



Accu *chiller*

Air-cooled
and water-cooled
portable chillers



LQ
AQ
SQ



LQ Series



AQ Series



SQ Series

Choose from a complete line of dependable Accuchiller portable chillers

No other manufacturer can offer you a larger selection of portable chillers than Thermal Care®. Whether you need an air-cooled, water-cooled or remote condenser model, chances are there's an economical Accuchiller model that meets your exact requirements—without costly upgrades or options.

Exclusive Compressor Protection Package

With our comprehensive Compressor Protection Package, you are assured dependable chiller performance with minimum downtime. The package includes a 2.5 minute anti-cycle timer that prevents excessive compressor cycling, a low-load thermostat to extend operating time at idle or low-load conditions, and a non-cycling low pressure switch specifically designed for Accuchiller portable chillers.

Standard or custom-designed models

Units in three different Accuchiller Series include standard models in sizes from ½ to 40 tons. Choose from the time-proven AQ Series, the reliable and quiet SQ Series or our most advanced LQ Series with efficient scroll compressors. Most sizes and styles are readily available from stock for fast delivery to your plant or facility.



The accurate Accuchiller microprocessor control system

Exclusive Accuchiller control systems have been designed for portable chiller applications. The entire panel is simple to understand and operate without confusing codes or unnecessary lights.

The unique four-plug wiring design allows the entire control board to be easily replaced within minutes. Plus, the entire control panel overlay has been completely sealed against possible contamination from dust, dirt or water.

**EXCEPTIONAL
 WARRANTY COVERAGE—
 AT NO EXTRA COST**

No manufacturer offers better or more comprehensive warranty coverage – warranties include:

- One full year on labor
- Eighteen months on parts
- Five full years on microprocessor with lifetime controller exchange price of \$175

Standard controller features:

Accuchiller portable chiller control systems come standard with the following features:

- 19 operational and diagnostic lights
- Two easy-to-read LED digital displays show "To Process" and "Set Point" temperatures
- Manual reset of safeties from front panel eliminates need to open chiller cabinet
- 2.5 minute compressor cycling delay prevents short cycling
- PID control program provides $\pm 1^\circ\text{F}$ accuracy
- Autotune program sequence allows fine tuning of PID parameters
- Self-adjusting high/low temperature deviation

Optional controller features:

Add these optional controller features for even greater portable chiller functionality:

- Hand-held, remote control operator panel
- SPI communications
- Audible alarm horn

- Power failure indicator signals brown out
- Easily switches between F°/C° temperature readouts from front panel
- Thirty minute deviation delay stops nuisance alarms during start-up and set point changes

- Low-flow protection
- High temperature indicator

Standard solid-state refrigeration safety switches offer protection from:

- High temperature
- High pressure
- Low pressure
- Freezestat

- "From Process" temperature readout
- Remote alarm contacts
- Remote on/off contacts
- Remote thermocouple/RTD input



LQ
AQ
SQ

LQ Series portable chillers

Available in air-cooled, water-cooled and remote condenser models in a wide range of sizes, advanced LQ Series portable chillers are built with highly efficient scroll compressors and other proven standard components like compact, stainless steel brazed plate evaporators and encapsulated solid-state safety switches. All units are equipped with a NEMA 12 control panel and connect easily to existing in-plant electrical systems.

Exclusive Compressor Protection Package included at no extra cost!



Horsepower Range
Air-cooled units 14-30hp
Water-cooled units 8-40hp

Air-cooled
LOA Series
with fan

Air-cooled
LQB Series
with blower

Water-cooled
LQW Series



Standard features on all LQ Series units include:

- **Hinge-pin, lift-off side doors** – come with flush mounted pop-out latches for easy access to interior components without tools.
- **NEMA 12 control panel** – provides control protection for most factory environments. Fused disconnect and NFPA-79 construction are available.
- **Powder-coat paint finish** – textured flat paint makes cabinet extremely durable, hides finger prints and cleans up easily.
- **Nonferrous construction** – comes with stainless steel pump and fittings to resist corrosion.
- **Microprocessor controller** – provides accurate settings and temperature readings.
- **Scroll compressors** – offer more reliable and energy efficient performance than conventional reciprocating compressors.
- **Internal insulated polyethylene reservoir** – comes with large capacity and 6-inch screw top.
- **Inlet air filter** – is cleanable and protects condenser coils on air-cooled models to assure maximum operating efficiency.
- **Solid-state safety switches** – allow electronic sensing devices to be easily replaced without refrigerant evacuation.
- **Hot gas bypass** – provides accurate capacity control and extends compressor life.
- **Water regulating valve** – keeps refrigerant pressure constant.
- **Stainless steel brazed plate evaporators** – prevent system freezeup.

**Air-cooled
LQA Series**



**Water-cooled
LQW Series**



Air-cooled LQ units come with choice of discharge air options:

Air-cooled LQ Series units can be equipped with either low noise propeller-type discharge fans or high-pressure blowers that allow ductwork to conventional vent discharge outlets. Units can also be retrofitted with blowers on-site at any time after initial installation.



Fan option



Blower option



AQ
SQ
LQ

AQ Series portable chillers

The reliable AQ Series portable chillers come in air-cooled, water-cooled and remote condenser models and are available in a wide range of sizes. These units feature a compact footprint and an easily accessible interior. Angled control panels makes units easy to operate and to read settings and temperatures.

Exclusive Compressor Protection Package included at no extra cost!

Standard features on all AQ Series units include:

- **Easily removable side and top panels** – allows for “tools-free” access to interior components.
- **Insulated polyethylene reservoir** – holds large capacity and comes with 6-inch crew cap.
- **Hinged control panel access with 1/4-turn fastener** – makes it easy to access controller wiring and electronics.
- **Smaller footprints** – takes up less floor space than chiller units from other manufacturers.
- **Nonferrous construction** – includes polyethylene tank and stainless steel pump.
- **Microprocessor controller** – provides accurate settings and temperature readings.



Horsepower Range
Air-cooled units 1/2-3hp
Water-cooled units 2-5hp

Air-cooled
AQ Series





SQ
AQ
LQ

SQ Series portable chillers

The versatile, top-discharge, air-cooled SQ Series portable chillers are built for quiet performance, easy access and years of dependable service.

Two recessed exterior panels with lockable, flush-mounted, pull-ring latches can be easily removed by one person and allow full access to the sensibly designed interior.



Exclusive Compressor Protection Package included at no extra cost!

Standard features on all SQ Series units include:

- **NEMA 12 control panel** – provides control protection for most factory environments. Fused disconnect and NFPA-79 construction are available.
- **Powder-coat paint finish** – gives cabinet extremely durable finish, hides fingerprints and is easily cleaned.
- **Nonferrous construction** – resists corrosion and comes with stainless steel fittings and water circulation pump.
- **Microprocessor controller** – provides accurate settings and temperature readings.
- **Scroll compressors** – offer more reliable and efficient performance than conventional reciprocating compressors.
- **Internal insulated polyethylene reservoir** – comes with large capacity design for easy filling.
- **Solid-state safety switches** – allow electronic sensing devices to be easily replaced without refrigerant evacuation.
- **Sensor manifold** – allows easy access to all water sensing devices.
- **Inlet air filter** – is cleanable and protects condenser coils to assure maximum operating efficiency.
- **Twin top-discharge fans** – discharge air quietly through top of unit.



Air-cooled SQ Series with top discharge fan and side inlet air filter



Let Thermal Care design an integrated cooling system just for you.

Get a custom-designed system at no extra charge. A system that increases productivity, improves cycle times and lowers energy costs.

No one offers a more complete line of heat transfer equipment and related services—including total system design and PLC integration.

Temperature Control Units

Get the best available units, with the best available warranties, at a surprisingly affordable price. *Aquatherm* water temperature controllers are built with high-quality components as standard and each unit delivers years of reliable service. *Oiltherm* hot oil and *Vactherm* positive/negative pressure temperature controllers are also available.

Fiberglass Cooling Towers

Designed and manufactured to exacting standards, FC Series cooling towers are totally constructed of corrosion-resistant materials. Towers come with a full 10-year shell warranty and a 5-year warranty on the complete tower including the motor. Water treatment equipment and water filters are also available for both cooling tower and chilled water systems.

Pump/Reservoir Systems

Every pump/reservoir is custom engineered for each tower or chiller application. Standard features include a NEMA 4 control panel and controller with dual digital display, alarm horn, high temperature alarm, non-overloading pumps and solid deck. Reservoirs are available in fiberglass, polyethylene, steel or stainless steel in capacities to 6000 gallons.

Central Chillers

Water-cooled and remote condenser multiple circuit units are available with scroll, screw or discus compressors. The wide range of available models assures that you get the unit that's right for the application. All come standard with NEMA 4 control panels and Allen-Bradley® PLCs with 3-year warranty. Many sizes in stock for immediate delivery.



Temperature Control Units



Fiberglass Cooling Towers



Pump/Reservoir Systems



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SQ Air-Cooled Chiller

General

The SQ Series portable chillers are designed for indoor use in industrial manufacturing locations. The chillers are produced in our ISO 9001:2000 certified facility. Water-cooled and air-cooled units ship with a full refrigerant charge. Units with a remote air-cooled condenser ship with a nitrogen charge. All units are housed in a heavy gauge painted steel cabinet with tool-free access.

Mechanical Features

- Energy efficient and reliable scroll compressor
- Electronic hot gas bypass for capacity control
- Stainless steel brazed plate evaporator provides higher heat transfer coefficients due to reduced fouling.
- (Air-Cooled Units) Generously sized copper tube/aluminum finned air-cooled condensers designed for industrial environments. Includes air inlet filters.
- (Water-Cooled Units) Generously sized cleanable shell-and-tube water-cooled condenser for industrial environments.
- (Remote Condenser Units) Modular design with divided fan sections to prevent 'wind-milling' during fan cycling. Includes galvanized steel fan sections and coil baffles, copper tube/aluminum fin coils tested to 400 PSIG, direct drive multi-blade propeller fans with venture orifices to optimize efficiency, and a nitrogen holding charge.
- (Water-Cooled Units) Condenser water regulating valve to provide constant head pressure
- Refrigerant TXV, filter/drier, and sight glass

- Freezestat safety switch with solid state sensor
- Encapsulated high and low refrigerant pressure safeties
- Nonferrous water circuit construction
- Insulated polyethylene reservoir with removable cover
- Stainless steel process pump with pressure gauge
- Fail safe flow switch interlocked with compressor
- Y-strainer to protect evaporator from contamination
- Internal valved bypass line to protect pump and evaporator
- (Air and Water-Cooled Units) Factory tested under full load conditions prior to shipment

Electrical Features

- NEMA-12 electrical enclosure with single point electrical connection
- Control transformer to provide 115V/1/60 control voltage
- Compressor, pump and condenser fan (air-cooled units only) starters mounted in control panel and wired to motors
- Single-point main power block for simple wiring connection

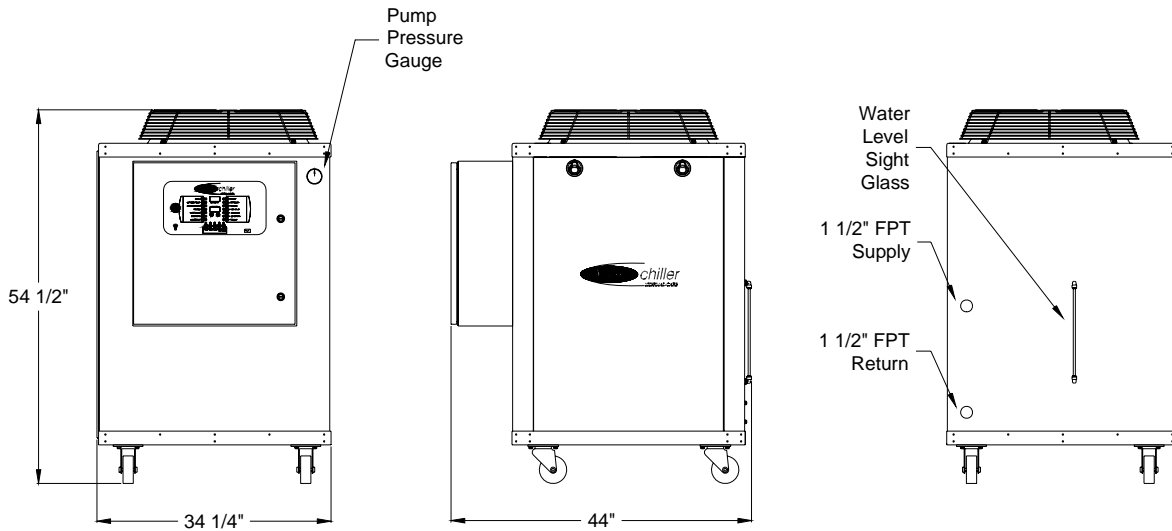
Microprocessor Features

- Dual LED digital displays of actual and set point temperatures
- Anti-cycle 2.5 minute timer to prevent short-cycling of compressor
- Deviation alarm 30 minute timer delay to prevent nuisance alarms during start-up and set point changes
- Display temperatures easily switched from °F to °C from the front panel
- Easy front panel alarm reset button
- Diagnostic lights: no flow, high refrigerant pressure, low refrigerant pressure, freezestat, over set point, under set point, pump on, compressor on, partial load, water make-up (active if option is purchased), low water level (active if option is purchased), high water temperature and probe fault
- Operation lights: control power on, start, stop, alarm reset, alarm horn silence (active if option is purchased)
- PID control algorithm

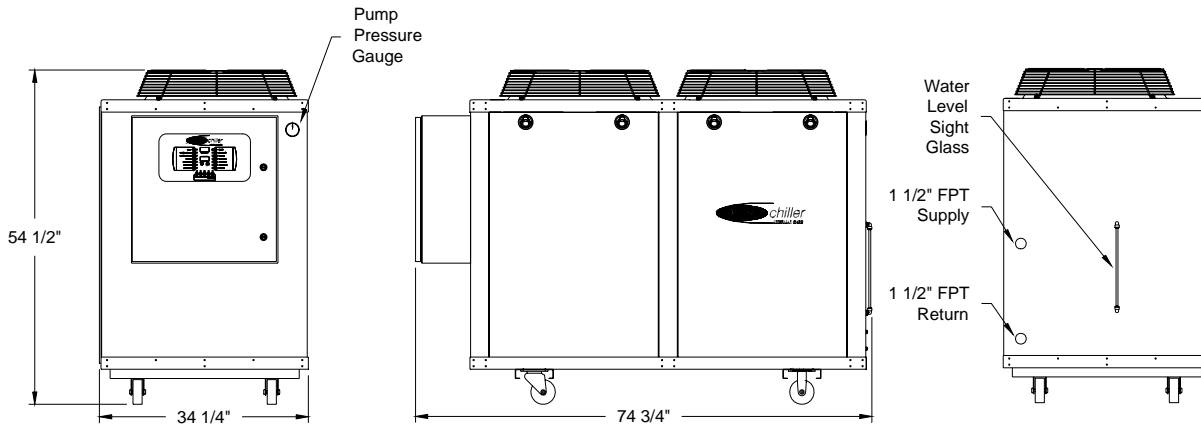
Warranty

- 5 year parts warranty for microprocessor with a lifetime \$175 exchange policy after initial 5 year warranty period
- 18 months parts warranty
- 1 year labor warranty

SQ2A05 Air-Cooled Chiller



SQ2A08 – SQ2A14 Air-Cooled Chillers

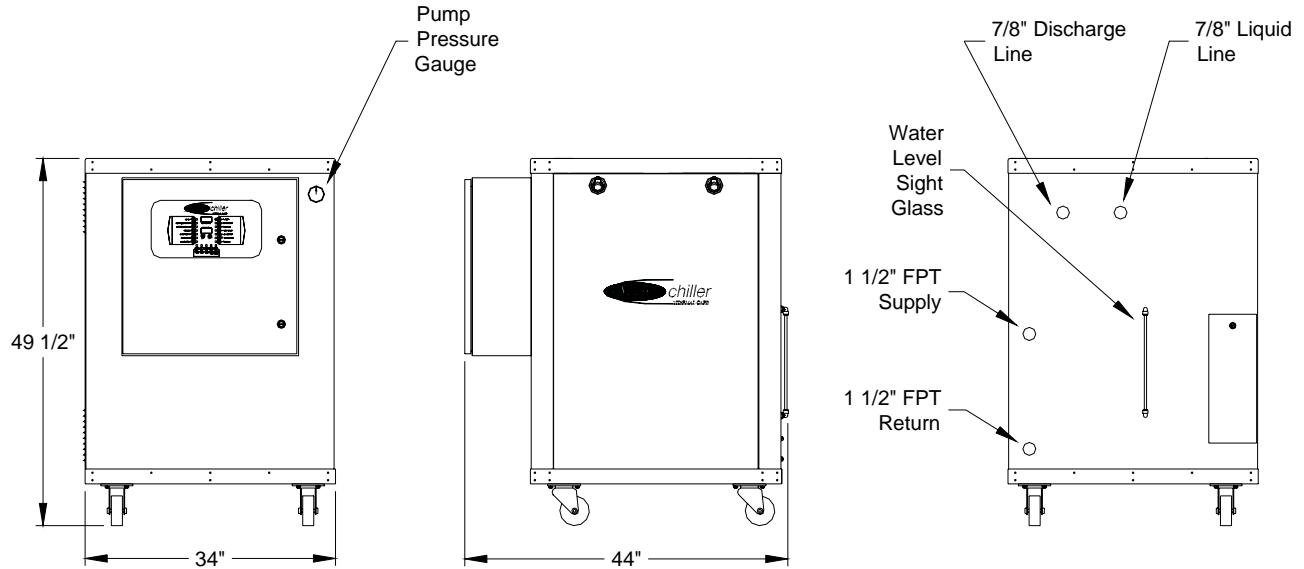


Model	Cooling Tons ¹	Set Point Range °F	Refrigerant Type	Condenser Fan Air Flow CFM	Standard Pump			Unit MCA @ 460/3/60	Shipping Weight Lbs.
					HP	GPM	PSI		
SQ2A05	5.5	20 – 80 ²	HCFC-22	4,400	1½	13	43	17	720
SQ2A08	7.5	20 – 80	HCFC-22	10,000	1½	18	42	21	1,195
SQ2A10	10.0	20 – 80	HCFC-22	10,000	1½	24	40	27	1,195
SQ2A14	13.1	20 – 80	HCFC-22	10,000	1½	31	36	41	1,215

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

²Standard set point range is 20°F to 65°F for SQ2A05. To extend range to 20°F to 80°F the CPR valve option is required.

SQ2R05 Remote Condenser Chiller

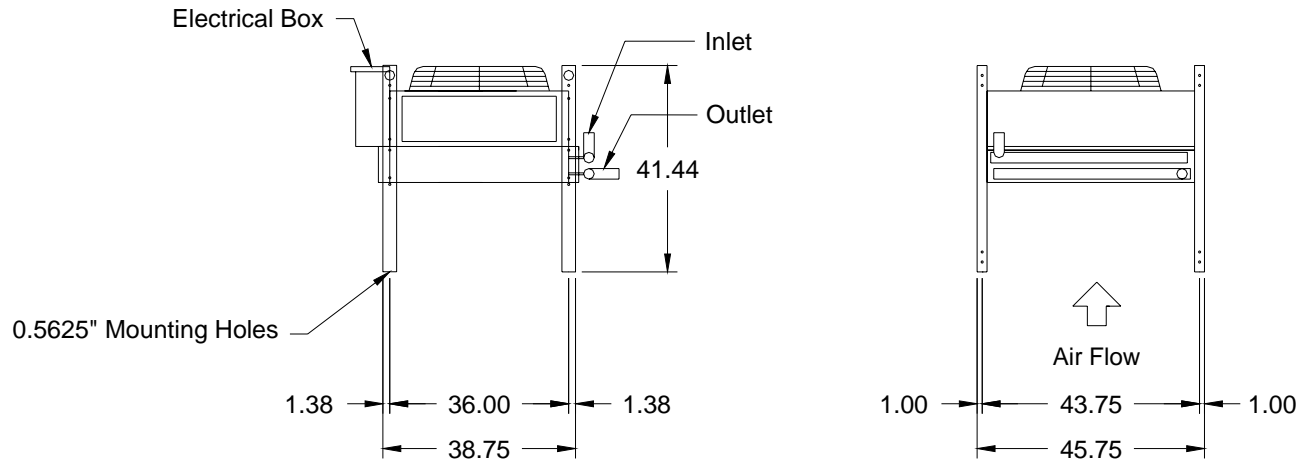


Model	Cooling Tons ¹	Set Point Range °F	Refrigerant Type	Standard Pump			Unit MCA @ 460/3/60	Shipping Weight Lbs.
				HP	GPM	PSI		
SQ2R05	5.5	20 – 80 ²	HCFC-22	1½	13	43	15	720

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

²Standard set point range is 20°F to 65°F for SQ2R05. To extend range to 20°F to 80°F the CPR valve option is required.

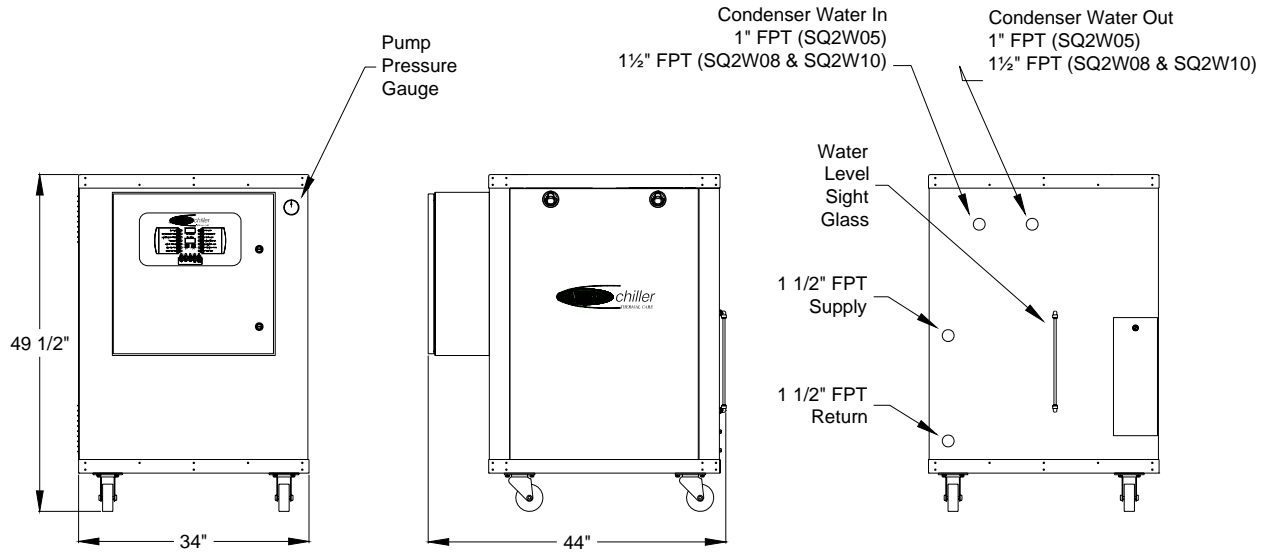
LAVB11310 Remote Condenser



Model	Chiller Model Used With	Refrigerant Type	Condenser Air Flow CFM	Connection Size (inch)		Condenser Fans		Unit MCA @ 230/1/60 ¹	Shipping Weight Lbs.
				Inlet	Outlet	Qty	HP		
LAVB11310	SQ2R05	HCFC-22	6,400	1 3/8	1 1/8	1	½	3	565

¹Remote condenser is only available in 230/1/60.

SQ2W05 - SQW10 Water-Cooled Chillers



Model	Cooling Tons ¹	Set Point Range °F	Refrigerant Type	Condenser Water GPM	Standard Pump			Unit MCA @ 460/3/60	Shipping Weight Lbs.
					HP	GPM	PSI		
SQ2W05	5.5	20 – 80 ²	HCFC-22	17	1½	13	43	15	720
SQ2W08	7.7	20 – 80	HCFC-22	23	1½	19	41	18	1,195
SQ2W10	10.8	20 – 80	HCFC-22	33	1½	26	40	24	1,195

¹Cooling tons based on 12,000 BTU/Hr/ton with 50°F leaving coolant and 85°F condenser water.

²Standard set point range is 20°F to 65°F for SQ2W05. To extend range to 20°F to 80°F the CPR valve option is required.

Unit MCA @ 460/3/60 with Optional Pumps

Pump	1½ HP	3 HP	3 HP 2-stage	5 HP	5 HP 2-Stage	7½ HP
SQ2A05	17	20	20	---	---	---
SQ2R05	15	17	17	---	---	---
SQ2W05	15	17	17	---	---	---
SQ2A08	21	23	23	26	26	30
SQ2W08	18	20	20	23	23	25
SQ2A10	27	29	29	32	32	36
SQ2W10	24	26	26	29	29	30
SQ2A14	42	44	44	47	47	50

Pump Curves (60 Hz)

