

Ultra Heat Multi Zone Heat Pump

TOSOT

MODEL: TM42H50

Project Name:

Location:

Engineer Name:

Purshaser:

Unit Designation:

Schedule No.

SubmittedTo:

Date:



General Features

- High And Low Pressure Protection Features
- Over Load Protection Features
- 100% Heating Capacity at -4F
- 80% Heating Capacity at -22F
- Stable Operation at -31F!
- Drain Pan Heater Included

- Over-Current Protection
- Anti Freeze Protection
- Optional BMS Integration

Unit Performance:

| | | |
|---------------------------------|---------------------|------|
| Cooling: | - | - |
| Capacity (Min Rated Max, Btu/h) | 8,871-42,000-42,991 | |
| SEER | | 23 |
| EER (Btu/h)/w | | 9 |
| Heating: | - | - |
| Capacity (Min Rated Max, Btu/h) | 8,871-42,000-46,062 | |
| HSPF | | 10 |
| COP (W/W) | | 3.42 |

Unit Specification

| | |
|---------------------------|----------|
| Refrigerant Type | R410A |
| Refrigerant Control | EEV |
| Sound Pressure (dB(A)) | 62 |
| Net Weight (lbs) | 282 |
| Min. Number IDU | 2 |
| Max. Number IDU | 5 |
| Dehumidification (Pint/h) | N/A |
| Heat Exchanger Coating | GoldFin™ |

Piping

| | |
|---|-------|
| Refrigerant Charge (lbs) | 11 |
| Liquid Line (in) | 1/4 |
| Gas Line (in) | 3/8 |
| Max Total Piping (ft) | 246 |
| Max ODU to IDU Piping (per zone, ft) | 82 |
| Total Piping Length (with factory charge, ft) | 131.2 |
| Max Elevation between ODU and IDU (ft) | 49.2 |
| Max Elevation between IDU and IDU (ft) | 49.2 |

Electrical Specification

| | |
|----------------------------------|-----------------|
| Power Supply | 208-230V / 60Hz |
| Communications Wire Size | AWG 14/4 |
| MOP (A) | 60 |
| MCA (A) | 38 |
| Cooling Rated Amps (A) | 20.26 |
| Heating Rated Amps (A) | 15.65 |
| Compressor RLA (A) | 28.5 |
| Fan Motor RLA (A) | 1 |
| Nominal Cooling Power Input (kW) | 4.66 |
| Nominal Heating Power Input (kW) | 3.6 |

Operating Range:

| | |
|--------------|--------|
| Cooling (°F) | 0~118 |
| Heating (°F) | -31~75 |

Compressor:

| | |
|----------|-----------------|
| Quantity | 1 |
| Type | Inverter Rotary |
| Oil/Type | FV50S |

Fan

| | |
|-------------------------|-----------------------|
| Type | Axial-flow |
| Quantity | 1 |
| Motor/Drive | DC motor/Direct drive |
| Max Air Flow Rate (CFM) | 3060 |

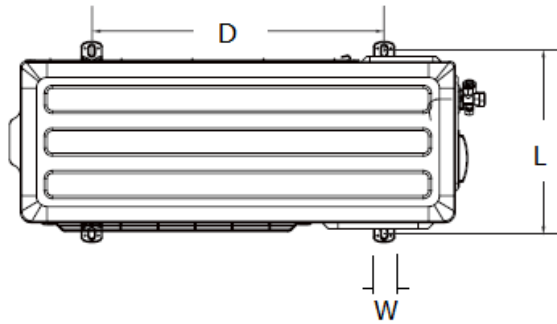
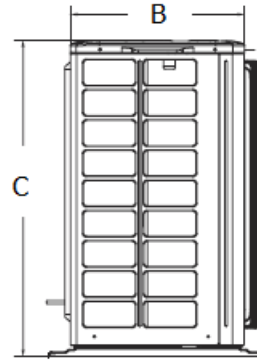
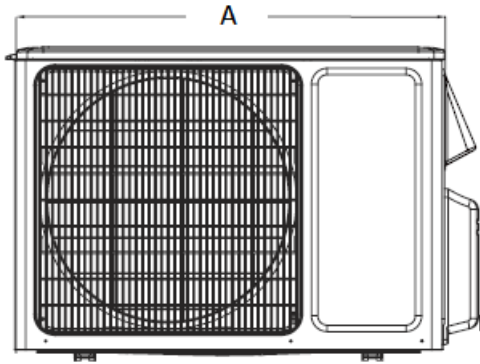


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Pump**

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MODEL: TM42H5O

Outline Dimension Diagram



| | |
|--------|------|
| A (in) | 40 |
| B (in) | 17.3 |
| C (in) | 43.5 |

| | |
|--------|------|
| D (in) | 24.8 |
| L (in) | 16.2 |
| W (in) | 3.1 |

GLOSSARY

SEER - Seasonal Energy Efficiency Ratio

EER - Energy Efficiency Ratio

HSPF - Heating Seasonal Performance Factor

MOP - Maximum Overcurrent Protection

MCA - Minimum Circuit Ampacity

System Performance

COOLING PERFORMANCE (BtuH)*

| Outdoor Ambient Temperature (DB) °F | Indoor Entering Air Temperatures | | | | | | | | | | | |
|-------------------------------------|----------------------------------|-------|---------|-----|-------|-----|---------|-----|--------|-----|----|-----|
| | 68F DB | | 73°F DB | | | | 80°F DB | | | | | |
| | 57F WB | | 61°FWB | | | | 67°FWB | | | | | |
| | TC | SHC | TC | SHC | TC | SHC | TC | SHC | TC | SHC | TC | SHC |
| 0°F | 21827 | 16500 | 22800 | | 18000 | | 24000 | | 19500 | | | |
| 5°F | 21927 | 17196 | 23181 | | 18162 | | 25527 | | 20029 | | | |
| 14°F | 22968 | 18014 | 24264 | | 19023 | | 27384 | | 21478 | | | |
| 23°F | 25164 | 19740 | 26916 | | 21113 | | 30840 | | 24188 | | | |
| 32°F | 25758 | 45964 | 27663 | | 49363 | | 31994 | | 57088 | | | |
| 41°F | 23613 | 65750 | 25520 | | 71058 | | 29746 | | 82822 | | | |
| 50°F | 21549 | 81552 | 23437 | | 88695 | | 27533 | | 104195 | | | |
| 59°F | 30516 | 23933 | 32640 | | 25598 | | 35748 | | 28029 | | | |
| 68°F | 34560 | 27106 | 36720 | | 28795 | | 39240 | | 30776 | | | |
| 77°F | 34152 | 26790 | 36324 | | 28491 | | 38880 | | 30497 | | | |
| 86°F | 32472 | 25465 | 34632 | | 27166 | | 37800 | | 29646 | | | |
| 95°F | 30732 | 24103 | 32880 | | 25781 | | 36000 | | 28236 | | | |
| 104°F | 29244 | 22936 | 31380 | | 24614 | | 35064 | | 27507 | | | |
| 113°F | 27744 | 21757 | 29880 | | 23435 | | 33576 | | 26328 | | | |

HEATING PERFORMANCE (BtuH)*

| Outdoor Ambient Temperature (DB) | Indoor Entering Air Temperatures | | | | | | | | |
|----------------------------------|----------------------------------|------------------|------|---------|------------------|------|---------|------------------|------|
| | 68°F DB | | | 73°F DB | | | 80°F DB | | |
| | 57°FWB | | | 61°FWB | | | 67°FWB | | |
| | TC | Power Input (KW) | COP | TC | Power Input (KW) | COP | TC | Power Input (KW) | COP |
| -31°F | 23000 | 5.50 | 1.23 | 24000 | 5.72 | 1.23 | 24500 | 5.85 | 1.23 |
| -22°F | 25563 | 5.57 | 1.34 | 25910 | 5.73 | 1.33 | 24899 | 5.91 | 1.24 |
| -13°F | 28859 | 5.65 | 1.50 | 28373 | 5.81 | 1.43 | 27293 | 5.99 | 1.33 |
| -5°F | 33638 | 5.64 | 1.75 | 33072 | 5.79 | 1.67 | 31837 | 5.98 | 1.56 |
| 0°F | 36089 | 5.73 | 1.85 | 35488 | 5.89 | 1.77 | 34105 | 6.08 | 1.64 |
| 5°F | 36259 | 5.70 | 1.86 | 35648 | 5.86 | 1.78 | 34291 | 6.05 | 1.66 |
| 10°F | 39753 | 5.76 | 2.02 | 39091 | 5.92 | 1.94 | 37581 | 6.11 | 1.80 |
| 17°F | 41794 | 5.72 | 2.14 | 41097 | 5.88 | 2.05 | 39475 | 6.06 | 1.91 |
| 19°F | 41758 | 5.50 | 2.23 | 41075 | 5.65 | 2.13 | 39443 | 5.83 | 1.98 |
| 24°F | 40398 | 5.42 | 2.18 | 39787 | 5.58 | 2.09 | 38397 | 5.75 | 1.96 |
| 32°F | 39260 | 5.19 | 2.22 | 38728 | 5.33 | 2.13 | 37514 | 5.50 | 2.00 |
| 41°F | 40725 | 5.11 | 2.33 | 40247 | 5.26 | 2.24 | 39090 | 5.42 | 2.11 |
| 43°F | 41822 | 5.10 | 2.40 | 41330 | 5.24 | 2.31 | 40199 | 5.41 | 2.18 |
| 47°F | 45450 | 5.22 | 2.55 | 44663 | 5.36 | 2.44 | 42837 | 5.53 | 2.27 |
| 53°F | 45900 | 4.74 | 2.84 | 45098 | 4.87 | 2.71 | 43272 | 5.03 | 2.52 |
| 59°F | 42259 | 4.78 | 2.59 | 41513 | 4.92 | 2.47 | 39818 | 5.07 | 2.30 |
| 64°F | 43158 | 4.39 | 2.88 | 42398 | 4.51 | 2.75 | 40678 | 4.65 | 2.56 |
| 70°F | 43968 | 4.46 | 2.89 | 43208 | 4.58 | 2.76 | 41437 | 4.73 | 2.57 |
| 75°F | 44588 | 4.07 | 3.21 | 43803 | 4.19 | 3.07 | 42031 | 4.32 | 2.85 |
| 78°F | 44993 | 4.11 | 3.21 | 44208 | 4.22 | 3.07 | 42411 | 4.36 | 2.85 |

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