

Vertical Stack Water Source Heat Pump

WVHC, WVHF
Sizes: 009-036
Design 1
R410a

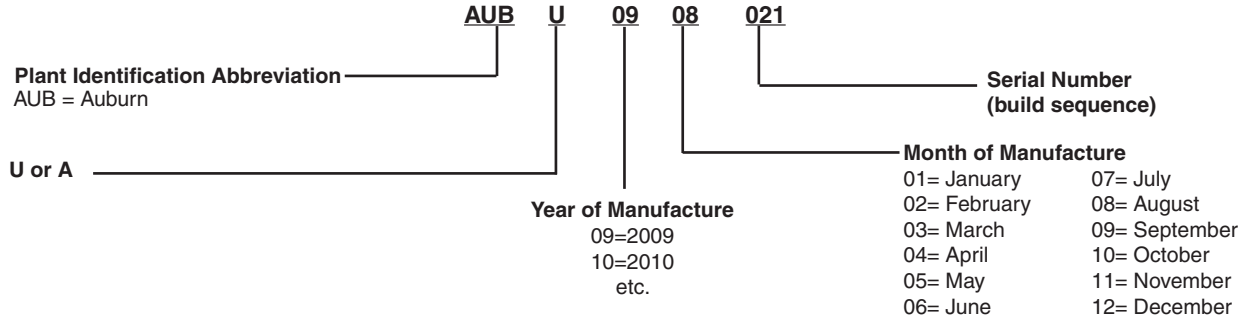


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Serial Nomenclature

Serial Number



Electrical Legend

C1	Capacitor - Compressor	LED1	LED Annunciator/Harness
C2	Capacitor - Fan	LP	Low Pressure Switch
CC	Compressor Contactor	MIII	Microtech III Main Board
CM	Compressor Motor	MPP	Main Power Connector Plug
COS	Condensate Overflow Sensor	MPR	Main Power Connector Receptacle
DSC	Disconnect Switch	OVL	Compressor Overload
FMP	Fan Motor Connector Plug	PDPG	Primary Drain Pan Ground
FMR	Fan Motor Connect Receptacle	PCOS	Primary Cond Overflow Sensor
FCP	Fan Connector Plug	RV	Reversing Valve Solenoid
FCR	Fan Connector Receptacle	SOS	Secondary Overflow Sensor
FPR	Fan Power Relay	SLTS	Suction Line Temp Sensor
FSR	Fan Speed Relay	TB3	Terminal Block
FSS	Fan Speed Switch	TS1	Fan Speed Terminal Strip
FS1	Fuse 1	TS2	Thermostat Terminal Strip
FS2	Fuse 2	TSP	Terminal Strip Connector Plug
HP	High Pressure Switch	TSR	Terminal Strip Conn Receptacle
ISO-**	Isolation Valve - Option	X1	Transformer

Unit Model Nomenclature

W VHC 1 009 B A GL A C AMC C Y BFT F 12 YYY
Code: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

AY S 080 AY F L YYY Y YY YYY Y Y CR 5 Y 1
Code: 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Code 01: Unit Type

W= Water Source Heat Pump

Code 02: Product Identifier

VHC= R410a, Vertical Stacked Heat Pump Chassis
 VHF= R410a, Vertical Stacked Heat Pump Cabinet

Code 03: Design Series

1= Design 1

Code 04: Unit Size

009= 9000 BtuH Nominal Cooling
 012= 12000 BtuH Nominal Cooling
 015= 15000 BtuH Nominal Cooling
 018= 18000 BtuH Nominal Cooling
 021= 21000 BtuH Nominal Cooling
 024= 24000 BtuH Nominal Cooling
 030= 30000 BtuH Nominal Cooling
 036= 36000 BtuH Nominal Cooling

Code 05: Controls

B= MicroTech III Base Controller
 C= MicroTech III Controller with LonCard
 D= Microtech III Controller with BacNet Card

Code 06: Voltage

A= 115/60/1
 E= 208/230/60/1
 J= 265/277/60/1

Code 07: Secondary Drain Pan

GL= Galvanized
 SS= Stainless Steel
 Y= None

Code 08: Refrigerant

A= R410a

Code 09: Isolation Valve

C= 2-Way Motorized 1/2" Iso Valve, Gen'l Close-Off Pr, N.C.
 V= 2-Way Motorized 1/2" Iso Valve, Gen'l Close-Off Pr, N.O.
 H= 2-Way Motorized 1/2" Iso Valve, High Close-Off Pr, N.C.
 D= 2-Way Motorized 3/4" Iso Valve, Gen'l Close-Off Pr, N.C.
 K= 2-Way Motorized 3/4" Iso Valve, Gen'l Close-Off Pr, N.O.
 J= 2-Way Motorized 3/4" Iso Valve, High Close-Off Pr, N.C.
 Y= None

Code 10: Chassis Construction Type

Digit 1: Insulation

A= Standard Fiberglass Insulation
 E= IAQ Cellular Foam Insulation
 Y= None

Digit 2: Sound Option

M= Mass Plate & Compressor Sound Blanket
 S= Mass Plate Only
 Y= None

Digit 3: Corrosion Package

C= Anti-Corrosion Package
 Y= None

Code 11: Coaxial Heat Exchanger

C= Copper Inner Tube/ Steel Outer Tube
 S= Cupro Nickel Inner Tube/ Steel Outer Tube
 Y= None

Code 12: Load Balancing Pump

Y= None

Code 13: Discharge Air

Digit 1: Primary Discharge

B= Primary Supply- Back
 F= Primary Supply- Front
 L= Primary Supply- Left
 R= Primary Supply- Right
 T= Primary Supply- Top
 Y= None

Digit 2: Secondary Discharge

B= Secondary Supply- Back
 F= Secondary Supply- Front
 L= Secondary Supply- Left
 R= Secondary Supply- Right
 T= Secondary Supply- Top
 Y= None

Tertiary Discharge

T= Tertiary Supply- Top
 Y= None

Code 14: Power Connection

F= Fused Disconnect with Wire Harness
 N= Non-Fused Disconnect with Wire Harness
 H= HACR Breaker

Unit Model Nomenclature

Code 15: Blower Motor

Digit 1: Motor

1= Standard
3= ECM Motor
4= X13 Motor

Digit 2: Motor Speed

2= 2 Speed Fan-T-STAT Controlled
3= 2 Speed Fan- Unit Toggle Switch

Codes 16: Always YYY

Code 17: Flow Control

Digit 1: Flow Regulator

A= Auto Flow Regulator
Y= None

Digit 2: Strainer

Y= None

Code 18: Filter

S= Standard 1" Fiberglass
P= 2" Pleated MERV7
Y= None

Code 19: Cabinet Height (Inches)

080= 80" Cabinet Height
088= 88" Cabinet Height
092= 92" Cabinet Height
096= 96" Cabinet Height
YYY= None

Code 20: Cabinet Construction

AY= Standard Fiberglass Insulation
EY= Closed Cell Foam insulation (IAQ Option)
FY= Foil-Faced Fiberglass Insulation

Code 21: Riser Mounting

F= Factory Mounted Risers
J= Factory Supplied Risers for Field Installation
Y= None

Code 22: Riser Location

L= Left Cabinet Piping
R= Right Cabinet Piping
B= Back Cabinet Piping
Y= None

Code 23: Heating Options

Digit 1: Heater Type

Y= None

Digit 2: Heater Control Option

Y= None

Digit 3: Always Y

Codes 24: Always Y

Codes 25: Always YY

Codes 26: Always YYY

Codes 27: Color

Y= None

Codes 28: Always Y

Codes 29: Agency Listing

Digit 1:

C= ETL, CETL, ARI
Y= None

Digit 2:

R= RoHS
Y= None

Code 30: Packaging

Code 31: Warranty

Code 32: Product Style

1= Style 1

Field Accessories

Mark 3/Mark IV Thermostats & Wall Plates

Description	Part Number
Programmable Wall Thermostat & Remote Wall Sensor	106710801
Wall Stat: 7-day Programmable, 2 Heat/2 Cool, ACO, AC/DC with Wall Plate	668375301
Wall Stat: Non- Programmable, 2 Heat/2 Cool, ACO, AC/DC, NSB & OR with Wall Plate	668375401
Wall Stat: 7-day Programmable, 1 Heat/1 Cool, ACO, Fan Speed, Hardwired	668811301
Wall Stat: Non- Programmable, 1 Heat/1 Cool, ACO, Fan Speed, Hardwired	668811201
Insulated Wall Plate	107096101
*Remote Temperature Sensor (Unbranded)	107096001
*Remote Temperature Sensor (McQuay Branded)	667720401

* For use with thermostats # 668375301 & #668375401.

Microtech 3 Temperature Sensors

Part No.	Tenant Override	Set Point Adjustment	Status LED	Fan & Mode Switches
669088101	Yes	No	No	No
668900801	Yes	55° to 95°F (12° to 35°C)	Yes	Yes
669088201	Yes	-3° to +3°F (-1.5° to 1.5°C)	No	Yes

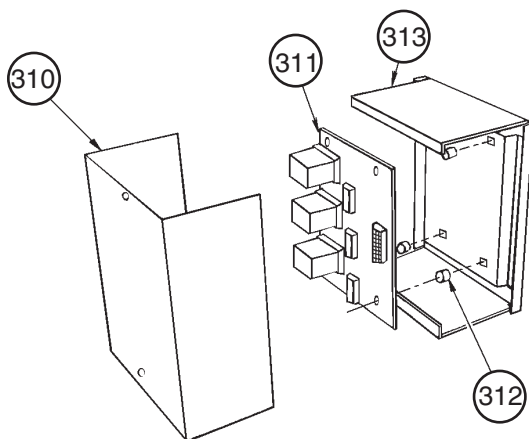
Note: Can only be used in conjunction with a Communication (Comm.) card. See OM 931 for required jumper settings.

Microtech 3 Unit Control Accessories

Description	Part Number
** Multiple Unit Control Panel: Allows a master unit controlled by a T'Stat, to operate up to 3 secondary units Not Recommended for use with a Boilerless System Kit	056794201
Boilerless System Kit with I/O Expansion Board	910110355
Boilerless System Kit without I/O Expansion Board	910110353

** Kit components listed below.

Multiple Unit Control Panel Kit



Ref. No.	Description	Part No.	Qty.
310	Cover- Control Box	106436101	1
311	Circuit Board	056794001	1
312	Stand Off- Circuit Board	802028090	6
313	Box	850007827	1

Filters

Description	Part Number	009	012	015	018	021	024	030	036
Filter, Fiberglass	16x30x1"	669343201	1	1	1	1			
Filter, Fiberglass	20x30x1"	669343301				1	1	1	1

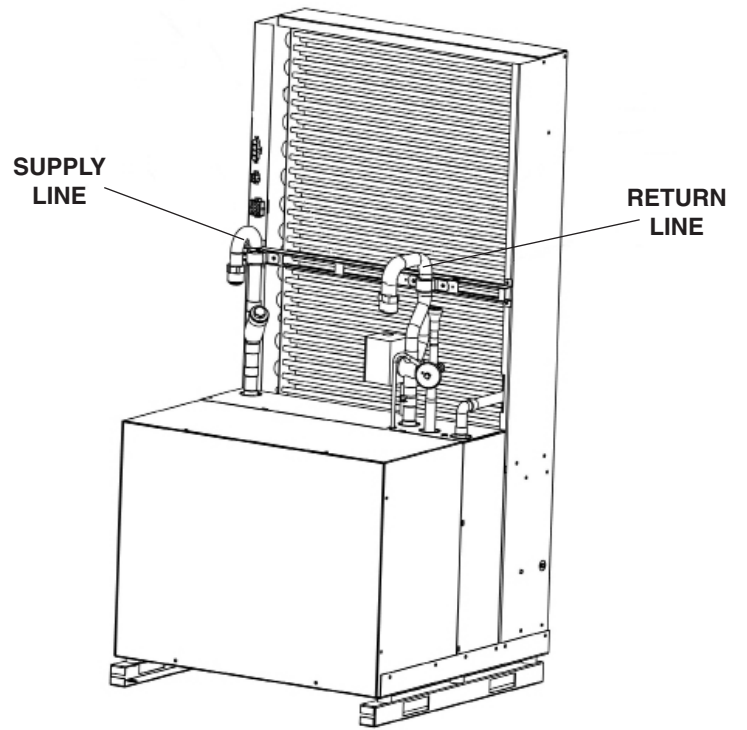
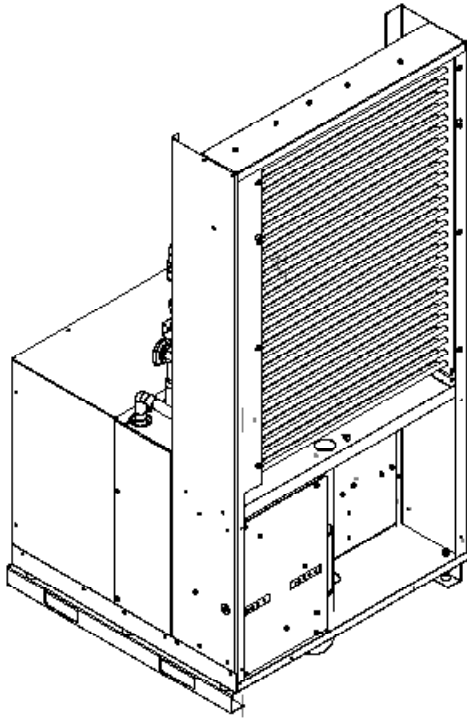
Supply/Return Hoses

Description	Part Number	009	012	015	018	021	024	030	036
Fire Rated Hose Assembly, 1/2" ID	30" Long	061269016	1	1	1	1			
Fire Rated Hose Assembly, 3/4" ID	36" Long	061269004				1	1	1	1

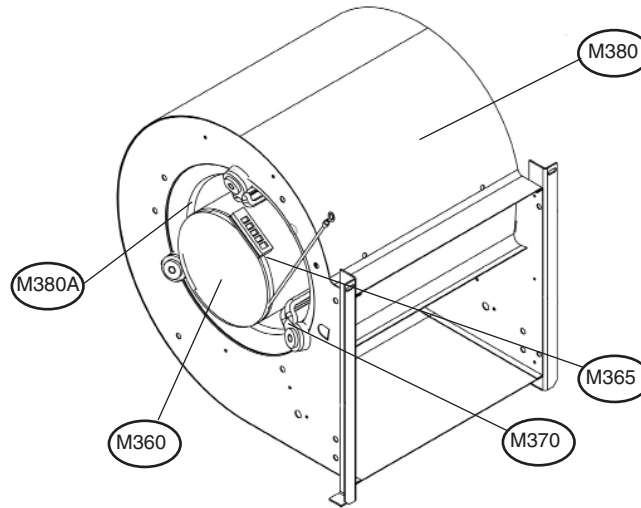
Ball Valves & Motorized Valves

Description	Part Number	Unit Size	
		009-018	021-036
Auxiliary Relay- 24V, Normally Open. 24V 1PDT	106710801	1	1
Combination Shutoff/Balancing Valve (1/2") with Memory Stop	802026097	2	
Combination Shutoff/Balancing Valve (3/4") with Memory Stop	802026098		2
Motorized Valve Kit 1/2" 2-Way Vlv, Normally Closed (NC), General Close-Off Press.	668996001	1	
Motorized Valve Kit 1/2" 2-Way Vlv, Normally Open (NO), General Close-Off Press.	668996002	1	
Motorized Valve Kit 1/2" 2-Way Vlv, Normally Open (NO), High Close-Off Press.	668996003	1	
Motorized Valve Kit 3/4" 2-Way Vlv, Normally Closed (NC), General Close-Off Press.	668996004		1
Motorized Valve Kit 3/4" 2-Way Vlv, Normally Open (NO), General Close-Off Press.	668996005		1
Motorized Valve Kit 3/4" 2-Way Vlv, Normally Open (NO), High Close-Off Press.	668996006		1
Microtech 3 Motorized Valve Wire Harness (H8, Necessary for MVK on MT3 units.)	668995801	1	1

Basic Unit Layout



Blower Fan Assembly



Ref.#	Description	Part Number	009	012	015	018	021	024	030	036
	X13 Motor (Code 15 = 04)									
M360	X13 Blower Motor, programmed, 1/3 HP	669287404					1	1		
		669287403							1	1
	Std Motor (Code 15 = 01)									
M360	Std. Blower Motor, 1/16 HP, 115/60/1	668018501	1	1	1	1				
M360	Std. Blower Motor, 1/16 HP, 208/230/60/1	668018502	1	1	1	1				
M360	Std. Blower Motor, 1/8 HP, 208/230/60/1	668025002					1	1		
M360	Std. Blower Motor, 1/5 HP, 208/230/60/1	668025012							1	1
M360	Std. Blower Motor, 1/16 HP, 265/60/1	668018503	1	1	1	1				
M360	Std. Blower Motor, 1/8 HP, 265/60/1	668025003					1	1		
M360	Std. Blower Motor, 1/5 HP, 265/60/1	668025013							1	1
	ECM Motor (Code 15 = 03)									
	208-230/60/1									
M360	ECM Blower Motor, programmed, 1/3 HP	667794803					1	1		
M360	ECM Blower Motor, programmed, 1/2 HP	668986401							1	1
	265/60/1									
M360	ECM Blower Motor, programmed, 1/3 HP	667794804					1	1		
M360	ECM Blower Motor, programmed, 1/2 HP	668986402							1	1
M365	Motor Band	802009140	1	1	1	1	1	1	1	1
M370	Motor Arm	668405401	3	3	3	3	3	3	3	3
M380	Assy, Blower Hsg	669286107	1	1	1	1				
M380A	Blower Wheel	060627401	1	1	1	1				
M380	Assy, Blower Hsg & Wheel	667838701					1	1		
M380A	Blower Wheel Only	802000037					1	1		
M380	Assy, Blower Hsg	669286108							1	1
M380A	Blower Wheel	018089000							1	1

Blower Fan Assembly

Ref #	Description	Part Number	009	012	015	018	021	024	030	036
N/S	Capacitor Strap	850010570	1	1	1	1	1	1	1	1
	115/60/1									
N/S	Blower Capacitor, 10 MFD 370V	669241801	1	1						
	208/230/60/1									
N/S	Blower Capacitor, 4 MFD 370V	669241501	1	1	1	1				
N/S	Blower Capacitor, 5 MFD 370V	669241601					1	1	1	1
	265/60/1									
N/S	Blower Capacitor, 3 MFD 370V	669241401	1	1	1	1				
N/S	Blower Capacitor, 5 MFD 370 V	669241601					1	1	1	1

N/S = Not Shown

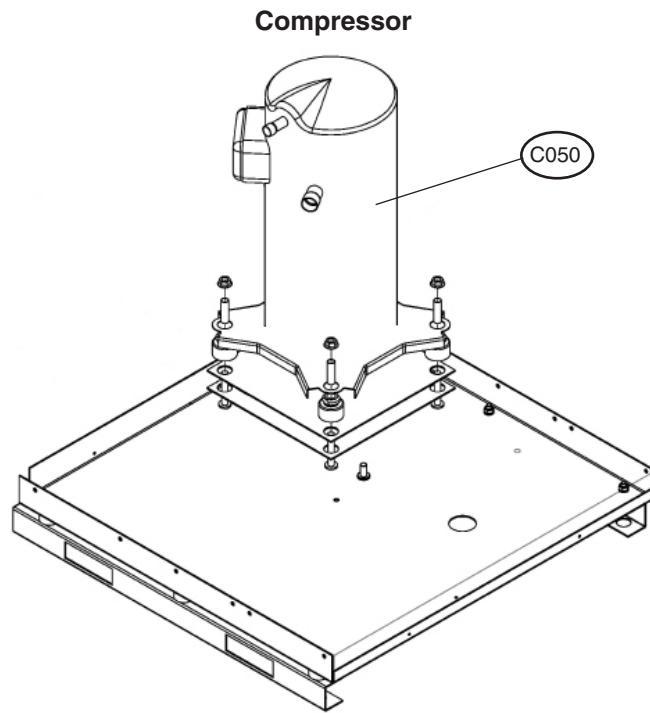
For units not represented above, please contact McQuay Parts with the unit GO # and Serial #.

Drain Pan

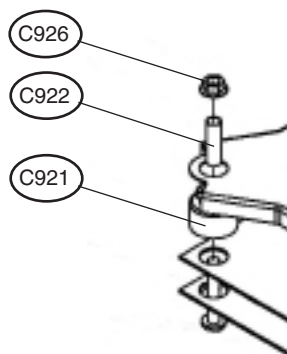
Ref #	Description	Part Number	009	012	015	018	021	024	030	036
	Secondary Drain Pan									
N/S	Drain Pan, Galvanized	C07= GL 669287806	1	1	1	1				
N/S	Drain Pan, Galvanized	C07= GL 669287807					1	1	1	1
N/S	Drain Pan, SST	C07= SS 669287810	1	1	1	1				
N/S	Drain Pan, SST	C07= SS 669287811					1	1	1	1

N/S = Not Shown

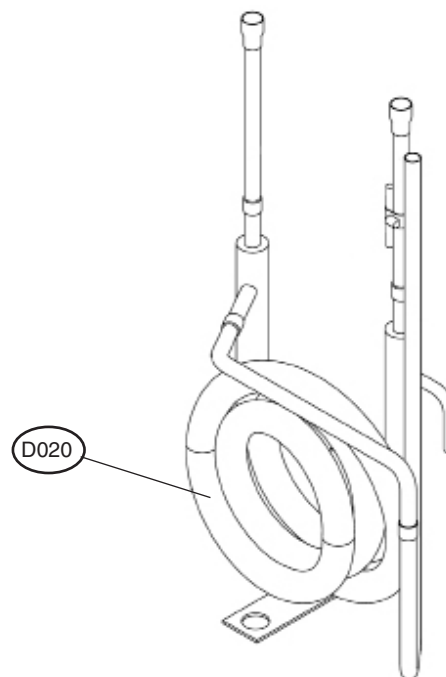
Refrigeration Circuit



Compressor Mounting



Coaxial Coil



Size 009-012 shown

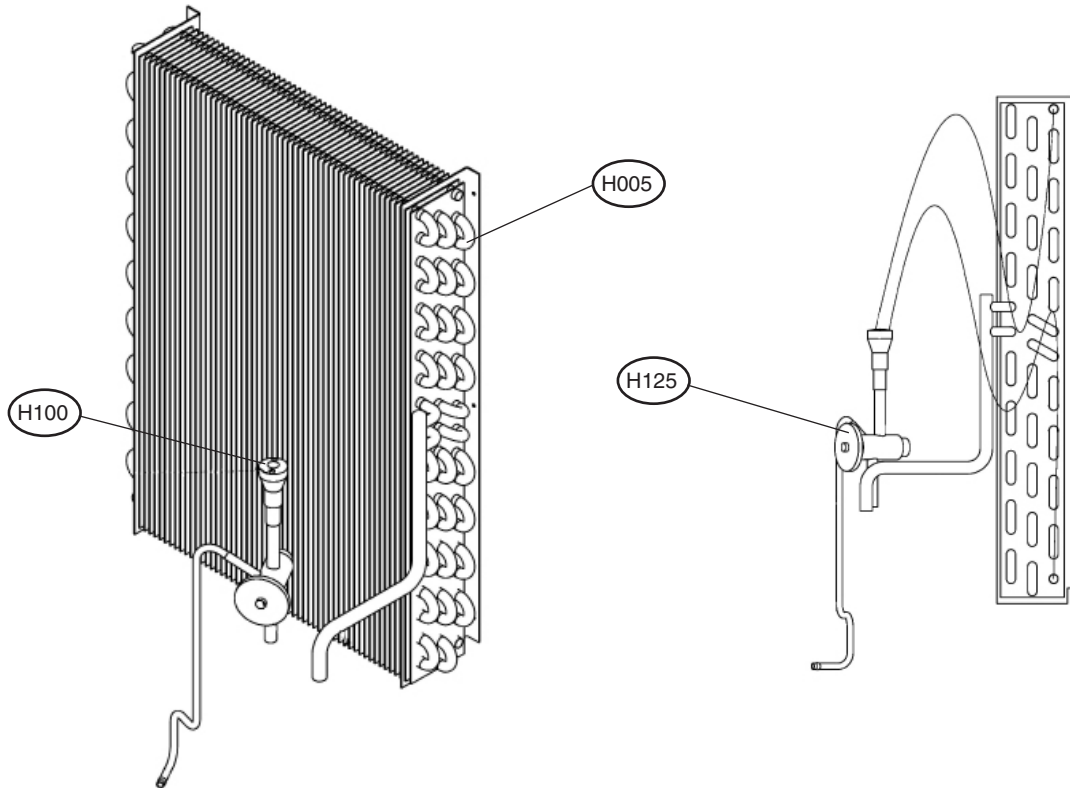
Refrigeration Circuit

Ref.#	Description	Part Number	009	012	015	018	021	024	030	036
C050	Compressor, 8050 BTU, 115/60/1	668951401	1							
C050	Compressor, 10150 BTU, 115/60/1	668951504		1						
C050	Compressor, 8050 BTU, 208-230/60/1	668951411	1							
C050	Compressor, 10150 BTU, 208-230/60/1	668951501		1						
C050	Compressor, 12100 BTU, 208-230/60/1	668951601			1					
C050	Compressor, 15400 BTU, 208-230/60/1	668951701				1				
C050	Compressor, 18200 BTU, 208-230/60/1	669660702					1			
C050	Compressor, 20000 BTU, 208/230/60/1	668392101						1		
C050	Compressor, 25200 BTU, 208/230/60/1	668405701							1	
C050	Compressor, 31300 BTU, 208/230/60/1	106602801								1
C050	Compressor, 8150 BTU, 277-265/60/1	668951412	1							
C050	Compressor, 10150 BTU, 277-265/60/1	668951503		1						
C050	Compressor, 12100 BTU, 277-265/60/1	668951603			1					
C050	Compressor, 15400 BTU, 277-265/60/1	668951711				1				
C050	Compressor, 20000 BTU, 277-265/60/1	668392102						1		
C050	Compressor, 25200 BTU, 277-265/60/1	668405703							1	
C050	Compressor, 31300 BTU, 277-265/60/1	106602803								1
N/S	Overload Protector, 115/60/1	668015802	1	1						
N/S	Overload Protector, 208-230/60/1	668015804	1							
N/S	Overload Protector, 208-230/60/1	668015806		1						
N/S	Overload Protector, 208-230/60/1	668015808			1					
N/S	Overload Protector, 208-230/60/1	668015811				1				
N/S	Overload Protector, 277-265/60/1	668015805	1	1						
N/S	Overload Protector, 277-265/60/1	668015810			1	1				
C921	Grommet, Compr. Mounting	668955401	3	3	3	3	3			
C921	Grommet, Compr. Mounting	4RHZ9154						4	4	4
C922	Sleeve, Compr. Mounting	668955501	3	3	3	3	3			
C922	Sleeve, Compr. Mounting	060623401						4	4	4
C926	Hex Nut, Compr. Mounting	802012035	3	3	3	3	3	4	4	4
Compressor Terminal Components										
N/S	Gasket	669351701					1			
N/S	Gasket	668382901	1	1	1	1				
N/S	Washer	668382701	1	1	1	1	1			
N/S	Cover	668382801	1	1	1	1				
N/S	Cover	669351601					1			
N/S	Hex Nut	668383001	1	1	1	1	1			
Coax Coil-Copper (Code 11=C)										
D020	Coax Coil, 1.0 ton, Copper	669488501	1	1						
D020	Coax Coil, 2.0 ton, Copper	669175901			1	1	1	1		
D020	Coax Coil, 3.0 ton, Copper	667718591							1	1
Coax Coil-CuproNickel (Code 11=S)										
D020	Coax Coil, 1.0 ton, CuNi	669488502	1	1						
D020	Coax Coil, 2.0 ton, CuNi	669175902			1	1	1	1		
D020	Coax Coil, 3.0 ton, CuNi	667718592							1	1

N/S= Not Shown

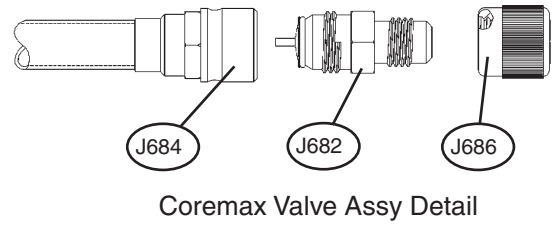
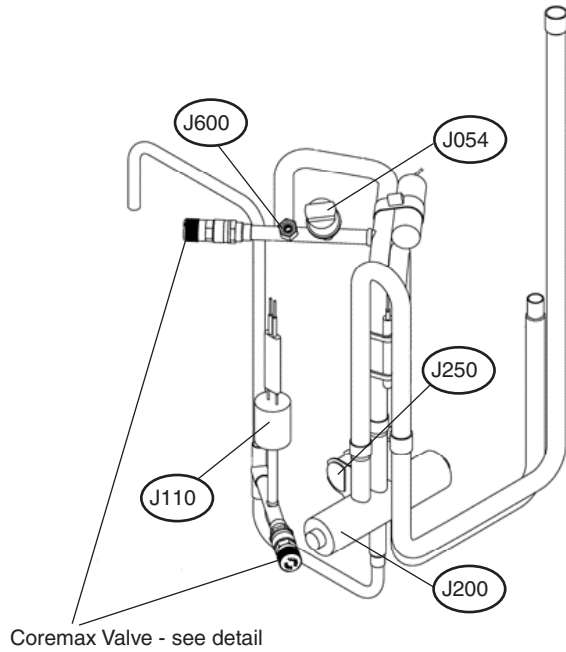
Note: For Compressor Capacitor, see the Control Box section.

Air to Refrigerant Coil, Distributor, TXV



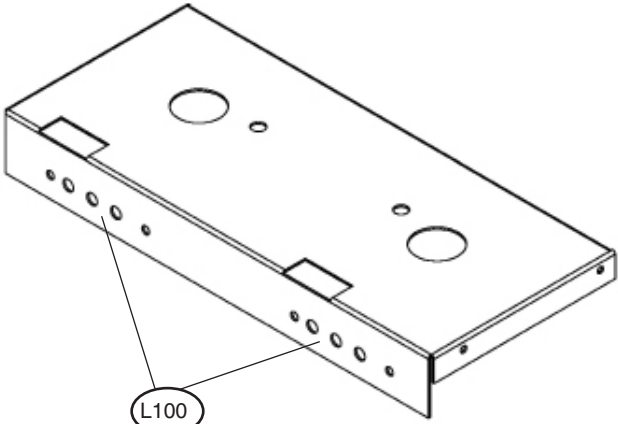
Ref.#	Description	Part Number	009	012	015	018	021	024	030	036
H005	Coil Assy, 3 Row, 20 x 13	669285116	1	1						
H005	Coil Assy, 3 Row, 26.5 x 13	669285117			1	1				
H005	Coil Assy, 3 Row, 22 x 19	669285118					1	1		
H005	Coil Assy, 3 Row, 28 x 19	669285119							1	1
H100	Distributor, 2 ckt	669350501	1	1						
H100	Distributor, 3 ckt	669350601			1	1				
H100	Distributor, 4 ckt	669350701					1	1		
H100	Distributor, 6 ckt	669350801							1	1
H125	Thermal Expansion Valve	106489127	1	1						
H125	Thermal Expansion Valve	106489101			1					
H125	Thermal Expansion Valve	106489102				1				
H125	Thermal Expansion Valve	106489109					1			
H125	Thermal Expansion Valve	106489110						1		
H125	Thermal Expansion Valve	106489112							1	
H125	Thermal Expansion Valve	106489111								1

Tubing

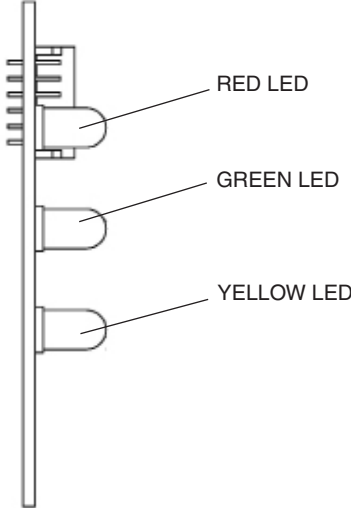


Ref.#	Description	Part Number	009	012	015	018	021	024	030	036
J054	Low Pressure Switch	107225101	1	1	1	1	1	1	1	1
J110	High Pressure Switch	668803601	1	1	1	1	1	1	1	1
J200	Reversing Valve	106694111	1	1						
J200	Reversing Valve	106694112			1	1	1	1		
J200	Reversing Valve	106694107							1	1
J250	Solenoid for Reversing Valve	106694207	1	1	1	1	1	1	1	1
J682	Valve Core	668188701	2	2	2	2	2	2	2	2
J684	Fitting, Seat	668188801	2	2	2	2	2	2	2	2
J686	Valve Cap	668189501	2	2	2	2	2	2	2	2
J600	Fusible Plug	106057401	1	1	1	1	1	1	1	1

LED Annunciator

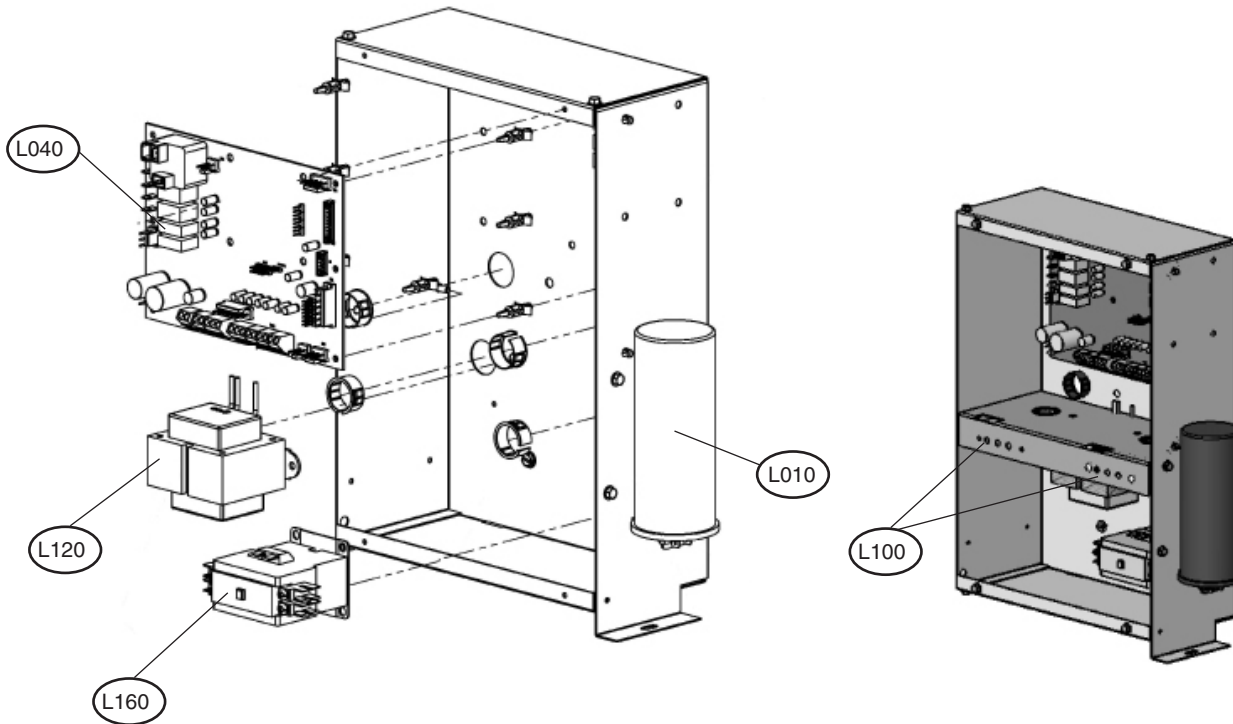


Control Box Separator



Ref.#	Description	Part Number	009	012	015	018	021	024	030	036
L100	LED Annunciator (MT3 & I/O Boards)	668395201	2	2	2	2	2	2	2	2

Control Box



Ref.#	Description	Part Number	Unit Size							
			009	012	015	018	021	024	030	036
L040	Control Board, MicroTech III Code 05= B	668105601	1	1	1	1	1	1	1	1
N/S	LonWorks Comm. Card (CN_LON1 Add-On) Code 05= B/C	668105801**	1	1	1	1	1	1	1	1
N/S	BACnet Comm. Card (CN_LON1 Add-On) Code 05= B/D	668105901**	1	1	1	1	1	1	1	1
N/S	IO Expansion Board Assy (H5 Add-On)	668105701*	1	1	1	1	1	1	1	1
N/S	Stand Off									
	PC Board	802028115	5	5	5	5	5	5	5	5
	Edge-holders (Comm card only)	668395501	4	4	4	4	4	4	4	4
N/S	H1 Connector, 2-Pin (24V Power)	4EGA9159	1	1	1	1	1	1	1	1
N/S	H2 Connector, 2-Pin/1-Blank (Fan Output)	4EGA9160	1	1	1	1	1	1	1	1
N/S	H3 Connector, 2-Pin (Hi Pressure Switch)	4EGA9159	1	1	1	1	1	1	1	1
N/S	H4 Connector, 4-Pin (Dis Air/Leaving H ₂ O Temp Sensor)	4EGA9161	1	1	1	1	1	1	1	1
N/S	H6 Connector, 7-Pin (Cond OF/Low P/Low T/Rev Vlv)	4EGA9164	1	1	1	1	1	1	1	1
N/S	H8 Connector, 3-Pin (Motorized & Isol. Vlv/Pump Relay)	4EGA9160	1	1	1	1	1	1	1	1
N/S	H9 Connector, 2-Pin (RA Temp Sensor)	4EGA9159	1	1	1	1	1	1	1	1
N/S	Sensor, Temp, Discharge Air 10K/72"	669008901	1	1	1	1	1	1	1	1
N/S	Sensor, Temp, Return Air 10K/72"	669008901	1	1	1	1	1	1	1	1
N/S	Sensor, Temp, Entering Water 10K/80"	107201601	1	1	1	1	1	1	1	1
N/S	Sensor, Temp, Leaving Water 10K/80"	107201601	1	1	1	1	1	1	1	1

N/S= Not shown on diagram.

* Used on any unit with the following applications: 2 Compressors/Stages, Supplemental Electric Heat, Multi-speed ECM Motors, and Hot Gas Bypass.

** Field-upgrading requires a Service Tool for com. card programming, com-card stand-off & main PCB jumper change.

Control Box

Ref.#	Description	Part Number	009	012	015	018	021	024	030	036
N/S	Capacitor Strap	850010570	1	1	1	1	1	1	1	1
	115/60/1 - Unit Voltage									
L010	Compressor Capacitor, 55 MFD 370V	067291522	1	1						
	208/230/60/1 - Unit Voltage									
L010	Compressor Capacitor, 25 MFD 370V	067291517	1							
L010	Compressor Capacitor, 30 MFD 370V	067291518		1						
L010	Compressor Capacitor, 35 MFD 370V	067291516			1	1		1		
L010	Compressor Capacitor, 40 MFD 370V	802007850					1		1	
L010	Compressor Capacitor, 45 MFD 370V	067291523								1
	265/60/1 - Unit Voltage									
L010	Compressor Capacitor, 20 MFD 440V	067291510	1	1						
L010	Compressor Capacitor, 35 MFD 440V	067291515			1	1				
L010	Compressor Capacitor, 40 MFD 370V	802007850						1	1	
L010	Compressor Capacitor, 50 MFD 440V	067291521								1
L120	Transformer, 115V - 24V, 50VA	060630802	1	1	1	1	1	1	1	1
L120	Transformer, 208/230V - 24V, 50VA	060614102	1	1	1	1	1	1	1	1
L120	Transformer, 277V - 24V, 50VA	060630702	1	1	1	1	1	1	1	1
L160	Contact, Compr, 24V, 25A, 2P	0733300101	1	1	1	1	1	1	1	1
L160	Contact, Compr, 208V, 25A, 2P	0733300102 *	1	1	1	1	1	1	1	1

N/S = Not Shown

* Used only on 208-230V units with standard motor (Code 15=1 and Code 06 = E).

Note: Compressor Capacitor not required on all units. Contact McQuay Parts with the unit GO # and Serial # for units not listed.

Disconnect Switch and Fusing

Description	Part Number	QTY
Switch, Rocker SPST	061321501	1
Switch, Disconnect	4EAL4022	1
Fuse, Disconnect		
10A	4EHG7795	2
15A	049128306	2
20A	049128307	2
30A	049128308	2
7A	4EHG7750	2