



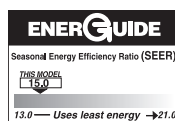
## HEAT PUMPS



### TZPLS-15 SERIES

Efficiencies up to 16 SEER/13 EER/9 HSPF  
Nominal Sizes 2-5 Ton

Manufactured for  
**Thermal Zone®**  
Philadelphia, PA



### Features

- New composite base pan – dampens sound, eliminates corrosion and reduces number of fasteners needed
- Improved tubing design – reduces vibration and stress, making unit quieter and reducing opportunity for leaks
- Optimized defrost characteristics - decrease defrosting and provide better home comfort
- Powder coat paint finish – for a long lasting professional finish
- Optimized reversing valve sizing – improves shifting performance for quieter unit operation and increased life of the system
- Enhanced mufflers – help to dissipate vibration energy for quieter unit operation
- Copeland scroll compressor – uses 70% fewer moving parts for higher efficiency and increased reliability
- Modern cabinet aesthetics – increased curb appeal with visually appealing design
- Vertical louver panels – provide ultimate coil protection, enhance cabinet strength and increase cabinet rigidity
- Optimized fan orifice – optimizes airflow and reduces unit sound
- Rust resistant screws – confirmed through 1500-hour salt spray testing
- 3" between valves, 4" below valves, 5" above valves – provides a minimum working area of 27-square inches for easier access
- Integrated heat pump lift receptacle – allows standard CPVC stands to be inserted into the base
- 15" wide, industry leading corner service access – makes repairs easier and faster.
- External gauge port access – allows easy connection of "low-loss" gauge ports
- Single-row condenser coil – makes unit lighter and allows thorough coil cleaning to maintain "out of the box" performance
- Fewer cabinet fasteners – allow for faster access to internal components and hassle-free panel removal
- Service trays – hold fasteners or caps during service calls
- QR code – provides technical information on demand for faster service calls
- Fan motor harness with extra-long wires – allows unit top to be removed without disconnecting fan wire

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## Model Number Identification

<u>TZ</u>	<u>P</u>	<u>L</u>	<u>S</u>	<u>15</u>	<u>24</u>	<u>2</u>	<u>A</u>	<u>A</u>
Brand	Product	Refrigerant	Motor	SEER	Capacity	Voltage	Region	Minor Series
TZ = Thermal Zone	P - Heat Pump	L = R410A	S = Single Stage	15 = 15 SEER	18 - 18,000 BTU 24 - 24,000 BTU 30 - 30,000 BTU 36 - 36,000 BTU 42 - 42,000 BTU 48 - 48,000 BTU 60 - 60,000 BTU	2 = 1ph 208-230/60 C = 3ph 208-230/60	A = All Regions	A = First Design Series B = Second Design Series C = Third Design Series

[ ] Designates Metric Conversions

## Available SKUs

Models Available
TZPLS15182AA
TZPLS15182AC
TZPLS15242AA
TZPLS15302AA
TZPLS15362AA
TZPLS1536CAA
TZPLS15422AA
TZPLS1542CAA
TZPLS15482AA
TZPLS1548CAA
TZPLS15602AA
TZPLS1560CAA

<b>Physical Data</b>						
<b>Model No. #</b>	<b>TZPLS1524</b>	<b>TZPLS1530</b>	<b>TZPLS1536</b>	<b>TZPLS1542</b>	<b>TZPLS1548</b>	<b>TZPLS1560</b>
<b>Nominal Tonnage</b>	2.0	2.5	3.0	3.5	4.0	5.0
<b>Valve Connections</b>						
Liquid Line O.D. – in.	3/8	3/8	3/8	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	3/4	7/8	7/8	7/8
<b>Refrigerant (R410A) furnished oz.<sup>1</sup></b>	105	116	118	139	188	212
<b>Compressor Type</b>						
<b>Outdoor Coil</b>						
Net face area – Outer Coil ft <sup>2</sup>	11.1	17.3	19.8	19.8	24.2	28.3
Net face area – Inner Coil	—	—	—	—	—	—
Tube diameter – in.	0.375	0.375	0.375	0.375	0.375	0.375
Number of rows	1	1	1	1	1	1
Fins per inch	20	20	20	20	20	20
<b>Outdoor Fan</b>						
Diameter – in.	20	24	24	24	26	26
Number of blades	3	3	3	3	3	3
Motor hp	1/8	1/5	1/3	1/5	1/3	1/5
CFM	2478	3850	3121	3815	4380	3655
RPM	1075	825	910	825	870	850
watts	138	197	134	201	266	274
<b>Shipping weight – lbs.</b>	159	198	206	228	264	285
<b>Operating weight – lbs.</b>	152	191	199	221	257	278

<b>Electrical Data</b>						
<b>Line Voltage Data (Volts-Phase-Hz)</b>	<b>208/230-1-60</b>	<b>208/230-1-60</b>	<b>208/230-1-60</b>	<b>208/230-1-60</b>	<b>208/230-1-60</b>	<b>208/230-1-60</b>
<b>Maximum overcurrent protection (amps)<sup>2</sup></b>	25	25	35	40	40	50
<b>Minimum circuit ampacity<sup>3</sup></b>	15	18	23	24	26	31
<b>Compressor</b>						
Rated load amps	10.9	12.8	15.4	17.9	18.5	23.7
Locked rotor amps	62.9	67.8	83.9	112	124	152.5
<b>Condenser Fan Motor</b>						
Full load amps	0.7	1	2.8	1	2.8	1
Locked rotor amps	1.3	1.2	—	1.2	—	2.3
<b>Line Voltage Data (Volts-Phase-Hz)</b>			<b>208/230-3-60</b>	<b>208/230-3-60</b>	<b>208/230-3-60</b>	<b>208/230-3-60</b>
Maximum overcurrent protection (amps) <sup>2</sup>			25	30	30	35
Minimum circuit ampacity <sup>3</sup>			16	18	21	21
<b>Compressor</b>						
Rated load amps			10.4	13.5	13.8	15.9
Locked rotor amps			73	88	83.1	110
<b>Condenser Fan Motor</b>						
Full load amps			2.8	1	2.8	1
Locked rotor amps			—	1.2	—	2.3

<sup>1</sup>Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required.

<sup>2</sup>HACR type circuit breaker or fuse.

<sup>3</sup>Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.

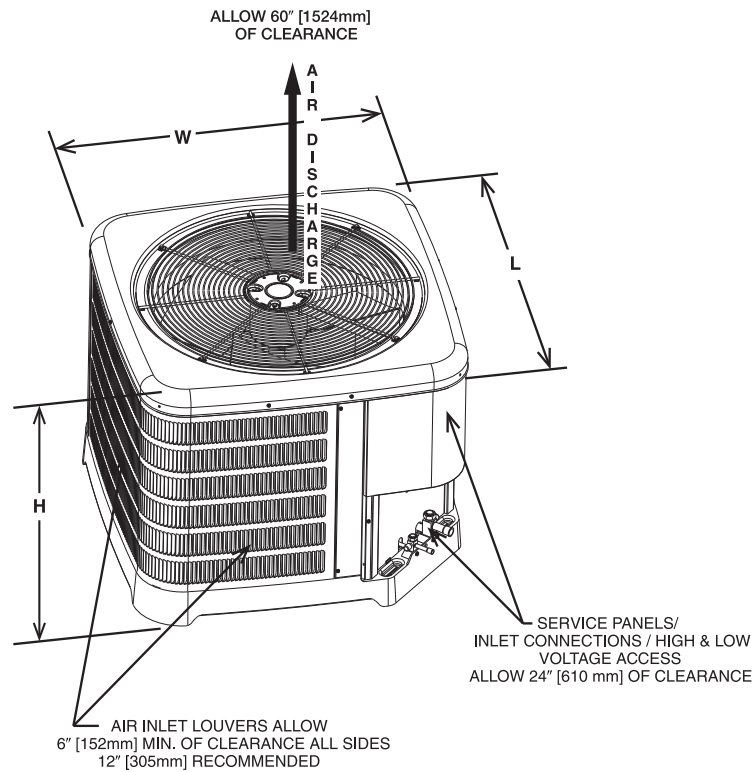
## Accessories

Model No.	TZPLS1524	TZPLS1530	TZPLS1536	TZPLS1542	TZPLS1548	TZPLS1560	
Compressor crankcase heater	44-17402-44	44-17402-44	44-17402-44	44-17402-45	Factory Standard	Factory Standard	
Low ambient control	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	
Compressor sound cover	68-23427-26	68-23427-26	68-23427-26	68-23427-25	68-23427-25	68-23427-25	
Compressor hard start kit	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	
Low pressure control*	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	
High pressure control*	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	Factory Standard	
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
	Bi-flow kit*	KS30387	KS30387	KS30387	KS30387	KS30387	KS30387
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V
	Bi-flow kit*	KS30387	KS30387	KS30387	KS30387	KS30387	KS30387
Heat Pump Riser – 6 inch	686020	686020	686020	686020	686020	686020	

\*Bi-flow kits are required when installing a liquid line solenoid on a heat pump.

## Unit Dimensions

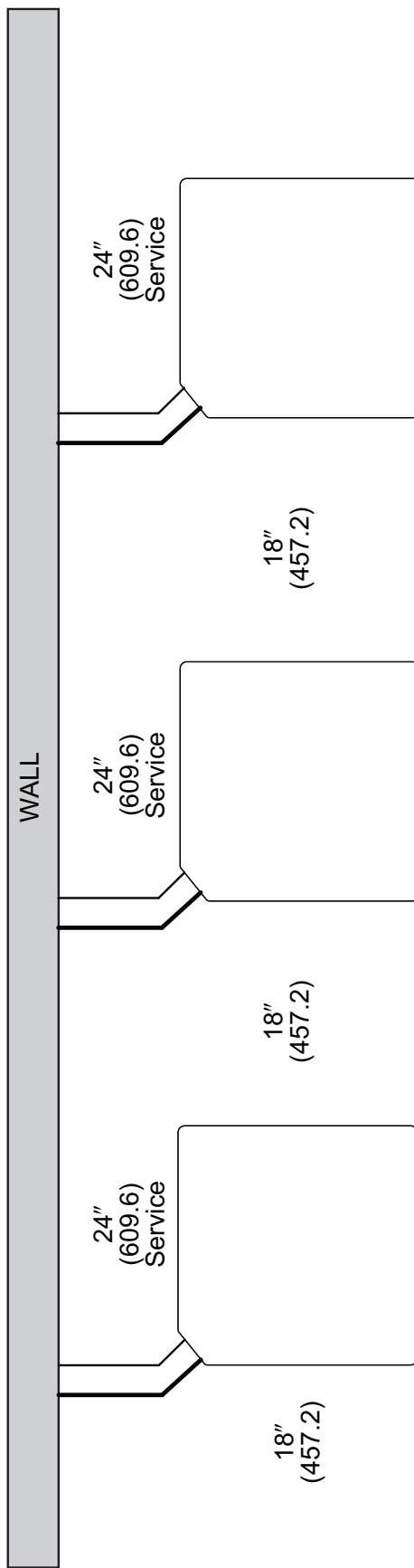
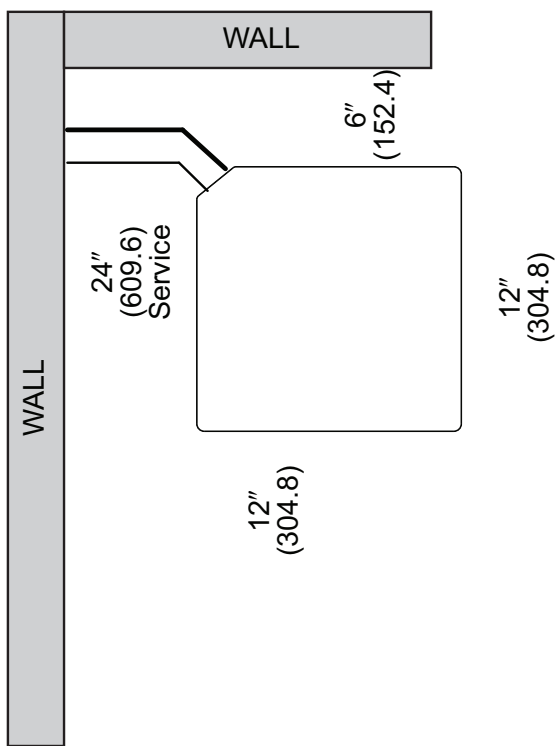
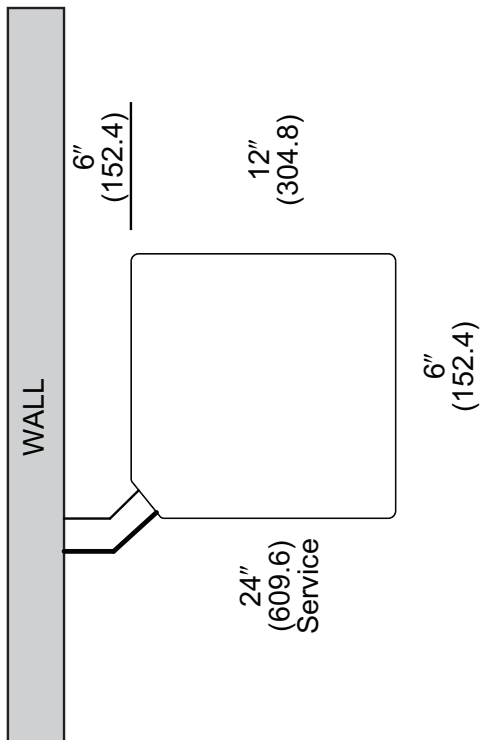
MODEL NUMBER	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
TZPLS1524	25	635	29.75	755	29.75	755	27.90	708	33.25	844	33.00	838
TZPLS1530	31	787	33.75	857	33.75	857	33.32	846	37.64	956	37.56	954
TZPLS1536	35	889	33.75	857	33.75	857	38.35	974	37.64	956	37.56	954
TZPLS1542	35	889	33.75	857	33.75	857	38.35	974	37.64	956	37.56	954
TZPLS1548	39	990	35.75	908	35.75	908	42.00	1066	39.37	999	39.64	1006
TZPLS1560	45	1143	35.75	908	35.75	908	48.18	1223	39.37	999	39.64	1006



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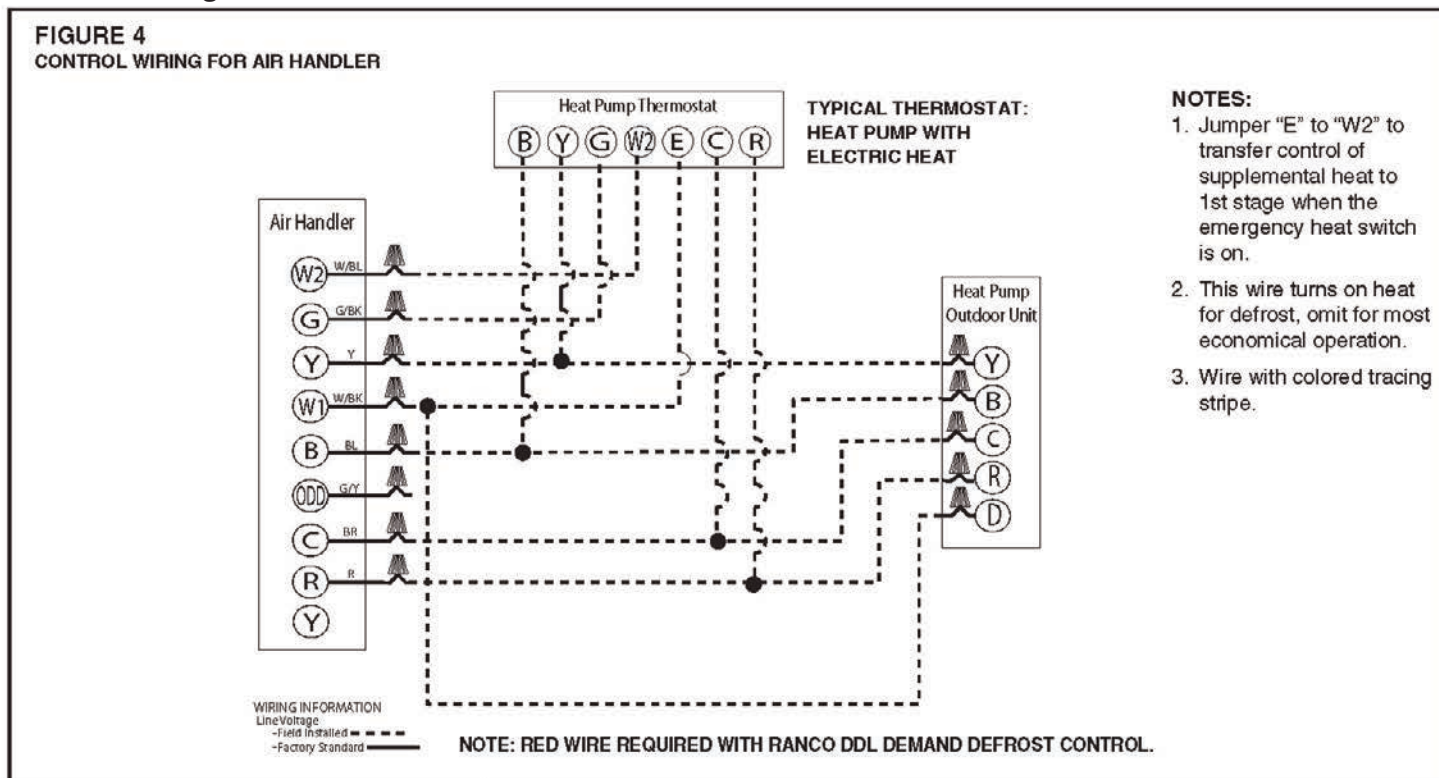
# CLEARANCES



**NOTE: NUMBERS IN ( ) = mm**

IMPORTANT: When installing multiple units in an alcove, roof well or partially enclosed area, ensure there is adequate ventilation to prevent re-circulation of discharge air.

## Control Wiring



## Application Guidelines

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01 -in. wc.
2. Minimum outdoor operation air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature is 125°F (51.7°C).
4. For reliable operation, unit should be level in all horizontal planes.
5. For interconnecting refrigerant tube lengths greater than 150 ft. (45.72m) and/or 120 ft. (36.58m) vertical separation, consult Residential Piping and Long line guide.
6. If any refrigerant tubing is buried, provide a 8 in. (203.2mm) vertical rise to the valve connections at the unit. Refrigerant tubing lengths up to 8 ft. (2.44m) may be buried without further consideration. Do not bury refrigerant lines longer than \* in (\* mm)
7. Use only copper wire for electric connections at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
8. Do not apply capillary tube indoor coils to these units.
9. Factory-supplied filter drier must be installed.



**Table 2A: Refrigerant Line Sizing Chart (English Units)**

14 - 15 SEER Single-Stage Heat Pumps																	
Unit Size	Allowable Liquid Line Size	Allowable Vapor Line Size	Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below (Feet)		Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Feet)												
			(-) PLS14-A/B	(-) PLS14-F/P (-) P15	< 25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250			
					Maximum Vertical Separation / Capacity Multiplier												
1.5 Ton *SEE NOTE 3	1/4"	5/8"	N/A	N/A	25/1.00	50/0.99	62/0.98	43/0.98	24/0.97	5/0.97	NR	NR	NR	NR	NR	NR	
	5/16"	5/8"	140	140	25/1.00	50/0.99	75/0.98	98/0.98	93/0.97	88/0.97	83/0.96	78/0.96	73/0.95	68/0.94	100/0.94	100/0.94	
	3/8"	5/8"	93	93	25/1.00	50/0.99	75/0.98	100/0.98	100/0.97	100/0.97	100/0.96	100/0.96	100/0.95	100/0.94	100/0.94	100/0.94	
	1/4"	3/4" *	N/A	N/A	25/1.00	50/1.00	62/0.99	43/0.99	24/0.99	5/0.99	NR	NR	NR	NR	NR	NR	NR
	5/16"	3/4" *	140	140	25/1.00	50/1.00	75/0.99	98/0.99	93/0.99	88/0.99	83/0.99	78/0.98	73/0.98	68/0.98	100/0.98	100/0.98	
	3/8"	3/4" *	93	93	25/1.00	50/1.00	75/1.00	100/0.99	100/0.99	100/0.99	100/0.99	100/0.99	100/0.98	100/0.98	100/0.98	100/0.98	100/0.98
2 Ton	1/4"	5/8"	N/A	N/A	25/0.99	50/0.98	21/0.97	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5/16"	5/8"	170	123	25/0.99	50/0.98	75/0.97	87/0.96	77/0.95	69/0.94	61/0.93	53/0.92	45/0.91	37/0.90	90/0.90	90/0.90	
	3/8"	5/8"	113	82	25/0.99	50/0.98	75/0.97	100/0.96	100/0.95	100/0.94	98/0.93	95/0.92	93/0.91	90/0.90	90/0.90	90/0.90	
	1/4"	3/4"	N/A	N/A	25/1.00	50/1.00	21/0.99	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5/16"	3/4"	170	123	25/1.00	50/1.00	75/0.99	87/0.99	77/0.98	69/0.98	61/0.98	53/0.97	45/0.97	37/0.96	90/0.96	90/0.96	
	3/8"	3/4"	113	82	25/1.00	50/1.00	75/0.99	100/0.99	100/0.98	100/0.98	98/0.98	95/0.97	93/0.97	90/0.96	90/0.96	90/0.96	
2.5 Ton	5/16"	5/8"	128	103	25/0.99	50/0.98	75/0.96	70/0.94	59/0.93	48/0.91	36/0.90	NR	NR	NR	NR	NR	NR
	3/8"	5/8"	85	68	25/0.99	50/0.98	75/0.96	100/0.94	98/0.93	94/0.91	90/0.90	NR	NR	NR	NR	NR	NR
	5/16"	3/4"	128	103	25/1.00	50/0.99	75/0.99	70/0.98	59/0.98	48/0.97	36/0.96	25/0.96	13/0.95	NR	NR	NR	NR
	3/8"	3/4"	85	68	25/1.00	50/0.99	75/0.99	100/0.98	98/0.98	94/0.97	90/0.96	86/0.96	82/0.95	78/0.95	78/0.95	78/0.95	
	5/16"	5/8"	115	98	25/0.99	50/0.97	66/0.94	49/0.92	32/0.90	NR	NR	NR	NR	NR	NR	NR	NR
	3/8"	5/8"	77	65	25/0.99	50/0.97	75/0.94	95/0.92	89/0.90	NR	NR	NR	NR	NR	NR	NR	NR
3 Ton	5/16"	3/4"	115	98	25/1.00	50/0.99	66/0.98	49/0.98	32/0.97	15/0.96	NR	NR	NR	NR	NR	NR	NR
	3/8"	3/4"	77	65	25/1.00	50/0.99	75/0.98	95/0.98	89/0.97	84/0.96	78/0.95	72/0.94	67/0.93	61/0.93	100/0.93	100/0.93	
	1/2"	3/4"	38	33	25/1.00	50/0.99	75/0.98	100/0.98	100/0.97	100/0.96	100/0.95	100/0.94	100/0.93	100/0.93	100/0.93	100/0.93	
	5/16"	7/8"	115	98	25/1.00	50/1.00	66/1.00	49/0.99	32/0.99	15/0.99	NR	NR	NR	NR	NR	NR	NR
	3/8"	7/8"	77	65	25/1.00	50/1.00	75/1.00	95/0.99	89/0.99	84/0.99	78/0.98	72/0.98	67/0.98	61/0.97	100/0.97	100/0.97	
	1/2"	7/8"	38	33	25/1.00	50/1.00	75/1.00	100/0.99	100/0.99	100/0.99	100/0.98	100/0.98	100/0.98	100/0.97	100/0.97	100/0.97	
3.5 Ton	3/8"	3/4"	93	93	25/0.99	50/0.98	75/0.97	88/0.96	80/0.95	72/0.94	65/0.92	57/0.91	49/0.90	NR	NR	NR	NR
	1/2"	3/4"	47	47	25/0.99	50/0.98	75/0.97	100/0.96	100/0.95	100/0.94	100/0.92	100/0.91	100/0.90	NR	NR	NR	NR
	3/8"	7/8"	93	93	25/1.00	50/1.00	75/0.99	88/0.99	80/0.99	72/0.98	65/0.97	57/0.97	49/0.96	42/0.96	100/0.96	100/0.96	
	1/2"	7/8"	47	47	25/1.00	50/1.00	75/0.99	100/0.99	100/0.99	100/0.99	100/0.98	100/0.97	100/0.97	100/0.96	100/0.96	100/0.96	
	3/8"	7/8"	93	93	25/1.00	50/1.00	75/0.99	100/0.99	100/0.99	100/0.99	100/0.98	100/0.97	100/0.97	100/0.96	100/0.96	100/0.96	
	1/2"	7/8"	47	47	25/1.00	50/1.00	75/0.99	100/0.99	100/0.99	100/0.99	100/0.98	100/0.97	100/0.97	100/0.96	100/0.96	100/0.96	

**NOTES:**

- 1) Do not exceed 200 ft linear line length.
- 2) Do not exceed 100 ft vertical separation between indoor and outdoor units.
- 3) \* 3/4" vapor line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor unit to assure proper oil return.
- 4) Always use the smallest liquid line allowable to minimize refrigerant charge.
- 5) Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- 6) Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

**Table 2A: Refrigerant Line Sizing Chart (English Units) (cont'd.)**

14 - 15 SEER Single-Stage Heat Pumps														
Unit Size	Allowable Liquid Line Size	Allowable Vapor Line Size	Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below (Feet)		Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Feet)									
			(-) PLS14-A/B	(-) PLS14-F/P (-) P15	< 25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
					Maximum Vertical Separation / Capacity Multiplier									
4 Ton	3/8"	3/4"	87	0	25 / 0.99	50 / 0.98	75 / 0.96	77 / 0.95	67 / 0.93	57 / 0.92	46 / 0.91	NR	NR	NR
	1/2"	3/4"	42	0	25 / 0.99	50 / 0.98	75 / 0.96	100 / 0.95	100 / 0.93	100 / 0.92	100 / 0.91	NR	NR	NR
	3/8"	7/8"	87	0	25 / 1.00	50 / 0.99	75 / 0.99	77 / 0.98	67 / 0.97	57 / 0.97	46 / 0.96	36 / 0.96	26 / 0.95	15 / 0.95
	1/2"	7/8"	42	0	25 / 1.00	50 / 0.99	75 / 0.99	100 / 0.98	100 / 0.97	100 / 0.97	100 / 0.96	100 / 0.96	99 / 0.95	97 / 0.95
5 Ton	3/8"	3/4"	0	0	25 / 0.99	50 / 0.97	75 / 0.94	61 / 0.92	46 / 0.90	NR	NR	NR	NR	NR
	1/2"	3/4"	0	0	25 / 0.99	50 / 0.97	75 / 0.94	100 / 0.92	100 / 0.90	NR	NR	NR	NR	NR
	3/8"	7/8"	0	0	25 / 1.00	50 / 0.99	75 / 0.98	61 / 0.97	46 / 0.96	32 / 0.95	18 / 0.94	NR	NR	NR
	1/2"	7/8"	0	0	25 / 1.00	50 / 0.99	75 / 0.98	100 / 0.97	100 / 0.96	100 / 0.95	97 / 0.94	95 / 0.94	92 / 0.93	89 / 0.92
	3/8"	1-1/8"	0	0	25 / 1.01	50 / 1.01	75 / 1.00	61 / 1.00	46 / 0.99	32 / 0.99	18 / 0.99	NR	NR	NR
	1/2"	1-1/8"	0	0	25 / 1.01	50 / 1.01	75 / 1.00	100 / 1.00	100 / 0.99	100 / 0.99	97 / 0.99	95 / 0.99	92 / 0.99	89 / 0.98

**NOTES:**

- 1) Do not exceed 200 ft linear line length.
- 2) Do not exceed 100 ft vertical separation between indoor and outdoor units.
- 3) \* 3/4" vapor line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor unit to assure proper oil return.
- 4) Always use the smallest liquid line allowable to minimize refrigerant charge.
- 5) Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- 6) Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

**Table 2B: Refrigerant Line Sizing Chart (Metric Units)**

14 - 15 SEER Single-Stage Heat Pumps															
Unit Size	Allowable Liquid Line Size mm [in.]	Allowable Vapor Line Size mm [in.]	Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below (Feet)		Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Meters)										
			(-) PLS14-A/B	(-) PLS14-F/P (-) P15	< 8	8-15	16-23	24-30	31-38	39-46	47-53	54-61	62-69	70-76	
					Maximum Vertical Separation / Capacity Multiplier										
5.3 kW [1.5 Ton] *SEE NOTE 3	6.35 [1/4]	15.88 [5/8]	N/A	N/A	8 / 1.00	15 / 0.99	19 / 0.98	13 / 0.98	7 / 0.97	2 / 0.97	NR	NR	NR	NR	
	7.94 [5/16]	15.88 [5/8]	43	43	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	28 / 0.97	27 / 0.97	25 / 0.96	24 / 0.96	22 / 0.95	21 / 0.94	
	9.53 [3/8]	15.88 [5/8]	28	28	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96	30 / 0.95	30 / 0.94	
	6.35 [1/4]	19.05 [3/4]*	N/A	N/A	8 / 1.00	15 / 1.00	19 / 0.99	13 / 0.99	7 / 0.99	2 / 0.99	NR	NR	NR	NR	
	7.94 [5/16]	19.05 [3/4]*	43	43	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	28 / 0.99	27 / 0.99	25 / 0.99	24 / 0.98	22 / 0.98	21 / 0.98	
	9.53 [3/8]	19.05 [3/4]*	28	28	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	30 / 0.98	
7.0 kW [2 Ton]	6.35 [1/4]	15.88 [5/8]	N/A	N/A	8 / 0.99	15 / 0.98	6 / 0.97	NR	NR	NR	NR	NR	NR	NR	
	7.94 [5/16]	15.88 [5/8]	52	37	8 / 0.99	15 / 0.98	23 / 0.97	27 / 0.96	23 / 0.95	21 / 0.94	19 / 0.93	16 / 0.92	14 / 0.91	11 / 0.90	
	9.53 [3/8]	15.88 [5/8]	35	25	8 / 0.99	15 / 0.98	23 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.93	29 / 0.92	28 / 0.91	27 / 0.90	
	6.35 [1/4]	19.05 [3/4]	N/A	N/A	8 / 1.00	15 / 1.00	6 / 0.99	NR	NR	NR	NR	NR	NR	NR	
	7.94 [5/16]	19.05 [3/4]	52	37	8 / 1.00	15 / 1.00	23 / 0.99	27 / 0.99	23 / 0.98	21 / 0.98	19 / 0.98	16 / 0.97	14 / 0.97	11 / 0.96	
	9.53 [3/8]	19.05 [3/4]	35	25	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	29 / 0.97	28 / 0.97	27 / 0.96	
8.8 kW [2.5 Ton]	7.94 [5/16]	15.88 [5/8]	39	31	8 / 0.99	15 / 0.98	23 / 0.96	21 / 0.94	18 / 0.93	15 / 0.91	11 / 0.90	NR	NR	NR	
	9.53 [3/8]	15.88 [5/8]	26	21	8 / 0.99	15 / 0.98	23 / 0.96	30 / 0.94	30 / 0.93	29 / 0.91	27 / 0.90	NR	NR	NR	
	7.94 [5/16]	19.05 [3/4]	39	31	8 / 1.00	15 / 0.99	23 / 0.99	21 / 0.98	18 / 0.98	15 / 0.97	11 / 0.96	8 / 0.96	4 / 0.95	NR	
	9.53 [3/8]	19.05 [3/4]	26	21	8 / 1.00	15 / 0.99	23 / 0.99	30 / 0.98	30 / 0.98	29 / 0.97	27 / 0.96	26 / 0.96	25 / 0.95	24 / 0.95	
	7.94 [5/16]	15.88 [5/8]	35	30	8 / 0.99	15 / 0.97	20 / 0.94	15 / 0.92	10 / 0.90	NR	NR	NR	NR	NR	
	9.53 [3/8]	15.88 [5/8]	23	20	8 / 0.99	15 / 0.97	23 / 0.94	29 / 0.92	27 / 0.90	NR	NR	NR	NR	NR	
10.6 kW [3 Ton]	7.94 [5/16]	19.05 [3/4]	35	30	8 / 1.00	15 / 0.99	20 / 0.98	15 / 0.98	10 / 0.97	5 / 0.96	NR	NR	NR	NR	
	9.53 [3/8]	19.05 [3/4]	23	20	8 / 1.00	15 / 0.99	23 / 0.98	29 / 0.98	27 / 0.97	26 / 0.96	24 / 0.95	22 / 0.94	20 / 0.93	19 / 0.93	
	12.7 [1/2]	19.05 [3/4]	12	10	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.98	30 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.93	30 / 0.93	
	7.94 [5/16]	22.23 [7/8]	35	30	8 / 1.00	15 / 1.00	20 / 1.00	15 / 0.99	10 / 0.99	5 / 0.99	NR	NR	NR	NR	
	9.53 [3/8]	22.23 [7/8]	23	20	8 / 1.00	15 / 1.00	23 / 1.00	29 / 0.99	27 / 0.99	26 / 0.99	24 / 0.98	22 / 0.98	20 / 0.98	19 / 0.97	
	12.7 [1/2]	22.23 [7/8]	12	10	8 / 1.00	15 / 1.00	23 / 1.00	30 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.98	30 / 0.98	30 / 0.97	
12.3 kW [3.5 Ton]	9.53 [3/8]	19.05 [3/4]	28	28	8 / 0.99	15 / 0.98	23 / 0.97	27 / 0.96	24 / 0.95	22 / 0.94	20 / 0.92	17 / 0.91	15 / 0.90	NR	
	12.7 [1/2]	19.05 [3/4]	14	14	8 / 0.99	15 / 0.98	23 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	30 / 0.91	30 / 0.91	30 / 0.90	NR	
	9.53 [3/8]	22.23 [7/8]	28	28	8 / 1.00	15 / 1.00	23 / 0.99	27 / 0.99	24 / 0.99	22 / 0.98	20 / 0.97	17 / 0.97	15 / 0.96	13 / 0.96	
	12.7 [1/2]	22.23 [7/8]	14	14	8 / 1.00	15 / 1.00	23 / 0.99	30 / 0.99	30 / 0.99	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96	

**NOTES:**

- Do not exceed 200 ft linear line length.
- Do not exceed 100 ft vertical separation between indoor and outdoor units.
- \* 3/4" vapor line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor unit to assure proper oil return.
- Always use the smallest liquid line allowable to minimize refrigerant charge.
- Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

**Table 2B: Refrigerant Line Sizing Chart (Metric Units) (con't.)**

14 - 15 SEER Single-Stage Heat Pumps													
Unit Size	Allowable Liquid Line Size mm [in.]	Allowable Vapor Line Size mm [in.]	Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below (Feet)	Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Meters)									
				< 8	8-15	16-23	24-30	31-38	39-46	47-53	54-61	62-69	70-76
			(-)P14-A/B (-)P14-F/P (-)P15	Maximum Vertical Separation / Capacity Multiplier									
14.1 kW [4 Ton]	9.53 [3/8]	19.05 [3/4]	0	8 / 0.99	15 / 0.98	23 / 0.96	24 / 0.95	20 / 0.93	17 / 0.92	14 / 0.91	NR	NR	NR
	12.7 [1/2]	19.05 [3/4]	0	8 / 0.99	15 / 0.98	23 / 0.96	30 / 0.95	30 / 0.93	30 / 0.92	30 / 0.91	NR	NR	NR
	9.53 [3/8]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	23 / 0.99	24 / 0.98	20 / 0.97	17 / 0.97	14 / 0.96	11 / 0.96	8 / 0.95	5 / 0.95
	12.7 [1/2]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	23 / 0.99	30 / 0.98	30 / 0.97	30 / 0.97	30 / 0.96	30 / 0.96	30 / 0.95	30 / 0.95
17.6 kW [5 Ton]	9.53 [3/8]	19.05 [3/4]	0	8 / 0.99	15 / 0.97	23 / 0.94	19 / 0.92	14 / 0.90	NR	NR	NR	NR	NR
	12.7 [1/2]	19.05 [3/4]	0	8 / 0.99	15 / 0.97	23 / 0.94	30 / 0.92	30 / 0.90	NR	NR	NR	NR	NR
	9.53 [3/8]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	23 / 0.98	19 / 0.97	14 / 0.96	10 / 0.95	5 / 0.94	NR	NR	NR
	12.7 [1/2]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	23 / 0.98	30 / 0.97	30 / 0.96	30 / 0.95	30 / 0.94	29 / 0.94	28 / 0.93	27 / 0.92
	9.53 [3/8]	28.58 [1-1/8]	0	8 / 1.01	15 / 1.01	23 / 1.00	19 / 1.00	14 / 0.99	10 / 0.99	5 / 0.99	NR	NR	NR
	12.7 [1/2]	28.58 [1-1/8]	0	8 / 1.01	15 / 1.01	23 / 1.00	30 / 1.00	30 / 0.99	30 / 0.99	30 / 0.99	29 / 0.99	28 / 0.99	27 / 0.98

**NOTES:**

- 1) Do not exceed 61 meters linear line length.
- 2) Do not exceed 30 meters vertical separation between indoor and outdoor units.
- 3) \*19.05 mm [3/4"] vapor line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor unit to assure proper oil return.
- 4) Always use the smallest liquid line allowable to minimize refrigerant charge.
- 5) Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
- 6) Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

## Performance Data @ AHRI Standard Conditions – Heat Pump

Designated Tested Combination (DTC)												
Outdoor Unit	Air Handler	Total Capacity BTU/H [kW]	Net Sensible BTU/H [kW]	Net Latent BTU/H [kW]	SEER	EER	Indoor CFM [L/s]	47 Degree Heating Capacity BTU/H [kW]	47 Degree COP	17 Degree Heating Capacity BTU/H [kW]	17 Degree COP	Region IV HSPF
TZPLS15242	TZHSLTST2417	24000 [7.0]	16900 [5.0]	7100 [2.1]	15.5	13	800 [376.0]	22000 [6.4]	3.7	13500 [4.0]	2.5	9
TZPLS15302	TZHSLTST3617	29400 [8.6]	20800 [6.1]	8600 [2.5]	15.5	13	1025 [481.8]	27000 [7.9]	3.7	16600 [4.9]	2.4	9
TZPLS15362	TZHSLTST3617	35600 [10.4]	25100 [7.4]	10500 [3.1]	15	12.5	1175 [552.3]	33800 [9.9]	3.66	22200 [6.5]	2.66	9
TZPLS1542C	TZHSLTST4821	42500 [12.5]	30000 [8.8]	12500 [3.7]	15	12.5	1350 [634.5]	40000 [11.7]	3.76	25600 [7.5]	2.6	9
TZPLS15422	TZHSLTST4821	42500 [12.5]	30000 [8.8]	12500 [3.7]	15	12.5	1350 [634.5]	40000 [11.7]	3.76	25600 [7.5]	2.6	9
TZPLS1548C	TZHSLTST4821	47000 [13.8]	33200 [9.7]	13800 [4.0]	15	12.5	1500 [705.0]	44500 [13.0]	3.66	28800 [8.4]	2.6	9
TZPLS15482	TZHSLTST4821	47000 [13.8]	33200 [9.7]	13800 [4.0]	15	12.5	1500 [705.0]	44500 [13.0]	3.66	28800 [8.4]	2.6	9
TZPLS1560C	TZHSLTST6024	58000 [17.0]	41000 [12.0]	17000 [5.0]	15	12.5	1775 [834.3]	56000 [16.4]	3.76	35600 [10.4]	2.66	9
TZPLS15602	TZHSLTST6024	58000 [17.0]	41000 [12.0]	17000 [5.0]	15	12.5	1775 [834.3]	56000 [16.4]	3.76	35600 [10.4]	2.66	9

Note: Additional ratings and system match ups and downloadable ratings certificates can be accessed from the AHRI website: [www.ahridirectory.org](http://www.ahridirectory.org)

[ ] Designates Metric Conversions

## GUIDE SPECIFICATIONS

### General

#### System Description

Outdoor-mounted, air-cooled, split-system heat pump unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, composite basepan, an air-cooled coil, propeller-type condenser fan, suction and liquid line service valve, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a coil unit.

#### Quality Assurance

- Unit will be rated in accordance with the latest edition of AHRI Standard 210.
- Unit will be certified for capacity and efficiency, and listed in the latest AHRI directory.
- Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC.
- Unit will be constructed in accordance with UL standards and will carry the UL label of approval. Unit will have c-UL-us approval.
- Unit cabinet will be capable of withstanding ASTM B117 1000-hr salt spray test.
- Air-cooled condenser coils will be leak tested at 150 psig and pressure tested at 550 psig.
- Unit constructed in ISO9001 approved facility.

#### Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

**Warranty (for inclusion by specifying engineer)** — U.S. and Canada only.

### Products

#### Equipment

Factory assembled, single piece, air-cooled heat pump unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge R-410A, and special features required prior to field start-up.

#### Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.
- All units constructed with louver coil protection and corner post. Louver can be removed by removing one fastener per louver panel.

### AIR-COOLED, SPLIT-SYSTEM HEAT PUMP

#### TZPLS-15

#### 2 TO 5 NOMINAL TONS

#### Fans

- Condenser fan will be direct-drive propeller type, discharging air upward.
- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

#### Compressor

- Compressor will be hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.

#### Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes.

#### Refrigeration Components

- Refrigeration circuit components will include liquid-line shutoff valve with sweat connections, vapor-line shutoff valve with sweat connections, system charge of R-410A refrigerant, and compressor oil.
- Unit will be equipped with filter drier for R-410A refrigerant for field installation.

#### Operating Characteristics

- The capacity of the unit will meet or exceed \_\_\_\_\_ Btuh at a suction temperature of \_\_\_\_\_ °F/°C. The power consumption at full load will not exceed \_\_\_\_\_ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of \_\_\_\_\_ Btuh or greater at conditions of \_\_\_\_\_ CFM entering air temperature at the evaporator at \_\_\_\_\_ °F/°C wet bulb and \_\_\_\_\_ °F/°C dry bulb, and air entering the unit at \_\_\_\_\_ °F/°C.
- The system will have a SEER of \_\_\_\_\_ Btuh/watt or greater at DOE conditions.

#### Electrical Requirements

- Nominal unit electrical characteristics will be \_\_\_\_\_ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Nominal unit electrical characteristics will be \_\_\_\_\_ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.

#### Special Features

- Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.

**GENERAL TERMS OF LIMITED WARRANTY\***

Thermal Zone will furnish a replacement for any part of this product which fails in normal use and service within the applicable period stated, in accordance with the terms of the limited warranty.

**\*For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.**

Conditional Parts  
(Registration Required) .....Ten (10) Years

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**Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.**

*"In keeping with its policy of continuous progress and product improvement, the right is reserved to make changes without notice."*