HEAT PUMP

HEAT RECOVERY / ULTRA HEAT RECOVERY

MINI VRF / MINI VRF ULTRA HEAT

TOSOT

# VRF CATALOG

Variable Refrigerant Flow Solutions

# WHY CHOOSE T-VRF IN AMERICA?

**Local Representation:** We decided to go to market with the best local agents to offer the highest level of service. We believe our T-VRF solutions should adapt to your market instead of forcing your market to adapt to our T-VRF solutions. Local representation allows us to offer constant on-the-ground support and highly customizable solutions for any type of project.

**Support:** We pride ourselves in offering the greatest support at every level. Engineers benefit from our Design Support System. Installers are trained, certified and assisted by our T-VRF Support Team throughout the entire process including after the installation is completed. We assist directly with the Start-up, Commissioning and Maintenance Program to exceed our clients'expectations.

**Affordability:** We are conscious that we are not the largest player in the VRF industry and we use it to our advantage by keeping our expenses to a minimum level without compromising on quality and service. We believe small is beautiful. Our team is dynamic, quick, and dedicated. We are able to compete at the highest level without paying for the heavy and costly infrastructure of most of our competitors.

**Winning Team:** We have been in the North American ductless market since 1999 and have sustained a double digit growth every year without investing in costly marketing campaigns. We did it by exceeding our clients' expectations, by being a true partner to those we do business with, and by winning the business of those who were tired of getting promises that were never fulfilled.

TOSOT

## What can I find in this catalog ?



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Visit our website tosothvac.com

# T-VRF HEAT PUMP
# T-VRF HEAT RECOVERY
# T-VRF ULTRA HEAT RECOVERY
# ADVANCED TECHNOLOGY

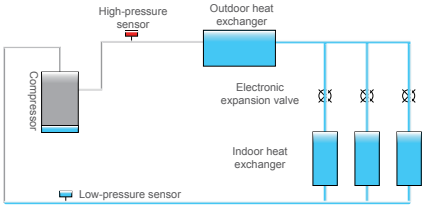
- **Modules Rotating Operation**
- **Emergency Operation**
- **Improved Oil Return Control**


## 8H ROTATION OF MASTER ODU

The operating priority sequence of the outdoor unit modules changes every 8 hours without restart. This 8H rotation will increase the lifespan of the system.

## IMPROVED OIL RETURN CONTROL

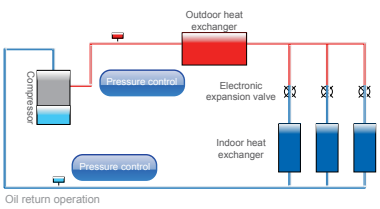
Tosot new oil return control technology effectively controls the system oil return and oil storage of each compressor, which greatly improves the lifespan of the compressors.



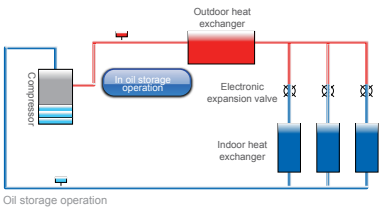

Oil storage status before oil return

### Specialized Compressor Oil Storage Control

T-VRF specialized compressor oil storage technology can effectively control and operate with very low oil levels.




Oil return operation




Oil storage operation

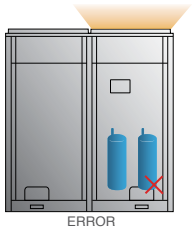
## EMERGENCY OPERATION FUNCTION

### Emergency Function

When one of the modules has a failure, the other modules will perform in emergency operation mode to sustain the demand.

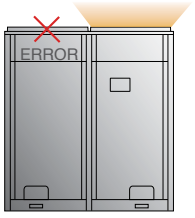

### Emergency Compressor Operation

Every compressor is DC Inverter driven, when one of the compressors is in lock-out, others will perform in emergency operation to sustain the demand.



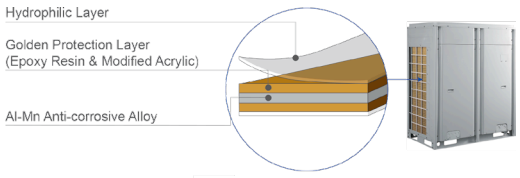

### Emergency Fan Operation

The double-fan design ensures that one fan can still work if the other one has a failure.




## HIGHLY ANTICORROSIVE GOLDEN FINS

The primary material of the Golden Fin is Al-Mn (Alumium-Manganese) anti-rust alloy, which is coated with the Golden Protection Layer (Components: Epoxy Resin & Modified Acrylic, Silicon free), the anti-corrosive performance in salt-spray testing is 200%~300% higher than the normal Blue Fin*.




Note: Satt-spary testing result is from Tosot materials chemistry testing laboratory.

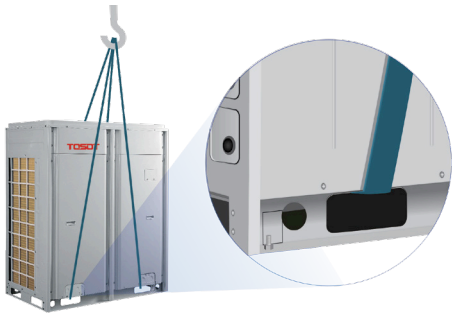
# EASY INSTALLATION
# EASY MAINTENANCE

- **Compact Design**
- **Easy Transportation**
- **Easy Maintenance**

## COMPACT DESIGN


The outdoor unit can be carried to the roof of building in an elevator, without a crane. It is easier for delivery and installation.

## EASY TRANSPORT



Optimized base frame, the locating and fixing of the outdoor unit during installation is more convenient and reliable.

### TRANSPORTABLE BY FORKLIFT

## FIVE-WAY PIPING CONNECTIONS

Piping and wiring are availiable to the front and back, left and right, and bottom.

The five-way piping connection reduces the installation difficulty and cost, improves the installation efficiency.

## EASY MAINTENANCE


The inspection window allows a quick overview of the system's operation status. No need to open the panel to look. This is time-saving and easier for maintenance.

## ERROR DISPLAY & SELF-DIAGNOSTIC FUNCTION

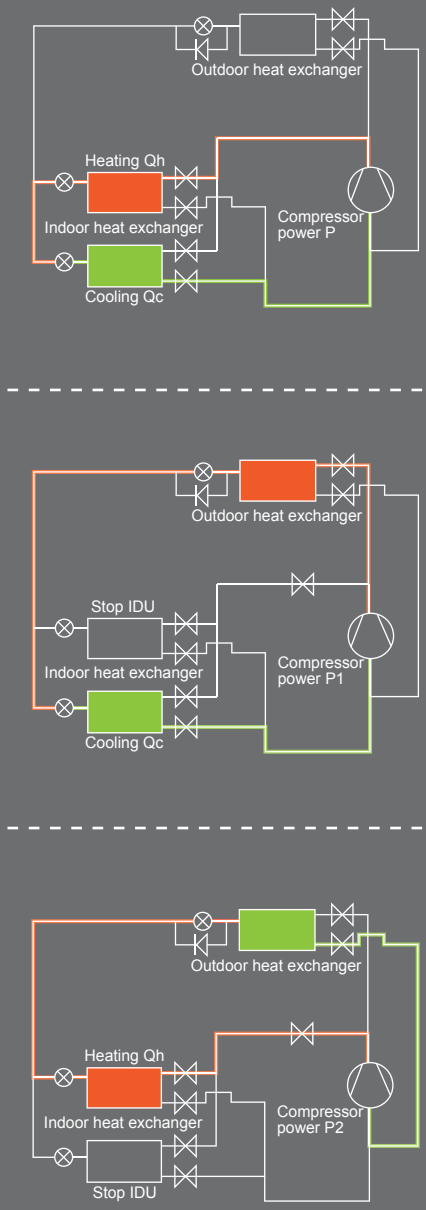

Through LED display (different combinations of ON, OFF, or BLINK) on the main board, the malfunction can be diagnosed.

# T-VRF HEAT RECOVERY

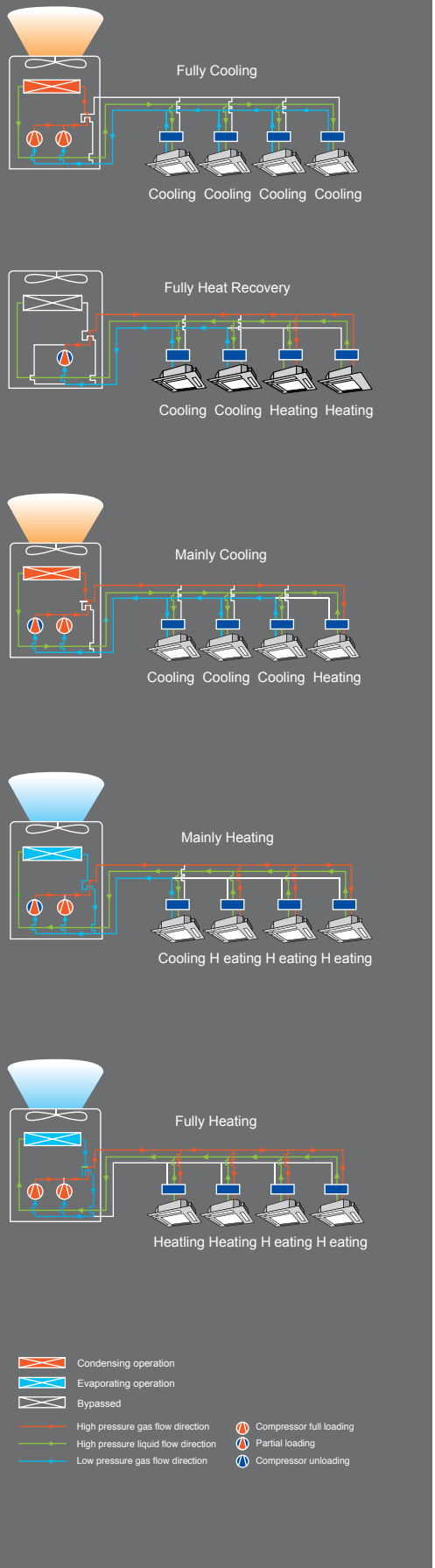
## ADVANTAGES

T-VRF Heat Recovery System embodies the excellent features of T-VRF (DC inverter technology, DC fan linkage control, precise control of capacity output, balancing control of refrigerant, original oil balancing technology with high pressure chamber, high-efficiency output control, low-temperature operation control technology, super heating technology, high adaptability for project, environmental refrigerant). In comparison with a heat-pump VRF, the energy efficiency is greatly improved.

### HIGH EFFICIENCY




### FIVE EFFICIENT OPERATION MODES



# T-VRF HEAT PUMP
# OUTDOOR UNIT


- **Outdoor Unit Line Up**
- **Specifications of Outdoor Unit**
- **Specifications of Outdoor Unit Combinations**

## • Outdoor Unit Line Up

| MODEL | | TVRF-OC72 KHP/220V | TVRF-OC96 KHP/220V | TVRF-OC120 KHP/220V |
|---|---|---|---|---|
|  | TVRF-OC72KHP/220V (6 Ton) | ● | | |
|  | TVRF-OC96KHP/220V (8 Ton) | | ● | |
|  | TVRF-OC120KHP/220V (10 Ton) | | | ● |
|  | TVRF-OC144KHP/220V (12 Ton) | ●● | | |
|  | TVRF-OC168KHP/220V (14 Ton) | ● | ● | |
|  | TVRF-OC192KHP/220V (16 Ton) | | ●● | |
|  | TVRF-OC216KHP/220V (18 Ton) | | ● | ● |
|  | TVRF-OC240KHP/220V (20 Ton) | | | ●● |
|  | TVRF-OC264KHP/220V (22 Ton) | ● | ●● | |
|  | TVRF-OC288KHP/220V (24 Ton) | | ●●● | |
|  | TVRF-OC312KHP/220V (26 Ton) | | ●● | ● |
|  | TVRF-OC336KHP/220V (28 Ton) | | ● | ●● |
|  | TVRF-OC360KHP/220V (30 Ton) | | | ●●● |

## Specifications T-VRF Heat Pump

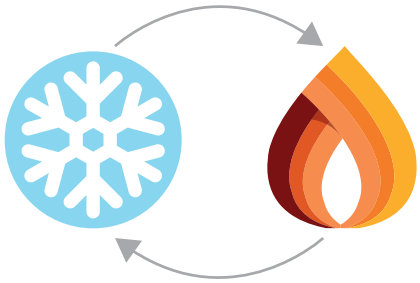
| Models Outdoor Unit | | | TVRF-OC72KHP/220V | TVRF-OC96KHP/220V | TVRF-OC120KHP/220V |
|---|---|---|---|---|---|
| Capacity | | Ton | 6 | 8 | 10 |
| Capacity | Cooling | Btu/h | 69,000 | 92,000 | 114,000 |
| | Heating | Btu/h | 77,000 | 103,000 | 129,000 |
| Power Supply | | V/Ph/Hz | 208/230V~3~60Hz | 208/230V~3~60Hz | 208/230V~3~60Hz |
| EER - IEER (Ducted/Non-Ducted) | | | 13.7/13.7 - 21.5/28.1 | 13.2/13.2 - 20/20.26 | 12.4/12.4 - 23.3/25.2 |
| High COP 47°F (Ducted/Non-Ducted) | | | 4.22 / 4.22 | 4.15 / 4.15 | 3.95 / 3.95 |
| MOCP | | A | 45 | 70 | 100 |
| Rated Current | | A | 30 | 45 | 74 |
| Maximum drive IDU NO. | | unit | 13 | 16 | 19 |
| Refrigerant Charge Volume | | Oz | 229.3 | 398.7 | 416.3 |
| Airflow | | CFM | 6,079 | 8,239 | 8,239 |
| Sound Pressure Level | | dB(A) | 60 | 61 | 63 |
| Piping connection | Liquid | inch | Φ3/8 | Φ3/8 | Φ1/2 |
| | Gas | inch | Φ3/4 | Φ7/8 | Φ1-1/8 |
| | Oil balance | inch | Φ3/8 | Φ3/8 | Φ3/8 |
| Dimensions WxHxD | Outline | inch | 36-5/8 x 63-1/5 x 30-1/8 | 52-3/4 x 63-1/4 x 30-1/8 | 52-3/4 x 63-1/4 x 30-1/8 |
| Net/Gross Weight | | Lbs | 496/518 | 662/694 | 794/827 |
| Loading Quantity | 40'HQ | set | 24 | 16 | 16 |

## Specifications of Outdoor Unit Combinations

| Model | Power Supply | Capacity | | Dimensions (WxDxH) | Airflow | ESP |
|---|---|---|---|---|---|---|
| | | Cooling | Heating | | | |
| | V/Ph/Hz | Btu/h | Btu/h | In. | CFM | in.W.G |
| TVRF-OC72 KHP/220V | 208/230V~3~60Hz | 69,000 | 77,000 | 36-3/5*30-1/8*63-1/5 | 6,080 | 0.33 |
| TVRF-OC96 KHP/220V | 208/230V~3~60Hz | 92,000 | 103,000 | 52-3/4*30-1/8*63-1/5 | 8,230 | 0.33 |
| TVRF-OC120 KHP/220V | 208/230V~3~60Hz | 114,000 | 129,000 | 52-3/4*30-1/8*63-1/5 | 8,230 | 0.33 |
| TVRF-OC144 KHP/220V | 208/230V~3~60Hz | 138,000 | 154,000 | (36-3/5*30-1/8*63-1/5) ×2 | 6,080 x 2 | 0.33 |
| TVRF-OC168 KHP/220V | 208/230V~3~60Hz | 161,000 | 180,000 | (36-3/5*30-1/8*63-1/5)+ (52-3/4*30-1/8*63-1/5) | 6,080 + 8,230 | 0.33 |
| TVRF-OC192 KHP/220V | 208/230V~3~60Hz | 184,000 | 206,000 | (52-3/4*30-1/8*63-1/5) x2 | 8,230 x 2 | 0.33 |
| TVRF-OC216 KHP/220V | 208/230V~3~60Hz | 206,000 | 232,000 | (52-3/4*30-1/8*63-1/5) x2 | 8,230 x 2 | 0.33 |
| TVRF-OC240 KHP/220V | 208/230V~3~60Hz | 228,000 | 258,000 | (52-3/4*30-1/8*63-1/5) x2 | 8,230 x 2 | 0.33 |
| TVRF-OC264 KHP/220V | 208/230V~3~60Hz | 253,000 | 283,000 | (36-3/5*30-1/8*63-1/5)+ (52-3/4*30-1/8*63-1/5) x2 | 6,080 + 8,230 x 2 | 0.33 |
| TVRF-OC288 KHP/220V | 208/230V~3~60Hz | 276,000 | 309,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.33 |
| TVRF-OC312 KHP/220V | 208/230V~3~60Hz | 298,000 | 335,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.33 |
| TVRF-OC336 KHP/220V | 208/230V~3~60Hz | 320,000 | 361,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.33 |
| TVRF-OC360 KHP/220V | 208/230V~3~60Hz | 342,000 | 387,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.33 |

# T-VRF HEAT RECOVERY
# T-VRF ULTRA HEAT RECOVERY

- **Specifications of Outdoor Unit**
- **Specifications of Branch**
- **Specifications of Outdoor Unit Combinations**




- **Specifications of T-VRF Heat Recovery and T-VRF Ultra Heat Recovery**

| Models Outdoor Unit | | | TVRF-SHC72K/220V | TVRF-SHC72KUH/220V | TVRF-SHC96K/220V | TVRF-SHC96KUH/220V | TVRF-SHC120K/220V |
|---|---|---|---|---|---|---|---|
| Capacity | | Ton | 6 | 6 | 8 | 8 | 10 |
| Capacity | Cooling | Btu/h | 72,000 | 72,000 | 96,000 | 96,000 | 120,000 |
| | Heating | Btu/h | 81,000 | 81,000 | 108,000 | 108,000 | 135,000 |
| Power Supply | | V/Ph/Hz | 208/230V~3~60Hz | 208/230V~3~60Hz | 208/230V~3~60Hz | 208/230V~3~60Hz | 208/230V~3~60Hz |
| EER - IEER (Ducted/Non-Ducted) | | | 12/12 - 21.5/25 | 13.6/13.8 - 23/23 | 11.2/11.2 - 20.5/23.5 | 13.31/13.6 - 21/21 | 11/11 - 19/21 |
| High COP 47°F (Ducted/Non-Ducted) | | | 3.5 / 3.5 | 3.65 / 3.55 | 3.5 / 3.5 | 3.6 / 3.5 | 3.3 / 3.3 |
| MOCP | | A | 50 | 60 | 60 | 70 | 80 |
| Rated Current | | A | 35 | 40 | 39 | 45 | 62 |
| Maximum drive IDU NO. | | unit | 12 | 15 | 16 | 20 | 20 |
| Refrigerant Charge Volume | | Oz | 336 | 387.2 | 384 | 464 | 416 |
| Airflow | | CFM | 8,240 | 8,240 | 8,240 | 8,240 | 8,240 |
| Sound Pressure Level | | dB(A) | 61 | 61 | 62 | 62 | 63 |
| Operating Ambient Temperature Range | Cooling | °F | 23 ~ 125.6 | 14 ~ 126 | 23 ~ 125.6 | 14 ~ 126 | 23 ~ 125.6 |
| | Heating | °F | -4 ~ 75.2 | -22 ~ 75 | -4 ~ 75.2 | -22 ~ 75 | -4 ~ 75.2 |
| Piping connection | Liquid | inch | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ1/2 |
| | Gas (Low pressure) | inch | Φ3/4 | Φ7/8 | Φ7/8 | Φ7/8 | Φ1 1/8 |
| | Gas (High pressure) | inch | Φ5/8 | Φ3/4 | Φ3/4 | Φ3/4 | Φ3/4 |
| Dimensions WxHxD | Outline | inch | 52-3/4x63-1/4x 30-1/8 | 52-3/4x63-1/4x 30-1/8 | 52-3/4x63-1/4x 30-1/8 | 52-3/4x63-1/4x 30-1/8 | 52-3/4x63-1/4x 30-1/8 |
| Net/Gross Weight | | Lbs | 666/699 | 680/713 | 683/716 | 688/721 | 794/827 |
| Loading Quantity | 40'HQ | set | 16 | 16 | 16 | 16 | 16 |

## Specifications of Branch Box

| Model | | | TVRF-SHCBU1T1 | TVRF-SHCBU1T2 | TVRF-SHCBU1T4 | TVRF-SHCBU1T8 |
|---|---|---|---|---|---|---|
| | | |  |  |  |  |
| Max IDU Branches | | / | 1 | 2 | 4 | 8 |
| No. Of connectable IDU of each branch | | / | 8 | 8 | 8 | 8 |
| Total Connectable IDU | | / | 8 | 16 | 32 | 64 |
| Max. Capacity of each branch | | Btu/h | 48,000 | 48,000 | 48,000 | 48,000 |
| Max. Capacity of connectable IDU | | Btu/h | 48,000 | 96,000 | 153,000 | 232,000 |
| Power Supply | | V/Ph/Hz | 208-230/1/60 | 208-230/1/60 | 208-230/1/60 | 208-230/1/60 |
| MOCP | | A | 15 | 15 | 15 | 15 |
| Outdoor Unit Piping Connection | Liquid | in. | 3/8 | 3/8 | 1/2 | 5/8 |
| | Gas Low Pressure | in. | 7/8 | 7/8 | 1-1/8 | 1-1/8 |
| | Gas High Pressure | in. | 5/8 | 3/4 | 3/4 | 7/8 |
| Indoor Unit Piping Connection | Liquid | in. | 3/8 | 3/8 | 3/8 | 3/8 |
| | Gas | in. | 5/8 | 5/8 | 5/8 | 5/8 |

## Specifications of Outdoor Unit Combinations

| Model | Power Supply | Capacity | | Dimensions (WxDxH) | Airflow | ESP |
|---|---|---|---|---|---|---|
| | | Cooling | Heating | | | |
| | V/Ph/Hz | Btu/h | Btu/h | In. | CFM | in.W.G |
| TVRF-SHC144K /220V | 208/230V~3~60Hz | 144,000 | 162,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.33 |
| TVRF-SHC168K /220V | 208/230V~3~60Hz | 168,000 | 189,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.33 |
| TVRF-SHC192K /220V | 208/230V~3~60Hz | 192,000 | 216,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.33 |
| TVRF-SHC216K /220V | 208/230V~3~60Hz | 216,000 | 243,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.33 |
| TVRF-SHC240K /220V | 208/230V~3~60Hz | 240,000 | 270,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.33 |
| TVRF-SHC264K /220V | 208/230V~3~60Hz | 264,000 | 297,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.33 |
| TVRF-SHC288K /220V | 208/230V~3~60Hz | 280,000 | 324,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.33 |
| TVRF-SHC312K /220V | 208/230V~3~60Hz | 312,000 | 351,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.33 |
| TVRF-SHC336K /220V | 208/230V~3~60Hz | 336,000 | 378,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.33 |
| TVRF-SHC360K /220V | 208/230V~3~60Hz | 360,000 | 405,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.33 |

# MINI T-VRF
# MINI T-VRF ULTRA HEAT

# FEATURES

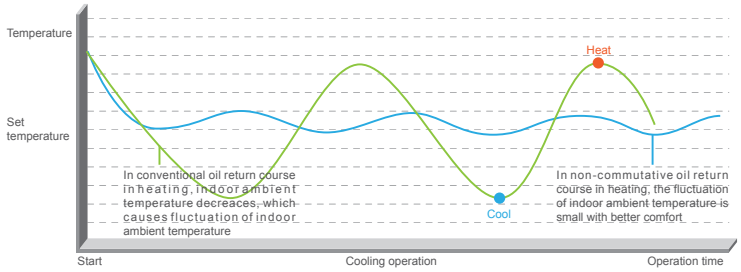
- **Ultra Quiet**
- **Non-Commutative Oil Return Technology**
- **Intelligent Temperature Control**
- **Brushless DC Inverter Fan Motor**


## ULTRA HEAT

100% Heating Capacity at -4°F
Stable Operation Under -22°F

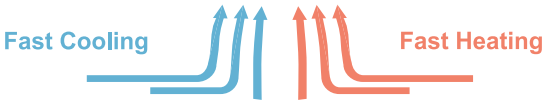
### NON-COMMUTATIVE OIL RETURN TECHNOLOGY IN HEATING

The unit can achieve non-commutative oil return in heating mode when the outdoor ambient temperature is within the range of 0 to 20°C ( 32° to 68°F). Thanks to this technology, the indoor ambient temperature is more stable for improved comfort in heating mode.




### INTELLIGENT TEMPERATURE CONTROL

Intelligent temperature control technology has been designed for ultra quick cooling and heating so indoor temperature will rapidly reach the desired temperature.

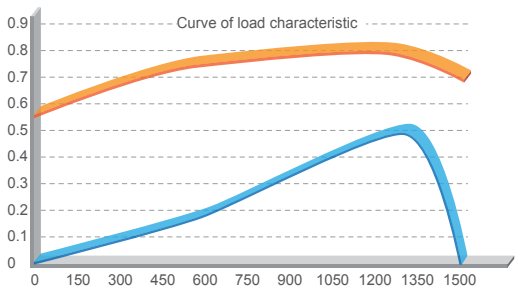



### ULTRA QUIET OUTDOOR UNIT

The advanced sub-cooling control technology reduces the liquid flow noise of the indoor units in cooling mode.
The non-commutative oil return technology and optimization of the control logic diminishes the liquid flow noise of the indoor unit in the course of oil return when operating in heating mode.

### BRUSHLESS DC INVERTER FAN MOTOR

The indoor unit is equipped with a high-efficiency brushless DC motor. Compared with a conventional motor, the efficiency of the brushless DC motor is improved by more than 30%. Meanwhile, the design of the evaporation capacity flow is optimized through an emulation software of the refrigeration system resulting in a significant improvement in the heat exchange volume of the evaporator.



# MINI T-VRF
# MINI T-VRF ULTRA HEAT
# OUTDOOR UNIT

## • Specifications of MINI T-VRF

| Models Outdoor Unit | | | TMVRF-OC36KHP | TMVRF-OC48KHP | TMVRF-OC60KHP |
|---|---|---|---|---|---|
| Capacity | | Ton | 3 | 4 | 5 |
| Capacity | Cooling | Btu/h | 37,500 | 48,000 | 60,000 |
| | Heating | Btu/h | 42,000 | 54,000 | 66,000 |
| SEER (Ducted/Non-Ducted) | | | 16 / 16 | 16 / 16 | 16 / 16 |
| HSPF (Ducted/Non-Ducted) | | | 9 / 9 | 9 / 9 | 8.2 / 8.2 |
| MOCP | | A | 50 | 60 | 70 |
| Rated Current | | A | 32 | 37 | 42 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Maximum drive IDU NO. | | unit | 5 | 7 | 9 |
| Airflow | | CFM | 3,531 | 3,708 | 4,590 |
| Refrigerant Charge Volume | | Oz | 176.4 | 176.4 | 229.3 |
| Piping connection | Liquid | inch | Φ 3/8 | Φ 3/8 | Φ 3/8 |
| | Gas | inch | Φ 5/8 | Φ 5/8 | Φ 5/8 |
| Dimensions WxHxD | Outline | inch | 35-3/8 x 53 x 13-3/8 | 35-3/8 x 53 x 13-3/8 | 35-3/8 x 53 x 13-3/8 |
| Net/Gross Weight | | Lbs | 242.6 / 264.6 | 242.6 / 264.6 | 273.4 / 299.9 |
| Loading Quantity | 40'HQ | set | 60 | 60 | 57 |

## • Specifications of MINI T-VRF ULTRA HEAT

| Models Outdoor Unit | | | TMVRF-36KUH | TMVRF-48KUH |
|---|---|---|---|---|
| Capacity | | Ton | 3 | 4 |
| Capacity | Cooling | Btu/h | 36,000 | 48,000 |
| | Heating | Btu/h | 45,000 | 54,000 |
| SEER (Ducted/Non-Ducted) | | | 16.5 / 20.5 | 16.5 / 20.5 |
| HSPF (Ducted/Non-Ducted) | | | 10.3 / 11.7 | 10.2 / 11 |
| MOCP | | A | 50 | 50 |
| Rated Current | | A | 37 | 37 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Maximum drive IDU NO. | | unit | 5 | 7 |
| Airflow | | CFM | 3,531 | 3,531 |
| Operating Ambient Temperature Range | Cooling | °F | 50 ~ 129 | 50 ~ 129 |
| | Heating | °F | -22 ~ 81 | -22 ~ 81 |
| Sound Pressure Level | | dB(A) | 56 | 57 |
| Piping connection | Liquid | inch | Φ3/8 | Φ3/8 |
| | Gas | inch | Φ5/8 | Φ5/8 |
| Dimensions WxHxD | Outline | inch | 35-3/8 x 53 x 13-3/8 | 35-3/8 x 53 x 13-3/8 |
| Net/Gross Weight | | Lbs | 296.4 / 320 | 296.4 / 320 |
| Loading Quantity | 40'HQ | set | 57 | 57 |

# T-VRF
## INDOOR UNIT

- Air Handler
- AHU Kit
- Ultra High Static Pressure Duct
- High Static Pressure Duct Type
- Low Static Pressure Duct Type
- Wall Mounted
- Floor ceiling
- Console
- 2-Way Cassette
- 4-Way Cassette
- Fresh Air Processing



- Indoor Unit Line Up

| MODEL | Specifications | 7 | 9 | 12 | 14 | 15 | 18 | 22 | 24 | 30 | 36 | 42 | 48 | 54 | 72 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Air Handler |  | | | | | | | | ● | ● | ● | ● | ● | ● | | |
| AHU Kit |  | | | | | | | | | | | | | | | |
| Super High Static Pressure Duct Type |  | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | |
| High Static Pressure Duct Type |  | | | | | | ● | | ● | ● | ● | ● | ● | | ● | ● |
| Low Static Pressure Duct Type |  | ● | ● | ● | ● | | ● | ● | | | | | | | | |
| Wall Mounted |  | ● | ● | ● | | | ● | | ● | | | | | | | |
| Floor Ceiling |  | | | ● | | | ● | | ● | ● | | ● | ● | | | |
| Console |  | ● | ● | ● | | | ● | | | | | | | | | |
| 4-Way Cassette |  | ● | ● | ● | | ● | ● | | ● | ● | ● | ● | ● | | | |
| 2-Way Cassette |  | | ● | ● | | ● | ● | | ● | | | | | | | |
| Fresh Air Processing |  | | | | | | | | | | | | | | ● | ● |

## Air Handler

Indoor Unit

| MODEL | | | TVRF-IEVAH 24KHP | TVRF-IEVAH 30KHP | TVRF-IEVAH 36KHP | TVRF-IEVAH 42KHP | TVRF-IEVAH 48KHP | TVRF-IEVAH 54KHP |
|---|---|---|---|---|---|---|---|---|
| Cooling Capacity | | BTU/h | 24,000 | 30,000 | 36,000 | 42,000 | 48,000 | 54,000 |
| Heating Capacity | | BTU/h | 27,000 | 34,000 | 40,000 | 47,000 | 54,000 | 60,000 |
| Power Supply | | V/Ph/Hz | 208/230~1Ph~60HZ | 208/230~1Ph~60HZ | 208/230~1Ph~60HZ | 208/230~1Ph~60HZ | 208/230~1Ph~60HZ | 208/230~1Ph~60HZ |
| Airflow volume (L/H) | | CFM | 559 / 824 | 559 / 582 | 1,000 / 1,353 | 1,118 / 1,441 | 1,353 / 1,618 | 1,382 / 1,672 |
| Rated Current | Cooling | A | 0.8 | 1.1 | 2.2 | 2.6 | 2.5 | 2.7 |
| | Heating | A | 0.8 | 1.1 | 2.2 | 2.6 | 2.5 | 2.7 |
| ESP | | Pa | 25/0~50 | 37/0~50 | 37/0~70 | 37/0~70 | 50/0~80 | 50/0~80 |
| Sound pressure level (L/H) | | dB(A) | 41 / 45 | 42 / 46 | 45 / 49 | 46 / 50 | 47 / 57 | 48 / 52 |
| Piping Connection | Liquid | In. | Φ 3/8 | Φ 3/8 | Φ 3/8 | Φ 3/8 | Φ 3/8 | Φ 3/8 |
| | Gas | In. | Φ 5/8 | Φ 5/8 | Φ 5/8 | Φ 5/8 | Φ 5/8 | Φ 5/8 |
| Dimensions (W*D*H) | | In. | 18 1/2X21 1/4X43 1/2 | 18 1/2X21 1/4X43 1/2 | 21 1/4X21 1/4X48 1/4 | 21 1/4X21 1/4X48 1/4 | 24 7/8X21 1/4X48 1/4 | 24 7/8X21 1/4X48 1/4 |
| Net weight/Gross weight | | Lbs | 121.2/132.3 | 121.2/132.3 | 145.5/158.7 | 145.5/158.7 | 185.2/202.8 | 185.2/202.8 |

# AHU Kit

## Indoor Unit

| Model | | | | TVRF-AHU1T | TVRF-AHU2T | TVRF-AHU4T | TVRF-AHU8T | TVRF-AHU16T |
|---|---|---|---|---|---|---|---|---|
| Power Supply | | | | 208~230V-1ph-60Hz | 208~230V-1ph-60Hz | 208~230V-1ph-60Hz | 208~230V-1ph-60Hz | 208~230V-1ph-60Hz |
| Cooling Capacity | | | Btu/h | 12,000 | 24,000 | 47,770 | 95,540 | 191,080 |
| Heating Capacity | | | Btu/h | 13,500 | 26,600 | 54,594 | 107,482 | 213,259 |
| Dimensions (WxHxD) | Outline | Control Box | In. | 13-1/7x11-1/6x4-3/8 | 13-1/7x11-1/6x4-3/8 | 13-1/7x11-1/6x4-3/8 | 13-1/7x11-1/6x4-3/8 | 13-1/7x11-1/6x4-3/8 |
| | | EXV Box | In. | 8x12-5/6x3-1/3 | 8x12-5/6x3-1/3 | 8x12-5/6x3-1/3 | 8x12-5/6x3-1/3 | 9-2/3x19-2/3x4-5/7 |
| Net Weight / Gross Weight | | | Lbs | 19 / 25.4 | 19 / 25.4 | 19 / 25.4 | 19 / 25.4 | 26 / 34.2 |
| Pipe Connections | Liquid | | In. | Φ 3/8 | Φ 3/8 | Φ 3/8 | Φ 3/8 | Φ 5/8 |
| | Gas | | In. | Φ 1/4 | Φ 5/8 | Φ 5/8 | Φ 7/8 | Φ 1 1/8 |

# Super High Static Pressure Duct Type

## Indoor Unit

| Model | | | TVRF-IES HESPD07KHP | TVRF-IES HESPD09KHP | TVRF-IES HESPD12KHP | TVRF-IES HESPD15KHP | TVRF-IES HESPD18KHP | TVRF-IES HESPD22KHP |
|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 7,500 | 9,500 | 12,000 | 15,000 | 18,000 | 22,000 |
| | Heating | Btu/h | 8,500 | 10,500 | 13,500 | 17,000 | 20,000 | 24,000 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | CFM | 235/323 | 235/324 | 247/353 | 353/500 | 412/588 | 412/588 |
| MOCP | | A | 15 | 15 | 15 | 15 | 15 | 15 |
| ESP | | Inwg | | | | | | |
| Sound Pressure Level (L/H) | | dB (A) | 31/35 | 31/35 | 32/36 | 34/40 | 35/42 | 35/42 |
| Piping Connection | Liquid | In. | Φ1/4 | Φ1/4 | Φ1/4 | Φ1/4 | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ3/8 | Φ1/2 | Φ1/2 | Φ1/2 | Φ5/8 | Φ5/8 |
| Drain Pipe | | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| Dimensions (WxHxD) | Outline | In. | 27-1/2x11-3/4x27-1/2 | 27-1/2x11-3/4x27-1/2 | 39-3/8x11-3/4x27-1/2 | 39-3/8x11-3/4x27-1/2 | 39-3/8x11-3/4x27-1/2 | 39-3/8x11-3/4x27-1/2 |
| Net Weight | | Lbs. | 73 | 73 | 94 | 94 | 94 | 94 |
| Loading | 40'HQ | Set | | | | | | |

| Model | | | TVRF-IES HESPD24KHP | TVRF-IES HESPD30KHP | TVRF-IES HESPD36KHP | TVRF-IES HESPD42KHP | TVRF-IES HESPD48KHP | TVRF-IES HESPD54KHP |
|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 24,000 | 30,000 | 36,000 | 42,000 | 48,000 | 54,000 |
| | Heating | Btu/h | 27,000 | 34,000 | 40,000 | 47,000 | 54,000 | 60,000 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | CFM | 559/736 | 736/1,059 | 824/1,177 | 824/1,177 | 971/1,383 | 1,030/1,471 |
| MOCP | | A | 15 | 15 | 15 | 15 | 15 | 6 |
| ESP | | Inwg | | | | | | |
| Sound Pressure Level (L/H) | | dB (A) | 35/43 | 38/44 | 40/45 | 40/45 | 41/46 | 42/47 |
| Piping Connection | Liquid | In. | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ3/4 |
| Drain Pipe | | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| Dimensions (WxHxD) | Outline | In. | 39-3/8x11-3/4x27-1/2 | 55-1/8x11-3/4x27-1/2 | 55-1/8x11-3/4x27-1/2 | 55-1/8x11-3/4x27-1/2 | 55-1/8x11-3/4x27-1/2 | 55-1/8x11-3/4x27-1/2 |
| Net Weight | | Lbs. | 94 | 121 | 121 | 121 | 121 | 121 |
| Loading | 40'HQ | Set | | | | | | |

# High Static Pressure Duct Type

## Indoor Unit

| Model | | | TVRF-IEHESP D18KHP | TVRF-IEHESP D24KHP | TVRF-IEHESP D30KHP | TVRF-IEHESP D36KHP | TVRF-IEHESP D42KHP | TVRF-IEHESP D48KHP | TVRF-IEHESP D72KHP | TVRF-IEHESP D96KHP |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 18,000 | 24,000 | 30,000 | 36,000 | 42,000 | 48,000 | 69,000 | 92,000 |
| | Heating | Btu/h | 20,000 | 27,000 | 34,000 | 40,000 | 47,000 | 54,000 | 77,000 | 103,000 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | CFM | 355/590 | 410/650 | 650/1,000 | 650/1,000 | 706/1,180 | 824/1,180 | 1,885/2,355 | 2,120/2,590 |
| MOCP | | A | 6 | 6 | 6 | 6 | 6 | 6 | 15 | 15 |
| ESP | | Inwg | 0.3 - 0.4 | 0.3 - 0.4 | 0.3 - 0.4 | 0.3 - 0.4 | 0.3 - 0.4 | 0.3 - 0.4 | 0.6 - 0.8 | 0.6 - 0.8 |
| Sound Pressure Level (L/H) | | dB (A) | 36/44 | 37/45 | 42/46 | 42/46 | 42/48 | 44/48 | 49/54 | 50/55 |
| Piping Connection | Liquid | In. | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ3/4 | Φ7/8 |
| Drain Pipe | | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 1/4 | Φ1 1/4 |
| Dimensions (WxHxD) | Outline | In. | 50x10-1/2x22 | 50x10-1/2x22 | 48-3/8x11-3/8x 30-1/2 | 48-3/8x11-3/8x 30-1/2 | 48-3/8x11-3/8x 30-1/2 | 48-3/8x11-3/8x 30-1/2 | 58-3/8x31 1/8x15-3/16 | 66 3/8x34 1/4x17 3/4 |
| Net Weight / Gross Weight | | Lbs. | 77.2 / 88.2 | 77.2 / 88.2 | 103.6 / 119.1 | 103.6 / 119.1 | 103.6 / 119.1 | 103.6 / 119.1 | 181 / 229 | 231 / 309 |
| Loading | 40'HQ | Set | 216 | 216 | 128 | 128 | 128 | 128 | 65 | 52 |

# Low Static Pressure Duct Type

## Indoor Unit

| Model | | | TVRF-IELESP D07KHP | TVRF-IELESP D09KHP | TVRF-IELESP D12KHP | TVRF-IELESP D14KHP | TVRF-IELESP D18KHP | TVRF-IELESP D22KHP |
|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 7,500 | 9,500 | 12,000 | 14,000 | 18,000 | 22,000 |
| | Heating | Btu/h | 8,500 | 10,500 | 13,500 | 15,000 | 20,000 | 24,000 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | CFM | 150/265 | 150/265 | 205/325 | 265/410 | 355/590 | 355/590 |
| MOCP | | A | 6 | 6 | 6 | 6 | 6 | 6 |
| ESP | | Inwg | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Sound Pressure Level (L/H) | | dB (A) | 25/31 | 25/31 | 27/32 | 28/33 | 30/35 | 30/35 |
| Piping Connection | Liquid | In. | Φ1/4 | Φ1/4 | Φ1/4 | Φ1/4 | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ3/8 | Φ1/2 | Φ1/2 | Φ1/2 | Φ5/8 | Φ5/8 |
| Drain Pipe | | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| Dimensions (WxHxD) | Outline | In. | 27-1/2x24-1/4x7-7/8 | 27-1/2x24-1/4x7-7/8 | 27-1/2x24-1/4x7-7/8 | 35-3/8x24-1/4x7-7/8 | 43-1/4x24-1/4x7-7/8 | 43-1/4x24-1/4x7-7/8 |
| Net Weight / Gross Weight | | Lbs. | 51/69.3 | 51/69.3 | 51/69.3 | 60/72.8 | 69/86 | 69/86 |
| Loading | 40'HQ | Set | 192 | 192 | 192 | 192 | 162 | 162 |

# Wall Mounted

## Indoor Unit


| Model | | | TVRF-IEWM07KHP | TVRF-IEWM09KHP | TVRF-IEWM12KHP | TVRF-IEWM18KHP | TVRF-IEWM24KHP |
|---|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 7,500 | 9,500 | 12,000 | 18,000 | 24,000 |
| | Heating | Btu/h | 8,500 | 11,000 | 13,500 | 20,000 | 25,500 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume | | CFM | 295 | 295 | 370 | 370 | 440 |
| MOCP | | A | 15 | 15 | 15 | 15 | 15 |
| Sound Pressure Level (L/H) | | dB (A) | 30/38 | 30/38 | 38/44 | 38/44 | 38/44 |
| Piping Connection | Liquid | In. | Φ1/4 | Φ1/4 | Φ1/4 | Φ1/4 | Φ3/8 |
| | Gas | In. | Φ3/8 | Φ3/8 | Φ1/2 | Φ1/2 | Φ5/8 |
| Drain Pipe | | In. | Φ4/5 | Φ4/5 | Φ4/5 | Φ4/5 | Φ4/5 |
| Dimensions (WxHxD) | Outline | In. | 33-1/4 x 10-7/8 x 7-1/8 | 33-1/4 x 10-7/8 x 7-1/8 | 37 x 11-3/4 x 7-7/8 | 37 x 11-3/4 x 7-7/8 | 39-5/8 x 8-3/4 x 12-1/2 |
| Net Weight / Gross Weight | | Lbs. | 22/27.5 | 22/27.5 | 27.5/33.1 | 27.5/33.1 | 33/40.8 |
| Loading | 40'HQ | Set | 819 | 819 | 624 | 624 | 503 |

# Console

## Indoor Unit


| Model | | | TVRF-IECS07KHP | TVRF-IECS09KHP | TVRF-IECS12KHP | TVRF-IECS18KHP |
|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 7,500 | 9,500 | 12,000 | 18,000 |
| | Heating | Btu/h | 8,500 | 11,000 | 13,500 | 20,000 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume | | CFM | 235 | 235 | 282 | 400 |
| MOCP | | A | 15 | 15 | 15 | 15 |
| Sound Pressure Level | | dB (A) | 38 | 38 | 40 | 46 |
| Piping Connection | Liquid | In. | Φ1/4 | Φ1/4 | Φ1/4 | Φ1/4 |
| | Gas | In. | Φ3/8 | Φ3/8 | Φ3/8 | Φ1/2 |
| Drain Pipe | External Dia. | In. | Φ1-1/9 | Φ1-1/9 | Φ1-1/9 | Φ1-1/9 |
| Dimensions (WxHxD) | Outline | In. | 27-1/2 x 23-5/8 x 8-1/2 | 27-1/2 x 23-5/8 x 8-1/2 | 27-1/2 x 23-5/8 x 8-1/2 | 27-1/2 x 23-5/8 x 8-1/2 |
| Net Weight / Gross Weight | | Lbs. | 35.3/41.9 | 35.3/41.9 | 35.3/41.9 | 35.3/41.9 |
| Loading | 40'HQ | Set | 460 | 460 | 460 | 460 |

# Floor Ceiling

## Indoor Unit


| Model | | | TVRF-IEFC 09KHP | TVRF-IEFC 12KHP | TVRF-IEFC 18KHP | TVRF-IEFC 24KHP | TVRF-IEFC 30KHP | TVRF-IEFC 36KHP | TVRF-IEFC 42KHP | TVRF-IEFC 48KHP |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 9,500 | 12,000 | 18,000 | 24,000 | 30,000 | 36,000 | 42,000 | 48,000 |
| | Heating | Btu/h | 10,500 | 13,500 | 20,000 | 27,000 | 33,000 | 40,000 | 47,000 | 54,000 |
| Power Supply | | V/Ph/Hz | 208/230V 1~60Hz | 208/230V 1~60Hz | 208/230V 1~60Hz | 208/230V 1~60Hz | 208/230V 1~60Hz | 208/230V 1~60Hz | 208/230V 1~60Hz | 208/230V 1~60Hz |
| Air Flow Volume (L/H) | | CFM | 305/380 | 305/380 | 410/560 | 640/825 | 685/940 | 755/1,180 | 855/1,180 | 855/1,180 |
| MOCP | | A | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Sound Pressure Level (L/H) | | dB (A) | 32/36 | 32/36 | 33/42 | 39/44 | 43/50 | 42/51 | 45/52 | 45/52 |
| Piping Connection | Liquid | In. | Φ1/4 | Φ1/4 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ3/8 | Φ1/2 | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 |
| Drain Pipe | | In. | Φ11/16 | Φ11/16 | Φ11/16 | Φ11/16 | Φ11/16 | Φ11/16 | Φ11/16 | Φ11/16 |
| Dimensions (WxHxD) | Outline | In. | 48 x 27-1/2 x 8-7/8 | 48 x 27-1/2 x 8-7/8 | 48 x 27-1/2 x 8-7/8 | 55-7/8 x 27-1/2 x 9-5/8 | 55-7/8 x 27-1/2 x 9-5/8 | 66-7/8 x 27-1/2 x 9-5/8 | 66-7/8 x 27-1/2 x 9-5/8 | 66-7/8 x 27-1/2 x 9-5/8 |
| Net Weight / Gross Weight | | Lbs. | 88/108 | 88/108 | 88/108 | 110/128 | 110/128 | 132/150 | 132/150 | 132/150 |
| Loading | 40'HQ | Set | 158 | 158 | 158 | 98 | 98 | 98 | 98 | 98 |

# 4-Way Cassette

## Indoor Unit

| Model | | | | TVRF-IE4WC07KHP | TVRF-IE4WC09KHP | TVRF-IE4WC12KHP | TVRF-IE4WC15KHP | TVRF-IE4WC18KHP |
|---|---|---|---|---|---|---|---|---|
| Capacity | | Cooling | Btu/h | 7,500 | 9,500 | 12,000 | 15,000 | 18,000 |
| | | Heating | Btu/h | 8,500 | 10,500 | 13,500 | 17,000 | 20,000 |
| Power Supply | | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | | CFM | 325/440 | 440/590 | 440/590 | 440/590 | 440/590 |
| MOCP | | | A | 15 | 15 | 15 | 15 | 15 |
| Sound Pressure Level (L/H) | | | dB (A) | 31/36 | 32/37 | 32/37 | 32/37 | 32/37 |
| Piping Connection | | Liquid | In. | Φ1/4 | Φ1/4 | Φ1/4 | Φ1/4 | Φ3/8 |
| | | Gas | In. | Φ3/8 | Φ1/2 | Φ1/2 | Φ1/2 | Φ5/8 |
| Drain Pipe | | External Dia. | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| | | Thickness | In. | 3/32 | 3/32 | 3/32 | 3/32 | 3/32 |
| Main Body | Dimensions (WxHxD) | Outline | In. | 33-1/8 x 33-1/8 x 7-1/2 | 33-1/8 x 33-1/8 x 9-1/2 | 33-1/8 x 33-1/8 x 9-1/2 | 33-1/8 x 33-1/8 x 9-1/2 | 33-1/8 x 33-1/8 x 9-1/2 |
| | | Grill Panel | In. | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 |
| | Net Weight / Gross Weight | | Lbs. | 49.6/63.9 | 58.4/75 | 58.4/75 | 58.4/75 | 58.4/75 |
| Panel | Net Weight / Gross Weight | | Lbs. | 15/24 | 15/24 | 15/24 | 15/24 | 15/24 |
| Loading | | 40'HQ | Set | 171 | 156 | 156 | 156 | 156 |

# 4-Way Cassette

## Indoor Unit

| Model | | | | TVRF-IE4WC24KHP | TVRF-IE4WC30KHP | TVRF-IE4WC36KHP | TVRF-IE4WC42KHP | TVRF-IE4WC48KHP |
|---|---|---|---|---|---|---|---|---|
| Capacity | | Cooling | Btu/h | 24,000 | 30,000 | 36,000 | 42,000 | 48,000 |
| | | Heating | Btu/h | 27,000 | 34,000 | 40,000 | 47,000 | 54,000 |
| Power Supply | | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | | CFM | 470/695 | 650/885 | 650/1,000 | 680/1,095 | 680/1,095 |
| MOCP | | | A | 15 | 15 | 15 | 15 | 15 |
| Sound Pressure Level (L/H) | | | dB (A) | 33/38 | 35/40 | 36/41 | 38/43 | 38/43 |
| Connecting Pipe Diameter | | Liquid | In. | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 |
| | | Gas | In. | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 |
| Drain Pipe | | | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| Main Body | Dimensions (WxHxD) | Outline | In. | 33-1/8 x 33-1/8 x 9-1/2 | 33-1/8 x 33-1/8 x 12-5/8 | 33-1/8 x 33-1/8 x 12-5/8 | 33-1/8 x 33-1/8 x 12-5/8 | 33-1/8 x 33-1/8 x 12-5/8 |
| | | Grill Panel | In. | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 | 37-3/8 x 37-3/8 x 2-1/2 |
| | Net Weight / Gross Weight | | Lbs. | 58/75 | 72/88 | 72/88 | 72/88 | 72/88 |
| Panel | Net Weight / Gross Weight | | Lbs. | 15/24 | 15/24 | 15/24 | 15/24 | 15/24 |
| Loading | | 40'HQ | Set | 156 | 119 | 119 | 119 | 119 |

# 2-Way Cassette

## Indoor Unit

| Model | | | | TVRF-IE2WC09KHP | TVRF-IE2WC12KHP | TVRF-IE2WC15KHP | TVRF-IE2WC18KHP | TVRF-IE2WC24KHP |
|---|---|---|---|---|---|---|---|---|
| Capacity | | Cooling | Btu/h | 9,500 | 12,000 | 15,000 | 18,000 | 24,000 |
| | | Heating | Btu/h | 10,500 | 13,500 | 17,000 | 20,000 | 27,000 |
| Power Supply | | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | | CFM | 312/490 | 312/490 | 312/490 | 312/490 | 448/650 |
| MOCP | | | A | 15 | 15 | 15 | 15 | 15 |
| Sound Pressure Level (L/H) | | | dB(A) | 31/35 | 31/35 | 31/35 | 31/35 | 35/39 |
| Piping Connection | | Liquid | inch | Φ1/4 | Φ1/4 | Φ1/4 | Φ3/8 | Φ3/8 |
| | | Gas | inch | Φ3/8 | Φ1/2 | Φ1/2 | Φ5/8 | Φ5/8 |
| Drain Pipe | | External Dia. | inch | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| Main Body | Dimensions (WxHxD) | Outline | In. | 47-1/4 x 20-1/2 x 13-2/5 | 47-1/4 x 20-1/2 x 13-2/5 | 47-1/4 x 20-1/2 x 13-2/5 | 47-1/4 x 20-1/2 x 13-2/5 | 47-1/4 x 20-1/2 x 13-2/5 |
| | | Grill Panel | In. | 56-3/4 x 24-13/16 x 1-1/4 | 56-3/4 x 24-13/16 x 1-1/4 | 56-3/4 x 24-13/16 x 1-1/4 | 56-3/4 x 24-13/16 x 1-1/4 | 56-3/4 x 24-13/16 x 1-1/4 |
| | Net Weight / Gross Weight | | Lbs. | 94.8/119.1 | 94.8/119.1 | 94.8/119.1 | 94.8/119.1 | 101.4/125.7 |
| | Net Weight / Gross Weight | | Lbs. | 15.4/24.3 | 15.4/24.3 | 15.4/24.3 | 15.4/24.3 | 15.4/24.3 |
| Loading | | 40'HQ | Set | 105 | 105 | 105 | 105 | 105 |

# Fresh Air Processing

## Indoor Unit

| Model | | | TVRF-IEVFAH72KHP | TVRF-IEVFAH96KHP |
|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 72,000 | 96,000 |
| | Heating | Btu/h | 55,000 | 68,000 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Air Flow Volume (L/H) | | CFM | 1,177 / 2,060 | 1,471 / 2,060 |
| MOCP | | A | 10 | 10 |
| ESP | | Inwg | 1.09 | 1.09 |
| Sound Pressure Level (H/M/L) | | dB (A) | 50 | 51 |
| Piping Connection | Liquid | In. | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ3/4 | Φ3/4 |
| Drain Pipe | | In. | 1-3/16 | 1-3/16 |
| Dimensions (WxDxH) | Outline | In. | 58-3/8x31-1/8x15-1/8 | 58-3/8x31-1/8x15-1/8 |
| Net Weight / Gross Weight | | Lbs. | 181/229 | 181/229 |
| Loading | 40'HQ | Set | 65 | 65 |

# Pipe Y-Branch & T-Branch

| Type of Pipe | | MODEL NUMBER | Description |
|---|---|---|---|
| Y Branch for T-VRF Heat Pump | | TVRF-YC0/20KW | Y Branching Capacity 68,242 Btu and less |
| | | TVRF-YC20/30KW | Y Branching Capacity 68,242 Btu to 102,364 Btu |
| | | TVRF-YC30/70KW | Y Branching Capacity 102,364 Btu to 238,850 Btu |
| | | TVRF-YC70/135KW | Y Branching Capacity 238,850 Btu to 460,640 Btu |
| | | TVRF-YC135/PKW | Y Branching Capacity 460,640 Btu and more |
| | | TVRF-ML01/A | Connection Pipe between 2 Outdoor Units |
| Y Branch for T-VRF Heat Recovery | Used for Mode Exchange Unit (3-pipe system) | TVRF-YCHR0/5.6KW | Y Branching Capacity 0 Btu to 19,108 Btu |
| | | TVRF-YCHR5.6/22KW | Y Branching Capacity 19,108 Btu to 75,067 Btu |
| | | TVRF-YCHR22/30KW | Y Branching Capacity 75,067 Btu to 102,364 Btu |
| | | TVRF-YCHR30-68KW | Y Branching Capacity 102,364 Btu to 232,025 Btu |
| | | TVRF-YCHR68/96KW | Y Branching Capacity 232,025 Btu to 327,566 Btu |
| | | TVRF-YCHR96/135KW | Y Branching Capacity 327,566 Btu to 460,639 Btu |
| | | TVRF-YCHR135/PKW | Y Branching Capacity 460,639 Btu and more |
| | Used for Indoor Units | TVRF-IHR0/14KW | Y Branching Capacity 0 Btu to 47,770 Btu |
| | | TVRF-IHR14/28KW | Y Branching Capacity 47,770 Btu to 95,540 Btu |
| | Used for Outdoor Units | TVRF-ML01HR | Connection Pipe between two Outdoor Units Branching Capacity 171,972 Btu and less |
| T-type Manifoid Pipe | | TVRF-TC0/40KW | Branching Capacity 136,486 Btu and less |
| | | TVRF-TC0/80KW | Branching Capacity 136,486 Btu to 272,971 Btu |
| | | TVRF-TC80/PKW | Branching Capacity 272,971 Btu and more |

# CONTROL SYSTEMS

# MORE INTELLIGENT CONTROLS

- **Smart Selection Software & Debugging Software**
- **Long Distance Monitoring**
- **Energy Saving Management**
- **Wired Controller and Wireless Remote Controls**
- **Smart Zone Controller and Central Controller**
- **BACnet Gateway & Modbus Gateway**



## WIRED CONTROLLER
## WIRELESS REMOTE CONTROLLER

There are two kinds of controllers: wired controller and remote controller. The system offers various mode of operation for users, such as cooling, heating, dehumidifying, fan etc... Users can select mods according to their own using needs.

For more details about each controller, please refer to the following pages.



## ENERGY SAVING

### Limits on electricity

• Cost electricity analysis.
• Set the maximum cost of electricity and unit will be operating in limited conditions when the maximum is reached.
• System can remind users the cost of electricity during operation and give suggestions on energy saving modes.

### Economy Mode

• Select economy mode and the system will operate at maximum efficiency



### Smart Selection software

• User friendly interface
• Automatic calculation of ODU and Y connectors
• System validation to eliminate errors
• Flexible settings for optimal project design
• Optional controller configuration and wiring diagram

### Smart Debugging Software

• Advanced monitoring functions of all the units
• Multiple control functions
• Automatic data saving
• USB data converter



### Long Distance Monitoring

T-VRF provides long distance monitoring software in order to satisfy all demands. It can control both a room and a building at the same time

• EVERYDAY MANAGEMENT
Setting for daily operations. Everyday Management at different locations.

• AUTHORITY MANAGEMENT
Management designates which users can control power on/off.
Management can limit which users can adjust temperature settings.
Management can limit which users can have control over mode selection.

• STATISTICS ANALYSIS
Recording Statistics: System can generate graphs and statistics based on usage.
Recording Errors: System can show the information of errors in charts and send notifications of errors through emails.
Recording Operation: System can record users' daily operation.

• CALCULATING COST OF ELECTRICITY
Auto calculation according to users.
According to the operating time, modes, flow of refrigerant, humidity and other factors, system can calculate the cast of electricity for users in different locations. Detailed information of bills and operation can be provided.

# WIRELESS REMOTE CONTROLLERS

## TVRF-YV1L1

- Back lighting LCD.
- Can be switched in auto, cooling, dehumidifying, fan, heating, floor heating, 3D heating and space heating operation modes.
- 7 levels of fan speed, up & down swing and left & right swing.
- Available functions: child lock, energy saving, drying, health, ventilation, quiet/ auto quiet, sleep, light, absence, low-temperature dehumidifying, I-feel and timer.
- With clock display, system parameters viewing and setting functions.

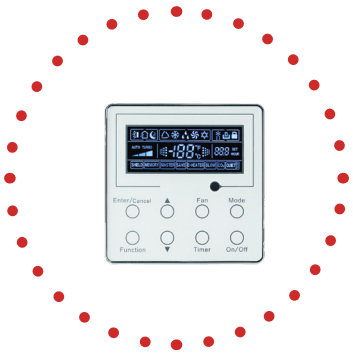
## TVRF-YAP1F

- Can be switched in auto, cooling, dehumidifying, fan and heating operation modes.
- Besides turbo, 6 levels of fan speed can be set.
- Available functions: child lock, drying, health, ventilation, turbo, sleep, light, absence, I-feel and timer.
- Up & down swing and left & right swing.

# WIRED CONTROLLERS

## TVRF-XK46

- LCD with black background and white digits, touch buttons.
- Clock can be displayed and set. 24 hours timer. Setting for on/off timer.
- 7 levels of fan speed, up & down swing and left & right swing.
- Severals mode: auto, cooling, dehumidifying, fan, heating, floor heating etc.
- Master and slave wired control settings. Simultaneous control over several IDUs is available.
- Available functions: sleep, ventilation, quiet/auto quiet, light, energy saving, auxiliary heating, drying, memory, low-temperature dehumidifying, absence in heating, controllable auxiliary heating in dehumidifying, filter cleaning reminder, etc.
- Detect ambient temperature. Receive infrared remote controller signal.



## TVRF-XK79

- Compact and stylish look in 12 mm thick, backlit LCD displaying white on black.
- 8 touch buttons.
- Designed with clock display and clock setting, including countdown and timer.
- Apart from general functions, drying under low temperature, heating during absence, controlable drying with E-heating and filter cleaning reminder can be set.
- Access control system can be connected to control air conditioner On/Off through access card.

# CENTRALIZED CONTROLLER
# SMART ZONE CONTROLLER

•1280*800 high-resolution color LCD.

• 7" capacitive touch screen for easy operation.

• Shielding function of single unit, group and all IDUs (shielding on/off, mode, temp setting, etc.).

## TVRF-TSCC/255

• With various functions: centralized control (control all indoor units), group management (support DIY grouping), schedule management (setting of several schedules) and single unit control (on/off, mode, temp setting, fan speed, quiet, swing control, etc.).

• Provide naming of indoor units, selection of icons and personalized settings (setting background, backlight, etc).

• Up to 255 units can be centrally controlled.

• Elegant and fashionable appearance.

• Embedded installation in wall with projecting thickness only of 11 mm.

• Connectable with network of indoor units or outdoor units.

• Independent power supply in 110-240V wide voltage range.

• With project setting , parameter viewing, malfunction record and access management functions.

•1280*800 high-resolution color LCD.

• 7" capacitive touch screen for easy operation.

• With project setting, parameter viewing, malfunction record and access management functions.

## TVRF-TSCC/32

• With various functions: centralized control (control all indoor units), group management (support DIY grouping), schedule management (setting of several schedules) and single unit control (on/off, mode, temp setting, fan speed, quiet, swing control, etc.).

• Shielding function of single unit, group and all IDUs (shielding on/off, mode, temp setting, etc.)

• Provide naming of indoor units, selection of icons and personalized settings(setting background, backlight, etc).

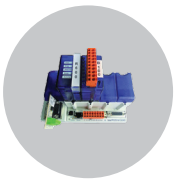
• Up to 32 units can be centrally controlled.

• Elegant and fashionable appearance.

• Embedded installation in wall with projecting thickness only of 11 mm.

• Connectable with network of indoor units or outdoor units.

• Independent power supply in 110-240V wide voltage range.



## BACnet Gateway

BACnet gateway kit TVRF30-24/D2(B) is intended to realize the data exchange between the air conditioning unit and the BMS. It provides standard BACnet/IP building interface. There are 8 I/O interfaces, one of which is the fire alarm signal interface. The status of the other 7 I/O interfaces is mapped to the specified objects of the BACnet/IP bus

## Modbus Gateway

Modbus Gateway provides TVRF system with the Modbus protocol interface when connecting to the Building. There are 8 I/O interfaces, one of which is the fire alarm signal interface.

## • Control System Line Up

● Standard ○ Optional

| Controlling system / Product series | | | CASSETTE TYPE | DUCT TYPE (All models) | WALL MOUTED TYPE | CONSOLE TYPE | FLOOR CEILING TYPE | FRESH AIR PROCESSING | AHU KIT | AIR HANDLER |
|---|---|---|---|---|---|---|---|---|---|---|
| Wireless Controller | TVRF-YAP1F |  | ● | ○ | ● | ● | ● | ○ | | ○ |
| | TVRF-YV1L1 |  | ○ | ○ | ○ | ○ | ○ | ○ | | |
| Wired Controller | TVRF-XK46 |  | ○ | ● | ○ | ○ | ○ | ● | ● | ● |
| | TVRF-XK79 |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| | TVRF-JS05 |  | | ● | | | | | | |
| Centralized Controller | TVRF-TSCC/255 |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| Smart Zone Controller | TVRF-TSCC/32 |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| Long-Distance Monitoring Software | TVRF-LDMS |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| Kit for Comisioning Software | TVRF-40-33/A© |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| BMS Accessories — Communication Module (Modbus) | TVRF-ME30-24/E4(M) |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| BMS Accessories — BACnet Gateway | TVRF-MG30-24/D2(B) |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| BMS Accessories — Photoelectricity Insulation Convertor | TVRF-GD02 |  | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |

# CONTACT US

## WANT MORE INFORMATION ?

We'll be there for you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## NOTE

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