



AIR-COOLED SCROLL CHILLER

INSTALLATION, OPERATION, MAINTENANCE

Supersedes: QTC3-NM1 (1115)

Form QTC3-NM1 (916)

035-24487-000

Model #: QTC3060THE46XFBBDTXAXXBLXCXX44SX1XXXHXXXYAXXXX3XXAXNXXXXXX
Serial #: 11531M43322290

QTC3055T - QTC3205T WITH BRAZED PLATE HEAT EXCHANGER STYLE B (60 HZ) 4-10 FAN 55 - 200 TON 195 - 700 KW

Year: 2015
Size: 60 Tons



LD18971a

Shipping Weight: 3,748 lbs
Operating Weight: 4,015 lbs

R-410A

L: 8' 4"
W: 7' 4"
H: 7' 10"



Issue Date:
October 30, 2016

QTC 3060T

H E 46 X
NOMENCLATURE

F

B

QTC

UNIT TYPE

QT = Quantech
 Chiller

3110T

CAPACITY

- | | |
|-----------------|----------|
| QTC3055T | QTC3110T |
| QTC3060T | QTC3120T |
| QTC3070T | QTC3125T |
| QTC3075T | QTC3130T |
| QTC3080T | QTC3140T |
| QTC3085T | QTC3150T |
| QTC3090T | QTC3160T |
| QTC3095T | QTC3170T |
| QTC3100T | QTC3205T |

H

UNIT DESIGNATOR

S = STANDARD EFFICIENCY
 H = HIGH EFFICIENCY

E

REFRIGERANT

E = R-410A

46

VOLTAGE CODE:

- 17 = 200-3-60
- 28 = 230-3-60
- 40 = 380-3-60
- 46 = 460-3-60**
- 58 = 575-3-60

X

STARTER

X = Across the line
 T = Soft Start

B

DESIGN SERIES

B

DEVELOPMENT LEVEL

SECTION 5 – TECHNICAL DATA OPERATIONAL LIMITATIONS (ENGLISH)

TABLE 3 - TEMPERATURES AND FLOWS

UNIT DESIGNATION	TEMPERATURE		WATER FLOW (GPM) MIN	WATER FLOW (GPM) MAX	AIR ON CONDENSER (°F)	
	MIN ¹	MAX ²			MIN ³	MAX ⁴
STANDARD EFFICIENCY						
QTC3070TSE	40	55	60	285	0	125
QTC3075TSE	40	55	100	355	0	125
QTC3085TSE	40	55	100	385	0	125
QTC3095TSE	40	55	100	385	0	125
QTC3110TSE	40	55	150	625	0	125
QTC3125TSE	40	55	150	625	0	125
QTC3140TSE	40	55	150	625	0	125
QTC3160TSE	40	55	150	625	0	125
HIGH EFFICIENCY						
QTC3055THE	40	55	60	285	0	125
QTC3060THE	40	55	60	285	0	125
QTC3080THE	40	55	150	625	0	125
QTC3090THE	40	55	100	385	0	125
QTC3100THE	40	55	100	385	0	125
QTC3120THE	40	55	100	385	0	125
QTC3130THE	40	55	150	625	0	125
QTC3150THE	40	55	150	625	0	125
QTC3170THE	40	55	150	625	0	125
QTC3205THE	40	55	230	625	0	125

NOTES:

1. For leaving liquid temperature below 40°F (4°C) (to 10°F [-12°C]) optional low temperature glycol kit required. Contact your nearest Quantech Office for application requirements.
2. For leaving liquid temperature higher than 55°F (13°C), contact the nearest Quantech Office for application guidelines.
3. The evaporator is protected against freezing to -20°F (-29°C) with an electric heater as standard.
4. For operation at temperatures above 115°F (46°C), the optional High Ambient Kit will need to be installed on the system.



Excessive flow will cause damage to the cooler. Do not exceed maximum cooler flow. Special care should be taken when multiple chillers are fed by a single pump.

PHYSICAL DATA QTC3055T – QTC3205T 60HZ

TABLE 5 - PHYSICAL DATA (ENGLISH) 60 HZ (CONT'D)

REFRIGERANT R-410A	QTC3									
	HIGH EFFICIENCY UNITS									
	055THE	060THE	080THE	090THE	100THE	120THE	130THE	150THE	170THE	205THE
NOMINAL RATINGS³										
TONS	57.0	62.3	78.8	85.7	98.3	116.0	129.5	144.5	172.5	194.5
KW INPUT	64.4	71.9	91.0	83.6	106.1	122.0	138.9	153.0	194.2	210.9
EER	10.6	10.4	10.4	11.0	10.1	10.3	10.2	10.2	9.8	10.1
IPLV	15.6	15.6	16.1	16.1	15.7	15.7	15.9	15.5	15.6	16.1
GENERAL UNIT DATA										
Length	100.2	100.2	100.2	142.7	142.7	187.7	187.7	232.7	232.7	274.4
Width	88.0	88.0	88.0	88	88	88	88	88	88	88.3
Height	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2
Number Of Refrigerant Circuits	2	2	2	2	2	2	2	2	2	2
REFRIGERANT CHARGE, OPERATING										
R-410A, CKT1/CKT2, LBS	43/43	43/43	44/44	59/55	45/65	75/71	83/73	90/82	94/92	95/95
Oil Charge, CKT1/CKT2, Gallons	2.58/2.58	2.89/2.58	2.58/2.58	2.76/2.76	3.28/3.33	3.33/3.33	4.99/2.76	4.99/3.33	4.99/4.99	4.2/4.2
Shipping Weight	3508	3704	4061	4718	4953	5869	6259	7344	7882	9205
Operating Weight	3552	3748	4145	4791	5026	5942	6369	7428	8001	9333
COMPRESSORS, SCROLL TYPE										
Compressors Per Circuit	2/2	3/2	3/3	3/3	3/2	2/2	3/3	3/2	3/3	3/3
Compressors Per Unit	4	5	6	6	5	4	6	5	6	6
NOMINAL TONS PER COMPRESSOR										
Circuit 1	15	13	15	15	15	32	32	32	32	35
Circuit 2	15	15	13	15	32	32	15	32	32	35
CONDENSER										
Total Face Area Ft ²	106.9	106.9	106.9	160.3	160.3	213.8	213.8	267.2	267.2	320.7
Number Of Rows	1	1	1	1	1	1	1	1	1	1
Fins Per Inch	20	20	20	20	20	20	20	20	20	20
CONDENSER FANS, LOW SOUND										
Number Of Fans, CKT 1/CKT 2	2/2	2/2	2/2	3/3	4/2	4/4	5/3	6/4	5/5	6/6
Fan HP	2	2	2	2	2	2	2	2	2	2.0
Fan RPM	1160	1160	1160	1160	1160	1160	1160	1160	1160	1160
Total Chiller CFM	62400	62400	62400	93600	93600	124800	124800	156000	156000	187200
EVAPORATOR										
Water Volume, Gallons	5.4	5.4	10	8.8	8.8	8.8	13.2	10.0	14.3	12.6
Maximum Water Side Pressure, PSIG	150	150	150	150	150	150	150	150	150	150
Maximum Refrigerant Side Pressure, PSIG	450	450	450	450	450	450	450	450	450	450
Minimum Chiller Water Flow Rate, GPM	60	60	150	100	100	100	150	150	150	230
Maximum Chiller Water Flow Rate, GPM	285	285	625	385	385	385	625	625	625	625
Water Connections Size, Inches	3	3	3	3	3	4*	4*	4*	4*	5

NOTES:

1. kW = Compressor Input Power.
2. EER = Chiller EER (includes power from compressors, fans, and the control panels 0.8 kW).
3. Rated in accordance with AHRI Standard 550/590 at an air on condenser temperature of 95°F and a leaving chilled water temperature of 44°F.
4. Additional rating information can be provided by your local Quantech technical support.

ELECTRICAL DATA

TABLE 6 - MICROPANEL POWER SUPPLY

UNIT VOLTAGE	UNIT VOLTAGE	CONTROL POWER	MCA NOTE A	OVER CURRENT PROTECTION, SEE NOTE B		NF DISC SW
				MIN	MAX	
MODELS W/O CONTROL TRANS		115-1-60/50	15A	10A	15A	30 A / 240V
MODELS W/ CONTROL TRANS	-17	200-1-60	15A	10A	15A	30 A / 240V
	-28	230-1-60	15A	10A	15A	30 A / 240V
	-40	380-1-60	15A	10A	15A	30 A / 480V
	-46	460-1-60	15A	10A	15A	30 A / 480V
	-50	380/415-1-60	15A	10A	15A	30A / 415V
	-58	575-1-60	15A	10A	15A	30 A / 600V

A. Minimum #14 AWG, 75 °C, Copper Recommended

B. Minimum and Maximum Over Current Protection, Dual Element Fuse or Circuit Breaker



*It is possible that multiple sources of power can be supplying the unit power panel. To prevent serious injury or death, the technician should verify that **NO LETHAL VOLTAGES** are present inside the panel **AFTER** disconnecting power, **PRIOR** to working on equipment.*



The unit evaporator heater uses 120VAC. Disconnecting 120VAC power from the unit, at or below freezing temperatures, can result in damage to the evaporator and unit as a result of the chilled liquid freezing.

Voltage Limitations

The following voltage limitations are absolute and operation beyond these limitations may cause serious damage to the compressor.

TABLE 7 - VOLTAGE RANGE

VOLTAGE RANGE			
VOLTAGE CODE	UNIT POWER	MIN.	MAX.
-17	200-208/3/60	180	220
-28	230-3-60	207	253
-40	380-3-60	342	440
-46	460-3-60	414	506
-50	380/415-3-50	342	440
-58	575-3-60	517	633

COMPRESSOR HEATERS

Compressor heaters are standard. ZP180 compressors utilize 70W heaters; ZP235, compressor use 120W heaters and ZP285 and ZP385 utilize 150W heaters. If power is OFF more than two hours, the crankcase heat-

ers must be energized for 18 – 24 hours prior to restarting a compressor. This will assure that liquid slugging and oil dilution does not damage the compressors on start.

TABLE 9 - ELECTRICAL DATA WITHOUT PUMPS

CHILLER MODEL	VOLTAGE CODE	MIN CKT. AMPS	MIN N/F DISC SW	MIN DUAL ELEM FUSE & MIN CB	MAX DUAL ELEM FUSE MAX CB
055T	208	301	400	300	300
	230	297	400	300	300
	380	162	200	175	175
	460	141	200	150	150
	575	106	150	110	110
060T	208	331	400	350	350
	230	327	400	350	350
	380	183	250	200	200
	460	161	200	175	175
	575	116	150	125	125
070T	208	359	400	350	350
	230	354	400	350	350
	380	204	250	225	225
	460	179	200	175	175
	575	124	150	125	125
075T	208	388	600	400	400
	230	384	600	400	400
	380	214	250	225	225
	460	187	200	200	200
	575	137	150	150	150
080T	208	388	400	400	400
	230	384	400	400	400
	380	214	250	225	225
	460	187	200	200	200
	575	137	150	150	150
085T	208	416	600	450	450
	230	412	600	450	450
	380	224	250	250	250
	460	195	200	200	200
	575	149	150	150	150
090T	208	431	600	450	450
	230	427	600	450	450
	380	233	250	250	250
	460	203	250	225	225
	575	155	200	150	150
095T	208	475	600	500	500
	230	471	600	500	500
	380	273	400	300	300
	460	231	250	250	250
	575	178	200	200	200
100T	208	483	600	500	500
	230	478	600	500	500
	380	278	400	300	300
	460	235	250	250	250
	575	181	200	200	200
110T	208	522	600	600	600
	230	517	600	600	600
	380	313	400	350	350
	460	261	400	300	300
	575	202	250	225	225