## Low energy consumption & high efficiency heat pumps

#### **The Thermatrac Solution**





#### **Air-to-Water Heat Pumps**



# Consume up to 75% less energy



Thermatrac Air-to-Water heat pump is an eco-friendly hot water system that consumes up to 75% less energy than conventional fossil fuel systems. Reduce your operating cost and do your part for the environment at the same time.

Its robust cabinet construction makes it suitable for outdoor installation, while its user-friendly LCD electronic control allows for ease of monitoring and easy interaction.

Be assured with our latest technology, dependable performance and excellent pre-sales and after-sales service and support.



**Eco-friendly HFC refrigerant to achieve** high Coefficient of Performance (COP)

Easy to maintain

**User Friendly** 

**Fuss Free** 





#### What is an Air-to-Water Heat Pump?

An Air-to-Water heat pump absorbs heat from the surrounding air and transfers it into the water line. Heat pumps transfer heat by circulating refrigerant through a cycle of evaporation and condensation. A compressor pumps the refrigerant between two heat exchanger coils; 1) the refrigerant is evaporated at low pressure and absorbs heat from its surroundings; 2) the refrigerant is compressed then condenses at high pressure where it releases the heat that has been absorbed earlier in the cycle; then the refrigerant will go through an expansion device to repeat the evaporation process and the cycle continues.

#### electricity cold air out hot water out ot heat to water vapor cold COMPRESSOR cold vapor liquid mixture warm liquid cold water in **ELECTRONIC** CONDENSER **PRIMARY** STORAGE TANK **EXPANSION VALVE** ambient warm air in PUMP **EVAPORATOR** (copper tube/aluminium fin coil)

#### AIR-TO-WATER HEAT PUMP SCHEMATIC

#### **Key Features**

- 1. World renowned compressors with Eco-friendly HFC refrigerant to achieve high Coefficient of Performance (COP)
- 2. High quality heat exchanger, ideal for direct potable water heating
- 3. Easily accessible control box
- 4. Large access panel for easy servicing
- **5.** Robust UV resistant GI. Cabinet construction suitable for outdoor installation (with option of Stainless Steel 304 cabinet)
- 6. User-friendly LCD electronic controls monitor operation for reliability and easy interaction
- 7. Standard safety features to ensure trouble-free operation; high-low pressure switch, flow switch, overheat cut-off protection, etc.
- 8. Environment-friendly hot water system operation consumes up to 75% less energy of similar fossil fuel system

Consume up to 75% less energy

Saves on cost and environmentally friendly

#### **TRT Series – Single Compressor System**

Air-to-Water heat pump models using an eco-friendly refrigerant R417A with a single compressor system that can obtain a maximum output of 60°C water temperature.

DESCRIPTION		TRT-10	TRT-18	TRT-20		
TECHNICAL DATA						
Nominal Heating Capacity, kW		10.8	20 <b>.</b> 5	24.2		
COP		4.68	4.8	4.94		
Rated Input Power, kW		2.31	4.28	4.9		
	50 Hz	220/1/50	380/3/50	380/3/50		
Power Supply, Volts/Ph/Hz	60 Hz	220/1/60	380/3/60	380/3/60		
Refrigerant			R417A			
Refrigerant Factory Charge, g		1500	3200	3700		
Rated Outlet Water Temperature, °C			55	•		
Max. Outlet Water Temperature, °C			60			
Dimensions (L x W x H), mm		752 x 729 x 916	859 x 829 x 988	859 x 829 x 988		
Noise Level, dB		56	62	62		
Cabinet		Powder Pair	nted Galvanized Steel (Option	on: SUS 304)		
IP Rating (Enclosure Class)			IPX4			
Safety Device		Compressor High I	Thermal Overload, High & Lo Discharge Temp, Sensor Prob	w Water Temp, pe Fault		
Metering Device		Electronic Expansion Device				
Net Wt./Approx. Shipping Wt., kg		97/ 115	120/141	120/141		
Testing		Run Tested at Factory Prior to Shipment				
COMPRESSOR	<u>.</u>					
Quantity/Type		1/Scroll	1/Scroll	1/Scroll		
Valle (Discount)	50 Hz	220/1/50	380/3/50	380/3/50		
Volts/Phase/Hertz	60 Hz	220/1/60	380/3/60	380/3/60		
Rated Load Amps, A		10	7.3	8.5		
Lock of Boto Access A	50 Hz	72.5	59	67		
Locked Rotor Amps, A	60 Hz	79	65	94		
EVAPORATOR FAN						
Quantity/Type		1/Axial				
Air Volume, m³/hr		2200	3500	3500		
	50 Hz		220/1/50	L		
Voltage/Phase/Hertz	60 Hz	220/1/60				
Full Load Amps, each		0.55	2	2		
EVAPORATOR COILS						
Fin Type/Tube Type		Hydrophilic Pockma	arked Aluminum Fins/In	ternal Threaded Tube		
CONDENSER						
Туре		Single Wall T	ube in Tube (Option: Do	ouble Wall)		
Water Flow Rate, m <sup>3</sup> /hr		1.86	- · · · · · · · · · · · · · · · · · · ·			
Pressure Drop thru Heat Exchanger, I	кРа		50			
Max. Working Pressure – Water Side,			700			
Water Connection		DN25	DN40	DN40		

#### **TRT Series – Dual Compressor System**

Air-to-Water heat pump models using an eco-friendly refrigerant R417A with a dual compressor system that can obtain a maximum output of 60°C water temperature.



DESCRIPTION		TRT-40	TRT-60	TRT-90		
TECHNICAL DATA						
Nominal Heating Capacity, kW		45.8	68.5	95		
СОР		4.67	4.5	4.87		
Rated Input Power, kW		9.8	15.2	19.5		
	50 Hz		380/3/50	•		
Power Supply, Volts/Ph/Hz 60 Hz			380/3/60			
Refrigerant			R417A			
Refrigerant Factory Charge, g		3400*2	4800*2	5000*2		
Rated Outlet Water Temperature, °C			55	•		
Max. Outlet Water Temperature, °C			60			
Dimensions (L x W x H), mm		1503 x 723 x 1208	2200 x 1005 x 1840	2200 x 1005 x 1840		
Noise Level, dB		62	70	70		
Cabinet		Powder Pa	ninted Galvanized Steel (Option	on: SUS 304)		
IP Rating (Enclosure Class)			IPX4			
Safety Device		Compressor High	Thermal Overload, High & Lov Discharge Temp, Sensor Prob	v Water Temp, e Fault		
Metering Device		Electronic Expansion Device				
Net Wt./Approx. Shipping Wt., kg		325/340	435/465	650/685		
Testing		Run Tested at Factory Prior to Shipment				
COMPRESSOR						
Quantity/Type		2/Scroll				
	50 Hz	380/3/50				
Volts/Phase/Hertz	60 Hz	380/3/60				
Rated Load Amps, A	•	17	27.5	34		
	50 Hz	67	100	133		
Locked Rotor Amps, A	60 Hz	94	147	170		
EVAPORATOR FAN	<u> </u>		_	•		
Quantity/Type			2/Axial			
Air Volume, m³/hr		7000	14000	14000		
	50 Hz		220/1/50			
Voltage/Phase/Hertz	60 Hz		220/1/50			
Full Load Amps, each		2	4.2	4.2		
EVAPORATOR COILS			•	•		
Fin Type/Tube Type		Hydrophilic Pockmarked Aluminum Fins/Internal Threaded Tube				
CONDENSER						
Туре		Single V	Vall Tube in Tube (Option	: Double Wall)		
Water Flow Rate, m <sup>3</sup> /hr		7.88 11.78 16.34				
Pressure Drop thru Heat Exchanger, k	Ра	50				
Max. Working Pressure – Water Side,		700				
J 0.00,						

Note: Higher heating capacity models are available upon request.

#### **TRTH Series – Single Compressor System**

Air-to-Water heat pump models using an eco-friendly refrigerant R134A with a single compressor system that can obtain a maximum output of 70°C water temperature

DESCRIPTION	TRTH-7	TRTH-12	TRTH-15			
TECHNICAL DATA						
Nominal Heating Capacity, kW		8.5	14.5	16.8		
COP		3.46	3.40	3 <b>.</b> 39		
Rated Input Power, kW		2.46	4.26	<b>4.</b> 95		
	50 Hz	220/1/50	380/3/50	380/3/50		
Power Supply, Volts/Ph/Hz	60 Hz	220/1/60	380/3/60	380/3/60		
Refrigerant			R134A			
Refrigerant Factory Charge, g		1500	3200	3700		
Rated Outlet Water Temperature, °C			65			
*Max. Outlet Water Temperature, °C			70			
Dimensions (L x W x H), mm		725 x 729 x 916	859 x 829 x 988	859 x 829 x 988		
Noise Level, dB		56	58	58		
Cabinet		Powder Pair	nted Galvanized Steel (Optic	on: SUS 304)		
IP Rating (Enclosure Class)			IPX4			
Safety Device		Compressor High [	Thermal Overload, High & Lov Discharge Temp, Sensor Prob	v Water Temp, e Fault		
Metering Device		Electronic Expansion Device				
Net Wt./Approx. Shipping Wt., kg		97/ 115	120/141	120/141		
Testing		Run Tested at Factory Prior to Shipment				
COMPRESSOR						
Quantity/Type		1/Scroll				
Valta/Phase/Hortz	50 Hz	220/1/50	380/3/50	380/3/50		
Volts/Phase/Hertz	60 Hz	220/1/60	380/3/60	380/3/60		
Rated Load Amps, A		11.75	7.62	9.17		
La la de Data Assara A	50 Hz	75	60	72		
Locked Rotor Amps, A	60 Hz	88	71	95		
EVAPORATOR FAN						
Quantity/Type		1/Axial				
Air Volume, m³/hr		2200	3500	3500		
V II. (D) (II.)	50 Hz	220/1/50	220/1/50	220/1/50		
Voltage/Phase/Hertz	60 Hz	220/1/60	220/1/60	220/1/60		
Full Load Amps, each		0.55	2	2		
EVAPORATOR COILS						
Fin Type/Tube Type		Hydrophilic Pockmarked Aluminum Fins/Internal Threaded Tube				
CONDENSER						
Туре		Single Wall T	ube in Tube (Option: Do	uble Wall)		
Water Flow Rate, m <sup>3</sup> /hr		1.46	2.50	2.90		
Pressure Drop thru Heat Exchanger, k	:Pa	50				
Max. Working Pressure - Water Side,	kPa		700			
Water Connection		DN25	DN40	DN40		

\*An outlet water temperature of up to  $75^{\circ}\text{C}$  is obtainable for ambient temperatures above  $20^{\circ}\text{C}$ .

#### **TRTH Series – Dual Compressor System**

Air-to-Water heat pump models using an eco-friendly refrigerant R134A with a dual compressor system that can obtain a maximum output of 70°C water temperature.



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DESCRIPTION		TRTH-25	TRTH-35	TRTH-65		
TECHNICAL DATA						
Nominal Heating Capacity, kW		28 <b>.</b> 5	34.90	68.00		
COP		3.37	3.46	3.44		
Rated Input Power, kW		8.45	10.09	19.78		
	50 Hz	380/3/50				
Power Supply, Volts/Ph/Hz	60 Hz		380/3/60			
Refrigerant			R134A			
Refrigerant Factory Charge, g		3000*2	3400*2	5000*2		
Rated Outlet Water Temperature, °C	;		65			
*Max. Outlet Water Temperature, °C	:		70			
Dimensions (L x W x H), mm		1503 x 723 x 1208	1503 x 723 x 1208	2200 x 1005 x 1840		
Noise Level, dB		62	62	68		
Cabinet		Powder Pai	I nted Galvanized Steel (Option	<b></b> on: SUS 304)		
IP Rating (Enclosure Class)			IPX4	,		
Safety Device		Compressor	Thermal Overload, High & Lo	w Water Temp,		
Metering Device		High Discharge Temp, Sensor Probe Fault  Electronic Expansion Device				
Net Wt./Approx. Shipping Wt., kg		293/340	300/345	695/719		
Testing		Run Tested at Factory Prior to Shipment				
COMPRESSOR						
Quantity/Type	<u> </u>	2/Scroll				
Quantity, Typo	50 Hz	380/3/50				
Volts/Phase/Hertz	60 Hz	380/3/60				
Rated Load Amps, A	00112	14.9 17.5 33.0				
Hateu Loau Amps, A	50 Hz	60	72	145		
Locked Rotor Amps, A	60 Hz	71	95	179		
EVADODATOD FAN	99.12	, ,	00	170		
EVAPORATOR FAN						
Quantity/Type			2/Axial			
Air Volume, m <sup>3</sup> /hr		7000	7000	14000		
Voltage/Phase/Hertz	50 Hz	220/1/50				
	60 Hz	220/1/50				
Full Load Amps, each		2.20	2.20	4.50		
EVAPORATOR COILS						
Fin Type/Tube Type		Hydrophilic Pockma	rked Aluminum Fins/Into	ernal Threaded Tube		
CONDENSER						
Туре		Single Wall Tube in Tube (Option: Double Wall)				
Water Flow Rate, m³/hr		4.90	6.00	11.70		
Pressure Drop thru Heat Exchanger,	kPa		50			
Max. Working Pressure - Water Side	e, kPa		700			
Water Connection		DN40	DN40	DN50		

<sup>\*</sup>An outlet water temperature of up to 75°C is obtainable for ambient temperatures above 20°C.

Note: Higher heating capacity models are available upon request.

#### **Dimensions**

Equipment dimensions: L = length, W = width, H = height

Recommended clearance: A = water connection side

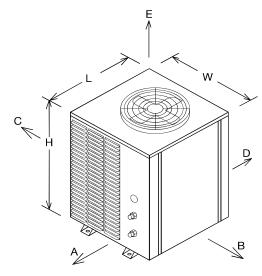
B = access panel side

C = air inlet

D = air inlet

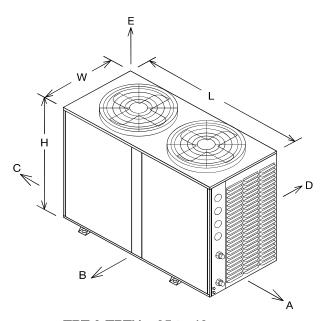
E = evaporator fan exhaust

MODEL	L	W	Н	A	В	С	D	E
TRTH-7	752	729	916	800	800	400	400	2000
TRT-10	752	729	916	800	800	400	400	2000
TRTH-12	859	829	988	800	800	400	400	2000
TRTH-15	859	829	988	800	800	400	400	2000
TRT-18	859	829	988	800	800	400	400	2000
TRT-20	859	829	988	800	800	400	400	2000
TRTH-25	1503	723	1208	1000	800	500	500	2000
TRTH-35	1503	723	1208	1000	800	500	500	2000
TRT-40	1503	723	1208	1000	800	500	500	2000
TRT-60	2200	1005	1840	1200	1000	800	800	2000
TRTH-65	2200	1005	1840	1200	1000	800	800	2000
TRT-90	2200	1005	1840	1200	1000	800	800	2000

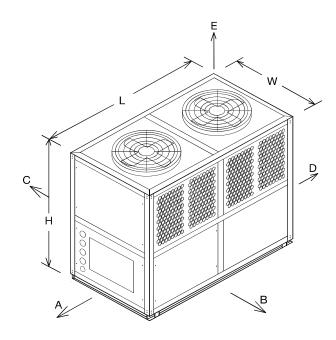


TRT & TRTH - 7 to 20 Single Compressor System

\*All dimensions are in mm.



TRT & TRTH - 25 to 40 **Dual Compressor System** 

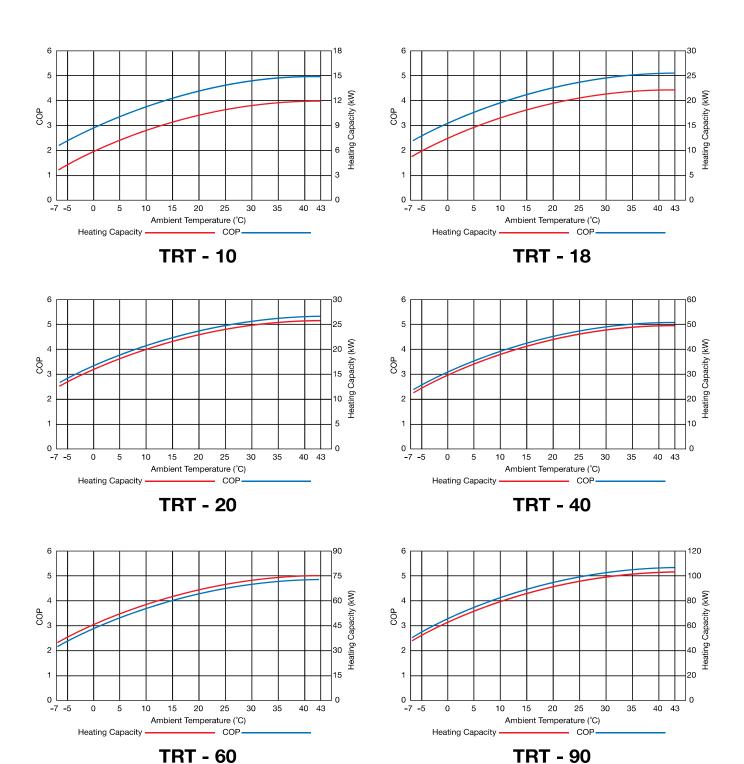


TRT & TRTH - 60 to 90 **Dual Compressor System** 



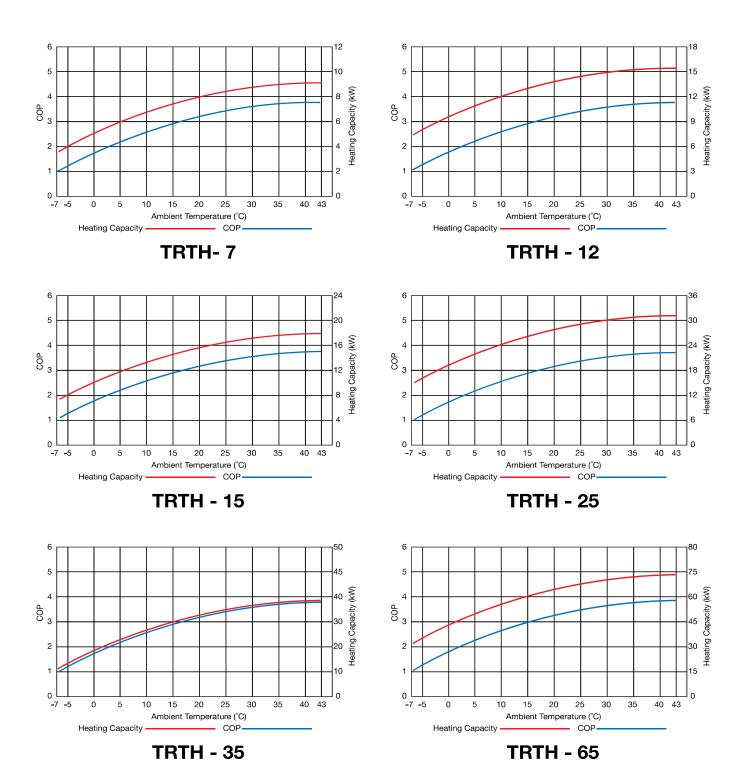
#### **Performance Curve - TRT Models**

Performance rating indicated in the specification sheet was tested in the factory based on ambient condition of 25°C dry bulb and 20°C wet bulb. Water is heated from 20°C to 55°C.



#### **Performance Curve - TRTH Models**

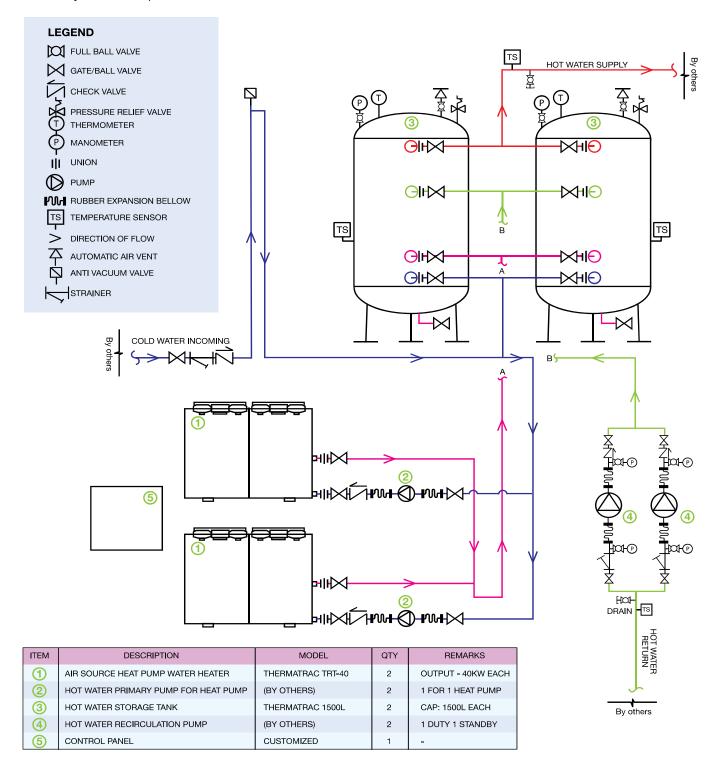
Performance rating indicated in the specification sheet was tested in the factory based on ambient condition of 25°C dry bulb and 20°C wet bulb. Water is heated from 20°C to 65°C.





#### **Typical Installation**

In this system, hot water storage tanks and heat pumps are connected in one loop. The primary pump circulates the water from the storage tank to the heat pump. Hot water supply going to the building comes from the topmost outlet of the storage tank. Recirculation pumps circulate the hot water from the entire building's plumbing system back to the storage tanks to ensure instant delivery of hot water on every service tap.





#### **Water-to-Water Heat Pumps**



### The ideal heating solution



Thermatrac Water-to-Water heat pumps deliver exceptional performance and efficiency.

Reduce your operating cost and carbon footprint significantly with high efficiency solution and eco-friendly credentials. Thermatrac Water-to-Water heat pumps only utilize eco-friendly HFC refrigerant R417A (up to 60 °C) or R134A (up to 70 °C) in its product range.

Its robust cabinet construction makes it suitable for outdoor installation, while its user-friendly LCD electronic control allows for ease of monitoring and easy interaction.

Be assured with our latest technology, dependable performance and excellent pre-sales and after-sales service and support.



**Eco-friendly HFC refrigerant** 

**Fuss free** 

High quality heat exchangers

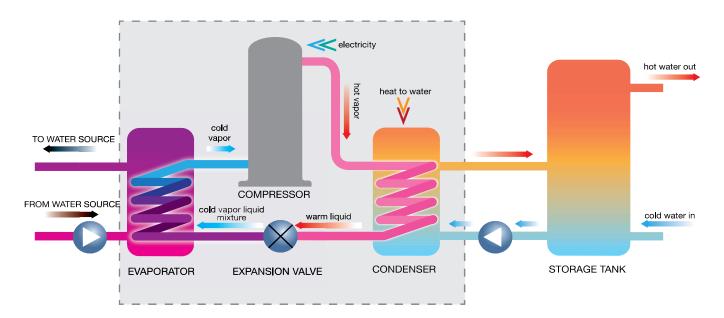
Suitable for outdoor installations



#### What is a Water-to-Water Heat Pump?

A Water-to-Water heat pump absorbs heat from the water source (normally from the building's chiller side) and transfers it into the hot water line. Heat pumps transfer heat by circulating refrigerant through a cycle of evaporation and condensation. A compressor pumps the refrigerant between two heat exchanger coils; 1) the refrigerant is evaporated at low pressure and absorbs heat from its surroundings; 2) the refrigerant is compressed then condenses at high pressure where it releases the heat that has been absorbed; then the refrigerant will go through an expansion device to repeat the evaporation process and the cycle continues.

#### WATER-TO-WATER HEAT PUMP SCHEMATIC



#### **Key Features**

- 1. World renowned compressors with Eco-friendly HFC refrigerant to achieve high Coefficient of Performance (COP)
- 2. High quality heat exchanger, ideal for direct potable water heating
- 3. Easily accessible control box
- 4. Large access panel for easy servicing
- 5. Robust UV resistant GI. Cabinet construction suitable for outdoor installation (with option of Stainless Steel 304 cabinet)
- 6. User-friendly LCD electronic controls monitor operation for reliability and easy interaction
- 7. Standard safety features to ensure trouble-free operation; high-low pressure switch, flow switch, overheat cut-off protection, etc.
- 8. Environment-friendly hot water system operation consumes up to 75% less energy of similar fossil fuel system

75% less energy of similar fossil fuel system

Saves on cost and environmentally friendly

#### **TRW Series – Single Compressor System**

Water-to-Water heat pump models using an eco-friendly refrigerant R417A with a single compressor system that can obtain a maximum output of 60°C water temperature.

DESCRIPTION		TRW-20	TRW-25			
TECHNICAL DATA						
Nominal Heating Capacity, kW		19.5	24			
COP		4.6	4.6			
Rated Input Power, kW		4.2	5.2			
B 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	50 Hz	380/3/50				
Power Supply, Volts/Ph/Hz	60 Hz	380/3	3/60			
Refrigerant		R417	7A			
Refrigerant Factory Charge, g		2400	2800			
Rated Outlet Water Temperature, °C		55				
Max. Outlet Water Temperature, °C		60				
Dimensions (L x W x H), mm		859 x 829 x 850	859 x 829 x 850			
Noise Level, dB		54				
Cabinet		Powder Painted Galvanized	l Steel (Option: SUS 304)			
IP Rating (Enclosure Class)		IPX				
Safety Device		Compressor Thermal Overload, High & Low Water Temp, High Discharge Temp, Sensor Probe Fault				
Metering Device		Electronic Expansion Device				
Net Wt./Approx. Shipping Wt., kg		135/148				
Testing		Run Tested at Factory Prior to Shipment				
COMPRESSOR						
Quantity/Type		1/Sci	roll			
Volts/Phase/Hertz	50 Hz	380/3/50				
voits/Phase/Hertz	60 Hz	380/3/60				
Rated Load Amps, A		8.7	11			
Locked Rotor Amps, A	50 Hz	59	67			
255.63 1.655 7.11.p5,77	60 Hz	65	94			
EVAPORATOR						
Heat Exchanger Type		Plate				
Cooling Side Water Flow Rate, m³/hr		3.4	4.1			
Pressure Drop thru Heat Exchanger, kPa		50				
Max. Working Pressure – Water Side, kPa		700				
Water Connection		DN25				
CONDENSER						
Heat Exchanger Type		Single Wall Tube in Tube (Option: Double Wall)				
Heating Side Water Flow Rate, m³/hr		3.4 4.1				
Pressure Drop thru Heat Exchanger, kPa		50				
Max. Working Pressure – Water Side, kPa		700				
Water Connection		DN40				

#### TRW Series - Dual Compressor System



Water-to-Water heat pump models using an eco-friendly refrigerant R417A with a double compressor system that can obtain a maximum output of 60°C water temperature.

DESCRIPTION		TRW-40	TRW-50	TRW-90		
TECHNICAL DATA						
Nominal Heating Capacity, kW		40	48	90		
COP		4.6	4.6	4.5		
Rated Input Power, kW		8.7	10.4	20		
Power Supply Volta/Ph/Hz	Power Supply, Volts/Ph/Hz		380/3/50			
Power Supply, Volts/Pff/nz	60 Hz		380/3/60			
Refrigerant			R417A			
Refrigerant Factory Charge, g		2500*2	3000*2	4000*2		
Rated Outlet Water Temperature, °C			55			
Max. Outlet Water Temperature, °C			60			
Dimensions (L x W x H), mm		1503 x 723 x 1070	1503 x 723 x 1070	1200 x 1000 x 1700		
Noise Level, dB		60	60	64		
Cabinet		Powder Pa	inted Galvanized Steel (Opti	on: SUS 304)		
IP Rating (Enclosure Class)			IPX4			
Safety Device		Compressor Thermal Overload, High & Low Water Temp, High Discharge Temp, Sensor Probe Fault				
Metering Device		Electronic Expansion Valve				
Net Wt./Approx. Shipping Wt., kg		276/300	276/300 <b>286/310</b> 572/602			
Testing		Run Tested at Factory Prior to Shipment				
COMPRESSOR						
Quantity/Type			2/Scroll			
	50 Hz	380/3/50				
Volts/Phase/Hertz	60 Hz		380/3/60			
Rated Load Amps, A		17.6	22.0	38		
	50 Hz	59	67	133		
Locked Rotor Amps, A	60 Hz	65	94	170		
EVAPORATOR			•			
Heat Exchanger Type			Plate			
Cooling Side Water Flow Rate, m <sup>3</sup> /hr		6.9	8.3	15.5		
Pressure Drop thru Heat Exchanger,	kPa	50				
Max. Working Pressure - Water Side	, kPa	700				
Water Connection		DN40	DN40	DN40		
CONDENSER			•			
Heat Exchanger Type		Single Wal	I Tube in Tube (Option: D	Pouble Wall)		
Heating Side Water Flow Rate, m <sup>3</sup> /hı		6.9 8.3 15.5				
Pressure Drop thru Heat Exchanger,		50				
Max. Working Pressure – Water Side	, kPa		700			
Max. Working Pressure – Water Side, kPa						

Note: Higher heating capacity models are available upon request.

#### **TRWH Series – Single Compressor System**

Water-to-Water heat pump models using an eco-friendly refrigerant R134A with a single compressor system that can obtain a maximum output of 70°C water temperature.

DESCRIPTION		TRWH-12	TRWH-15		
TECHNICAL DATA					
Nominal Heating Capacity, kW		14	16.5		
COP		3.7	3,6		
Rated Input Power, kW		3.8	4.6		
Power Supply, Volts/Ph/Hz	50 Hz	380/3/5	0		
Power Supply, Volts/P11/F12	60 Hz	380/3/6	0		
Refrigerant		R134 <i>A</i>	4		
Refrigerant Factory Charge, g		3000	3400		
Rated Outlet Water Temperature, °C		65			
*Max. Outlet Water Temperature, °C		70			
Dimensions (L x W x H), mm		859 x 829 x 850	859 x 829 x 850		
Noise Level, dB		54			
Cabinet		Powder Painted Galvanized S	Steel (Option: SUS 304)		
IP Rating (Enclosure Class)		IPX4			
Safety Device		Compressor Thermal Overload, High & Low Water Temp, High Discharge Temp, Sensor Probe Fault			
Metering Device		Electronic Expansion Device			
Net Wt./Approx. Shipping Wt., kg		135/148			
Testing		Run Tested at Factory Prior to Shipment			
COMPRESSOR					
Quantity/Type		1/Scroll			
V 1: /B: // // // // // // // // // // // // //	50 Hz	380/3/50			
Volts/Phase/Hertz	60 Hz	380/3/60			
Rated Load Amps, A		6.85	8.0		
	50 Hz	60	72		
Locked Rotor Amps, A	60 Hz	71	95		
EVAPORATOR		<u> </u>			
Heat Exchanger Type		Plate			
Cooling Side Water Flow Rate, m³/hr		2.4	2.8		
Pressure Drop thru Heat Exchanger, kPa		50			
Max. Working Pressure – Water Side, kPa		700			
Water Connection		DN25			
CONDENSER					
Heat Exchanger Type		Single Wall Tube in Tube (	Option: Double Wall)		
Heating Side Water Flow Rate, m <sup>3</sup> /hr		2.4 2.8			
Pressure Drop thru Heat Exchanger, kPa		50			
Max. Working Pressure – Water Side, kPa		700			
Water Connection		DN40			

<sup>\*</sup>An outlet water temperature of up to 75°C is obtainable for evaporator inlet temperatures above 20°C.

#### **TRWH Series – Dual Compressor System**



Water-to-Water heat pump models using an eco-friendly refrigerant R134A with a double compressor system that can obtain a maximum output of 70°C water temperature.

DESCRIPTION		TRWH-30	TRWH-60		
TECHNICAL DATA		_			
Nominal Heating Capacity, kW		33	65 <b>.</b> 5		
СОР		3.7	3.7		
Rated Input Power, kW		8.9	17.8		
Power Supply, Volts/Ph/Hz		380/3,	/50		
Tower Supply, Voltar 17/112	60 Hz	380/3,	/60		
Refrigerant		R134.	A		
Refrigerant Factory Charge, g		3400*2	4000*2		
Rated Outlet Water Temperature, °C		65			
*Max. Outlet Water Temperature, °C		70			
Dimensions (L x W x H), mm		1503 x 723 x 1070	1200 x 1000 x 1700		
Noise Level, dB		62	62		
Cabinet		Powder Painted Galvanized	Steel (Option: SUS 304)		
IP Rating (Enclosure Class)		IPX4			
Safety Device		Compressor Thermal Overload, High & Low Water Temp, High Discharge Temp, Sensor Probe Fault			
Metering Device		Electronic Expansion Valve			
Net Wt./Approx. Shipping Wt., kg		286/310	572/602		
Testing		Run Tested at Factory Prior to Shipment			
COMPRESSOR					
Quantity/Type		2/Scroll			
	50 Hz	380/3/50			
Volts/Phase/Hertz	60 Hz	380/3/60			
Rated Load Amps, A		17.6	39.4		
, ,	50 Hz	72	145		
Locked Rotor Amps, A	60 Hz	95	179		
EVAPORATOR					
Heat Exchanger Type		Plate			
Cooling Side Water Flow Rate, m³/hr		5.68			
Pressure Drop thru Heat Exchanger, kPa					
Max. Working Pressure – Water Side, kPa		50			
,		700 DN40 DN40			
Water Connection		DN40	DINHU		
CONDENSER		0	(O.1: D.11		
Heat Exchanger Type		Single Wall Tube in Tube			
Heating Side Water Flow Rate, m³/hr		5.68 11.23			
Pressure Drop thru Heat Exchanger, kPa		50			
Max. Working Pressure – Water Side, kPa		700			
Water Connection		DN40	DN50		

<sup>\*</sup>An outlet water temperature of up to 75°C is obtainable for evaporator inlet temperatures above 20°C.

Note: Higher heating capacity models are available upon request.

#### **Dimensions**

Equipment dimensions: L = length, W = width, H = height

Recommended clearance: A = water connection side

B = access panel side

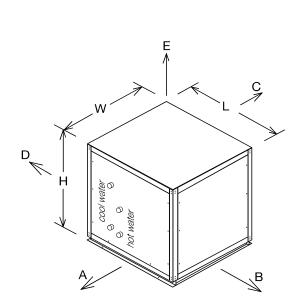
C = maintenance

D = maintenance

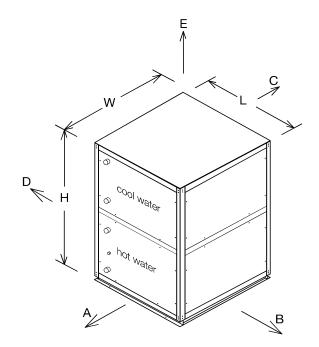
E = maintenance

MODEL	L	W	Н	A	В	С	D	E
TRWH-12	859	829	850	800	800	300	300	300
TRWH-15	859	829	850	800	800	300	300	300
TRW-20	859	829	850	800	800	300	300	300
TRW-25	859	829	850	800	800	300	300	300
TRWH-30	1503	723	1070	1000	1000	300	300	300
TRW-40	1503	723	1070	1000	1000	300	300	300
TRW-50	1503	723	1070	1000	1000	300	300	300
TRWH-60	1200	1000	1700	1000	1000	300	300	300
TRW-90	1200	1000	1700	1000	1000	300	300	300

<sup>\*</sup>All dimensions are in mm.



TRW & TRWH - 12 to 25 **Single Compressor System** 

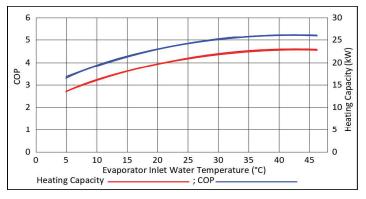


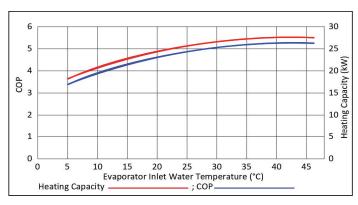
TRW & TRWH - 30 to 90 **Double Compressor System** 



#### **Performance Curve - TRW Models**

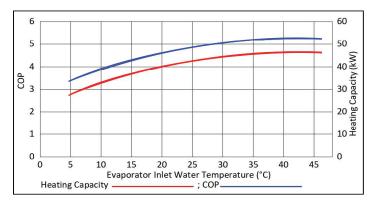
Performance rating indicated in the specification sheet was tested in the factory based on cooling side condition of 20°C inlet and 15°C outlet. Water is heated from 20°C to 55°C.

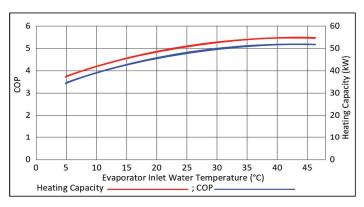




**TRW-20** 

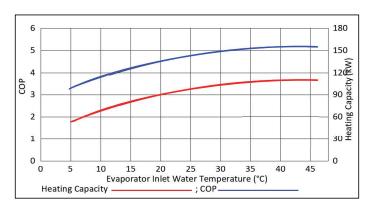
**TRW-25** 





**TRW-40** 

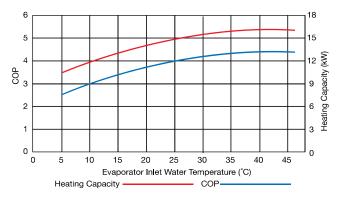
**TRW-50** 



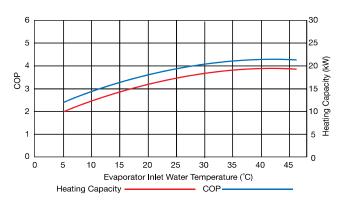
**TRW-90** 

#### **Performance Curve - TRWH Models**

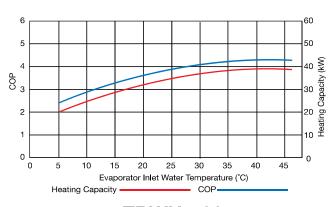
Performance rating indicated in the specification sheet was tested in the factory based on cooling side condition of 20°C inlet and 15°C outlet. Water is heated from 20°C to 65°C.



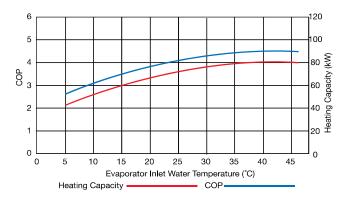
**TRWH - 12** 



**TRWH - 15** 



**TRWH - 30** 

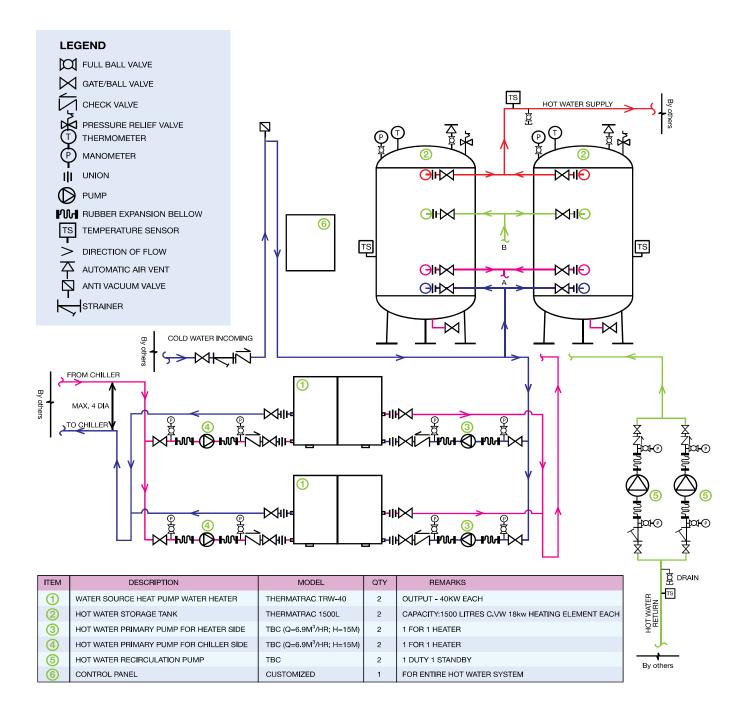


**TRWH - 60** 



#### **Typical Installation**

In this system, hot water storage tanks and heat pump's heating side are connected in one loop. The primary pump for heating side circulates the water from the storage tank to heat pump; the primary pump for cooling/chiller side circulates the water from the chiller/cooling tower loop to the heat pump. Hot water supply going to the building comes from the topmost outlet of the storage tank. Recirculation pumps circulate the hot water from the entire building's plumbing system back to the storage tanks to ensure instant delivery of hot water on every service tap.



#### **Selected Project Reference**



Banyan Tree Resort, Indonesia



Belmond Hotel, Indonesia



Bulgari Hotel, Indonesia



Cape Weligama Resort, Sri Lanka



City Hotel, Sri Lanka



Conrad Hotel, Indonesia



Double Tree Hotel, Indonesia



Four Seasons Hotel, Indonesia



Goodwood Park Hotel, Singapore



Hilton Hotel, Indonesia



Hotel Nikko, Indonesia



Holiday Inn Hotel, Indonesia



Janaki Hotel, Philippines



JJ Inn, Philippines



JW Marriot Hotel, Indonesia



Kempinski Hotel, Indonesia



Langham Hotel, Indonesia





Mercure Hotel, Indonesia



Nobu Hotel, Philippines



Novotel Hotel, Indonesia



Pegasus Hotel, Sri Lanka



Pullman Hotel, Indonesia



Red Planet Hotel, Philippines





Ritz-Carlton Hotel, Indonesia



Royal Square Hotel, Singapore



Sofitel Hotel, Indonesia



St Regis Hotel, Indonesia



Waldorf Astoria Hotel, Indonesia



Westin Hotel, Indonesia





Tampines Town Hub, Singapore



Temasek Club, Singapore







Army Hospital, Sri Lanka



Assisi Hospice, Singapore









Ikea, Malaysia



KSL Residences, Malaysia





Asian Development Bank, Philippines



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Product image and specifications subject to change without prior notice