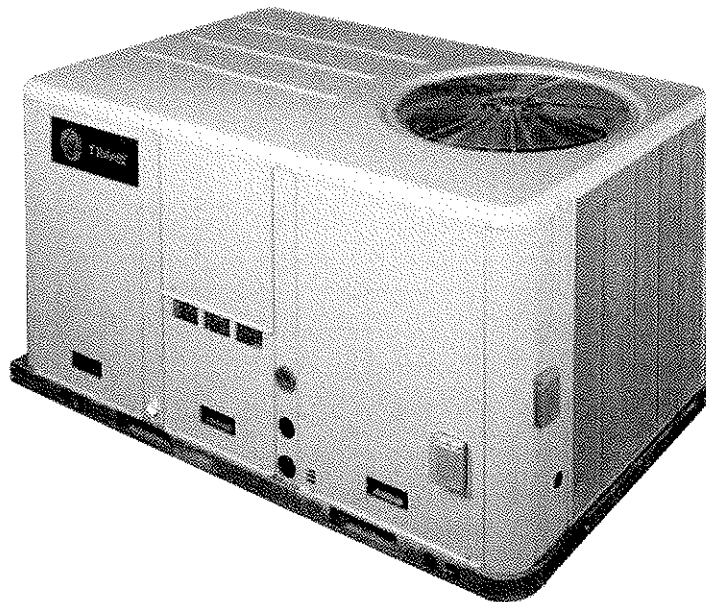




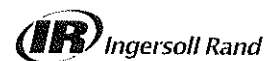
# Product Catalog

## **Packaged Rooftop Air Conditioners** **Precedent™ — Cooling and Gas/Electric** 3 to 10 Tons – 60 Hz



February 2014

**RT-PRC023AF-EN**





# General Data

RTU 3

RTU 1,5,6



Table 1. General data - 3-4 tons - standard efficiency

	3 Tons		4 Tons	
	T/YSC036E1	T/YSC036E3,4,W	T/YSC048E1	T/YSC048E3,4,W
<b>Cooling Performance<sup>(a)</sup></b>				
Gross Cooling Capacity	35,620	37,150	49,210	49,450
EER/SEER <sup>(b)</sup>	11.5/13.0	11.2/13.0	11.1/13.0	10.9/13.0
Nominal cfm/AHRI Rated cfm	1,200/1,200	1,200/1,200	1,600/1,600	1,600/1,600
AHRI Net Cooling Capacity	35,000	35,800	48,000	48,000
System Power (kW)	3.04	3.20	4.32	4.39
<b>Compressor</b>				
Number/Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
<b>Sound</b>				
Outdoor Sound Rating (dB) <sup>(c)</sup>	81	81	82	82
<b>Outdoor Coil - Type</b>				
Configuration	Lanced	Lanced	Lanced	Lanced
Tube Size (in.)	Full Face	Full Face	Full Face	Full Face
Face Area (sq. ft.)	0.3125	0.3125	0.3125	0.3125
Rows/FPI	10.96	9.59	10.96	10.96
	2/16	2/16	2/16	2/16
<b>Indoor Coil - Type</b>				
Configuration	Lanced	Lanced	Lanced	Lanced
Tube Size (in.)	Full Face	Full Face	Full Face	Full Face
Face Area (sq. ft.)	0.3125	0.3125	0.3125	0.3125
Rows/FPI	7.71	7.71	7.71	7.71
Refrigerant Control	3/16	3/16	4/16	4/16
Drain Connection Number/Size (in.)	Thermal Expansion Valve	Thermal Expansion Valve	Thermal Expansion Valve	Thermal Expansion Valve
	1 3/4 NPT	1 3/4 NPT	1 3/4 NPT	1 3/4 NPT
<b>Outdoor Fan - Type</b>				
Number Used/Diameter (in.)	Propeller	Propeller	Propeller	Propeller
Drive Type/No. Speeds	1/22	1/22	1/22	1/22
cfm	Direct/1	Direct/1	Direct/1	Direct/1
Motor hp	3,466	3,375	3,411	3,403
Motor rpm	0.33	0.33	0.33	0.33
	1,075	1,075	1,075	1,075
<b>Indoor Fan - Type (Standard)</b>				
Number Used/Diameter (in.)/Width (in.)	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type/No. Speeds/RPM	1/11x11	1/11x11	1/11x11	1/11x11
Number Motors	Direct/5 <sup>(d)</sup>	Belt/Variable/1,750	Direct/5 <sup>(d)</sup>	Belt/Variable/1,750
Motor hp	1	1	1	1
Motor Frame Size	0.75	1.0	1.0	1.0
	48	56	48	56
<b>Filters<sup>(e)</sup></b>				
Type Furnished	Throwaway	Throwaway	Throwaway	Throwaway
Number Size Recommended	(2) 20x30x2	(2) 20x30x2	(2) 20x30x2	(2) 20x30x2
<b>Refrigerant Charge<sup>(f)</sup></b>				
Pounds of R-410A	6.3	6.0	7.0	7.0

continued on next page

RTU 3

RTU 1,5,6



## General Data

Table 1. General data - 3-4 tons - standard efficiency (continued)

	3 Tons		4 Tons	
	T/YSC036E1	T/YSC036E3,4,W	T/YSC048E1	T/YSC048E3,4,W
<b>Heating Performance<sup>(g)</sup></b>				
<b>(Gas/Electric Only)</b>				
<b>Heating Input</b>				
Low Heat Input (Btu)	60,000	60,000	60,000	60,000
Mid Heat Input (Btu)	80,000	80,000	80,000	80,000
High Heat Input (Btu)	120,000	120,000	120,000	120,000
<b>Heating Output</b>				
Low Heat Input (Btu)	48,000	48,000	49,000	48,000
Mid Heat Input (Btu)	65,000	64,000	65,000	64,000
High Heat Input (Btu)	96,000	96,000	96,000	96,000
<b>AFUE<sup>(h)</sup></b>				
Low Heat Input (Btu)	78	80	79	80
Mid Heat Input (Btu)	78	80	79	80
High Heat Input (Btu)	78	80	79	80
<b>Steady State Efficiency%</b>				
Low Heat Input (Btu)	80	80	81	80
Mid Heat Input (Btu)	81	80	81	80
High Heat Input (Btu)	80	80	80	80
<b>No. Burners</b>				
Low Heat Input (Btu)	2	2	2	2
Mid Heat Input (Btu)	2	2	2	2
High Heat Input (Btu)	3	3	3	3
<b>No. Stages</b>				
Low Heat Input (Btu)	1	1	1	1
Mid Heat Input (Btu)	1	1	1	1
High Heat Input (Btu)	1	1	1	1
<b>Gas Supply Line Pressure</b>				
Natural (minimum/maximum)	4.5/14.0	4.5/14.0	4.5/14.0	4.5/14.0
LP (minimum/maximum)	11.0/14.0	11.0/14.0	11.0/14.0	11.0/14.0
<b>Gas Connection Pipe Size (in)</b>				
Low Heat	1/2	1/2	1/2	1/2
Mid Heat	1/2	1/2	1/2	1/2
High Heat	1/2	1/2	1/2	1/2

(a) Cooling performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

(b) EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.

(c) Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270. For additional information refer to Table 137, p. 181.

(d) For multispeed direct drive rpm TSC values, reference Table 33, p. 81. For multispeed direct drive rpm YSC (low & medium gas heat) values reference Table 34, p. 82. For multispeed direct drive rpm YSC (high gas heat) values reference Table 35, p. 83.

(e) Optional 2" MERV 8 and MERV 13 filters also available.

(f) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.

(g) Heating performance limit settings and rating data were established and approved under laboratory test conditions using American National Standards Institute standards. Ratings shown are for elevations up to 2000 feet. For elevations above 2000 feet, ratings should be reduced at the rate of 4% for each 1000 feet above sea level. Applicable to Gas/Electric units only.

(h) AFUE is rated in accordance with DOE test procedures.



**General Data**

RTU 2, 4, 7, 8, 9



**Table 2. General data - 5 tons - standard efficiency**

	5 Tons	
	T/YSC060E1	T/YSC060E3,4,W
<b>Cooling Performance<sup>(a)</sup></b>		
Gross Cooling Capacity	59,900	62,270
EER/SEER <sup>(b)</sup>	11.0/13.0	11.0/13.0
Nominal cfm/AHRI Rated cfm	2,000/2,000	2,000/2,000
AHRI Net Cooling Capacity	58,000	60,000
System Power (kW)	5.25	5.46
<b>Compressor</b>		
Number/Type	1/Scroll	1/Scroll
<b>Sound</b>		
Outdoor Sound Rating (dB) <sup>(c)</sup>	82	82
<b>Outdoor Coil - Type</b>		
Configuration	Lanced	Lanced
Tube Size (in.)	Full Face	Full Face
Face Area (sq. ft.)	0.3125	0.3125
Rows/FPI	10.96	10.96
	3/16	3/16
<b>Indoor Coil - Type</b>		
Configuration	Lanced	Lanced
Tube Size (in.)	Full Face	Full Face
Face Area (sq. ft.)	0.3125	0.3125
Rows/FPI	7.71	7.71
Refrigerant Control	4/16	4/16
Drain Connection Number/Size (in.)	Thermal Expansion Valve 1 3/4 NPT	Thermal Expansion Valve 1 3/4 NPT
<b>Outdoor Fan - Type</b>		
Number Used/Diameter (in.)	Propeller	Propeller
Drive Type/No. Speeds	1/22	1/22
cfm	Direct/1	Direct/1
Number Motors/hp	3,271	3,245
Motor rpm	0.40	0.40
	1,075	1,075
<b>Indoor Fan - Type (Standard)</b>		
Number Used/Diameter (in.)/Width (in.)	FC Centrifugal	FC Centrifugal
Drive Type/No. Speeds/rpm	1/11x11	1/11x11
Motor hp	Direct/5 <sup>(d)</sup>	Belt/Variable/1,750
Motor Frame Size	1.0	1.0
	48	56
<b>Filters<sup>(e)</sup></b>		
Type Furnished	Throwaway	Throwaway
Number Size Recommended	(2) 20x30x2	(2)20x30x2
<b>Refrigerant Charge<sup>(f)</sup></b>		
Pounds of R-410A	9.5	9.4

continued on next page



General Data

RTU 2,4,7,8,9



Table 2. General data - 5 tons - standard efficiency (continued)

	5 Tons	
	T/YSC060E1	T/YSC060E3,4,W
<b>Heating Performance<sup>(g)</sup></b>		
<b>(Gas/Electric Only)</b>		
<b>Heating Input</b>		
Low Heat Input (Btu)	60,000	60,000
Mid Heat Input (Btu)	80,000	80,000
High Heat Input (Btu)	130,000	130,000
<b>Heating Output</b>		
Low Heat Input (Btu)	48,000	48,000
Mid Heat Input (Btu)	65,000	64,000
High Heat Input (Btu)	104,000	104,000
<b>AFUE%<sup>(h)</sup></b>		
Low Heat Input (Btu)	78	80
Mid Heat Input (Btu)	79	80
High Heat Input (Btu)	78	80
<b>Steady State Efficiency%</b>		
Low Heat Input (Btu)	80	80
Mid Heat Input (Btu)	81	80
High Heat Input (Btu)	80	80
<b>No. Burners</b>		
Low Heat Input (Btu)	2	2
Mid Heat Input (Btu)	2	2
High Heat Input (Btu)	3	3
<b>No. Stages</b>		
Low Heat Input (Btu)	1	1
Mid Heat Input (Btu)	1	1
High Heat Input (Btu)	1	1
<b>Gas Supply Line Pressure</b>		
Natural (minimum/maximum)	4.5/14.0	4.5/14.0
LP (minimum/maximum)	11.0/14.0	11.0/14.0
<b>Gas Connection Pipe Size (in)</b>		
Low Heat	1/2	1/2
Mid Heat	1/2	1/2
High Heat	1/2	1/2

- (a) Cooling performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.
- (b) EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
- (c) Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270. For additional information refer to Table 137, p. 181.
- (d) For multispeed direct drive rpm TSC values, reference Table 33, p. 81. For multispeed direct drive rpm YSC (low & medium gas heat) values reference Table 34, p. 82. For multispeed direct drive rpm YSC (high gas heat) values reference Table 35, p. 83.
- (e) Optional 2" MERV 8 and MERV 13 filters also available.
- (f) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
- (g) Heating performance limit settings and rating data were established and approved under laboratory test conditions using American National Standards Institute standards. Ratings shown are for elevations up to 2000 feet. For elevations above 2000 feet, ratings should be reduced at the rate of 4% for each 1000 feet above sea level. Applicable to Gas/Electric units only.
- (h) AFUE is rated in accordance with DOE test procedures.



## Fan Performance

**Table 140. Gas fired heating capacities - standard efficiency**

Tons	Unit Model Number	Heating Input MBh <sup>(a)</sup>	Heating Output MBh	Air Temp. Rise, F
3	YSC036E1*(L,X)	60	48	25-55
3	YSC036E1*(M,Y)	80	65	35-65
3	YSC036E1*(H,Z)	120	96	55-85
3	YSC036E(3,4,W)*(L,X)	60	48	25-55
3	YSC036E(3,4,W)*(M,Y)	80	64	35-65
3	YSC036E(3,4,W)*(H,Z)	120	96	55-85
4	YSC048E1*(L,X)	60	49	15-45
4	YSC048E1*(M,Y)	80	65	20-50
4	YSC048E1*(H,Z)	120	96	40-70
4	YSC048E(3,4,W)*(L,X)	60	48	15-45
4	YSC048E(3,4,W)*(M,Y)	80	64	20-50
4	YSC048E(3,4,W)*(H,Z)	120	96	40-70
5	YSC060E1*(L,X)	60	48	10-40
5	YSC060E1*(M,Y)	80	65	15-45
5	YSC060E1*(H,Z)	130	104	35-65
5	YSC060E(3,4,W)*(L,X)	60	48	10-40
5	YSC060E(3,4,W)*(M,Y)	80	64	15-45
5	YSC060E(3,4,W)*(H,Z)	130	104	35-65
6	YSC072F(3,4,W)*(L,X)	80	64	15-45
6	YSC072F(3,4,W)*(M,Y)	120	96	20-50
6	YSC072F(3,4,W)*(H,Z)	150/105	120/84	25-55
7½	YSC090F(3,4,W)*(L,X)	120	96	20-50
7½	YSC090F(3,4,W)*(M,Y)	150/105	120/84	25-55
7½	YSC090F(3,4,W)*(H,Z)	200/140	160/112	35-65
7½	YSC092F(3,4,W)*(L,X)	120	96	15-45
7½	YSC092F(3,4,W)*(M,Y)	150/105	120/84	20-50
7½	YSC092F(3,4,W)*(H,Z)	200/140	160/112	35-65
8½	YSC102F(3,4,W)*(L,X)	120	96	15-45
8½	YSC102F(3,4,W)*(M,Y)	150/105	120/84	20-50
8½	YSC102F(3,4,W)*(H,Z)	200/140	160/112	35-65
10	YSC120F(3,4,W)*(L,X)	150/105	120/84	20-50
10	YSC120F(3,4,W)*(M,Y)	200/140	160/112	25-55
10	YSC120F(3,4,W)*(H,Z)	250/175	200/140	35-65

Note: Ratings shown are for elevations up to 2,000 ft. For higher elevations, reduce ratings at a rate of 4% per 1,000 ft. elevation.

(a) For two stage heaters (input or output), Second stage is total heating capacity. Second Stage/First Stage.

**Table 141. Gas fired heating capacities - high efficiency**

Tons	Unit Model Number	Heating Input MBh	Heating Output MBh	Air Temp. Rise, F
3	YHC036E1*(L,X)	60	48	25-55
3	YHC036E1*(M,Y)	80	65	35-65
3	YHC036E1*(H,Z)	120	96	55-85

continued on next page



# Electrical Data

Table 147. Unit wiring - standard efficiency

Tons	Unit Model Number	Voltage Range	Standard Indoor Fan Motor <sup>(a)</sup>		Oversized Indoor Fan Motor	
			MCA	Max Fuse Size or Max Circuit Breaker	MCA	Max Fuse Size or Max Circuit Breaker
3 —	T/YSC036E1	187-253	28.8	45	—	—
	T/YSC036E3	187-253	23.0	35	—	—
	T/YSC036E4	414-506	11.7	15	—	—
	T/YSC036EW	517-633	9.4	15	—	—
4 —	T/YSC048E1	187-253	36.8	50	—	—
	T/YSC048E3	187-253	24.1	35	—	—
	T/YSC048E4	414-506	11.5	15	—	—
	T/YSC048EW	517-633	8.6	15	—	—
5 —	T/YSC060E1	187-253	41.1	60	—	—
	T/YSC060E3	187-253	27.4	40	—	—
	T/YSC060E4	414-506	12.3	15	—	—
	T/YSC060EW	517-633	8.9	15	—	—
6 —	T/YSC072F3	187-253	36.5	50	37.8	60
	T/YSC072F4	414-506	18.2	25	19.4	25
	T/YSC072FW	517-633	12.7	20	13.5	20
7½ —	T/YSC090F3	187-253	38.2	60	44.0	60
	T/YSC090F4	414-506	19.5	30	22.4	35
	T/YSC090FW	517-633	14.7	20	16.7	25
7½ <sup>(b)</sup> —	T/YSC092F3	187-253	39.3	50	45.1	50
	T/YSC092F4	414-506	18.5	20	21.4	25
	T/YSC092FW	517-633	15.5	20	17.8	20
8½ —	T/YSC102F3	187-253	43.3	50	46.4	60
	T/YSC102F4	414-506	21.4	25	22.4	25
	T/YSC102FW	517-633	16.8	20	18.0	20
10 —	T/YSC120F3	187-253	49.6	60	—	—
	T/YSC120F4	414-506	22.7	30	—	—
	T/YSC120FW	517-633	18.9	25	—	—

(a) No optional motors available for 3-5 tons. The standard motor for the 1-phase models is a Multispeed Direct Drive Motor. The standard motor for 3-phase (3-8½ ton models) is a Belt Drive Motor.  
 (b) Dual refrigeration system.

# Dimensional Data

ALL 1-9

Figure 1. Cooling and gas/electric - 3-5 tons standard efficiency, 3 tons high efficiency

Notes:

1. All dimensions are in inches/millimeters.
2. 1/2 NPT Gas Connection = (Y\_C Models only); 2" Electrical Connection: Single Point Power When Heat Installed (T\_C Models only.)

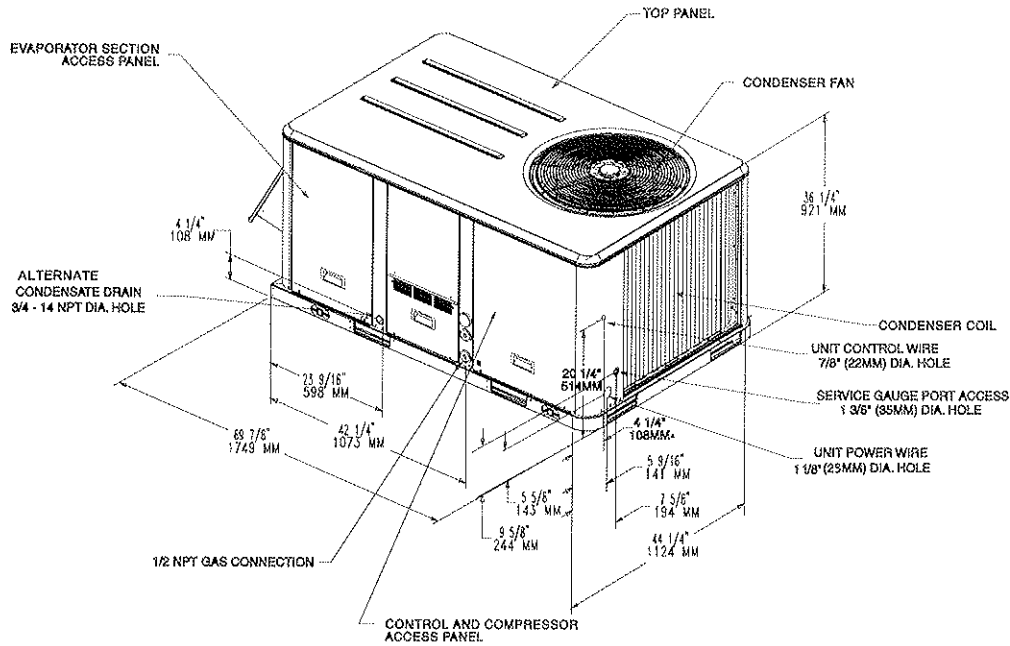
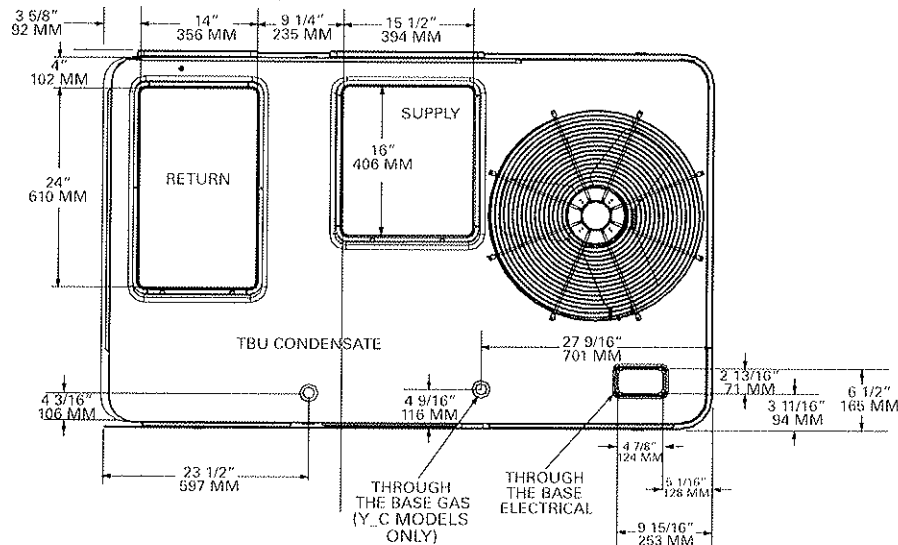


Figure 2. Cooling and gas/electric - 3-5 tons standard efficiency, 3 tons high efficiency downflow airflow supply/return - through-the-base utilities

Note: All dimensions are in inches/millimeters.

Note: All dimensions are in inches/millimeters.



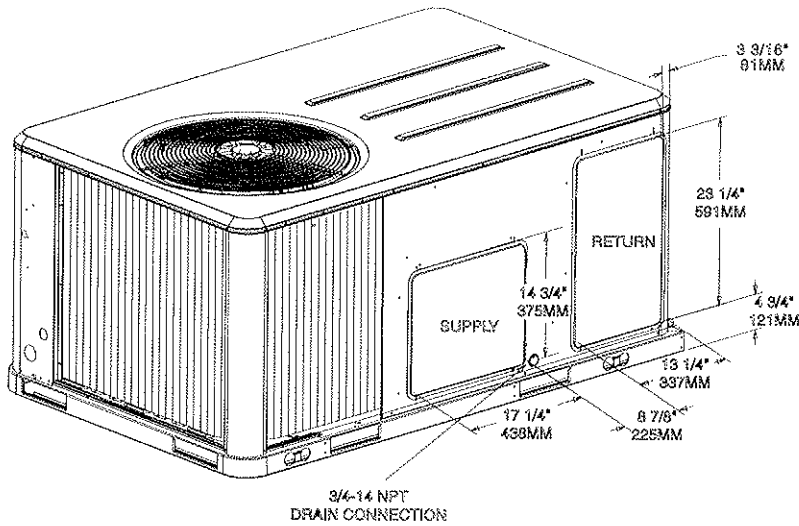


ALL 1-9

**Dimensional Data**

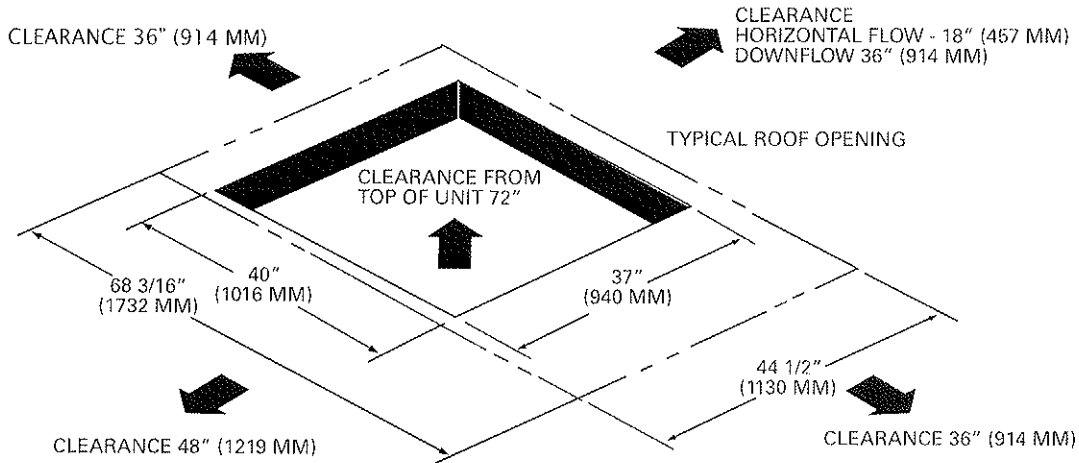
**Figure 3. Cooling and gas/electric - 3-5 tons standard efficiency, 3 tons high efficiency horizontal airflow supply/return**

Note: All dimensions are in inches/millimeters.



**Figure 4. Cooling and gas/electric - 3-5 tons standard efficiency, 3 tons high efficiency unit clearance and roof opening**

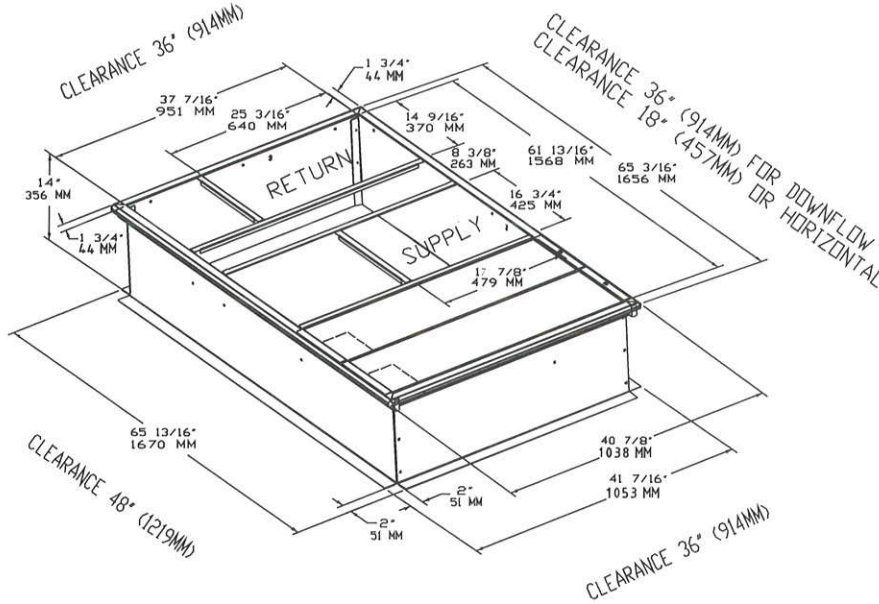
Note: All dimensions are in inches/millimeters.



ALL 1-9

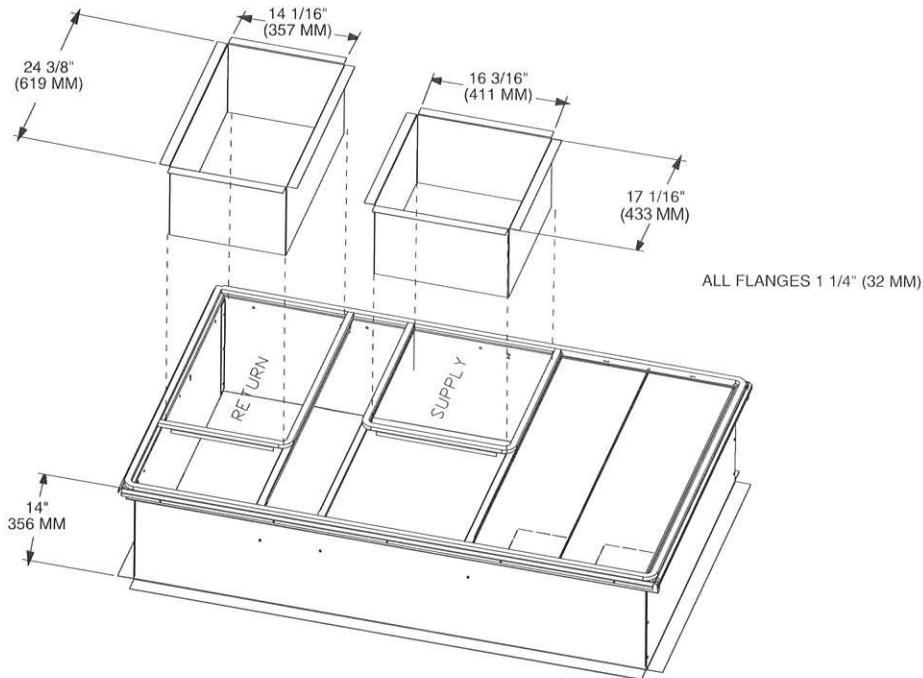
**Figure 5. Cooling and gas/electric - 3-5 tons standard efficiency, 3 tons high efficiency - roof curb**

Note: All dimensions are in inches/millimeters.



**Figure 6. Cooling and gas/electric - 3-5 tons standard efficiency; 3 tons high efficiency downflow duct connections - field fabricated**

Note: All dimensions are in inches/millimeters.





## Weights

Table 165. Maximum unit & corner weights (lbs) and center of gravity dimensions (in.) - gas/electric models

Tons	Unit Model No.	Maximum Model Weights <sup>(a)</sup>		Corner Weights <sup>(b)</sup>				Center of Gravity (in.)		
		Shipping	Net	A	B	C	D	Length	Width	
1.5, 6, 3	3	YSC036E	607	532	165	137	95	134	31	19
2, 4, 7, 8, 9	4	YSC048E	638	563	175	145	101	142	31	19
	5	YSC060E	688	613	190	158	110	155	31	19
	6	YSC072F	805	710	222	217	121	150	41	22
	7½	YSC090F	862	767	243	221	155	149	45	21
	7½	YSC092F	990	847	265	249	173	160	46	21
	8½	YSC102F	1047	904	279	252	187	186	44	22
	10	YSC120F	1156	1058	345	242	258	213	41	23
	3	YHC036E	607	532	165	137	95	134	31	19
	4	YHC048E	858	763	238	200	148	176	40	23
	4	YHC048F	806	711	226	199	144	143	44	22
	5	YHC060E	917	822	261	218	156	187	40	22
	5	YHC060F	850	755	239	214	152	151	44	21
	6	YHC072E	1025	927	296	198	205	228	41	24
	6	YHC072F	965	822	250	245	174	153	47	21
	7½	YHC092F	1124	1026	340	233	249	204	41	23
	8½	YHC102F	1133	1035	341	236	253	205	49	23
	10	YHC120E	1563	1369	386	379	299	305	49	28

(a) Weights are approximate.

(b) Corner weights are given for information only.

Table 166. Factory installed options (fiops)/accessory net weights (lbs)<sup>(a),(b)</sup>

Accessory	T/YSC036E-060E	T/YHC048E-060E	T/YSC072F-102F	T/YSC120F	T/YHC120E
	T/YHC036E	T/YHC048F-060F	T/YHC072E/F	T/YHC092F-102F	
	Net Weight	Net Weight	Net Weight	Net Weight	
	3-5 Tons	4-5 Tons	6-10 Tons	7½, 8½, 10	10
Barometric Relief	7	10	10	10	10
Belt Drive Option (3 phase only)	31	31	—	—	—
Coil Guards	12	20	20	20	30
Economizer	26	36	36	36	36
Electric Heaters <sup>(c)</sup>	15	30	30	44	50
Hinged Doors	10	12	12	12	12
Manual Outside Air Damper	16	26	26	26	26
Motorized Outside Air Damper	20	30	30	30	30
Novar Control	8	8	8	8	8
Oversized Motor	5	8	8	—	—
Powered Convenience Outlet	38	38	38	38	50
Powered Exhaust	40	40	80	80	80
Reheat Coil	12	14	15	20 <sup>(d)</sup>	30
Roof Curb	61	78	78	78	89
Smoke Detector, Supply	5	5	5	5	5
Smoke Detector, Return	7	7	7	7	7

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