HEAT PUMP

HEAT RECOVERY

MINI VRF

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

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# T-VRF HEAT PUMP
# T-VRF HEAT RECOVERY

# ADVANCED TECHNOLOGY

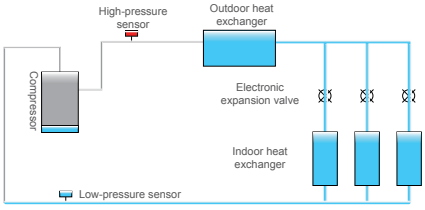
- **Modules Rotation Operating**
- **Emergency Operation Function**
- **New Oil Return Control**


## MODULES 8H ROTATION OF MASTER ODU

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

## NEW OIL RETURN CONTROL

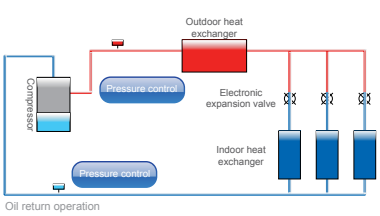
Tosot new oil return control technology effectively controls system oil return and oil storage status of each compressor, which greatly improves the operation lifespan of compressor.



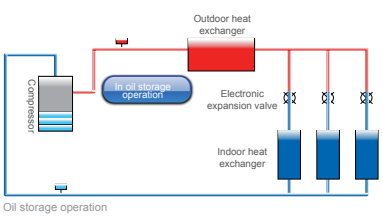

Oil storage status before oil return

### Specialized Compressor Oil Storage Control

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




Oil return operation




Oil storage operation

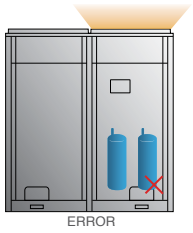
## EMERGENCY OPERATION FUNCTION

### Emergency Function

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

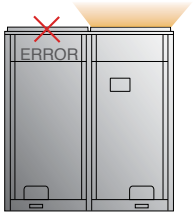

### Emergency Operation of Compressor

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



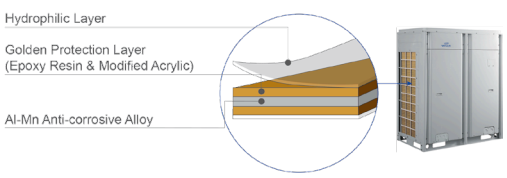

### Emergency Operation of Fan

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 WILLIS materials chemistry testing laboratory.

# EASY INSTALLATION
# EASY MAINTENANCE

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

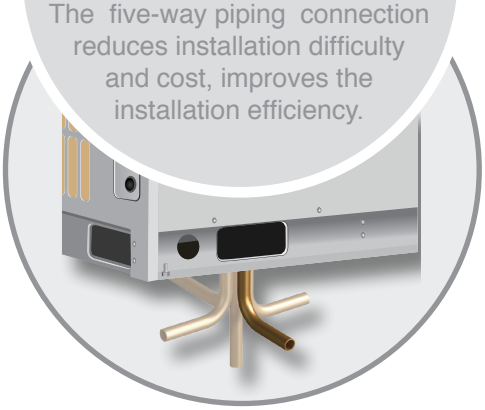
## COMPACT DESIGN


With compact design, the outdoor unit can be carried to the roof of building through elevator, with no need of crane. It is easier for delivery and installation.

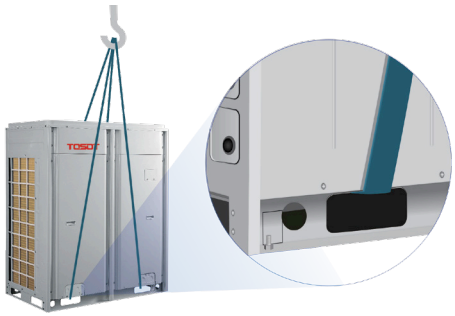
## FIVE-WAY PIPING CONNECTION

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

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



## EASY TRANSPORT



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

### TRANSPORTABLE BY FORKLIFT

## EASY MAINTENANCE


Inspection window is available for quick checking of system operation status. No need to open panel for checking, which will be more time-saving and easier for maintenance.

## ERROR DISPLAY & SELF-DIAGNOSTIC FUNCTION

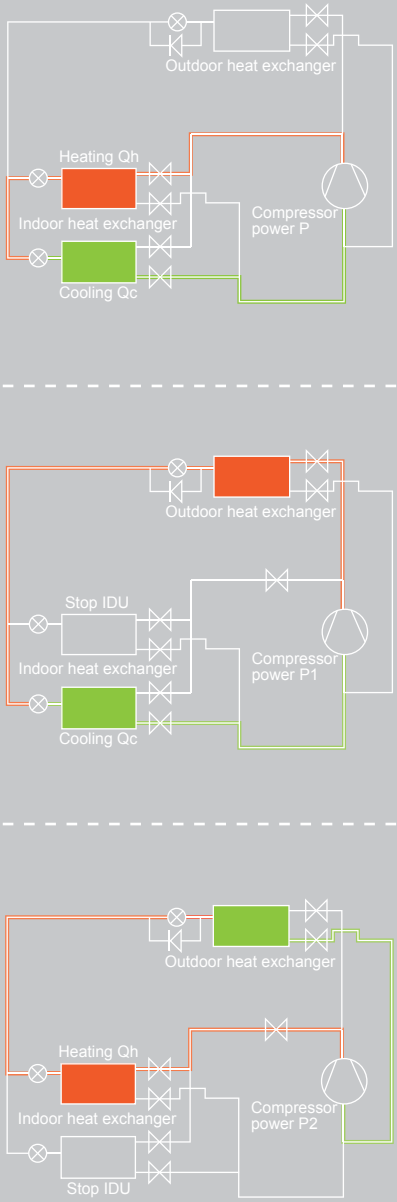

Through LED display (different combinations of ON, OFF, or BLINK) on the main board, the malfunction can be diagnosed.

# T-VRF HEAT RECOVERY

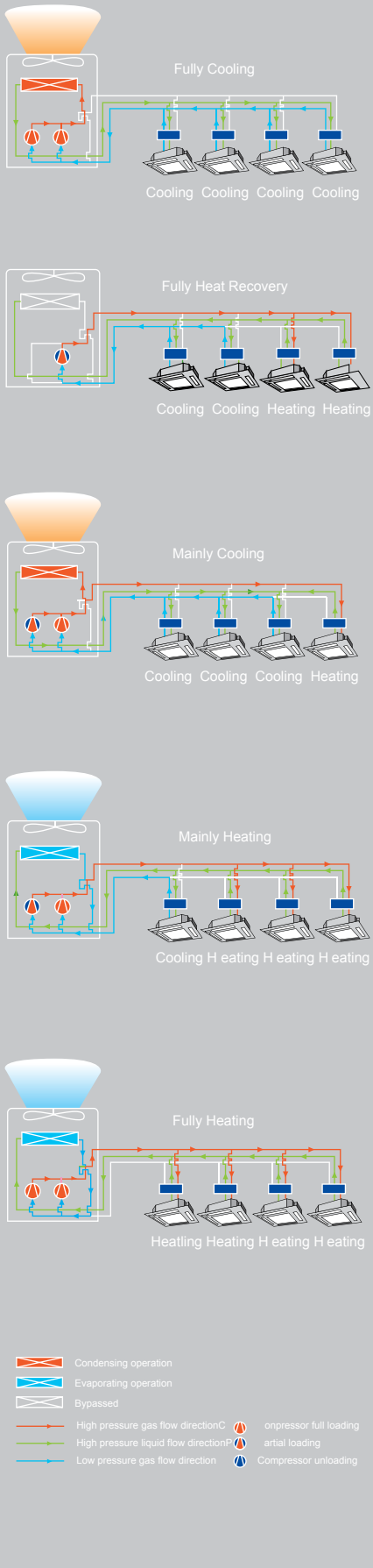
## ADVANTAGES

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

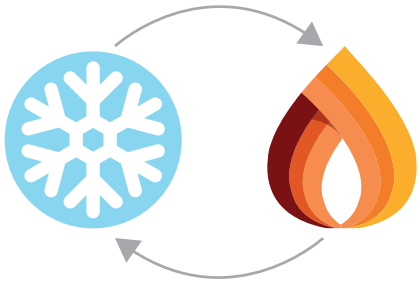
| Models Outdoor Unit | | | TVRF-OC72 KHP/220V | TVRF-OC96 KHP/220V | TVRF-OC120 KHP/220V |
|---|---|---|---|---|---|
| Capacity Range | | Ton | 6 | 8 | 10 |
| Capacity | Cooling | Btu/h (Ton) | 72,000 (6.0) | 96,000 (8.0) | 120,000 (10.0) |
| | Heating | Btu/h (Ton) | 81,000 (6.75) | 108,000 (9.0) | 135,000 (11.25) |
| Power Supply | | V/Ph/Hz | 208/230V~3~60Hz | 208/230V~3~60Hz | 208/230V~3~60Hz |
| Min. Circuit Current | | A | 30 | 45 | 74 |
| Max. Fuse Current | | A | 45 | 70 | 100 |
| Maximum drive IDU NO. | | unit | 12 | 16 | 20 |
| Refrigerant Charge Volume | | lbs | 14.3 | 24.9 | 26 |
| Airflow | | CFM | 6,710 | 8,240 | 8,240 |
| Sound Pressure Level | | dB(A) | 60 | 61 | 63 |
| Piping connection | Gas | inch | Φ3/8 | Φ3/8 | Φ3/8 |
| | Liquid | inch | Φ3/4 | Φ7/8 | Φ9/8 |
| | Oil balance | inch | Φ3/8 | Φ3/8 | Φ3/8 |
| Dimensions WxHxD | Outline | inch | 36-3/5 x 30-1/8 x 63-1/5 | 52-3/4 x 30-1/8 x 63-1/5 | 52-3/4 x 30-1/8 x 63-1/5 |
| | Package | inch | 39-3/4 x 33 x 69-7/8 | 56 x 33 x 69-7/8 | 56 x 33 x 69-7/8 |
| Net/Gross Weight | | Lbs | 496/518 | 661/694 | 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 | 0.328 |
| TVRF-OC96 KHP/220V | 208/230V~3~60Hz | 92,000 | 103,000 | 52-3/4*30-1/8*63-1/5 | 8,230 | 0.328 |
| TVRF-OC120 KHP/220V | 208/230V~3~60Hz | 114,000 | 129,000 | 52-3/4*30-1/8*63-1/5 | 8,230 | 0.328 |
| 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 | 0.328 |
| TVRF-OC168 KHP/220V | 208/230V~3~60Hz | 160,000 | 180,000 | (36-3/5*30-1/8*63-1/5)+ (52-3/4*30-1/8*63-1/5) | 6,080 + 8,230 | 0.328 |
| 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 | 0.328 |
| TVRF-OC216 KHP/220V | 208/230V~3~60Hz | 206,000 | 231,000 | (52-3/4*30-1/8*63-1/5) x2 | 8,230 x 2 | 0.328 |
| TVRF-OC240 KHP/220V | 208/230V~3~60Hz | 228,000 | 257,000 | (52-3/4*30-1/8*63-1/5) x2 | 8,230 x 2 | 0.328 |
| TVRF-OC264 KHP/220V | 208/230V~3~60Hz | 251,000 | 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 | 0.328 |
| TVRF-OC288 KHP/220V | 208/230V~3~60Hz | 274,000 | 308,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.328 |
| TVRF-OC312 KHP/220V | 208/230V~3~60Hz | 297,000 | 334,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.328 |
| TVRF-OC336 KHP/220V | 208/230V~3~60Hz | 320,000 | 360,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.328 |
| TVRF-OC360 KHP/220V | 208/230V~3~60Hz | 342,000 | 385,000 | (52-3/4*30-1/8*63-1/5) x3 | 8,230 x 3 | 0.328 |

# T-VRF HEAT RECOVERY
# OUTDOOR UNIT

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




## Specifications of Outdoor Unit

| Models Outdoor Unit | | | TVRF-SHC72K/220V | TVRF-SHC96K/220V | TVRF-SHC120K/220V |
|---|---|---|---|---|---|
| Capacity Range | | Ton | 6 | 8 | 10 |
| Capacity | Cooling | Btu/h (Ton) | 72,000 (6.0) | 96,000 (8.0) | 120,000 (10.0) |
| | Heating | Btu/h (Ton) | 81,000 (6.75) | 108,000 (9.0) | 135,000 (11.25) |
| MCA | | A | 30 | 46 | 74 |
| MOP | | A | 45 | 70 | 100 |
| Power Supply | | V/Ph/Hz | 208/230V~3~60Hz | 208/230V~3~60Hz | 208/230V~3~60Hz |
| Maximum drive IDU NO. | | unit | 12 | 16 | 20 |
| Refrigerant Charge Volume | | lbs | 21,2 | 24,7 | 26 |
| Airflow | | CFM | 8,240 | 8,240 | 8,240 |
| Sound Pressure Level | | dB(A) | 61 | 61 | 63 |
| Operating Ambient Temperature Range | Cooling | °F | 23 ~ 125.6 | 23 ~ 125.6 | 23 ~ 125.6 |
| | Heating | °F | -4 ~ 75.2 | -4 ~ 75.2 | -4 ~ 75.2 |
| Piping connection | Liquid | inch | Φ3/8 | Φ3/8 | Φ1/2 |
| | Gas (Low pressure) | inch | Φ3/4 | Φ7/8 | Φ1 1/8 |
| | Gas (High pressure) | inch | Φ5/8 | Φ3/4 | Φ7/8 |
| Dimensions WxHxD | Outline | inch | 52 3/4 x 30 1/8 63 1/5 | 52 3/4 x 30 1/8 63 1/5 | 52 3/4 x 30 1/8 63 1/5 |
| | Package | inch | 56 x 33 x 69 7/8 | 56 x 33 x 69 7/8 | 56 x 33 x 69 7/8 |
| Net/Gross Weight | | Lbs | 666/699 | 683/716 | 791/827 |
| Loading Quantity | 40'HQ | set | 16 | 16 | 16 |

## Specifications of Branch

| 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 |
| Power Consumption | | W | 8 | 20 | 44 | 80 |
| Maximum connected IDU No. | | unit | 8 | 16 | 32 | 64 |
| Indoor 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 | 3/4 |
| 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 | 0.328 |
| TVRF-SHC168K /220V | 208/230V~3~60Hz | 168,000 | 189,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.328 |
| TVRF-SHC192K /220V | 208/230V~3~60Hz | 192,000 | 216,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.328 |
| TVRF-SHC216K /220V | 208/230V~3~60Hz | 216,000 | 243,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.328 |
| TVRF-SHC240K /220V | 208/230V~3~60Hz | 240,000 | 270,000 | (52-3/4x30-1/8x63-1/5) x 2 | 8,240 x 2 | 0.328 |
| TVRF-SHC264K /220V | 208/230V~3~60Hz | 264,000 | 297,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.328 |
| TVRF-SHC288K /220V | 208/230V~3~60Hz | 280,000 | 324,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.328 |
| TVRF-SHC312K /220V | 208/230V~3~60Hz | 312,000 | 351,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.328 |
| TVRF-SHC336K /220V | 208/230V~3~60Hz | 336,000 | 378,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.328 |
| TVRF-SHC360K /220V | 208/230V~3~60Hz | 360,000 | 405,000 | (52-3/4x30-1/8x63-1/5) x 3 | 8,240 x 3 | 0.328 |

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

# FEATURES

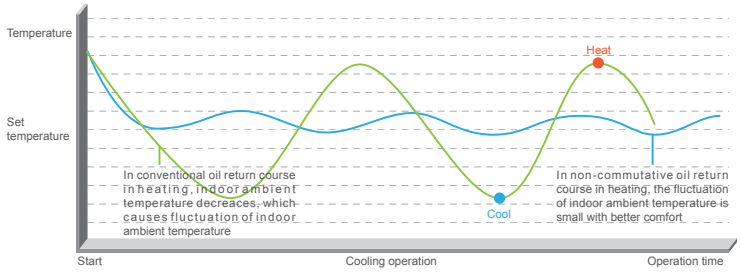
- **Low Noise**
- **Non-Commutative Oil Return Technology**
- **Intelligent Temperature Control**
- **Sensorless DC Inverter Fan Motor**


## ULTRA HEAT

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

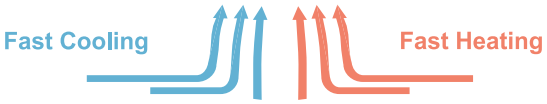
## NON-COMMUTATIVE OIL RETURN TECHNOLOGY IN HEATING

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 super quick cooling and heating so that the indoor temperature will rapidly reach the desired temperature.

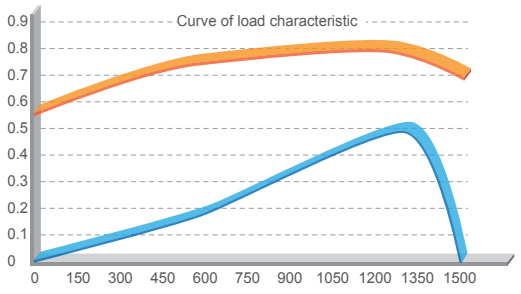



## LOW NOISE OF OUTDOOR UNIT

The advanced sub-cooling control technology is applied to reduce the liquid flow noise of indoor unit when in cooling mode.
Non-commutative oil return technology and optimization control logic are applied to reduce the liquid flow noise of the indoor unit in the course of oil return when operating in heating mode.

## SENSORLESS 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 |
|---|---|---|---|---|
| Capacity Range | | Ton | 3 | 4 |
| Capacity | Cooling | Btu/h (Ton) | 37,500 (3.0) | 48,000 (4.0) |
| | Heating | Btu/h (Ton) | 42,000 (3.5) | 54,000 (4.5) |
| MCA | | A | 32 | 37 |
| MOP | | A | 50 | 60 |
| SEER | | Btu/h/W | 16 | 16 |
| HSPF | | Btu/h/W | 9 | 9 |
| Rated Current | | A | 32 | 37 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Max. Circuit/Fuse Current | | A | 50 | 60 |
| Maximum drive IDU NO. | | unit | 7 | 8 |
| Refrigerant Charge Volume | | kg/Oz | 5/176 | 5/176 |
| Piping connection | Liquid | inch | Φ3/8 | Φ3/8 |
| | Gas | inch | Φ5/8 | Φ5/8 |
| Dimensions WxHxD | Outline | inch | 35-3/7 x 13-2/5 x 53 | 35-3/7 x 13-2/5 x 53 |
| | Package | inch | 39-2/7 x 18 x 59-2/3 | 39-2/7 x 18 x 59-2/3 |
| Net/Gross Weight | | Lbs | 242.6/264.6 | 242.6/264.6 |
| Loading Quantity | 40'HQ | set | 60 | 60 |

## • Specifications of MINI T-VRF ULTRA HEAT

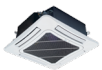
| Models Outdoor Unit | | | TMVRF-36KUH | TMVRF-48KUH |
|---|---|---|---|---|
| Capacity Range | | Ton | 3 | 4 |
| Capacity | Cooling | Btu/h (Ton) | 36,000 (3.0) | 48,000 (4.0) |
| | Heating | Btu/h (Ton) | 42,000 (3.5) | 54,000 (4.5) |
| MCA | | A | 32 | 37 |
| MOP | | A | 50 | 60 |
| Power Supply | | V/Ph/Hz | 208/230V~1~60Hz | 208/230V~1~60Hz |
| Maximum drive IDU NO. | | unit | 7 | 8 |
| Operating Ambient Temperature Range | Cooling | °F | 50 ~ 129 | 50 ~ 129 |
| | Heating | °F | -22 ~ 81 | -22 ~ 81 |
| Airflow | | CFM | 3,884 | 3,884 |
| Sound Pressure Level | | dB(A) | 55 | 55 |
| Piping connection | Liquid | inch | Φ3/8 | Φ3/8 |
| | Gas | inch | Φ5/8 | Φ5/8 |
| Dimensions WxHxD | Outline | inch | 35 2/5x 16 1/2 x 53 | 35 2/5x 16 1/2 x 53 |
| | Package | inch | 38 7/10 x 17 2/5 x 55 | 38 7/10 x 17 2/5 x 55 |
| Net/Gross Weight | | Lbs | 291 | 291 |
| Loading Quantity | 40'HQ | set | 57 | 57 |

# T-VRF
# INDOOR UNIT

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



## Indoor Unit Line Up

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

Indoor Unit

## High Static Pressure Duct Type

| Model | | | TVRF-IEHESP D18KPH | TVRF-IEHESP D24KPH | TVRF-IEHESP D30KPH | TVRF-IEHESP D36KPH | TVRF-IEHESP D42KPH | TVRF-IEHESP D48KPH |
|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 18,000 | 24,000 | 30,000 | 36,000 | 42,000 | 48,000 |
| | Heating | Btu/h | 20,000 | 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 | 208/230V 1~60Hz |
| Power Consumption | | W | 120 | 130 | 200 | 200 | 220 | 220 |
| Air Flow Volume | | CFM | 590/470/355 | 650/530/410 | 1000/855/650 | 1000/855/650 | 1180/910/710 | 1180/910/710 |
| Rated Current | Cooling | A | 0.9 | 0.9 | 1.4 | 1.4 | 1.6 | 1.6 |
| | Heating | A | 0.9 | 0.9 | 1.4 | 1.4 | 1.6 | 1.6 |
| ESP | | Wg | 0~0.4 | 0~0.4 | 0~0.4 | 0~0.4 | 0~0.4 | 0~0.4 |
| Sound Pressure Level (H/M/L) | | dB (A) | 44/40/36 | 45/41/37 | 46/44/42 | 46/44/42 | 48/45/42 | 48/46/44 |
| 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 | Φ5/8 |
| Drain Pipe | External Dia. | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| | Thickness | In. | 6/61 | 6/61 | 6/61 | 6/61 | 6/61 | 6/61 |
| Dimensions (WxDxH) | Outline | In. | 50x22x10 5/9 | 50x22x10 5/9 | 48 2/5x30 1/2x11 3/7 | 48 2/5x30 1/2x11 3/7 | 48 2/5x30 1/2x11 3/7 | 48 2/5x30 1/2x11 3/7 |
| | Package | In. | 53x23 1/2x11 1/7 | 53x23 1/2x11 1/7 | 52 2/3x34 1/2x12 | 52 2/3x34 1/2x12 | 52 2/3x34 1/2x12 | 52 2/3x34 1/2x12 |
| 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 |
| Loading | 40'HQ | Set | 216 | 216 | 128 | 128 | 128 | 128 |

Indoor Unit

## Low Static Pressure Duct Type

| Model | | | TVRF-IELESP D07KHP | TVRF-IELESP D09KHP | TVRF-IELESP D12KHP | TVRF-IELESP D18KHP |
|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 7,500 | 9,500 | 12,000 | 18,000 |
| | Heating | Btu/h | 8,500 | 10,500 | 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 |
| Power Consumption | | W | 43 | 43 | 43 | 99 |
| Air flow volume | | m3/h | 550 | 550 | 550 | 1000 |
| | | CFM | 325 | 325 | 325 | 590 |
| Rated Current | Cooling | A | 0.3 | 0.3 | 0.3 | 0.5 |
| | Heating | A | 0.3 | 0.3 | 0.3 | 0.5 |
| ESP | | Pa | 15/0~30 | 15/0~30 | 15/0~30 | 15/0~30 |
| Sound Pressure Level (H/M/L) | | dB (A) | 31/29/25 | 31/29/25 | 32/30/27 | 35/33/30 |
| Piping Connection | Liquid | In. | Φ1/4 | Φ1/4 | Φ1/4 | Φ3/8 |
| | Gas | In. | Φ3/8 | Φ1/2 | Φ1/2 | Φ5/8 |
| Drain Pipe | External Dia. | In. | Φ1 | Φ1 | Φ1 | Φ1 |
| | Thickness | In. | 6/61 | 6/61 | 6/61 | 6/61 |
| Dimensions (WxDxH) | Outline | In. | 27 5/9x24 1/5x7 7/8 | 27 5/9x24 1/5x7 7/8 | 27 5/9x24 1/5x7 7/8 | 43 1/3x24 1/5x7 7/8 |
| | Package | In. | 35 1/6x29 1/4x12 | 35 1/6x29 1/4x12 | 35 1/6x29 1/4x12 | 52x29 1/4x12 |
| Net Weight / Gross Weight | | Lbs. | 51 / 69.3 | 51 / 69.3 | 51 / 69.3 | 69 / 86 |
| Loading | 40'HQ | Set | 192 | 192 | 192 | 162 |

Indoor Unit

## Wall Mounted

| Model | | | TVRF-IEWM 07KPH | TVRF-IEWM 09KPH | TVRF-IEWM 12KPH | TVRF-IEWM 18KPH | TVRF-IEWM 24KPH |
|---|---|---|---|---|---|---|---|
| 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 |
| Power Consumption | | W | 50 | 50 | 60 | 60 | 70 |
| Air flow volume | | m3/h | 500/420/350 | 500/420/350 | 630/550/480 | 630/550/480 | 750/600/500 |
| | | CFM | 235 | 235 | 282 | 400 | 440/353/294 |
| Rated Current | Cooling | A | 0.2 | 0.2 | 0.21 | 0.21 | 0.31 |
| | Heating | A | 0.2 | 0.2 | 0.21 | 0.21 | 0.31 |
| Sound Pressure Level (H/M/L) | | dB (A) | 38/34/30 | 38/34/30 | 44/41/38 | 44/41/38 | 44/41/38 |
| 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 | External Dia. | In. | Φ4/5 | Φ4/5 | Φ4/5 | Φ4/5 | Φ4/5 |
| | Thickness | In. | 1/17 | 1/17 | 1/17 | 1/17 | 1/17 |
| Dimensions (WxDxH) | Outline | In. | 33 1/5 x 7 x 10 5/6 | 33 1/4 x 7 x 10-4/5 | 37 x 7 9/10 x 11 4/5 | 37 x 7 9/10 x 11 4/5 | 39 7/10 x 8 7/10 x 12 3/5 |
| | Package | In. | 38 3/10 x 10 1/5 x 14-3/5 | 38-3/10 x 10 1/5 x 14 3/5 | 42 x 11 3/10 x 15 3/5 | 42 x 11 3/10 x 15 3/5 | 44 1/2 x 15 7/10 x 13 |
| Net Weight / Gross Weight | | Lbs. | 22/27.5 | 22/27.5 | 27.5/33.1 | 27.5/33.1 | 33/40.7 |
| Loading | 40'HQ | Set | 819 | 819 | 624 | 624 | 503 |

Indoor Unit

## Console

| Model | | | TVRF-IECS 07KHP | TVRF-IECS 09KHP | TVRF-IECS 12KHP | TVRF-IECS 18KHP |
|---|---|---|---|---|---|---|
| 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 |
| Power Consumption | | W | 15 | 15 | 20 | 40 |
| Air flow volume | | m3/h | 400 | 400 | 480 | 680 |
| | | CFM | 235 | 235 | 282 | 400 |
| Rated Current | Cooling | A | 0.17 | 0.17 | 0.25 | 0.4 |
| | Heating | A | 0.17 | 0.17 | 0.25 | 0.4 |
| Sound Pressure Level (H/M/L) | | 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 | Φ3/8 |
| Drain Pipe | External Dia. | In. | Φ1-1/9 | Φ1-1/9 | Φ1-1/9 | Φ1-1/9 |
| | Thickness | In. | 1/25 | 1/25 | 1/25 | 1/25 |
| Dimensions (WxDxH) | Outline | In. | 27 5/9 x 8 1/2 x 23 5/8 | 27 5/9 x 8 1/2 x 23 5/8 | 27 5/9 x 8 1/2 x 23 5/8 | 27 5/9 x 8 1/2 x 23 5/8 |
| | Package | In. | 31 x 11 1/7 x 27 4/9 | 31 x 11 1/7 x 27 4/9 | 31 x 11 1/7 x 27 4/9 | 31 x 11 1/7 x 27 4/9 |
| 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 |

Indoor Unit

## 2-Way Cassette

| Model | | | | TVRF-IE2WC 09KPH | TVRF-IE2WC 12KPH | TVRF-IE2WC 15KPH | TVRF-IE2WC 18KPH | TVRF-IE2WC 24KPH |
|---|---|---|---|---|---|---|---|---|
| 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 |
| Power Consumption | | | W | 55 | 55 | 55 | 55 | 103 |
| Air flow volume | | | m3/h | 830/600/530 | 830/600/530 | 830/600/530 | 830/600/530 | 1100/820/760 |
| | | | CFM | 490/353/312 | 490/353/312 | 490/353/312 | 490/353/312 | 650/483/448 |
| Rated Current | | Cooling | A | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 |
| | | Heating | A | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 |
| Sound Pressure Level | | | dB(A) | 35/33/31 | 35/33/31 | 35/33/31 | 35/33/31 | 39/37/35 |
| 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 |
| | | Thickness | inch | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 |
| Main Body | Dimensions (WxDxH) | Outline | In. | 47 1/5 x 20 1/2 x 13 2/5 | 47 1/5 x 20 1/2 x 13 2/5 | 47 1/5 x 20 1/2 x 13 2/5 | 47 1/5 x 20 1/2 x 13 2/5 | 47 1/5 x 20 1/2 x 13 2/5 |
| | | Package | In. | 60 x 26 x 17 | 60 x 26 x 17 | 60 x 26 x 17 | 60 x 26 x 17 | 60 x 26 x 17 |
| | 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 |
| Panel | Dimensions (WxDxH) | Outline | In. | 56.4/5 x 24 4/5 x 1 1/4 | 56.4/5 x 24 4/5 x 1 1/4 | 56.4/5 x 24 4/5 x 1 1/4 | 56.4/5 x 24 4/5 x 1 1/4 | 56.4/5 x 24 4/5 x 1 1/4 |
| | | Package | In. | 67 x 30 1/5 x 4 7/10 | 67 x 30 1/5 x 4 7/10 | 67 x 30 1/5 x 4 7/10 | 67 x 30 1/5 x 4 7/10 | 67 x 30 1/5 x 4 7/10 |
| | 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 |

Indoor Unit

## 4-Way Cassette

| Model | | | | TVRF-IE4WC 07KPH | TVRF-IE4WC 09KPH | TVRF-IE4WC 12KPH | TVRF-IE4WC 15KPH | TVRF-IE4WC 18KPH |
|---|---|---|---|---|---|---|---|---|
| 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 |
| Power Consumption | | | W | 48 | 59 | 59 | 59 | 59 |
| Air flow volume | | | m3/h | 750/650/550 | 1000/900/750 | 1000/900/750 | 1000/900/750 | 1000/900/750 |
| | | | CFM | 440/385/325 | 590/530/440 | 590/530/440 | 590/530/440 | 590/530/440 |
| Rated Current | | Cooling | A | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 |
| | | Heating | A | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 |
| Sound Pressure Level (H/M/L) | | | dB (A) | 36/34/31 | 37/35/32 | 37/35/32 | 37/35/32 | 37/35/32 |
| 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 (WxDxH) | Outline | In. | 33 x 33 x 7-1/2 | 33 x 33 x 9-1/2 | 33 x 33 x 9-1/2 | 33 x 33 x 9-1/2 | 33 x 33 x 9-1/2 |
| | | Package | In. | 37 15/16 x37 15/16 x10 11/16 | 37 15/16 x37 15/16 x12 13/16 | 37 15/16 x37 15/16 x12 13/16 | 37 15/16 x37 15/16 x12 13/16 | 37 15/16 x37 15/16 x12 13/16 |
| | Net Weight / Gross Weight | | Lbs. | 49.6 / 63.9 | 58.4 / 75 | 58.4 / 75 | 58.4 / 75 | 58.4 / 75 |
| Panel | Dimensions (WxDxH) | Outline | In. | 37 2/5x37 2/5x2 3/5 | 37 2/5x37 2/5x2 3/5 | 37 2/5x37 2/5x2 3/5 | 37 2/5x37 2/5x2 3/5 | 37 2/5x37 2/5x2 3/5 |
| | | Package | In. | 40 5/9x40 3/4x4 2/3 | 40 5/9x40 3/4x4 2/3 | 40 5/9x40 3/4x4 2/3 | 40 5/9x40 3/4x4 2/3 | 40 5/9x40 3/4x4 2/3 |
| | Net Weight / Gross Weight | | Lbs. | 50/64 | 58/75 | 58/75 | 58/75 | 58/75 |
| Loading | | 40'HQ | Set | 171 | 156 | 156 | 156 | 156 |

| Model | | | | TVRF-IE4WC 24KPH | TVRF-IE4WC 30KPH | TVRF-IE4WC 36KPH | TVRF-IE4WC 42KPH | TVRF-IE4WC 48KPH |
|---|---|---|---|---|---|---|---|---|
| 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 |
| Power Consumption | | | W | 59 | 98 | 110 | 110 | 110 |
| Air flow volume | | | m3/h | 1,180/950/850 | 1,500/1,350/1,100 | 1,700/1,400/1,100 | 1,860/1,500/1150 | 1,860/1,500/1,150 |
| | | | CFM | 695/560/550 | 885/795/650 | 1,000/825/650 | 1,095/880/675 | 1,095/880/675 |
| Rated Current | | Cooling | A | / | / | / | / | / |
| | | Heating | A | 0.5 | 0.8 | 0.9 | 0.9 | 0.9 |
| Sound Pressure Level (H/M/L) | | | dB (A) | 38/36/33 | 40/38/35 | 41/38/36 | 43/41/38 | 43/41/38 |
| 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 | | External Dia. | In. | Φ1 | Φ1 | Φ1 | Φ1 | Φ1 |
| | | Thickness | In. | 3/32 | 3/32 | 3/32 | 3/32 | 3/32 |
| Main Body | Dimensions (WxDxH) | Outline | In. | 33 x 33 x 9-1/2 | 33 x 33 x 12-5/8 | 33 x 33 x 12-5/8 | 33 x 33 x 12-5/8 | 33 x 33 x 12-5/8 |
| | | Package | In. | 37 15/16 x37 15/16 x12 13/16 | 37 15/16 x37 15/16 x16 1/8 | 37 15/16 x37 15/16 x16 1/8 | 37 15/16 x37 15/16 x16 1/8 | 37 15/16 x37 15/16 x16 1/8 |
| | Net Weight / Gross Weight | | Lbs. | 58/75 | 72/88 | 72/88 | 72/88 | 72/88 |
| Panel | Dimensions (WxDxH) | Outline | 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 |
| | | Package | In. | 40 11/16 x 40 7/8 x 5 1/4 | 40 11/16 x 40 7/8 x 5 1/4 | 40 11/16 x 40 7/8 x 5 1/4 | 40 11/16 x 40 7/8 x 5 1/4 | 40 11/16 x 40 7/8 x 5 1/4 |
| | Net Weight / Gross Weight | | Lbs. | 15/24 | 15/24 | 15/24 | 15/24 | 15/24 |
| Loading | | 40'HQ | Set | 156 | 119 | 119 | 119 | 119 |

Indoor Unit

## Floor Ceiling


| Model | | | TVRF-IEFC 09KHP | TVRF-IEFC 12KHP | TVRF-IEFC 18KHP | TVRF-IEFC 24KHP |
|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 9,500 | 12,000 | 18,000 | 24,000 |
| | Heating | Btu/h | 10,500 | 13,500 | 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 |
| Power Consumption | | W | 40 | 40 | 50 | 75 |
| Air flow volume | | m3/h | 650/585/520 | 650/585/520 | 950/865/699 | 1400/1150/1085 |
| | | CFM | 380/345/305 | 380/345/305 | 560/510/410 | 825/675/640 |
| Rated Current | Cooling | A | 0.5 | 0.5 | 0.5 | 0.55 |
| | Heating | A | 0.5 | 0.5 | 0.5 | 0.55 |
| Sound Pressure Level (H/M/L) | | dB (A) | 36/34/32 | 36/34/32 | 42/38/33 | 44/42/39 |
| Piping Connection | Liquid | In. | Φ1/4 | Φ1/4 | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ3/8 | Φ1/2 | Φ5/8 | Φ5/8 |
| Drain Pipe | External Dia. | In. | Φ11/16 | Φ11/16 | Φ11/16 | Φ11/16 |
| | Thickness | In. | 1/16 | 1/16 | 1/16 | 1/16 |
| Dimensions (WxDxH) | Outline | In. | 48 x 27 9/16 x 8 7/8 | 48 x 27 9/16 x 8 7/8 | 48 x 27 9/16 x 8 7/8 | 56 x 27 9/16 x 9 5/8 |
| | Package | In. | 52 1/2 x 32 3/8 x 12 3/8 | 52 1/2 x 32 3/8 x 12 3/8 | 52 1/2 x 32 3/8 x 12 3/8 | 60 15/16 x 32 5/8 x 13 9/16 |
| Net Weight / Gross Weight | | Lbs. | 88/108 | 88/108 | 88/108 | 110/128 |
| Loading | 40'HQ | Set | 158 | 158 | 158 | 98 |

| Model | | | TVRF-IEFC 30KHP | TVRF-IEFC 36KHP | TVRF-IEFC 42KHP | TVRF-IEFC 48KHP |
|---|---|---|---|---|---|---|
| Capacity | Cooling | Btu/h | 30,000 | 36,000 | 42,000 | 48,000 |
| | Heating | Btu/h | 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 |
| Power Consumption | | W | 140 | 160 | 160 | 160 |
| Air flow volume | | m3/h | 1600/1445/1183 | 2000/1600/1282 | 2000/1813/1452 | 2000/1813/1452 |
| | | CFM | 940/850/695 | 1180/905/695 | 1180/1065/855 | 1180/1065/855 |
| Rated Current | Cooling | A | 0.6 | 0.7 | 0.7 | 0.7 |
| | Heating | A | 0.6 | 0.7 | 0.7 | 0.7 |
| Sound Pressure Level (H/M/L) | | dB (A) | 50/47/43 | 51/47/42 | 52/49/45 | 52/49/45 |
| Piping Connection | Liquid | In. | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 |
| | Gas | In. | Φ5/8 | Φ5/8 | Φ5/8 | Φ5/8 |
| Drain Pipe | External Dia. | In. | Φ11/16 | Φ11/16 | Φ11/16 | Φ11/16 |
| | Thickness | In. | 1/16 | 1/16 | 1/16 | 1/16 |
| Dimensions (WxDxH) | Outline | In. | 56 x 27 9/16 x 9 5/8 | 66 15/16 x 27 9/16 x 9 5/8 | 66 15/16 x 27 9/16 x 9 5/8 | 66 15/16 x 27 9/16 x 9 5/8 |
| | Package | In. | 60 15/16 x 32 5/8 x 13 9/16 | 71 15/16 x 32 5/8 x 13 9/16 | 71 15/16 x 32 5/8 x 13 9/16 | 71 15/16 x 32 5/8 x 13 9/16 |
| Net Weight / Gross Weight | | Lbs. | 110/128 | 132/150 | 132/150 | 132/150 |
| Loading | 40'HQ | Set | 98 | 98 | 98 | 98 |

Indoor Unit

## Fresh Air Processing

| Model | | | TVRF-IEVFAH 72KHP | TVRF-IEVFAH 96KHP |
|---|---|---|---|---|
| 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 |
| Power Consumption | | W | 760 | 860 |
| Air flow volume | | m3/h | 2,000/2,000~3,500 | 2,500/2,000~3,500 |
| | | CFM | 1,177/1,177~2,060 | 1,471/1,177~2,060 |
| Rated Current | Cooling | A | 4.3 | 4.9 |
| | Heating | A | 4.3 | 4.9 |
| ESP | | Pa | 205/50~270 | 205/50~280 |
| 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 | External Dia. | In. | 1-3/16 | 1-3/16 |
| | Thickness | In. | 1/16 | 1/16 |
| Dimensions (WxDxH) | Outline | In. | 58-3/8x31-1/8x15-1/8 | 58-3/8x31-1/8x15-1/8 |
| | Package | In. | 62-1/8x34-3/4x18-5/8 | 62-1/8x34-3/4x18-5/8 |
| Net Weight / Gross Weight | | Lbs. | 181/229 | 181/229 |
| Loading | 40'HQ | Set | 65 | 65 |

# CONTROL SYSTEM
# MORE INTELLIGENT CONTROL

- **Smart Selection Software & Intelligent Debugging Software**
- **Multiple Intelligent Remote Control Management**
- **Energy Saving**
- **Wired Controller and Wireless Remote Controller**
- **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 provides various controlls for users, such as cooling, heating, dehumidifying and fan etc. Users can select it flexibility according to their own using methods.

For more details about each controller you can check the right page and next.



## ENERGY SAVING

### Limits on electricity

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

### Economy Mode

• Choose economy mode for system to 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

## Intelligent Debugging Software

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



## Multiple Intelligent Remote Control Management

T-VRF provides multiple intelligent controls in order to satisfy all demands. It can control both a room and a building at the same time

• EVERYDAY MANAGEMENT
Setting for daily operation
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 self generate graphs of statistics.
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 CONTROLLER


## 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.

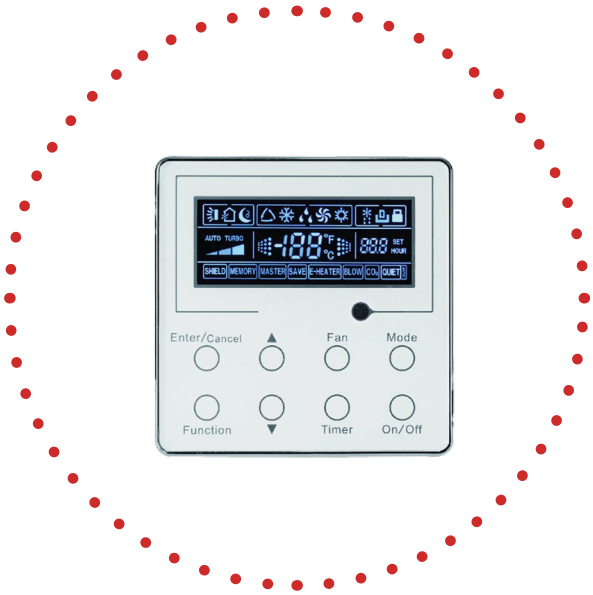
# WIRED CONTROLLER


## TVRF-XK46

- LCD with black background and white words, 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.
- Can be switched in auto, cooling, dehumidifying, fan, heating, floor heating, 3D heating and space heating operation modes.
- Master and slave wired controllers can be set. 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.
- With project parameters viewing and setting functions.


## TVRF-XK49 (for hotel)

- With simplified functions, mechanical buttons, back lighting LCD and convenient operation.
- Can be switched in auto, cooling, dehumidifying, fan and heating operation modes.
- Master and slave wired controllers can be set. Simultaneous control over several IDUs is available.
- Detect ambient temperature. Receive infrared remote controller signal.
- With project parameters viewing and setting functions.
- 7 levels of fan speed, up & down swing.
- Door control system can be connected.




## TVRF-XK79

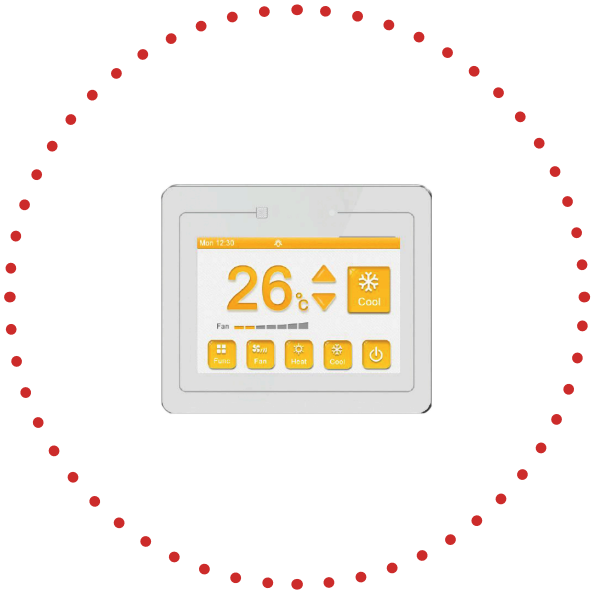
• Compact and stylish look in 12 mm thick, backlit LCD displaying white on black.

• 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.




## TVRF-XK55

• Elegant appearance.

• High-resolution color LCD.

• Capacitive touch control; receive infrared remote controller signal.

• Various timing functions: three weekly timers and one countdown timer can be set simultaneously; mode, temperature and fan speed can be preset in weekly timer.

• Various personalized functions, e.g. setting brightness and backlight time.

• Sufficient viewing functions, e.g. viewing on/off status and after-sales service hot line.

# 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 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.

• 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 255 units can be centrally controlled.

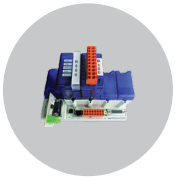
• Elegant and fashionable appearance.

• 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.

## BACnet Gateway



BACnet gateway kits TVRF30-24/D2(B) are intended tore alize the data exchange between the air conditioning unit and BAS, and providing the standard BACnet/IP building interface and 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 specifie abjects of the BACnet/IP bus and can be defined by the user.

## Modbus Gateway

Modbus Gateway provides TVRF system with the Modbus protocol interface when connecting to the Building. Management System (BMS) in arder to achieve central control and remote control over TVRF system by BMS.

## • Control System Line Up ● Standard ○ Optional

| Controlling system / Product series | | | CASSETTE TYPE | DUCT TYPE (Low&High ESP) | WALL MOUTED TYPE | CONSOLE TYPE | FLOORCEILING TYPE | FRESH AIR PROCESSING |
|---|---|---|---|---|---|---|---|---|
| Wireless Controller | TVRF-YAP1F |  | ● | ○ | ● | ● | ● | ○ |
| | TVRF-YV1L1 |  | ○ | ○ | ○ | ○ | ○ | ○ |
| Wired Controller | TVRF-XK46 |  | ○ | ● | ○ | ○ | ○ | ● |
| | TVRF-XK49 |  | ○ | ○ | ○ | ○ | ○ | ○ |
| | TVRF-XK79 |  | ○ | ○ | ○ | ○ | ○ | ○ |
| | TVRF-XK55 |  | ○ | ○ | ○ | ○ | ○ | ○ |
| Centralized Controller | TVRF-TSCC/255 |  | ○ | ○ | ○ | ○ | ○ | ○ |
| Smart Zone Controller | TVRF-TSCC/32 |  | ○ | ○ | ○ | ○ | ○ | ○ |
| Long-Distance Monitoring Software | TVRF-LDMS |  | ○ | ○ | ○ | ○ | ○ | ○ |
| BMS Accessories — Communication Module (Modbus) | TVRF-ME30-24/E4(M) |  | ○ | ○ | ○ | ○ | ○ | ○ |
| BMS Accessories — BACnet Gateway | TVRF-MG30-24/D2(B) |  | ○ | ○ | ○ | ○ | ○ | ○ |

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