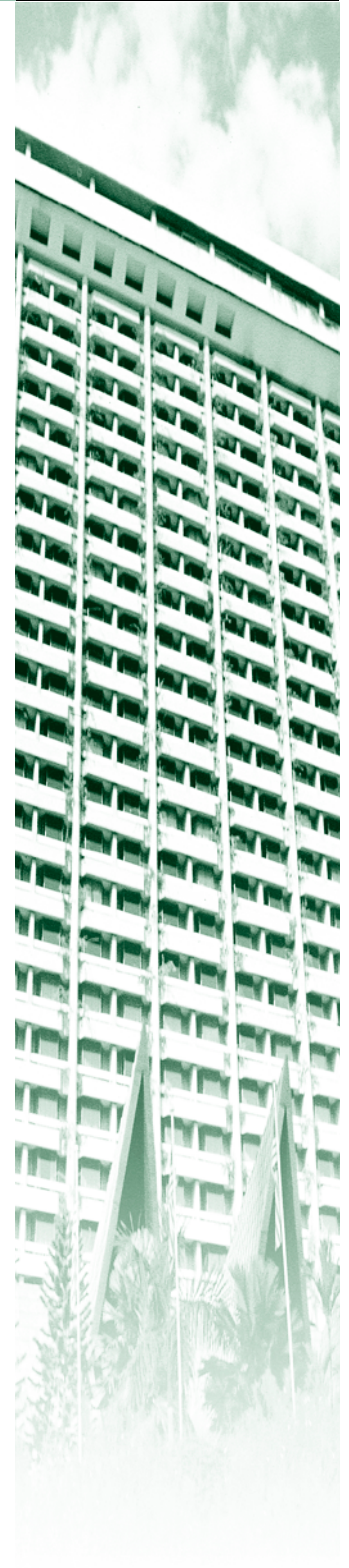
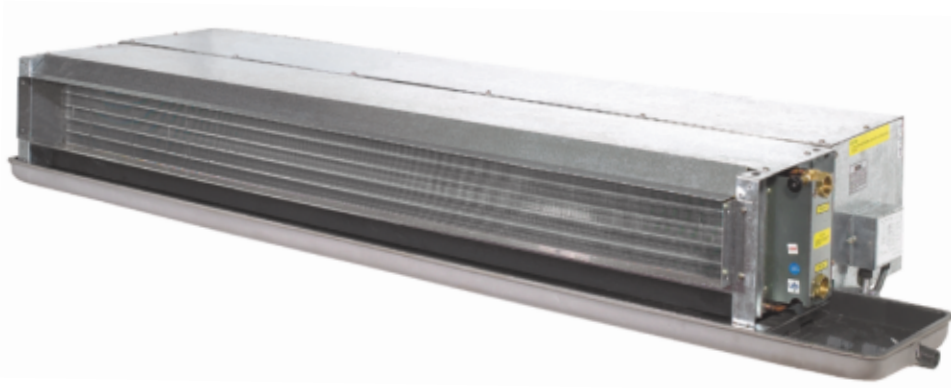
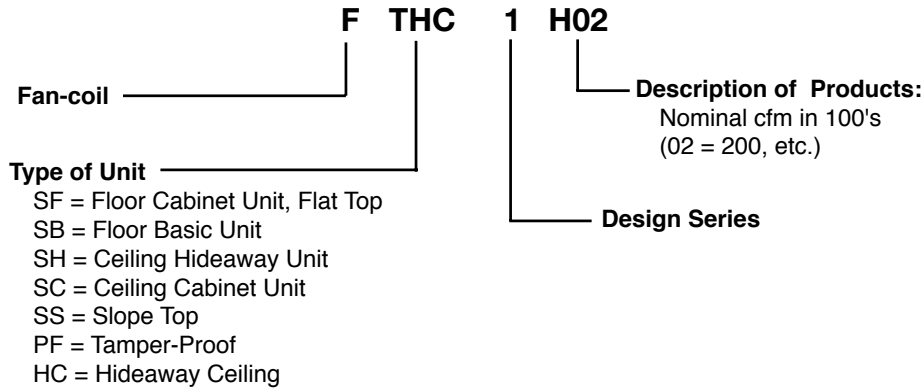


# McQuay® Horizontal Concealed Fan Coil Unit

Model THC



# McQuay® THC Horizontal Concealed Fan Coil Nomenclature



## Agency Listed



All standard units  
All custom units



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# Introduction

McQuay® fan coil units have been widely applied in hotels, apartments, dormitories and military barracks, assisted living facilities and offices. McQuay fan coils have earned a reputation for quality - providing years of efficient, reliable, quiet heating and cooling - and easy, low-cost installation and maintenance.

The Model THC horizontal concealed fan coil unit is a compact, lightweight unit that is ideal for installation in ceilings where space is limited. Units are available in seven sizes from 200 to 1,200 cfm.

## Design Features

### Ultra-Slim Profile

The highly compact, super lightweight design of the Model THC fan coil unit makes it ideal for inside ceiling installations where space is limited.

### High Efficiency Coil

Unique coil design promotes the mixture of warm and cold air, resulting in high thermal efficiency and lower operating costs.

### Quiet Centrifugal Fan Assembly

High efficiency fan assembly minimizes vibration and noise.

### Indoor Air Quality Drain Pan

The extended, positive slope drain pan is removable and is coated with an epoxy finish for easy cleaning to help prevent microbial growth and to fight corrosion. The drain pan is insulated with a form-fitted closed cell insulation to prevent condensation build-up on the outside of the drain pan.

### Insulation Out Of Airstream

Unit is designed to prevent insulation fibers from entering the airstream for improved indoor air quality.

### Field Flexible Return Air Plenum

Unit ships standard with rear return plenum, but is easily converted to bottom return without using a conversion kit.

### Field Flexible Piping Connections

Units are easily converted to opposite-hand connection without requiring additional parts or a conversion kit. Units may be ordered with left hand or right hand piping connections.

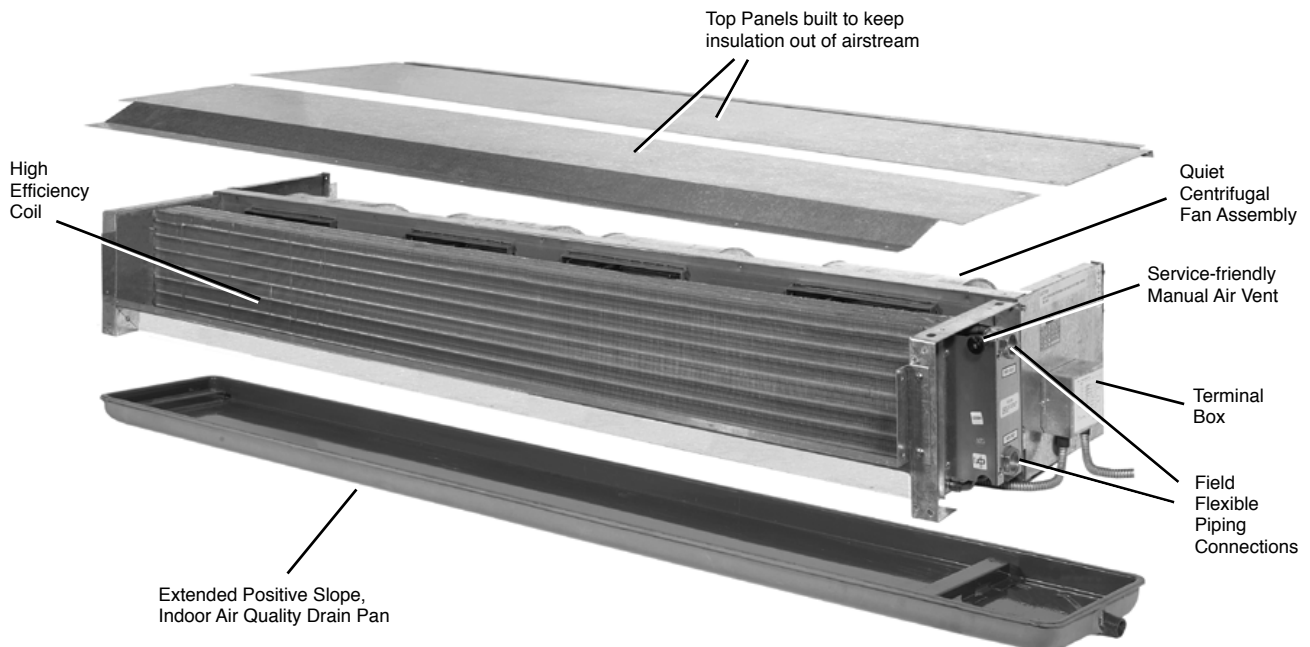
### Threaded Or Sweat Connections

Units ship standard with threaded connection. A threaded adapter is shipped loose with the unit for easy conversion to a sweat connection.

### Service-Friendly Manual Air Vent

Air vent hand valve is conveniently located over the drain pan and does not require any tools to vent the coil.

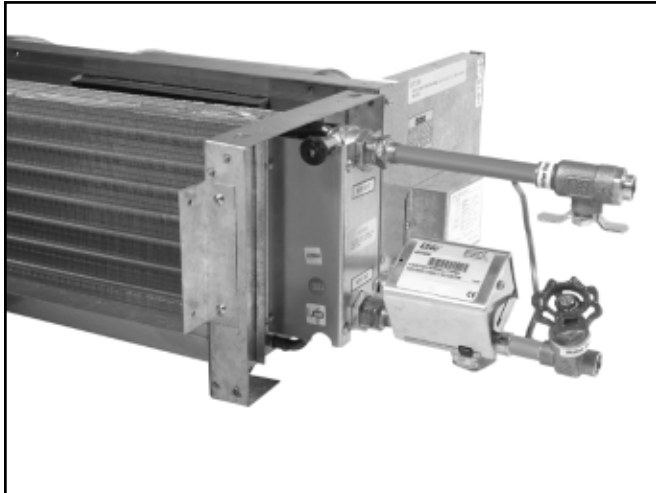
## Parts Description



# Options

## Valve Packages

Two-way and three-way electric valves for field installation on units. Basic package includes electric valve with hand valves.



*Two-way Valve*

## Thermostats

Wall-mounted thermostats for all application requirements are available as either thermostats only or combination thermostat and three-speed switch.



*Thermostats with Three-speed Switches*



*Separate Wall Mounted Thermostat and Three-Speed Switch*

# Performance Data – THC Horizontal Concealed (2-Pipe System)

## ARI Approved Standard Coil Water Cooling Capacity Ratings ①

UNIT SIZE	FTHC HORIZONTAL CONCEALED UNIT			
	COOLING CAPACITY①		WATER FLOW GPM	WATER P.D. FT. W.C.
	TOTAL BTUH	SENSIBLE BTUH		
H02	8500	6100	1.94	5.10
H03	11,100	8400	2.51	3.26
H04	14,500	10,800	3.26	5.80
H06	21,200	16,100	4.70	12.82
H08	22,700	18,000	5.14	3.68
H10	25,300	20,000	5.70	4.76
H12	34,200	27,000	7.75	8.29

## Standard Coil Water Heating Capacity Ratings ②

UNIT SIZE	FTHC HORIZONTAL CONCEALED UNIT			
	HEATING CAPACITY②		WATER FLOW GPM	WATER P.D. FT. W.C.
	SENSIBLE BTUH			
H02	14,900		1.94	5.10
H03	20,300		2.51	3.26
H04	26,800		3.26	5.80
H06	37,600		4.70	12.82
H08	42,400		5.14	3.68
H10	48,300		5.70	4.76
H12	68,800		7.75	8.29

Water heating coils at 70°F DB entering air, 140°F entering water, 30°F water temperature drop and high fan speed with standard 115/60/1 motor. For heating coil capacity ratings at conditions other than those listed refer to the RepTools Computer Selection Program or consult your McQuay representative.

## General Unit Data

	Unit Size						
	H02	H03	H04	H06	H08	H10	H12
<b>Fan</b>							
Type	Centrifugal Fan (forward-curved galvanized steel fan wheel)						
Number of Fans	1	1	2	2	3	3	4
Fan Housing	Galvanized Steel						
<b>Coil</b>							
Number of Rows	3-Row						
Type	Water - (3-Row Chilled Water/ Hot Water)						
Testing Pressure	425 psi for 1 minute; leak test: 225 psi for 5 minutes						
<b>Motor(s)</b>							
Type	PSC						
Number of Motors	1	1	1	1	2	2	2
Power Supply	115/60/1, 208-230/50-60/1, 277/60/1						
<b>Watts - High Speed</b>							
50Hz	62	91	109	171	242	249	321
60Hz	75	109	131	205	291	299	385
Coil Connection	3/4" FPT						
Drain Pipe	3/4" MPT						
<b>Unit with Return Air Plenum and Filter</b>							
Length	in.	21.90	21.90	21.90	21.90	21.90	21.90
Width	in.	32.05	38.74	43.86	51.73	61.57	75.75
Height	in.	9.88	9.88	9.88	9.88	9.88	9.88
Ship Weight	lb.	61.00	69.00	83.00	97.00	127.00	146.00

### Conditions:

- ① **Cooling Capacity:** Entering air temp.80°F (DB), 67°F (WB); Entering water temp.45°F, Leaving water temp. 55°F.
- ② **Heating Capacity:** Entering air temp.70°F (DB); Entering water temp.140°F, The same amount of water flow with cooling.  
**Air Flow:** Under dry coil conditions, fan speed high.  
**Weight:** Includes return air plenum and packing.

# Performance Data – THC Horizontal Concealed (4-Pipe System)

## ARI Approved Standard Coil Water Cooling Capacity Ratings ①

UNIT SIZE	FTHC HORIZONTAL CONCEALED UNIT			
	COOLING CAPACITY①		WATER FLOW GPM	WATER P.D. FT. W.C.
	TOTAL BTUH	SENSIBLE BTUH		
H02	8500	6100	1.94	5.10
H03	11,100	8400	2.51	3.26
H04	14,500	10,800	3.26	5.80
H06	21,200	16,100	4.70	12.82
H08	22,700	18,000	5.14	3.68
H10	25,300	20,000	5.70	4.76
H12	34,200	27,000	7.75	8.29

## Standard Coil Water 1-Row Heating Capacity Ratings ②

UNIT SIZE	FTHC HORIZONTAL CONCEALED UNIT		
	1-ROW HEATING CAPACITY②	WATER FLOW GPM	WATER P.D. FT. W.C.
	SENSIBLE BTUH		
H02	11,500	0.64	1.47
H03	16,300	0.91	2.89
H04	20,400	1.12	5.32
H06	29,600	1.65	10.72
H08	36,100	2.00	3.24
H10	40,300	2.24	4.07
H12	49,800	2.76	6.45

Water heating coils at 70°F DB entering air, 180°F entering water, 40°F water temperature drop and high fan speed with standard 115/60/1 motor.  
For heating coil capacity ratings at conditions other than those listed refer to the RepTools Computer Selection Program or consult your McQuay representative.

## General Unit Data

		Unit Size						
		H02	H03	H04	H06	H08	H10	H12
<b>Fan</b>								
Type	Centrifugal Fan (forward-curved galvanized steel fan wheel)							
Number of Fans	1	1	2	2	3	3	4	
Fan Housing	Galvanized Steel							
<b>Coil</b>								
Number of Rows	3/1 Split							
Type	Water - (3-Row Chilled Water) (1-Row Hot Water)							
Testing Pressure	425 psi for 1 minute; leak test: 225 psi for 5 minutes							
<b>Motor(s)</b>								
Type	PSC							
Number of Motors	1	1	1	1	2	2	2	
Power Supply	115/60/1, 208-230/50/60/1, 277/60/1							
<b>Watts - High Speed</b>								
50Hz	62	91	109	171	242	249	321	
60Hz	75	109	131	205	291	299	385	
Coil Connection	3/4" FPT							
Drain Pipe	3/4" MPT							
<b>Unit with Return Air Plenum and Filter</b>								
Length	in.	21.90	21.90	21.90	21.90	21.90	21.90	21.90
Width	in.	32.05	38.74	43.86	51.73	61.57	65.51	75.75
Height	in.	9.88	9.88	9.88	9.88	9.88	9.88	9.88
Ship Weight	lb.	63.00	73.00	88.00	102.00	134.00	143.00	153.00

### Conditions:

① **Cooling Capacity:** Entering air temp.80°F (DB), 67°F (WB); Entering water temp.45°F, Leaving water temp. 55°F.

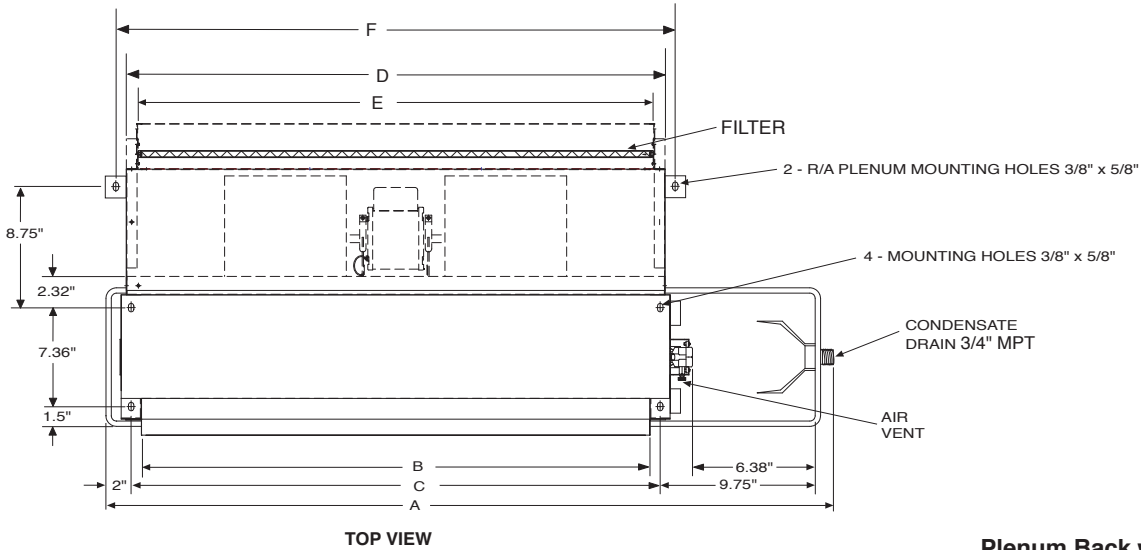
② **Heating Capacity:** Entering air temp.70°F (DB); Entering water temp.180°F.

**Air Flow:** Under dry coil conditions, fan speed high.

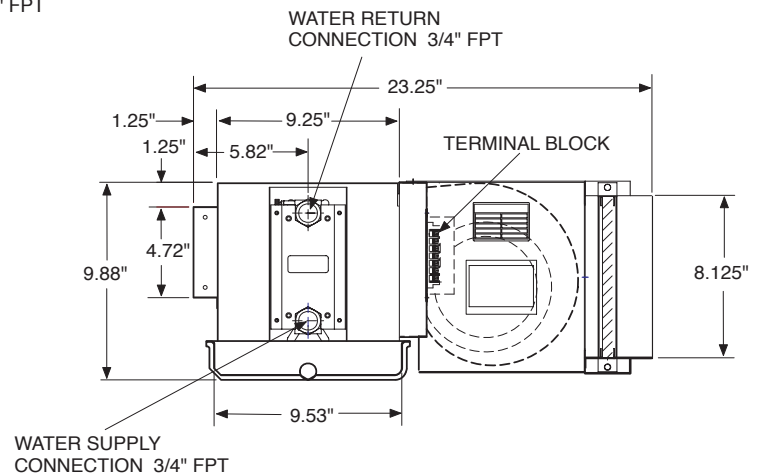
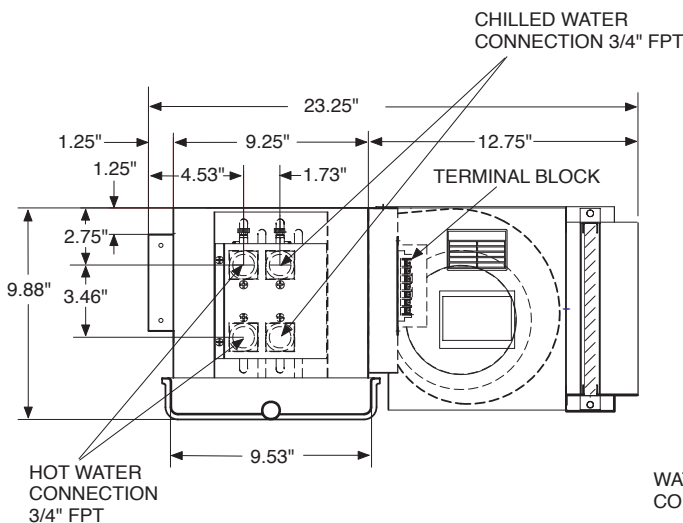
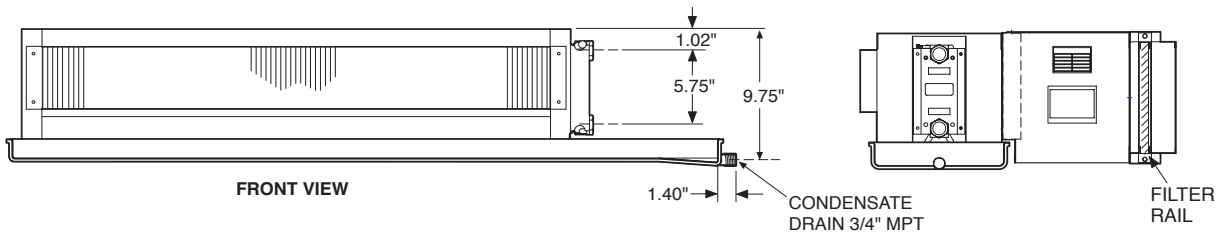
**Weight:** Includes return air plenum and packing.

# Dimensional Data – THC Horizontal Concealed, with Plenum Box

Unit Size	A	B	C	D	E	Number of Fans	Filters	
							Size	Qty
H02	32.05"	17.64"	19.17"	19.96"	18.46"	1	18 <sup>1</sup> / <sub>8</sub> " x 8" x 1"	1
H03	38.74"	24.33"	25.87"	26.65"	25.15"	1	24 <sup>7</sup> / <sub>8</sub> " x 8" x 1"	1
H04	43.86"	29.45"	30.98"	31.77"	30.20"	2	29 <sup>7</sup> / <sub>8</sub> " x 8" x 1"	1
H06	51.73"	37.32"	38.86"	39.65"	38.07"	2	18 <sup>7</sup> / <sub>8</sub> " x 8" x 1"	2
H08	61.57"	47.17"	48.70"	49.49"	47.91"	3	23 <sup>3</sup> / <sub>4</sub> " x 8" x 1"	2
H10	65.51"	51.10"	52.64"	53.43"	51.85"	3	25 <sup>3</sup> / <sub>4</sub> " x 8" x 1"	2
H12	75.75"	61.34"	62.87"	63.66"	62.09"	4	30 <sup>7</sup> / <sub>8</sub> " x 8" x 1"	2



**Plenum Back with Filter**



**4-Pipe System - Right Hand Unit\***

\*Factory supplied left hand units also available

**2-Pipe System - Right Hand Unit\***

# Air Volume Capacity Data

Air volume versus external static pressure

Unit Size		Fan Motor Speed																				
		High							Medium							Low						
		External Static Pressure (INCHES OF WATER)							External Static Pressure (INCHES OF WATER)							External Static Pressure (INCHES OF WATER)						
		.00	.05	.10	.15	.20	.25	.30	.00	.05	.10	.15	.20	.25	.30	.00	.05	.10	.15	.20	.25	.30
H02	Air Flow cfm	311	288	270	255	236	224	207	231	211	195	178	164	152	134	181	157	139	125	111	94	87
	RPM	1043	1138	1172	1194	1240	1262	1291	869	879	966	1012	1051	1108	1119	704	773	826	887	965	1032	1091
H03	Air Flow cfm	423	398	383	366	343	326	308	298	277	262	244	229	213	197	235	218	200	184	165	148	133
	RPM	1143	1172	1202	1226	1255	1282	1313	838	890	945	992	1043	1097	1144	714	756	833	886	953	1023	1081
H04	Air Flow cfm	507	472	444	416	386	359	326	340	298	267	239	209	181	153	274	234	197	170	143	111	83
	RPM	1122	1165	1201	1221	1258	1285	1314	788	851	903	964	1043	1093	1156	678	737	811	891	957	1028	1091
H06	Air Flow cfm	798	770	742	714	688	654	627	578	549	534	508	483	456	432	518	497	471	444	425	406	376
	RPM	1295	1311	1333	1361	1382	1399	1416	990	1017	1060	1102	1151	1182	1230	894	937	994	1049	1086	1141	1181
H08	Air Flow cfm	949	918	874	833	788	747	716	740	703	671	632	594	550	517	662	632	601	554	521	490	449
	RPM	1172	1192	1221	1259	1286	1320	1341	931	1003	1027	1072	1124	1167	1219	892	935	956	1014	1070	1121	1174
H10	Air Flow cfm	1032	981	932	881	836	712	716	775	723	688	631	582	533	493	697	643	602	538	496	463	410
	RPM	1251	1279	1303	1331	1344	1386	1412	984	1037	1068	1115	1169	1245	1255	902	969	1001	1062	1123	1161	1204
H12	Air Flow cfm	1428	1380	1334	1287	1229	1173	1114	1067	1022	976	927	875	833	781	960	912	877	826	788	806	705
	RPM	1344	1367	1389	1408	2845	2886	1462	1039	1062	1106	1149	1192	1235	1277	958	1003	1043	1095	1141	1178	1224

Note: Based on 115V operation, and dry coils.

# Motor Data

Fan Motor Speed	Unit Size																				
	H02			H03			H04			H06			H08			H10			H12		
	Amps	Watts	RPM	Amps	Watts	RPM	Amps	Watts	RPM	Amps	Watts	RPM	Amps	Watts	RPM	Amps	Watts	RPM	Amps	Watts	RPM
<b>115/60/1</b>																					
<b>High</b>	0.7	75	1043	1.0	109	1143	1.2	131	1122	1.8	205	1295	2.6	291	1172	2.7	299	1251	3.5	385	1344
<b>Medium</b>	0.6	61	869	0.7	73	838	0.9	93	788	1.4	155	990	2.0	229	931	2.0	225	984	2.7	305	1039
<b>Low</b>	0.5	53	704	0.6	63	714	0.8	83	678	1.3	145	894	1.9	211	892	1.9	211	902	2.5	279	958

Note: Based on 115V operation, dry coil, and 0.0 ESP.

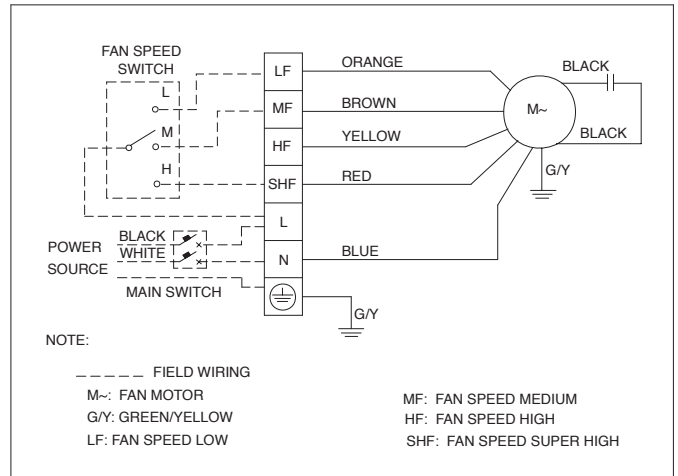
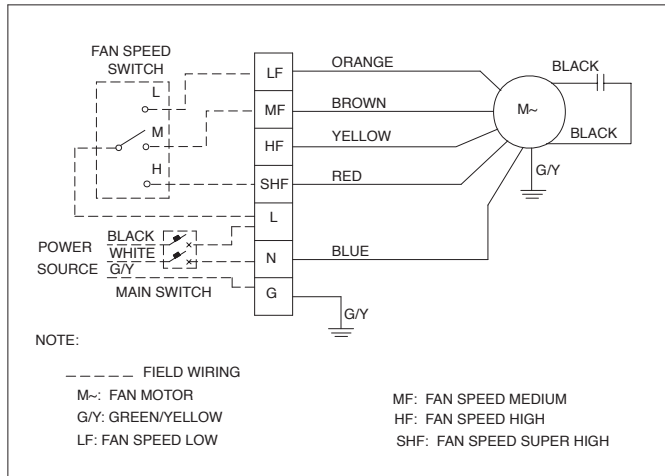


# Wiring Diagrams

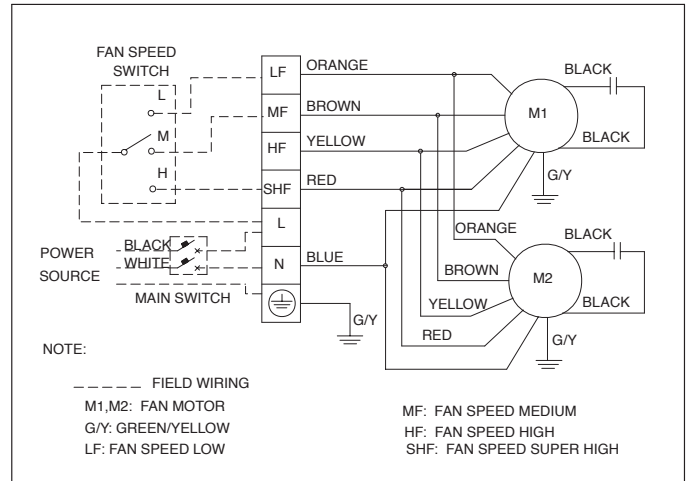
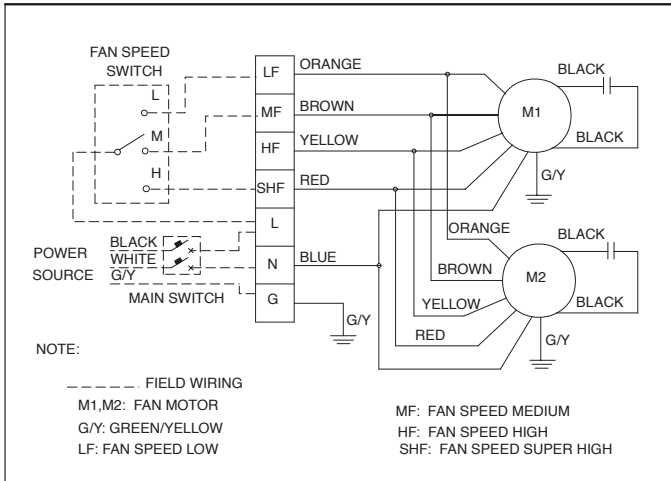
For Models: THCH02, THCH03, THCH04, and THCH06

Wiring (115V/1P/60Hz)(208-230V/1P/60Hz)(265/277V/1P/60Hz)

Wiring (220V/1P/50Hz)

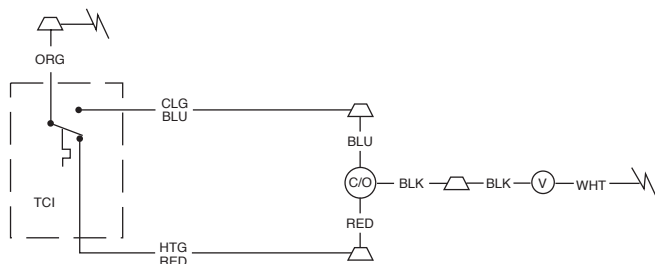


For Models: THCH08, THCH10, THCH12

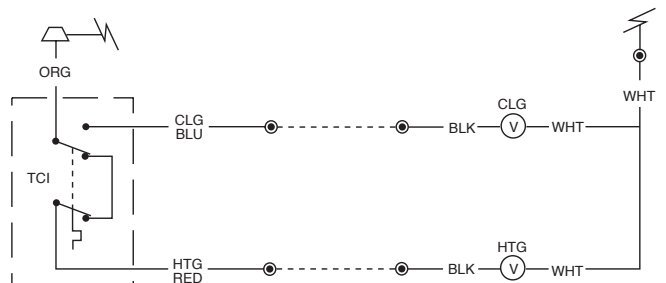


## Valve Package Wiring Diagrams

Control Wiring Schematic - Heating/Cooling 2-Pipe With Automatic Changeover



Control Wiring Schematic - Heating/Cooling 4-Pipe With Sequencing Thermostat



### Legend

- |                    |                     |                |   |
|--------------------|---------------------|----------------|---|
| — 16 — Wire No.    | —●— Wire Connector  | HTG Heating    | C/O Change over Switch (Manual or Auto) |
| — WHT — Wire Color | —○— Field Connector | TCI Thermostat |   |
| —△— Wire Connector | CLG Cooling         | V Valve        |   |

# McQuay THC Horizontal Concealed Fan Coil Engineering Guide Specifications

Furnish and install where shown on the plans and specifications, McQuay THC Horizontal Concealed Fan-Coil Units. Types, sizes and performance shall be as tabulated in the schedule. Unit performance shall be substantiated by computer generated output data. Each unit shall be ARI certified and consist of and comply with the following:

## Construction

**General** – Basic unit shall consist of a base casing and return air plenum fabricated of heavy gauge galvanized steel with four-sided one inch duct collar for an easy connections to discharge duct work. Return air plenum shall have filter frame with 3/4" return air duct collar that can be interchanged for back or bottom return air. Plenum shall be fully insulated with foil faced, thermal and acoustical insulation to prevent glass fibers in the air stream, unit sweating, and to attenuate fan noise.

**Electrical** – Unit shall be furnished with a single point power location, terminal strip and junction box for motor and other electrical terminations.

**Coils** – Coils shall have aluminum fins with copper tubes mechanically expanded for a permanent bond. Coils shall have a Brass Header with 3/4" FPT connections. Two (2) 3/4" MPT x 1/2" copper male adapters shall be provided by the manufacturer for sweat connection to copper pipe. Coils are tested at 425 psi. for one minute and 225 psi for five minutes. Water coils shall have a hand operated, manual air vent requiring no tools for the venting operation. Coil performance shall be as tabulated in the schedule.

**Fan Assembly** – Unit fan(s) shall be dynamically balanced, forward curved, double width, double inlet scroll centrifugal type constructed of galvanized steel for corrosion resistance. Motors shall have (115/60/1) (208-230/60/1) (265/60/1) three-speed, permanently lubricated sleeve bearing; permanent split capacitor with UL listed automatic reset thermal overload.

**Drain Pan** – Shall be removable, cleanable, constructed of epoxy coated heavy gauge galvanized steel and externally insulated with 1/8" closed cell insulation.

**Insulation** – Hideaway return air plenum shall be fully insulated with foil faced, thermal and acoustical insulation to prevent glass fibers in the air stream, unit sweating, and to attenuate fan noise.

**Filters** – Standard filter shall be nominal 1" throwaway type.

## Optional Accessories

**Speed Control** – Units shall have a three-speed switch with integral on/off switch suitable for remote mounting and shall provide high/medium/low fan speed control.

**Valve Packages** – Shall consist of two or three-way, two position motorized valve with hand gate valve on supply and hand ball valve on return piping. Two-way packages shall have standard bypass line for optional changeover aquastat.

**Thermostats** – Wall mounted for all application requirements. Thermostats are available as either thermostat only or combination thermostat and three-speed switch.



This document contains the most current product information as of this printing. For the most up-to-date product information, please go to [www.mcquay.com](http://www.mcquay.com).

