

## Accuchiller KSE Packaged Outdoor Chiller



120-ton and 40-ton Outdoor Chiller

### Standard Features

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#### Direct Drive Scroll Compressors

Direct drive hermetically sealed scroll compressors with proven performance in industrial cooling for reliable, low maintenance, and efficient operation.

#### Built-In Redundancy

All chillers include dual refrigeration circuits with multiple compressors. The 80 through 120 ton units also incorporate independent process fluid circuits as well. Automatic compressor lead/lag sequencing is standard. PLC control integrates up to 12 circuits across multiple chillers.

#### Stainless Steel Evaporators

High-efficiency stainless steel plates with copper brazing provide maximum performance, long life, and an enhanced level of protection from harsh process conditions.

#### Stainless Steel Pump

Stainless steel pumps were selected for peak performance with the utmost in corrosion protection to ensure a long useful life under severe industrial conditions. Each pump uses TEFC motors for maximum protection from the environment.

#### Evaporator Inlet Strainer

The evaporator inlet strainer removes debris present in the process fluid to prevent costly downtime and repair due to a clogged chiller evaporator.

#### Industry Best Ambient Temperature Range

Outdoor air-cooled chillers operate in -20°F up to 125°F ambient temperatures allowing installations in many climates.

#### Flexible Set Point Range

Wide set point range from 20°F to 80°F. Powerful and innovative PLC control maintains stable +/- 2°F accuracy.

#### Heavy Gauge Security and Hail Guard Grates

Industrial grade security screens protect exposed components while still allowing access for easy operation and maintenance while also protecting against hail.

#### Compressor Protection Technology

Our compressor protection technology uses start-to-start anti-recycle control logic to limit cycling under low-load operating conditions to extend compressor life.

#### Compressor and Pump Run Hour Displays

The ability to monitor compressor and pump running hours is an important tool to assist with scheduling maintenance.

#### Micro-Channel, Aluminum Condensers

Energy efficient, compact design uses less refrigerant and withstands high pressure spray for easy cleaning.

#### Power Monitor

The main power monitoring system protects the chiller from extensive damage to the compressor and pump due to loss of phase or phase reversal in the main supply.

#### Variable Speed Fan Motors

EC fan motors ensure energy efficient operation and lowest possible noise levels. Coupled with electronic expansion valves, Thermal Care's **Dynamic Lift** technology uses the fans to maximize energy efficiency for all ambient conditions.

#### Temperature Deviation Warnings and Alarms

A warning alerts the operator of a potential problem before a fault occurs and if the condition gets worse, an alarm stops the chiller to prevent damage.

#### Adjustable Deviation Alarm Time Delays

Allows for programming a start-up alarm time delay to deactivate the alarms long enough for the process loop to stabilize before activating the alarms.

#### High-Quality 24 VDC Power Supply

The 24-volt DC power supply ensures dependable control circuit power and isolates the control circuit from static interference to ensure stable and precise operation.

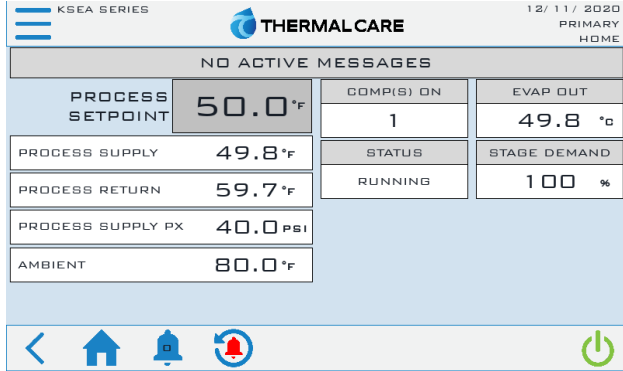
#### Warranty

1 year parts on entire unit  
1 year labor

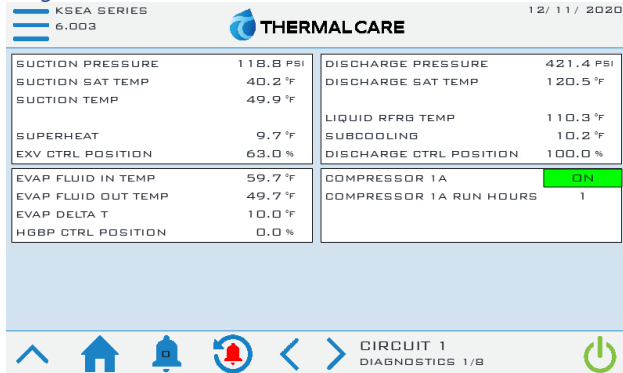
# Accuchiller KSE Packaged Outdoor Air Cooled Chiller

## 7-Inch Color Touch Screen

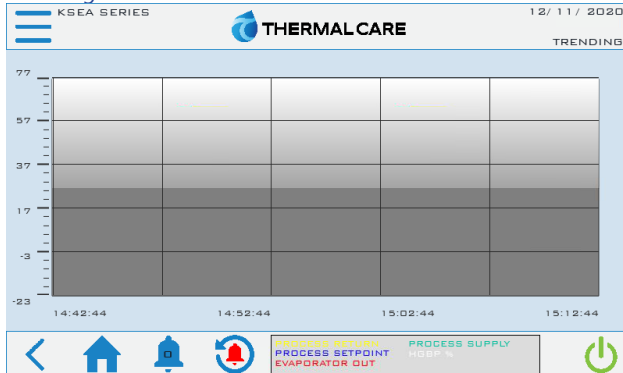
### Home Screen



### Diagnostics Screen



### Trending Data Screen



Description of Functions	Control Features
Process Fluid Supply and Return Temperatures	●
Evaporator Fluid Leaving Temperature	●
Process Fluid Supply Pressure	●
Refrigerant Suction Pressure	●
Refrigerant Suction Temperature & Superheat	●
Refrigerant Liquid Temperature & Subcooling	●
Refrigerant Discharge Pressure	●
Refrigerant Discharge Temperature	●
High Process Fluid Temperature	●
Low Process Fluid Temperature	●
Evaporator Fluid Freeze	●
Evaporator Fluid Flow Switch	●
Refrigerant High Pressure	●
Ambient Temperature Tracking	●
Phase Monitor	●
Compressor Overload	●
Condenser Fan Overload	●
Remote Setpoint (0-10 VDC)	●
Remote Start/Stop	●
Alarm Horn	●
Alarm Contact	●
CONNEX4.0 Ready	●
Modbus RTU	●
Modbus TCP/IP	●
BACnet MS/TP	○
BACnet/IP	○
LonWorks	○
OPC/UA	○

● = standard, ○ = optional

### Other Available Options

- High or low pressure pump packages
- Alarm horn
- Alarm relay
- Rotary non-fused or fused disconnect switch
- C-UL508A industrial control panel construction
- Air-cooled condenser coating for coastal regions
- Emergency stop button
- Remote HMI with operator interface
- Special color paint

# Accuchiller KSE Packaged Outdoor Air Cooled Chiller

## Air-Cooled Condenser Chillers

### General Data (60Hz)

	KSEA 040	KSEA 050	KSEA 060	KSEA 080	KSEA 100	KSEA 120
<b>General</b>						
Cooling Capacity (tons) <sup>1</sup>	40	50	60	80	100	120
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Number of Compressors	2	2	2	4	4	4
Process In/Out (in) - Standard	3	3	4	4	4	4
Process In/Out (in) – High Flow	4	4	4	4	6	6
Minimum Unloaded Capacity (ton)	20	25	30	20	25	30
with HGBP Option (ton)	10	13	15	10	13	15
<b>Dimensions, Weights (Chiller Only)</b>						
Length (in)	128	173	173	128	173	173
Width (in)	47	47	47	88	88	88
Height (in)	79	79	79	79	79	79
Ship Weight (lbs)	2,876	3,976	3,976	4,654	5,954	5,954
Operating Weight (lbs)	2,976	4,251	4,251	4,754	6,164	6,229
<b>Dimensions, Weights (Chiller with Standard Pressure Pump)</b>						
Process Pump/Chiller Pump (hp)	7½	7½	10	15	15	15
Nominal Flow Rate (gpm)	96	120	144	192	240	288
Nominal Discharge Pressure (psi)	41	39	50	54	50	45
Ship Weight (lbs)	3,009	4,109	4,176	4,858	6,158	6,223
Operating Weight (lbs)	3,109	4,384	4,451	4,958	6,368	6,498
<b>Dimensions, Weights (Chiller with Standard Pressure Pump with Dedicated Standby Pump)</b>						
Process Pump/Chiller Pump (hp)	7½	7½	10	15	15	15
Nominal Flow Rate (gpm)	96	120	144	192	240	288
Nominal Discharge Pressure (psi)	41	39	50	54	50	45
Ship Weight (lbs)	3,142	4,242	4,376	5,062	6,362	6,492
Operating Weight (lbs)	3,242	4,517	4,651	5,162	6,637	6,767
<b>Dimensions, Weights (Chiller with High Pressure Pump)</b>						
Process Pump/Chiller Pump (hp)	15	15	15	20	20	25
Nominal Flow Rate (gpm)	96	120	144	192	240	288
Nominal Discharge Pressure (psi)	86	82	80	88	83	76
Ship Weight (lbs)	3,088	4,188	4,188	4,977	6,277	6,277
Operating Weight (lbs)	3,188	4,463	4,463	5,077	6,552	6,552
<b>Dimensions, Weights (Chiller with High Pressure Pump with Dedicated Standby Pump)</b>						
Process Pump/Chiller Pump (hp)	15	15	15	20	20	25
Nominal Flow Rate (gpm)	96	120	144	192	240	288
Nominal Discharge Pressure (psi)	86	82	80	88	83	76
Ship Weight (lbs)	3,300	4,400	4,400	5,300	6,600	6,600
Operating Weight (lbs)	3,400	4,675	4,675	5,400	6,875	6,875

<sup>1</sup>Cooling tons based on 12,000 BTU/Hr/ton with 50°F leaving coolant and 95°F ambient air, R410A refrigerant.

# Accuchiller KSE Packaged Outdoor Air Cooled Chiller

## Electrical Data (60 Hz)

Model	Rated Voltage <sup>1</sup>	Chiller Only		Chiller with Standard Pressure Pump(s)		Chiller with High Pressure Pump(s)	
		MCA <sup>2</sup>	MOP <sup>3</sup>	MCA <sup>2</sup>	MOP <sup>3</sup>	MCA <sup>2</sup>	MOP <sup>3</sup>
KSEA040	208	179	250	204	250	226	250
	230	179	250	202	250	222	250
	460	77	100	89	110	99	125
	575	63	80	72	90	80	100
KSEA050	208	215	300	241	300	263	300
	230	215	300	239	300	259	300
	460	97	125	109	125	119	150
	575	87	110	97	125	105	125
KSEA060	208	270	350	302	400	317	400
	230	270	350	299	400	313	400
	460	135	175	149	200	156	200
	575	121	150	132	175	138	175
KSEA080	208	339	400	386	450	415	450
	230	339	400	382	450	408	450
	460	147	175	168	175	182	200
	575	119	125	136	150	147	150
KSEA100	208	409	450	456	500	485	500
	230	409	450	452	500	478	500
	460	184	200	206	225	219	250
	575	166	200	183	200	193	225
KSEA120	208	512	600	573	600	588	600
	230	512	600	567	600	581	600
	460	255	300	283	300	290	300
	575	228	250	251	300	256	300

<sup>1</sup> Allowable voltage range is  $\pm 10\%$  from rated voltage.

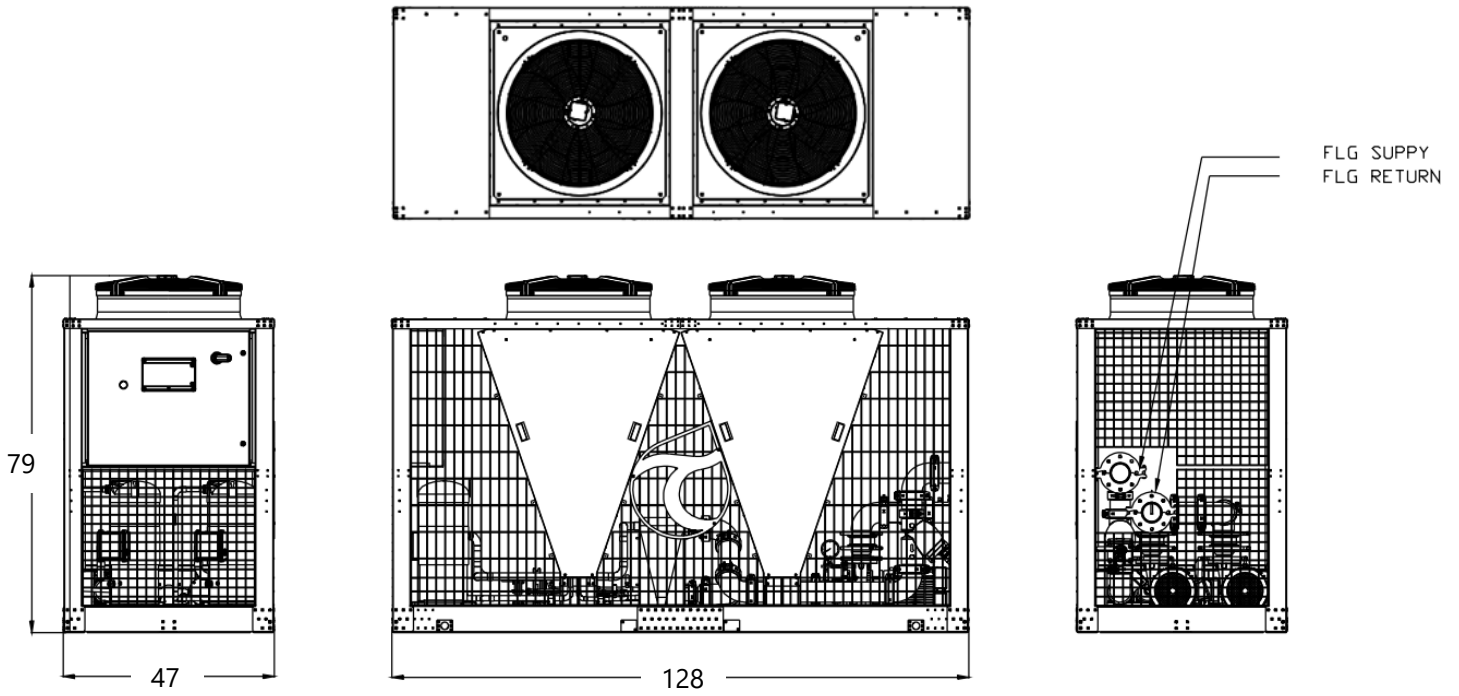
<sup>2</sup> MCA is Minimum Circuit Amps, used for minimum wire size requirement.

<sup>3</sup> MOP is Maximum Overcurrent Protection, used for sizing main power protection device.

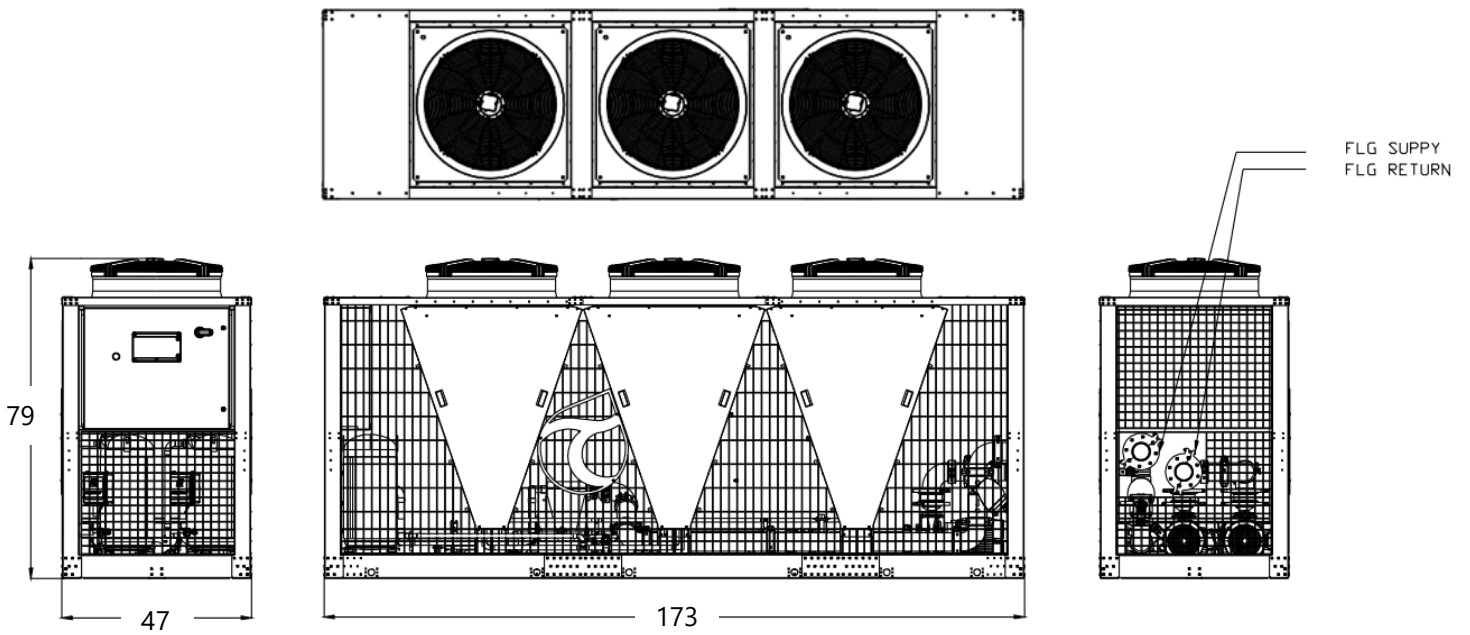
# Accuchiller KSE Packaged Outdoor Air Cooled Chiller

Dimensional drawings (dimensions in inches)

## **KSEA040**

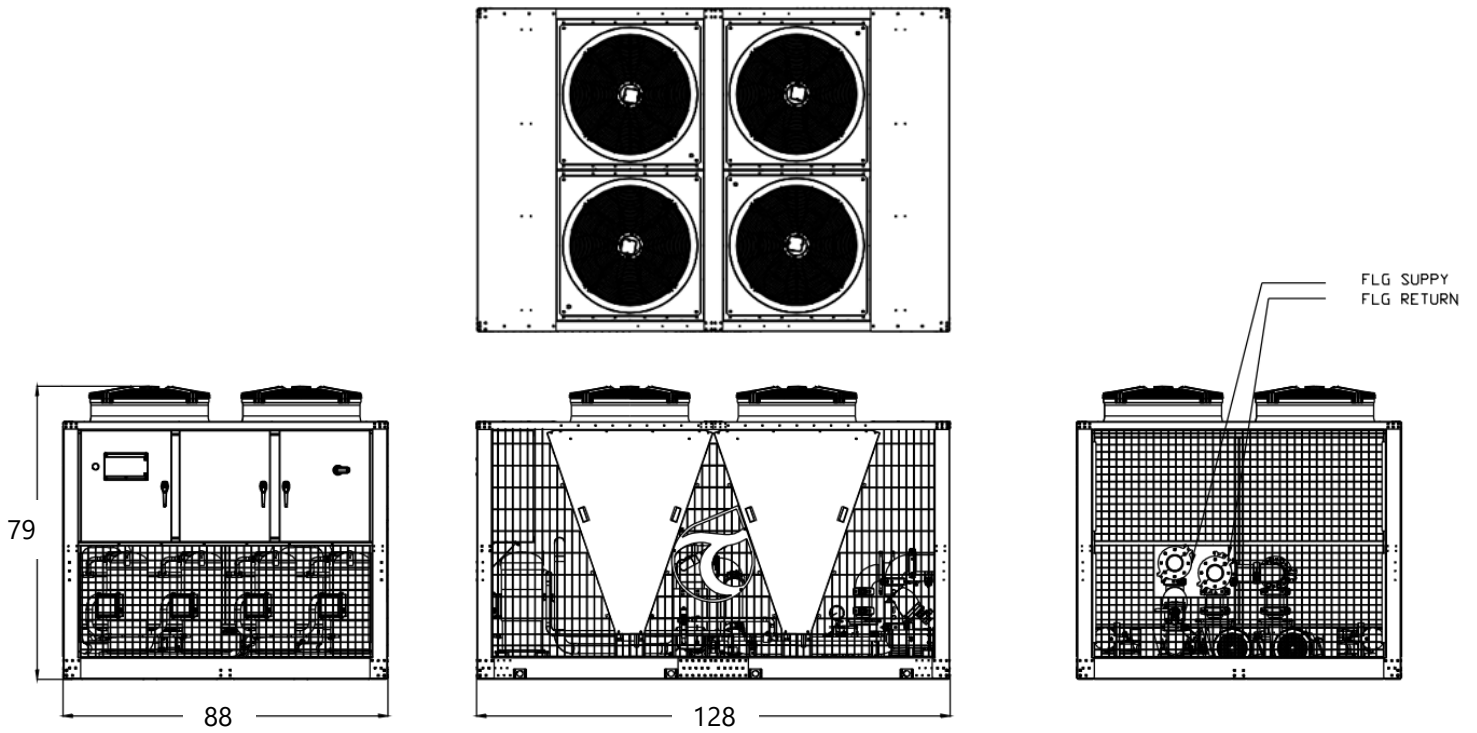


## **KSEA050 and KSEA060**

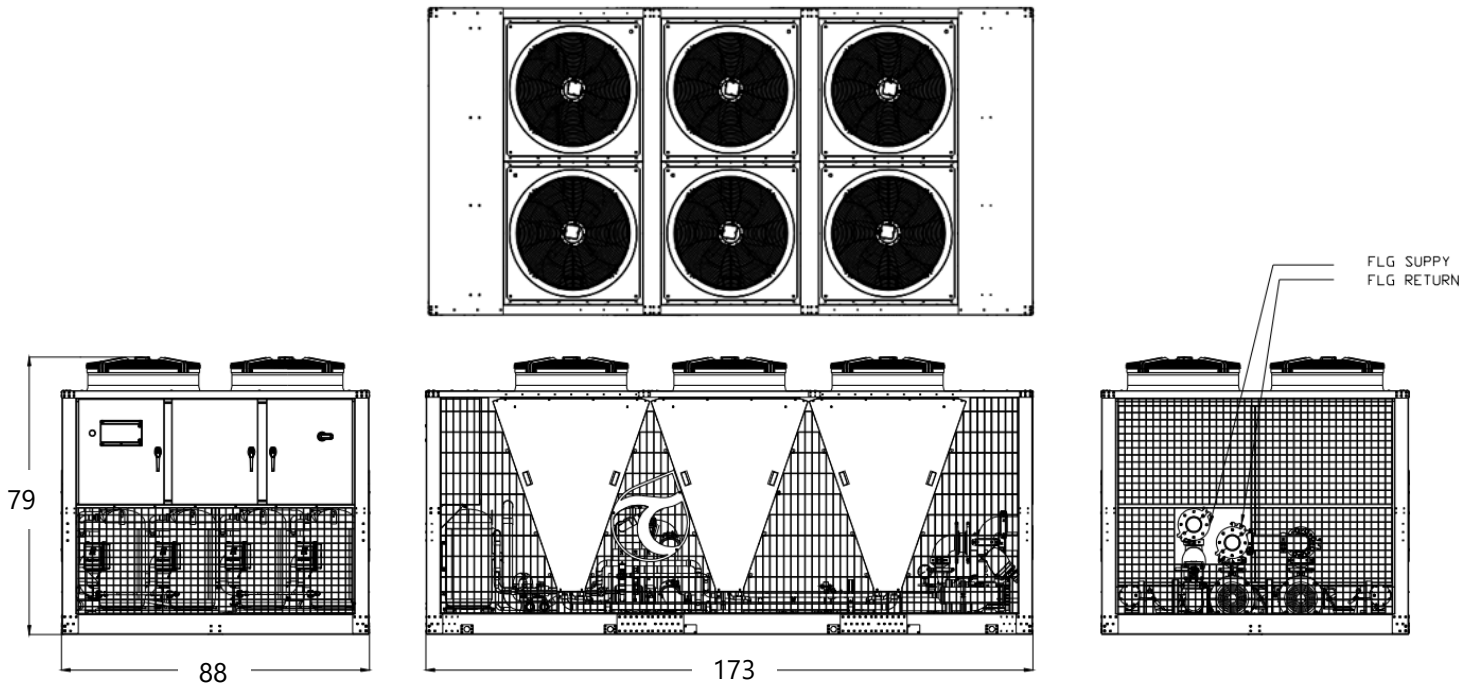


# Accuchiller KSE Packaged Outdoor Air Cooled Chiller

## KSEA080

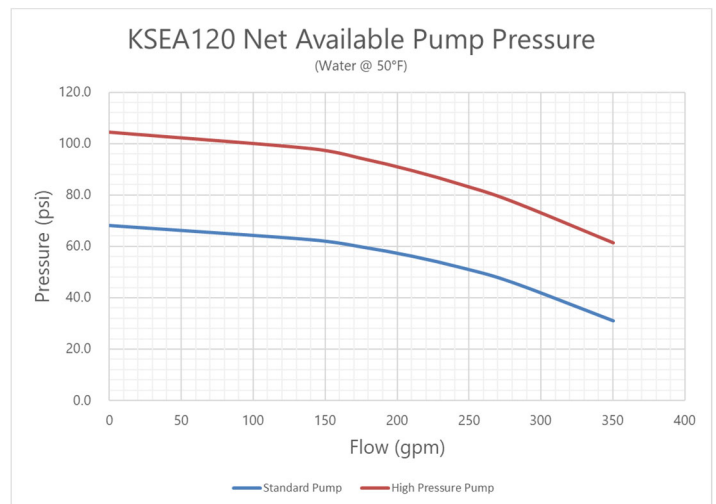
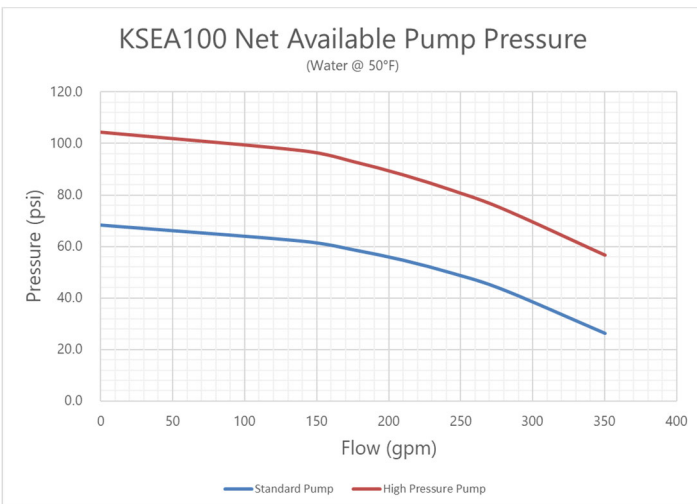
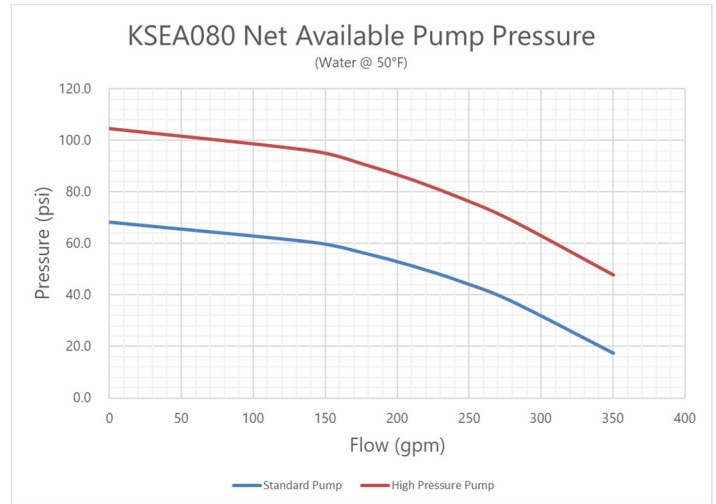
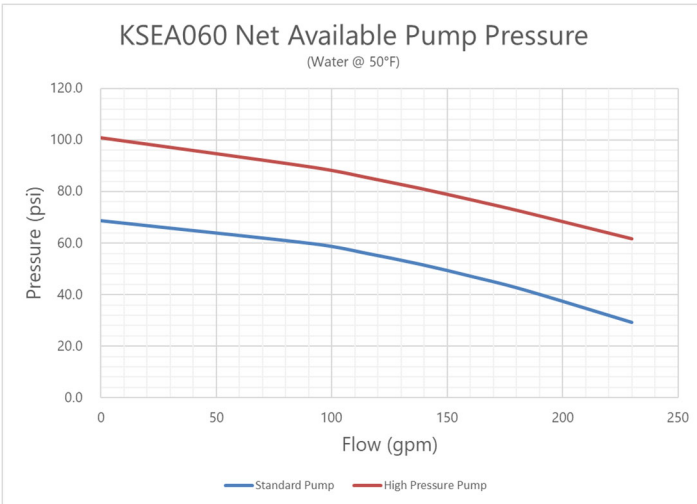
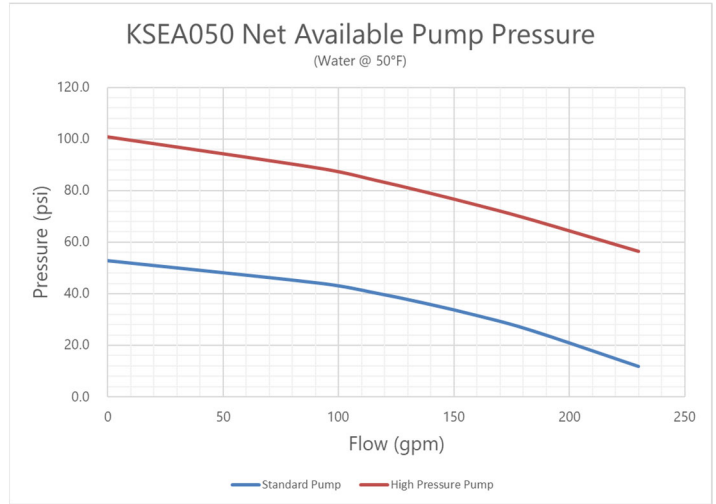
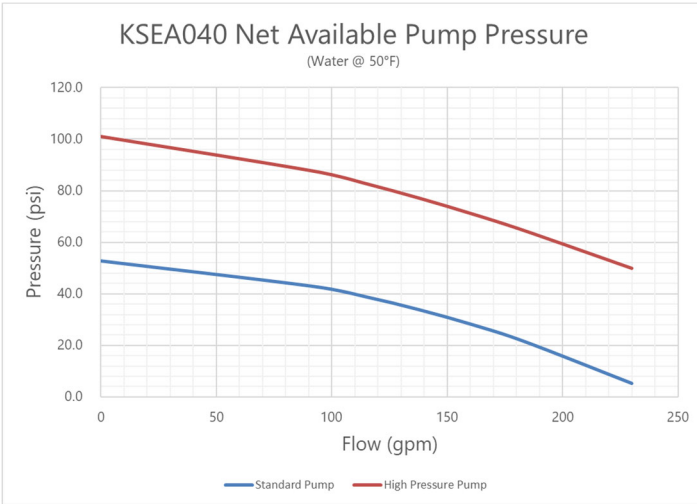


## KSEA100 and KSEA120



# Accuchiller KSE Packaged Outdoor Air Cooled Chiller

## KSE Series Chiller – Pump Curves – Chiller Specific



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**Thermal Care is ISO 9001 Certified**  
Manufacturer reserve the right to change specification  
or design without notification or obligation  
KSE Specification 01