



United Technologies

Product Data

WeatherMaster®
Single-Package Gas Heating/Electric
Cooling Rooftop Units
and Electric Cooling Rooftop Units
30 to 100 Nominal Tons



WeatherMaster®

2016
30 Ton

Model #: 50P3-030618FN5T5JD
Serial #: 3216U48036



L: 21' 5"
W: 8' 2"
H: 6' 6"

48/50P2,P3,P4,P5 030-100
Single-Package Gas Heating/Electric Cooling Rooftop Units
and Electric Cooling Rooftop Units with Optional Electric Heat
with ComfortLink Controls and Puron® Refrigerant (R-410A)

Shipping Weight: 5,819 lbs

Model number nomenclature



48P2,P3,P4,P5 UNITS

48 – Cooling Unit with Gas Heat

Configuration
P2 – Vertical Supply/Return, CV/SAV ComfortLink Controls
P3 – Vertical Supply/Return, VAV ComfortLink Controls
P4 – Horizontal Supply/Return, CV/SAV ComfortLink Controls
P5 – Horizontal Supply/Return, VAV ComfortLink Controls

Heat and Chassis Options
 – Low Gas Heat, Humidi-MiZer® System
A – High Gas Heat, Humidi-MiZer System
B – Low Gas Heat, Stainless Steel
C – High Gas Heat, Stainless Steel
D – Low Gas Heat
E – High Gas Heat
F – Low Staged Gas Heat, Stainless Steel, Humidi-MiZer System
G – High Staged Gas Heat, Stainless Steel, Humidi-MiZer System
H – Low Staged Gas Heat, Stainless Steel
J – High Staged Gas Heat, Stainless Steel
K – Low Modulating Gas Heat, Stainless Steel
L – High Modulating Gas Heat, Stainless Steel
M – Low Gas Heat, Stainless Steel, Humidi-MiZer System
N – High Gas Heat, Stainless Steel, Humidi-MiZer System
P – Low Gas Heat, Stainless Steel, Extended Chassis
Q – High Gas Heat, Stainless Steel, Extended Chassis
R – Low Gas Heat with Extended Chassis
S – High Gas Heat with Extended Chassis
W – Low Staged Gas Heat, Stainless Steel, with Extended Chassis
X – High Staged Gas Heat, Stainless Steel, with Extended Chassis
Y – Low Modulating Gas Heat, Stainless Steel, Humidi-MiZer System
Z – High Modulating Gas Heat, Stainless Steel, Humidi-MiZer System
2 – Low Modulating Gas Heat, Stainless Steel, with Extended Chassis
3 – High Modulating Gas Heat, Stainless Steel, with Extended Chassis

Option Code

Factory Options
See note below

Design Revision Level
0 – Initial Release
1 – First Revision
2 – 35T Release
3 – Third Revision

Voltage Options
1 – 575-3-60
5 – 208/230-3-60
6 – 460-3-60

Unit Size – Nominal Tons

030 – 30	060 – 60
035 – 35	070 – 70
040 – 40	075 – 75
050 – 50	090 – 90
055 – 55	100 – 100

LEGEND
CV — Constant Volume
SAV™ — Staged Air Volume
VAV — Variable Air Volume

NOTE: Because of the large number of options and the many resulting combinations, the Applied Rooftop Builder software must be used to generate the 8-digit option code for the unit model number. Refer to the software for the different choices for unit factory-installed options. Once all of the options have been selected, the software will generate the correct code. Unit options and accessories are listed in the Options and Accessories section on page 37.

50P2,P3,P4,P5 UNITS

50 – Cooling Unit with Electric Heat

Configuration
P2 – Vertical Supply/Return, CV/SAV ComfortLink Controls
P3 – Vertical Supply/Return, VAV ComfortLink Controls
P4 – Horizontal Supply/Return, CV/SAV ComfortLink Controls
P5 – Horizontal Supply/Return, VAV ComfortLink Controls

Heat and Chassis Options
- – No Heat
A – Low Electric Heat
B – Medium Electric Heat
C – High Electric Heat
D – No Heat, Humidi-MiZer System
E – Low Electric Heat, Humidi-MiZer System
F – Medium Electric Heat, Humidi-MiZer System
G – High Electric Heat, Humidi-MiZer System
H – No Heat with Discharge Plenum
J – No Heat with Discharge Plenum, Humidi-MiZer System
P – No Heat with Discharge Plenum and Extended Chassis
R – No Heat with Extended Chassis
S – Low Electric Heat with Extended Chassis
T – Medium Electric Heat with Extended Chassis
V – High Electric Heat with Extended Chassis
W – No Electric Heat with Extended Chassis and Hot Water Coil
Y – No Electric Heat with Discharge Plenum, Extended Chassis and Hot Water Coil
Z – Low Electric Heat, Humidi-MiZer with SCR Control
2 – Medium Electric Heat, Humidi-MiZer with SCR Control
3 – High Electric Heat, Humidi-MiZer with SCR Control
4 – Low Electric Heat, with Extended Chassis with SCR Control
5 – Medium Electric Heat, with Extended Chassis with SCR Control
6 – High Electric Heat, with Extended Chassis with SCR Control

Option Code

Factory Options
See note below

Design Revision Level
0 – Initial Release
1 – First Revision
2 – 35T Revision
3 – Third Revision

Voltage Options
1 – 575-3-60
2 – 380-3-60
5 – 208/230-3-60
6 – 460-3-60

Unit Size – Nominal Tons

030 – 30	060 – 60
035 – 35	070 – 70
040 – 40	075 – 75
050 – 50	090 – 90
055 – 55	100 – 100

LEGEND
CV — Constant Volume
SAV — Staged Air Volume
SCR — Silicon Controlled Rectifier Electric Heat
VAV — Variable Air Volume

NOTE: Because of the large number of options and the many resulting combinations, the Applied Rooftop Builder software must be used to generate the 8-digit option code for the unit model number. Refer to the software for the different choices for unit factory-installed options. Once all of the options have been selected, the software will generate the correct code. Unit options and accessories are listed in the Options and Accessories section on page 37.

Quality Assurance
 Certified to ISO 9001:2008

Physical data — 50 series units



50P2,P3,P4,P5030,035

BASE UNIT	50P2,P3,P4,P5030		50P2,P3,P4,P5035		
NOMINAL CAPACITY (tons)	30		35		
OPERATING WEIGHT (lb)	Standard Chassis	Extended Chassis	Standard Chassis	Extended Chassis	
Base Unit					
Vertical Discharge	4810	5310	4910	5410	
Horizontal Discharge and Vertical Discharge with Discharge Plenum	5110	5610	5210	5710	
With Economizer					
Vertical Discharge	5110	5610	5210	5710	
Horizontal Discharge and Vertical Discharge with Discharge Plenum	5410	5910	5510	6010	
COMPRESSORS	Scroll				
Quantity...Type	1...ZP154/1...ZP154		1...ZP182/1...ZP182		
Oil Charge (oz) per Compressor	110		110		
Number of Refrigerant Circuits	2		2		
REFRIGERANT	R-410A				
Operating Charge (lb), Ckt 1/Ckt 2					
Standard Evaporator Coil	15.4/14.8		17.1/17.5		
Standard Evaporator with Humidi-MiZer® System	15.4/24.9		17.1/27.6		
Alternate High-Capacity Evaporator Coil	17.2/16.0		N/A		
Alternate High-Capacity Evaporator with Humidi-MiZer	17.2/26.1		N/A		
CONDENSER COILS	Aluminum Novation® Heat Exchanger with Microchannel Coils				
Quantity	1		1		
Total Face Area (sq ft)	33.3		33.3		
EVAPORATOR COILS	1 32.1 TXV...1				
Quantity					
Total Face Area (sq ft)					
Refrigerant Feed Device...No. per Circuit					
Standard Evaporator Coils					
Rows...Fins/in.	3...15.0		4...15.0		
Fin Type	Double Wavy		Double Wavy		
Tube Type	Cross Hatched		Cross Hatched		
Alternate, High-Capacity Evaporator Coils					
Rows...Fins/in.	4...15.0		N/A		
Fin Type	Double Wavy		N/A		
Tube Type	Cross Hatched		N/A		
OPTIONAL HUMIDI-MIZER® ADAPTIVE DEHUMIDIFICATION SYSTEM	E-Coated Aluminum Novation® Heat Exchanger with Microchannel Coil Technology				
Coil Construction					
Quantity	1		1		
Face Area (sq ft)	26.7		26.7		
OPTIONAL HYDRONIC HEAT COIL	½-in. OD copper tubes, aluminum plate fins, galvanized steel frame				
Face Area (sq ft)	22.6		22.6		
Rows...Fins Per Inch	2...8		2...8		
Circuit Arrangement	Half		Half		
Connections — (Qty) Dim					
Supply (in.)	(1) 2 ½ NPT		(1) 2 ½ NPT		
Return (in.)	(1) 2 ½ NPT		(1) 2 ½ NPT		
Header Material	Steel		Steel		
Internal Volumes (cu ft)	0.5272		0.5272		
CONDENSER FANS	Propeller Type				
Quantity...Diameter (in.)	2...30		2...30		
Nominal Cfm	18,000		19,500		
Motor Hp...Rpm	1.0...1140		1.0...1140		
SUPPLY FAN	Centrifugal 25 x 25 in.				
Nominal Cfm	12,000		14,000		
Maximum Allowable Cfm	15,000		15,000		
Maximum Allowable Rpm	900		900		
Shaft Diameter at Pulley (in.)	1 11/16		1 11/16		
SUPPLY-FAN MOTOR AND DRIVE	(Any motor available on any unit)				
Motor Hp	7.5	10	15	20	25
Motor Frame Size	213T	215T	254T	256T	284T
Efficiency at Full Load (%)	91.7	91.7	93.0	93.6	93.6
Fan Pulley Pitch Diameter (in.)	13.7	13.7	13.7	13.7	13.7
Motor Pulley Pitch Diameter (in.)	3.4	4.3	4.9	5.5	6.5
Resulting Fan Speed (rpm)	438	549	626	703	830
Belts Quantity...Type	2...BX60	2...5VX630	2...5VX630	2...5VX630	2...5VX650
Center Distance Range (in.)	17.74-14.30	17.74-14.30	17.63...14.01	17.63...14.01	16.63...12.87
OPTIONAL POWER EXHAUST	Centrifugal, 18 x 15 in. (Any motor available on any unit)				
Quantity...Motor Hp	2...3.0	2...5.0	2...7.5	2...10	
Motor Frame Size	182T	184T	213T	215T	
Efficiency at Full Load (%)	88.5	89.5	91.7	91.7	
Fan Pulley Pitch Diameter (in.)	11.0	10.4	12	12	
Motor Pulley Pitch Diameter Range (in.)	4.1-3.1	4.7-3.7	6.0-4.8	7.0-5.8	
Motor Pulley Pitch Diameter Factory Setup (in.)	4.1	4.2	5.4	6.4	
Blower Shaft Diameter at Pulley (in.)	17/16	17/16	17/16	17/16	
Fan Rpm Range	500-656	621-785	717-882	854-1000	
Factory Setup Fan Rpm	656	703	800	927	
Maximum Allowable Rpm	1000	1000	1000	1000	

LEGEND

TXV — Thermostatic Expansion Valve

Physical data — 50 series units (cont)



50P2,P3,P4,P5030,035 (cont)

BASE UNIT	50P2,P3,P4,P5030	50P2,P3,P4,P5035
NOMINAL CAPACITY (tons)	30	35
FILTERS		
Standard Efficiency Throwaway (Standard) Quantity...Size (in.)	8...20 x 25 x 2, 8...20 x 20 x 2	8...20 x 25 x 2, 8...20 x 20 x 2
Medium Efficiency (30%) Pleated (Optional) Quantity...Size (in.)	8...20 x 25 x 2, 8...20 x 20 x 2	8...20 x 25 x 2, 8...20 x 20 x 2
High Efficiency (90%) Bag Filters with High Velocity Prefilters (Opt) Quantity...Size (in.)	6...20 x 24 x 22, 6...20 x 20 x 22	6...20 x 24 x 22, 6...20 x 20 x 22
Bag Filter Prefilter	12...16 x 20 x 2, 3...20 x 24 x 2	12...16 x 20 x 2, 3...20 x 24 x 2
Cartridge Filters with High Velocity Prefilters (Opt) Quantity...Size (in.)	6...20 x 24 x 12, 6...20 x 20 x 12	6...20 x 24 x 12, 6...20 x 20 x 12
Cartridge Filter Prefilter	12...16 x 20 x 2, 3...20 x 24 x 2	12...16 x 20 x 2, 3...20 x 24 x 2
OUTSIDE AIR SCREENS		
Standard Hood (25%) Quantity...Size (in.)	None	None
OPTIONAL ECONOMIZER FILTER		
Quantity...Size (in.)	5...20 x 20 x 2, 2...20 x 25 x 1	Aluminum Frame, Permanent 5...20 x 20 x 1, 2...20 x 25 x 1

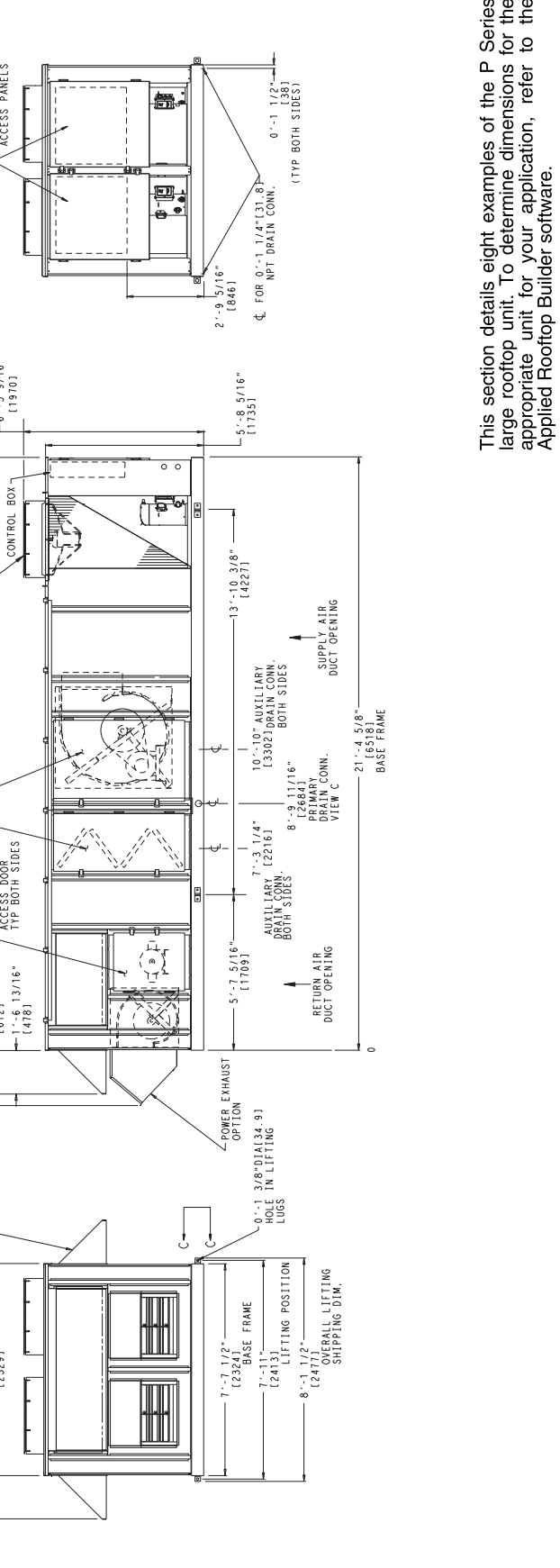
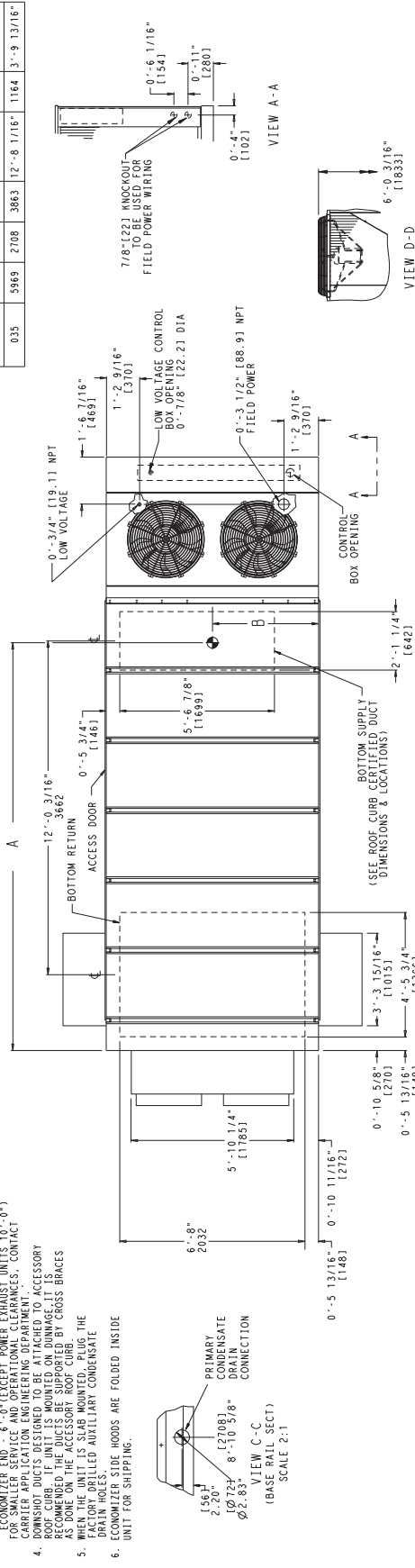
LEGEND

TXV — Thermostatic Expansion Valve

50P2,P3030,035 UNITS (UNIT WITH OPTIONAL EXTENDED PLENUM SHOWN)

- NOTES:
1. DIMENSIONS IN () ARE IN MILLIMETERS.
 2. UNIT WEIGHT AND CENTER OF GRAVITY INCLUDES ECONOMIZER.
 3. LARGEST INDOOR FAN MOTOR AND HIGH CAPACITY EVAPORATOR COIL CONTROL AND RESTRICT CONDENSER FANS.
 4. ECONOMIZER END OF UNIT IS MOUNTED ON DOWNRAISE IT IS BECOME THE ACCESSIBLE SIDE HOOD BY CROSS BRACES FACTORY DRILLED AUXILIARY CONDENSATE DRAIN HOLES.
 5. WHEN THE UNIT IS SLAB MOUNTED, PLUG THE ECONOMIZER SIDE HOODS ARE FOLDED INSIDE UNIT FOR SHIPPING.

UNIT SIZE	WEIGHT		A		B	
	LBS.	KGS.	MM	FT. IN.	MM	FT. IN.
030	5819	2640	3867	12'-8 1/4"	1164	3'-9 13/16"
035	5869	2708	3863	12'-8 1/16"	1164	3'-9 13/16"



This section details eight examples of the P Series large rooftop unit. To determine dimensions for the appropriate unit for your application, refer to the Applied Rooftop Builder software.