.9	20.3	4.1	80	2.6	2.4	1/20	1.1	
		20	27.8	2.8	87	1.3	1.6	22.9	2.3	83	0.9	1.3	17.8	1.8	77	0.6	1.0	11.9	1.2	72	0.3	0.7			
		30	19.0	1.3	79	0.3	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-320	1050	10	40.5	8.2	96	2.7	2.8	35.3	7.1	91	2.1	2.5	30.1	6.1	86	1.6	2.1	24.7	5.0	82	1.2	1.7	1/20	1.1	
		20	33.6	3.4	90	0.6	1.2	27.4	2.8	84	0.4	1.0	20.6	2.1	78	0.3	0.7	-	-	-	-	-			
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-360	1375	10	50.3	10.2	94	3.9	3.5	43.9	8.9	89	3.1	3.1	37.4	7.6	85	2.4	2.6	30.8	6.2	81	1.7	2.2	1/8	2.0	
		20	41.8	4.2	88	0.8	1.5	34.2	3.5	83	0.6	1.2	26.0	2.6	77	0.4	0.9	-	-	-	-	-			
		30	26.1	1.8	77	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-400	1680	10	58.9	11.9	92	5.1	4.1	51.3	10.4	88	4.1	3.6	43.7	8.8	84	3.1	3.1	36.0	7.3	80	2.2	2.5	1/6	2.0	
		20	48.9	4.9	87	1.1	1.7	40.1	4.0	82	0.8	1.4	30.6	3.1	77	0.5	1.1	19.0	1.9	70	0.2	0.7			
		30	31.4	2.1	77	0.3	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-440	2050	10	69.8	14.1	91	4.8	3.5	60.9	12.3	87	3.9	3.0	52.0	10.5	83	3.0	2.6	42.9	8.7	79	2.1	2.1	1/6	2.0	
		20	58.6	5.9	86	1.1	1.5	48.4	4.9	82	0.8	1.2	37.6	3.8	77	0.5	0.9	24.3	2.5	71	0.2	0.6			
		30	39.7	2.7	78	0.3	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-480	2600	10	83.4	16.9	90	6.6	4.2	72.7	14.7	86	5.3	3.6	62.0	12.5	82	4.0	3.1	51.1	10.3	78	2.9	2.5	1/4	3.5	
		20	70.0	7.1	85	1.5	1.7	57.9	5.8	81	1.1	1.4	45.1	4.5	76	0.7	1.1	30.3	3.1	71	0.4	0.8			
		30	48.4	3.3	77	0.4	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-520	2900	10	103.1	20.9	93	6.8	4.5	89.9	18.2	89	5.4	3.9	76.6	15.5	84	4.1	3.3	63.3	12.8	80	3.0	2.8	1/4	3.5	
		20	86.9	8.8	88	1.5	1.9	71.8	7.3	83	1.1	1.6	55.6	5.6	78	0.7	1.2	36.2	3.6	72	0.3	0.8			
		30	58.7	3.9	79	0.4	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-560	3325	10	125.3	25.3	95	3.3	2.7	109.7	22.2	90	2.7	2.4	93.9	19.0	86	2.0	2.1	77.5	15.6	82	1.5	1.7	1/4	4.0	
		20	106.6	10.8	90	0.7	1.2	88.1	8.9	84	0.5	1.0	67.0	6.8	79	0.3	0.7	-	-	-	-	-			
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-600	4460	10	158.5	32.0	93	5.0	3.5	138.5	28.0	89	4.0	3.0	118.5	23.9	85	3.1	2.6	98.2	19.8	80	2.2	2.1	1/3	4.0	
		20	134.9	13.6	88	1.1	1.5	111.9	11.3	83	0.8	1.2	87.0	8.8	78	0.5	0.9	-	-	-	-	-			
		30	90.0	6.1	79	0.3	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
UHHL-640	5200	10	178.6	36.1	92	6.1	3.9	155.9	31.4	88	4.9	3.4	133.2	26.8	84	3.7	2.9	110.5	22.3	80	2.7	2.4	1/2	6.4	
		20	151.9	15.3	87	1.4	1.7	126.2	12.7	82	1.0	1.4	98.5	9.9	77	0.7	1.1	63.6	6.4	71	0.3	0.7			
		30	104.6	7.0	79	0.4	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



SIGMA UHHL

30% Ethylene Glycol
90 - 105 °F EWT
60 °F Entering Air

6.3.2.1 PERFORMANCE—ULWW APPLICATION

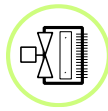
30% Ethylene Glycol Performance Data @ 60°F Ambient Air																																			
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details												
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V											
UHHL-160	300	10	9.9	2.1	90	6.9	3.7	8.5	1.8	86	5.4	3.2	7.1	1.5	82	4.0	2.7	5.6	1.2	77	2.7	2.1	1/20	1.1											
		20	7.3	0.8	82	1.2	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-									
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-								
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-								
UHHL-200	540	10	17.1	3.7	89	5.2	3.2	14.7	3.2	85	4.1	2.8	12.3	2.7	81	3.0	2.3	9.8	2.1	77	2.1	1.8	1/20	1.1											
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-								
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-							
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-							
UHHL-220	560	10	21.2	4.6	95	3.6	2.6	18.3	4.0	90	2.8	2.3	15.3	3.3	85	2.1	1.9	12.2	2.7	80	1.5	1.5	1/20	1.1											
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-							
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-						
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-						
UHHL-240	700	10	25.5	5.5	94	5.0	3.2	22.0	4.8	89	3.9	2.8	18.4	4.0	84	2.9	2.3	14.8	3.2	79	2.0	1.8	1/20	1.1											
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-						
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-					
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-					
UHHL-260	840	10	29.5	6.4	92	6.4	3.7	25.5	5.5	88	5.1	3.2	21.4	4.6	83	3.8	2.7	17.1	3.7	79	2.6	2.1	1/20	1.1											
		20	22.2	2.4	84	1.2	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-					
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-					
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-					
UHHL-280	940	10	32.2	6.9	92	7.4	4.0	27.9	6.0	87	5.9	3.5	23.4	5.1	83	4.4	2.9	18.7	4.1	78	3.1	2.3	1/20	1.1											
		20	24.3	2.6	84	1.4	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-					
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-				
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-				
UHHL-320	1050	10	39.1	8.5	94	3.4	2.9	33.7	7.3	90	2.6	2.5	28.1	6.1	85	2.0	2.1	22.2	4.8	79	1.3	1.7	1/20	1.1											
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-				
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-				
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-				
UHHL-360	1375	10	48.8	10.6	93	4.9	3.7	42.1	9.1	88	3.9	3.2	35.1	7.6	84	2.9	2.6	27.8	6.0	79	2.0	2.1	1/8	2.0											
		20	35.1	3.8	84	0.8	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-				
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-			
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-			
UHHL-400	1680	10	57.0	12.3	91	6.5	4.3	49.3	10.7	87	5.1	3.7	41.2	8.9	83	3.8	3.1	32.7	7.1	78	2.6	2.5	1/6	2.0											
		20	41.6	4.5	83	1.1	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-			
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-		
UHHL-440	2050	10	68.0	14.7	91	6.2	3.6	58.9	12.8	86	4.9	3.2	49.4	10.7	82	3.7	2.7	39.6	8.6	78	2.6	2.1	1/6	2.0											
		20	51.3	5.6	83	1.2	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-		
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-		
UHHL-480	2600	10	81.2	17.6	89	8.5	4.3	70.4	15.3	85	6.7	3.8	59.2	12.8	81	5.1	3.2	47.6	10.3	77	3.5	2.6	1/4	3.5											
		20	62.0	6.7	82	1.6	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	
UHHL-520	2900	10	100.1	21.7	92	8.7	4.7	86.8	18.8	88	6.9	4.1	73.1	15.9	83	5.2	3.4	58.6	12.7	79	3.6	2.8	1/4	3.5											
		20	75.7	8.2	84	1.6	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-		
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	
UHHL-560	3325	10	122.3	26.4	94	4.2	2.9	105.9	23.0	89	3.4	2.5	89.0	19.3	85	2.5	2.1	71.2	15.5	80	1.8	1.7	1/4	4.0											
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	
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UHHL-600	4460	10	155.0	33.4	92	6.4	3.6	134.5	29.0	88	5.1	3.1	113.2	24.6	83	3.9	2.7	91.2	19.8	79	2.7	2.1	1/3	4.0											
		20	118.2	12.8	84	1.2	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	
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UHHL-640	5200	10	174.5	37.6	91	7.9	4.1	151.7	32.7	87	6.3	3.5	127.7	27.6	83	4.7	3.0	103.1	22.4	78	3.3	2.4	1/2	6.4											
		20	134.7	14.6	84	1.5	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	
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Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

6.3.2.2 PERFORMANCE—ULWW APPLICATION

50% Ethylene Glycol Performance Data @ 60°F Ambient Air																								
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details	
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V
UHHL-160	300	10	9.3	2.2	89	8.2	3.7	7.9	1.8	84	6.2	3.1	-	-	-	-	-	-	-	-	-	1/20	1.1	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-200	540	10	16.1	3.7	88	6.2	3.2	13.6	3.2	83	4.7	2.7	-	-	-	-	-	-	-	-	-	1/20	1.1	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-220	560	10	20.0	4.6	93	4.3	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/20	1.1	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-240	700	10	24.2	5.6	92	6.0	3.2	20.5	4.8	87	4.6	2.7	-	-	-	-	-	-	-	-	-	1/20	1.1	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-260	840	10	28.1	6.5	91	7.7	3.7	23.8	5.5	86	5.9	3.2	-	-	-	-	-	-	-	-	-	1/20	1.1	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
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		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-280	940	10	30.7	7.1	90	9.0	4.1	26.1	6.1	86	7.0	3.5	21.2	4.9	81	5.0	2.8	-	-	-	-	1/20	1.1	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-320	1050	10	36.8	8.5	92	4.0	2.9	30.8	7.2	87	3.0	2.5	-	-	-	-	-	-	-	-	-	1/20	1.1	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-360	1375	10	46.1	10.7	91	5.9	3.7	38.8	9.0	86	4.5	3.1	-	-	-	-	-	-	-	-	-	1/8	2.0	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-400	1680	10	54.2	12.5	90	7.8	4.3	45.7	10.6	85	5.9	3.7	36.7	8.5	80	4.1	2.9	-	-	-	-	1/6	2.0	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
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		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-440	2050	10	65.0	15.1	89	7.6	3.7	55.2	12.8	85	5.8	3.2	-	-	-	-	-	-	-	-	-	1/6	2.0	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
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		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-480	2600	10	78.1	18.1	88	10.4	4.5	66.3	15.4	84	8.0	3.8	54.2	12.6	79	5.8	3.1	-	-	-	-	1/4	3.5	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
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		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-520	2900	10	96.1	22.3	91	10.6	4.8	81.5	18.9	86	8.1	4.1	66.1	15.4	81	5.8	3.3	-	-	-	-	1/4	3.5	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
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UHHL-560	3325	10	116.6	26.9	92	5.1	2.9	98.7	22.9	87	3.9	2.5	-	-	-	-	-	-	-	-	-	1/4	4.0	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
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		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-600	4460	10	148.6	34.3	91	7.8	3.7	126.4	29.2	86	6.0	3.2	-	-	-	-	-	-	-	-	-	1/3	4.0	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
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		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
UHHL-640	5200	10	168.1	38.8	90	9.7	4.2	143.1	33.1	85	7.5	3.6	116.8	27.0	81	5.4	2.9	-	-	-	-	1/2	6.4	
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Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



SIGMA UHHL

30% Propylene Glycol
90 - 105 °F EWT
60 °F Entering Air

6.3.2.3 PERFORMANCE—ULWW APPLICATION

30% Propylene Glycol Performance Data @ 60°F Ambient Air																																				
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details													
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V												
UHHL-160	300	10	9.6	1.9	89	6.1	3.3	8.1	1.6	85	4.7	2.8	6.7	1.4	80	3.4	2.3	5.1	1.0	76	2.2	1.8	1/20	1.1												
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UHHL-200	540	10	16.5	3.3	88	4.6	2.9	14.1	2.8	84	3.5	2.5	11.5	2.3	80	2.5	2.0	8.7	1.8	75	1.6	1.5	1/20	1.1												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-									
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		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-								
UHHL-220	560	10	20.5	4.1	94	3.2	2.4	17.5	3.5	89	2.5	2.0	14.3	2.9	84	1.8	1.7	-	-	-	-	-	1/20	1.1												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-								
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UHHL-240	700	10	24.7	5.0	93	4.4	2.9	21.1	4.3	88	3.4	2.5	17.3	3.5	83	2.5	2.0	13.1	2.7	77	1.6	1.5	1/20	1.1												
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UHHL-260	840	10	28.7	5.8	92	5.7	3.3	24.5	5.0	87	4.5	2.9	20.1	4.1	82	3.3	2.4	15.4	3.1	77	2.1	1.8	1/20	1.1												
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UHHL-280	940	10	31.4	6.3	91	6.6	3.6	26.8	5.4	86	5.2	3.1	22.1	4.5	82	3.8	2.6	17.0	3.5	77	2.5	2.0	1/20	1.1												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-					
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UHHL-320	1050	10	37.8	7.6	93	3.0	2.6	32.0	6.5	88	2.3	2.2	25.8	5.2	83	1.6	1.8	-	-	-	-	-	1/20	1.1												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-				
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UHHL-360	1375	10	47.3	9.5	92	4.4	3.3	40.2	8.1	87	3.4	2.8	32.6	6.6	82	2.4	2.3	24.1	4.9	76	1.5	1.7	1/8	2.0												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-			
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UHHL-400	1680	10	55.6	11.2	90	5.8	3.9	47.2	9.5	86	4.5	3.3	38.5	7.8	81	3.2	2.7	28.9	5.9	76	2.0	2.0	1/6	2.0												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-			
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UHHL-440	2050	10	66.4	13.4	90	5.6	3.3	56.7	11.5	86	4.3	2.8	46.6	9.5	81	3.2	2.3	35.6	7.2	76	2.0	1.8	1/6	2.0												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-		
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UHHL-480	2600	10	79.6	16.1	88	7.7	4.0	68.1	13.8	84	6.0	3.4	56.2	11.4	80	4.4	2.8	43.4	8.8	75	2.9	2.2	1/4	3.5												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-		
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UHHL-520	2900	10	98.2	19.8	91	7.8	4.3	83.8	16.9	87	6.1	3.7	68.9	14.0	82	4.4	3.0	52.8	10.7	77	2.9	2.3	1/4	3.5												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
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UHHL-560	3325	10	119.2	24.0	93	3.8	2.6	101.8	20.6	88	3.0	2.2	83.0	16.8	83	2.1	1.8	-	-	-	-	-	1/4	4.0												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-
UHHL-600	4460	10	151.5	30.4	91	5.7	3.3	129.8	26.1	87	4.5	2.8	107.0	21.7	82	3.3	2.3	80.9	16.5	77	2.1	1.8	1/3	4.0												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-
UHHL-640	5200	10	171.1	34.3	90	7.1	3.7	146.7	29.6	86	5.6	3.2	121.4	24.6	82	4.1	2.7	93.3	19.0	77	2.7	2.1	1/2	6.4												
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.

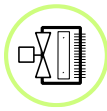
50% Propylene Glycol
90 - 105 °F EWT
60 °F Entering Air



6.3.2.4 PERFORMANCE—ULWW APPLICATION

50% Propylene Glycol Performance Data @ 60°F Ambient Air																										
Model	CFM	WTD (°F)	105°F EWT					100°F EWT					95°F EWT					90°F EWT					Motor Details			
			CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	CAP (MBH)	WFLW (GPM)	LAT (°F)	WPD (Fr)	WVEL (ft/s)	Total HP	FLA @120V		
UHHL-160	300	10	8.4	1.8	86	6.6	3.1	6.8	1.5	81	4.7	2.5	-	-	-	-	-	-	-	-	-	-	1/20	1.1		
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
UHHL-200	540	10	14.5	3.1	85	4.9	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/20	1.1			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-220	560	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/20	1.1			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-240	700	10	21.8	4.7	89	4.8	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/20	1.1			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-260	840	10	25.5	5.5	88	6.3	3.2	20.2	4.4	82	4.3	2.5	-	-	-	-	-	-	-	-	-	1/20	1.1			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-280	940	10	28.1	6.1	88	7.4	3.5	22.4	4.8	82	5.2	2.8	-	-	-	-	-	-	-	-	-	1/20	1.1			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-320	1050	10	31.7	6.8	88	2.9	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/20	1.1			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-360	1375	10	40.9	8.8	87	4.6	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/8	2.0			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-400	1680	10	48.6	10.5	87	6.2	3.6	37.5	8.1	81	4.1	2.8	-	-	-	-	-	-	-	-	-	1/6	2.0			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-440	2050	10	59.3	12.8	87	6.2	3.2	46.3	10.0	81	4.1	2.5	-	-	-	-	-	-	-	-	-	1/6	2.0			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-480	2600	10	71.9	15.5	85	8.6	3.8	57.8	12.5	80	6.1	3.1	-	-	-	-	-	-	-	-	-	1/4	3.5			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-520	2900	10	87.7	18.9	88	8.6	4.1	69.6	15.0	82	6.0	3.3	-	-	-	-	-	-	-	-	-	1/4	3.5			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-560	3325	10	102.3	22.0	88	3.9	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/4	4.0			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-600	4460	10	135.3	29.0	88	6.4	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/3	4.0			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
UHHL-640	5200	10	154.5	33.1	87	8.0	3.6	121.4	26.1	82	5.4	2.8	-	-	-	-	-	-	-	-	-	1/2	6.4			
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-
		40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-

Notes: Blank data blocks indicate selections outside of permitted water flow velocity range. Performance subject to change without notice.



6.4 CORRECTION FACTORS

Table 6.4.1— HOT WATER CORRECTION FACTORS FOR UNIT HEATERS

Entering Air Temperature (°F)	Entering Water Temperature (°F)										
	80	90	100	110	120	130	140	150	160	170	180
30	0.648	0.778	0.907	1.037	1.166	1.296	1.426	1.555	1.687	1.814	1.961
40	0.513	0.641	0.769	0.897	1.025	1.152	1.280	1.408	1.534	1.664	1.795
50	0.380	0.506	0.632	0.760	0.886	1.014	1.140	1.268	1.394	1.522	1.648
60	0.250	0.375	0.501	0.627	0.751	0.877	1	1.128	1.252	1.378	1.501
70	0.124	0.247	0.371	0.496	0.618	0.743	0.865	0.989	1.114	1.236	1.361
80	-	0.123	0.245	0.368	0.489	0.611	0.734	0.855	0.977	1.098	1.222
90	-	-	0.121	0.242	0.363	0.483	0.604	0.725	0.846	0.967	1.088
100	-	-	-	0.121	0.240	0.361	0.478	0.601	0.716	0.841	0.956

Table 6.4.2— GLYCOL CORRECTION FACTORS

	Ethylene Glycol	Propylene Glycol
20% Solution	0.95	0.98
30% Solution	0.91	0.96
40% Solution	0.88	0.93
50% Solution	0.84	0.9

Table 6.4.3— ALTITUDE CORRECTION FACTORS

Altitude Factors	
Approximate factors at varying altitudes	
Altitude (ft.)	Factor
Sea Level - 1000	1.000
1000 - 3000	0.958
3000 - 5000	0.929
5000 - 7000	0.900
7000 - 10000	0.871

7. UNIT SPECIFICATIONS

HORIZONTAL UNIT HEATER SPECIFICATIONS

Furnish and install Sigma UHHL horizontal unit heaters per models and sizes as shown on plans and schedules and as described in specifications.

CABINETS

Cabinets shall be constructed from heavy-duty cold-rolled corrosion-resistant steel finished in grey baked enamel. Fronts shall have integral double-folded discharge frame for additional cabinet rigidity. Back panels shall have integral inlet collars for superior stiffness. Suspension tappings shall be securely fastened to top panel. Units to comply with AMCA type C construction.

FANS

Fans shall be designed and selected for high efficiency. Fans shall be statically and dynamically balanced for quiet, low vibration operation. Fan blades are aluminum for corrosion resistance.

COILS

Coils to be minimum 3 rows deep. Coils shall be constructed from heavy-wall 1/2" outside diameter copper tube with mechanically bonded aluminum fins. Coils shall be pressure tested at 450 psig and rated at no less than 600 psig design working pressure.

MOTORS

Motors shall have permanently lubricated ball bearings with minimum average life of 100,000 hours. Motors shall be of totally-enclosed construction as TEAO, TENV or TEFC. TEAO motors shall be resiliently mounted. Single-phase motors operating at 250Volts or less shall have built-in automatic thermal overloads.

