



# Floor Standing Split

TMFS & TMFE & TMFV Series



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TRUST AIR CONDITIONING EQUIPMENT CO.  
Prepared By: Engineering & R & D Department.

Shiraz- AUG 2015

## Floor-standing Type

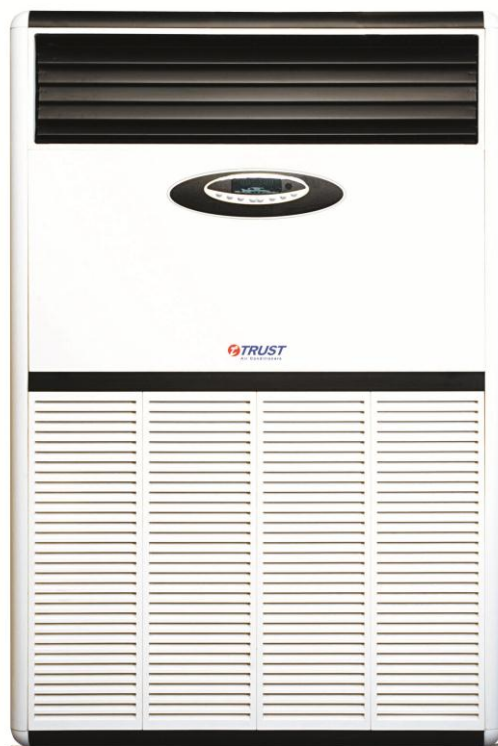
TMFV-100H.....	2
Indoor unit.....	2
Outdoor unit.....	14
TMFE-60H.....	30
TMFS-50HE.....	35

**توجه:**

**شرکت تراست حق تغییر مشخصات دستگاه‌ها را در جهت بهبود و ارتقای کیفیت برای خود محفوظ می‌دارد.**

## TMFV-100H. Indoor Unit

### 1. Features

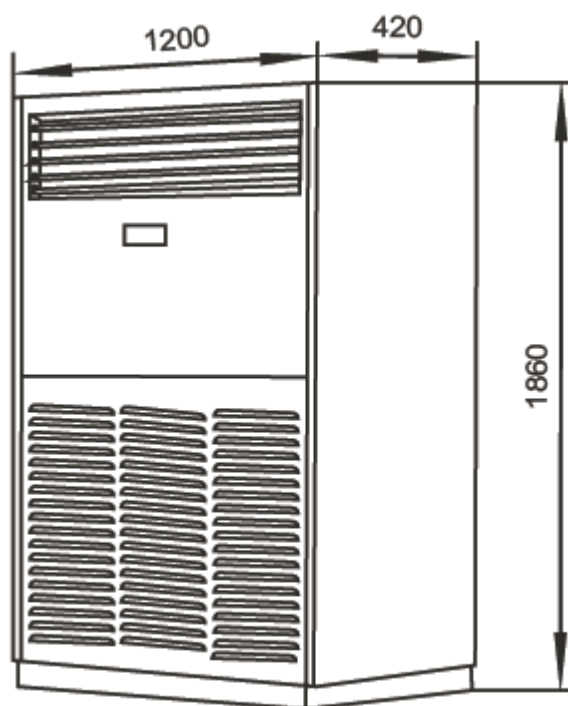


1. The appearance is novel, luxurious, refined.
2. High capacity of cooling/heating, efficient, and energy-saving.
3. Adopt advanced and high efficient scroll compressor, wide angle and long distance air supply.
4. Remote control standard, screen control optional.
5. Easy installation and maintenance.
6. Suit for hotel, meeting room, airport lounge, etc. public occasion use.

## 2. Specifications

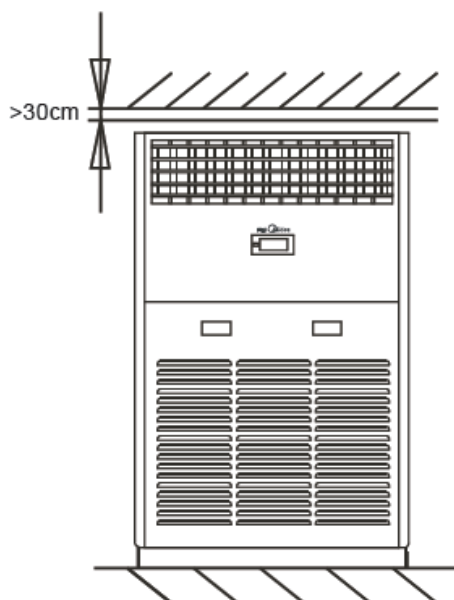
Model			TMFV-100HT3	TMFV-100CT3
Code			220043900050	220043900060
Power supply		V- Ph-Hz	220-240~1~50	
Cooling	Capacity	Btu/h	96000	96000
	Input	W	9669	9816
	Rated current	A	18	18.36
Heating	Capacity	Btu/h	103724	—
	Input	W	9004	—
	Rated current	A	16.8	—
Indoor fan motor	Model		YSK300-6	YSK300-6
	Type		Ac Motor	Ac Motor
	Brand		Welling	Welling
	Input	W	590	590
	Capacitor	uF	25	25
	Speed (hi/mid/lo)	r/min	870/780/700	870/780/700
Indoor coil	Number of rows		3	3
	Tube pitch(a)x row pitch(b)	mm	25.4×22	25.4×22
	Fin spacing	mm	1.6	1.6
	Fin type		hydrophilic actuate fin alum inurn foil	
	Tube outside dia. and type	mm	Φ9.52	Φ9.52
			innergroove tube	innergroove tube
	Coil length x height	mm	982×711	982×711
Number of circuits		14	14	
Indoor air flow (H/M/L)		m <sup>3</sup> /h	4370	4370
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	60.9	60.9
Indoor unit	Dimension (WxHxD)	mm	1200×1860×420	1200×1860×420
	Net/Gross weight	kg	158/174	158/174
Refrigerant type			R22	R22
Throttle			Capillary	
Design pressure		MPa	3..3/1.8	3..3/1.8
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ12.7/Φ25(28)	Φ12.7/Φ25(28)
	Max. refrigerant pipe length	m	50	50
	Max. difference in level	m	30	30
Connecting wiring	Power wiring	mm <sup>2</sup>	2.5×2.5	2.5×2.5
	Signal wiring	mm <sup>2</sup>	1.0×1.0	1.0×1.0
Drainage water pipe dia.		mm	Φ41	Φ41
Controller			Wireless remote controller (R51/E) (standard)	
Operation temp	Cooling	°C	17~32	17~32
	Heating	°C	15~27	—
Ambient temp	Cooling	°C	17~52	17~52
	Heating	°C	-7~24	—

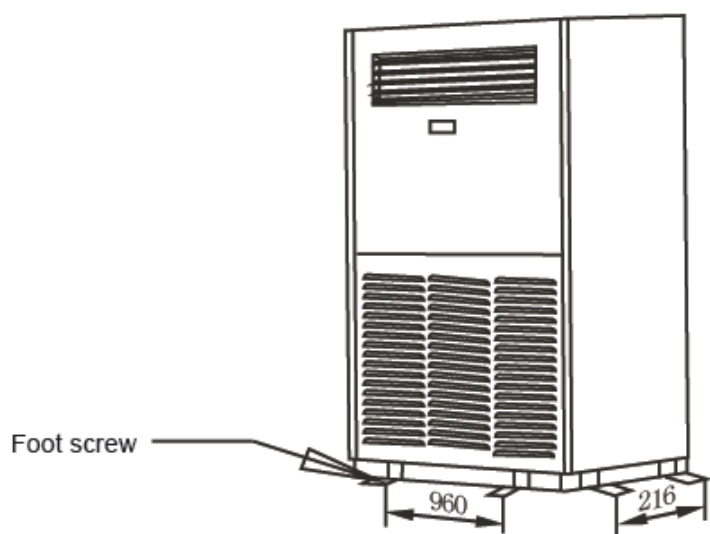
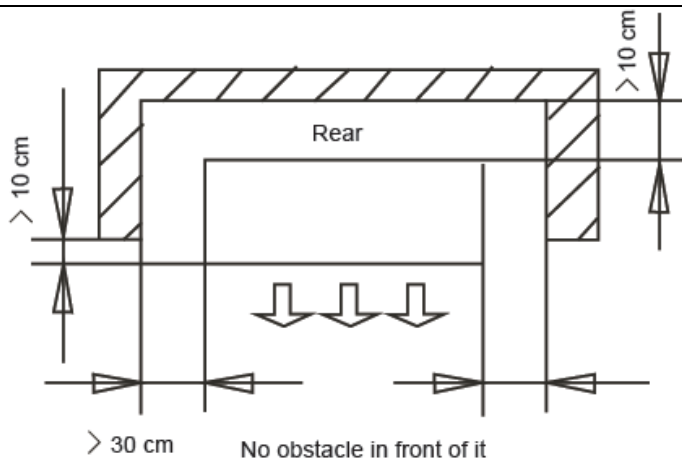
### 3. Dimensions



(Unit:mm)

### 4. Service Space

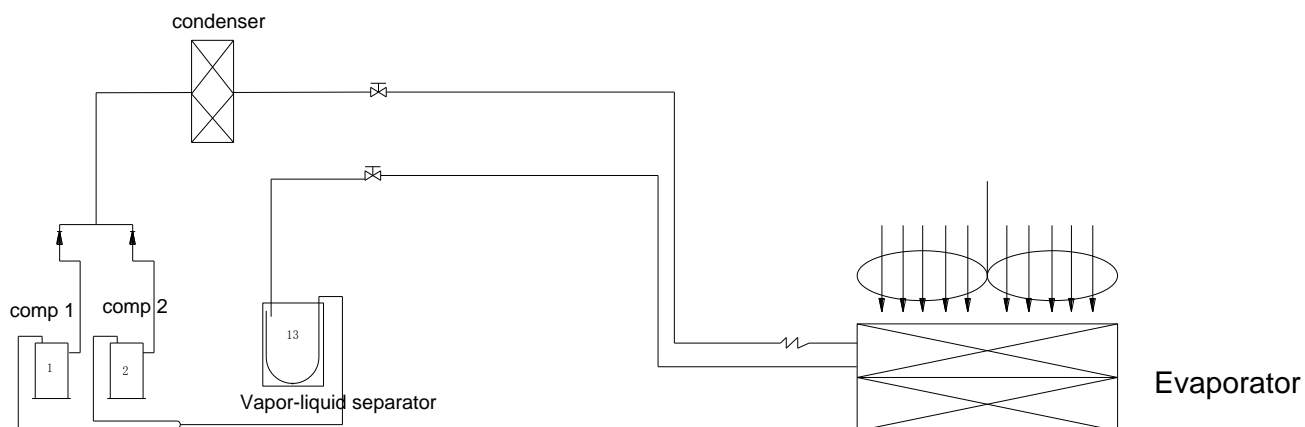




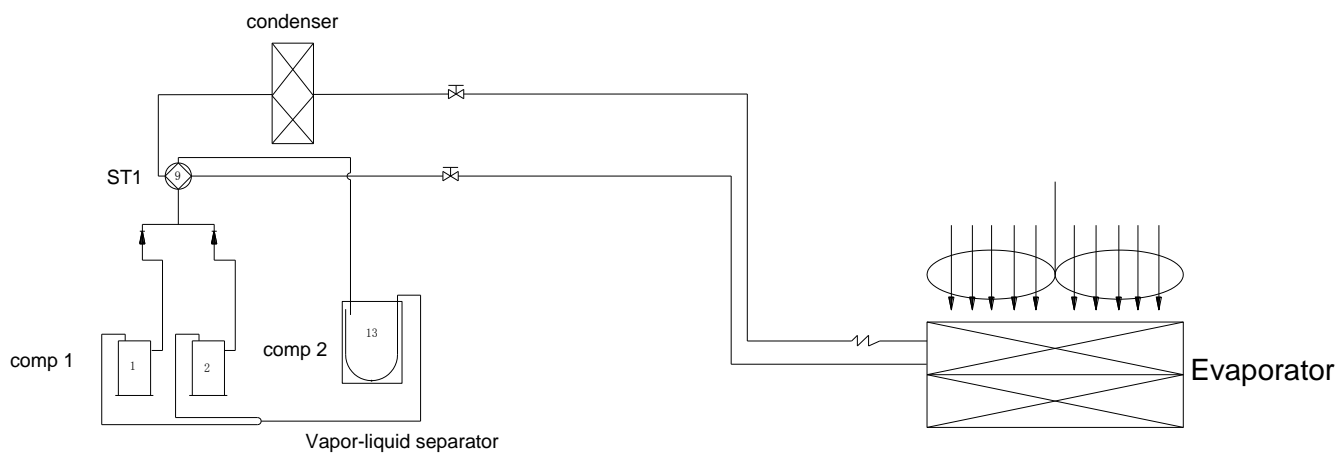
(Unit:mm)

## 5. Piping Diagrams

### 5.1 TMFV-100CT3

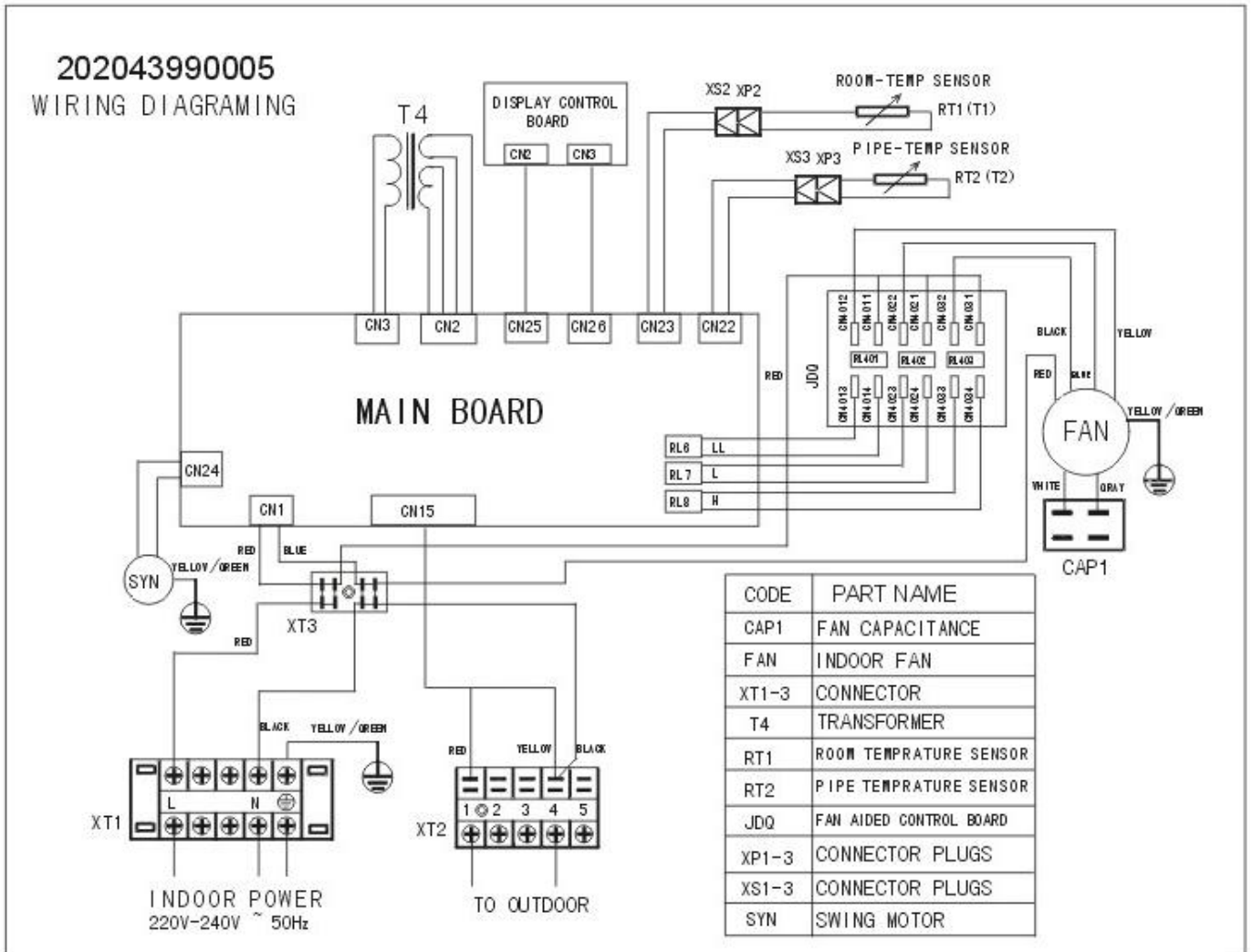


### 5.2 TMFV-100HT3



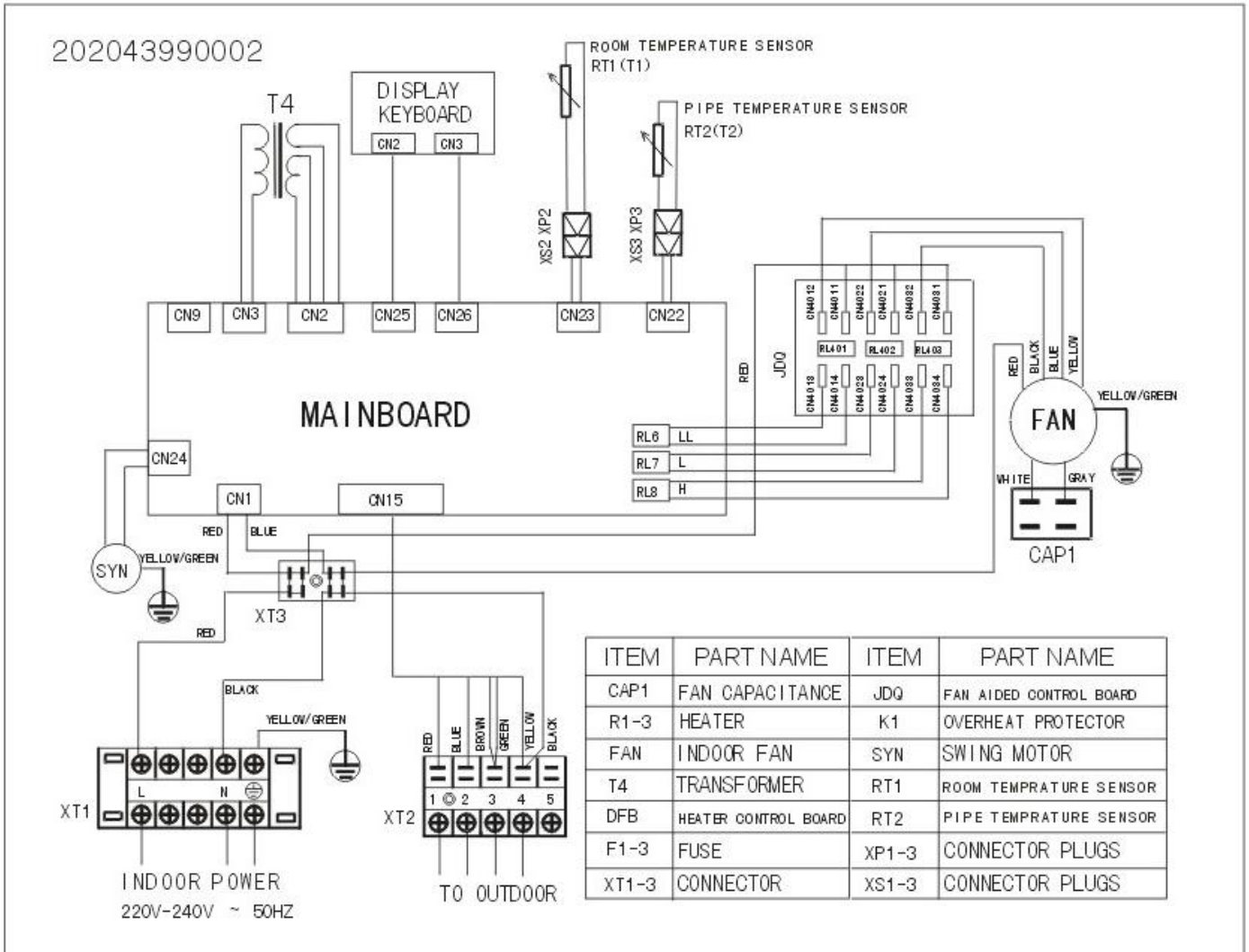
## 6. Wiring Diagrams

### 6.1 TMFV-100CT3





## 6.2 TMFV-100HT3



## 7. Capacity Tables

### 7.1 Cooling:

#### 7.1.2 TMFV-100CT3

Gross Cooling Capacity (kW)																			
Outdoor DB(°C)		29.40									35.00								
Indoor	WB(°C)	16.10			19.40			22.80			16.10			19.40			22.80		
CFM	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2125	23.90	25.10	20.57	8.23	27.24	15.39	8.43	28.61	6.61	8.56	24.39	19.99	8.66	26.06	14.72	8.89	27.33	6.31	9.03
	26.70	25.98	23.62	8.25	27.78	17.99	8.45	29.18	12.58	8.58	24.88	22.62	8.68	26.58	17.22	8.91	27.88	12.02	9.05
	29.40	26.89	25.86	8.27	28.34	23.23	8.47	29.76	17.72	8.60	25.38	24.40	8.70	27.11	22.22	8.93	28.44	16.93	9.07
	32.20	27.83	27.28	8.29	28.90	26.27	8.49	30.36	22.32	8.62	25.89	25.38	8.72	27.65	25.14	8.95	29.01	21.33	9.10
2310	23.90	25.70	21.60	8.43	27.84	16.09	8.63	29.22	6.89	8.76	25.00	21.01	8.86	26.67	15.41	9.09	27.94	6.59	9.23
	26.70	26.60	24.63	8.45	28.40	20.14	8.65	29.80	13.07	8.78	25.50	23.61	8.88	27.20	19.29	9.11	28.50	12.50	9.25
	29.40	27.53	26.99	8.47	28.97	24.34	8.67	30.40	18.53	8.80	26.01	25.50	8.90	27.74	23.31	9.13	29.07	17.73	9.27
	32.20	28.49	28.49	8.49	29.55	27.36	8.69	31.00	23.14	8.82	26.53	26.53	8.92	28.30	26.20	9.16	29.65	22.13	9.30
2650	23.90	26.18	24.02	8.67	28.33	17.71	9.00	29.71	7.70	9.00	25.49	23.39	9.10	27.16	16.97	9.33	28.43	7.37	9.47
	26.70	27.10	27.10	8.69	28.90	22.23	8.89	30.30	14.50	9.02	26.00	26.00	9.12	27.70	21.31	9.35	29.00	13.88	9.49
	29.40	28.05	28.05	8.71	29.48	27.04	8.91	30.91	20.47	9.04	26.52	26.52	9.14	28.25	25.92	9.37	29.58	19.59	9.51
	32.20	29.03	29.03	8.73	30.07	27.33	8.93	31.52	25.63	9.07	27.05	27.05	9.17	28.82	26.20	9.40	30.17	24.53	9.54

Gross Cooling Capacity (kW)																												
Outdoor DB(°C)		40.60									46.10									51.70								
Indoor	WB(°C)	16.10			19.40			22.80			16.10			19.40			22.80			16.10			19.40			22.80		
CFM	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2125	23.90	24.00	19.67	9.49	25.57	14.45	9.73	26.84	6.20	9.88	22.53	18.47	9.68	24.00	13.56	9.94	25.18	5.81	10.18	20.18	16.54	11.67	21.45	12.12	12.03	22.53	5.20	12.28
	26.70	24.48	22.25	9.51	26.08	16.89	9.75	27.38	11.80	9.90	22.98	20.89	9.70	24.48	15.85	9.96	25.68	11.07	10.21	20.58	18.71	11.70	21.88	14.17	12.06	22.98	9.91	12.31
	29.40	24.97	24.01	9.53	26.60	21.80	9.77	27.93	16.62	9.92	23.44	22.54	9.72	24.97	20.47	9.98	26.19	15.59	10.24	20.99	20.18	11.73	22.32	18.29	12.09	23.44	13.95	12.34
	32.20	25.47	24.97	9.56	27.13	24.67	9.80	28.49	20.95	9.95	23.91	23.44	9.75	25.47	23.15	10.01	26.72	19.65	10.26	21.41	20.99	11.76	22.76	20.69	12.12	23.91	17.58	12.37
2310	23.90	24.61	20.68	9.69	26.18	15.13	9.93	27.45	6.47	10.07	23.14	19.44	9.88	24.61	14.22	10.13	25.78	6.08	10.38	20.78	17.47	11.87	22.06	12.75	12.23	23.14	5.46	12.48
	26.70	25.10	23.24	9.71	26.70	18.94	9.95	28.00	12.28	10.10	23.60	21.85	9.90	25.10	17.80	10.16	26.30	11.54	10.41	21.20	19.63	11.90	22.50	15.96	12.26	23.60	10.35	12.51
	29.40	25.60	25.10	9.73	27.23	22.89	9.97	28.56	17.41	10.13	24.07	23.60	9.92	25.60	21.51	10.19	26.83	16.36	10.44	21.62	21.20	11.93	22.95	19.29	12.29	24.07	14.68	12.54
	32.20	26.11	26.11	9.76	27.78	25.72	10.00	29.13	21.74	10.15	24.55	24.55	9.95	26.11	24.18	10.21	27.36	20.42	10.46	22.06	22.06	11.96	23.41	21.68	12.32	24.55	18.32	12.57
2650	23.90	25.10	23.03	9.93	26.67	16.67	10.31	27.94	7.24	10.31	23.63	21.68	10.11	25.10	15.69	10.37	26.27	6.81	10.62	21.27	19.52	12.11	22.55	14.09	12.47	23.63	6.12	12.72
	26.70	25.60	25.60	9.95	27.20	20.92	10.19	28.50	13.64	10.34	24.10	24.10	10.14	25.60	19.69	10.40	26.80	12.82	10.65	21.70	21.70	12.14	23.00	17.69	12.50	24.10	11.53	12.75
	29.40	26.11	26.11	9.97	27.74	25.45	10.22	29.07	19.25	10.37	24.58	24.58	10.17	26.11	23.96	10.43	27.34	18.10	10.68	22.13	22.13	12.17	23.46	21.52	12.53	24.58	16.28	12.78
	32.20	26.63	26.63	10.00	28.30	25.73	10.24	29.65	24.11	10.39	25.07	25.07	10.19	26.63	24.21	10.45	27.88	22.67	10.70	22.58	22.58	12.20	23.93	21.75	12.56	25.07	20.39	12.81

## 7.2 Heating:

### 7.2.1 TMFV-100HT3

Gross Cooling Capacity (kW)																			
Outdoor DB(°C)		29.40									35.00								
Indoor	WB(°C)	16.10			19.40			22.80			16.10			19.40			22.80		
CFM	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2125	23.90	24.43	20.02	8.28	26.55	15.00	8.48	27.92	6.45	8.61	23.71	19.43	8.71	25.37	14.33	8.94	26.65	6.15	9.08
	26.70	25.28	22.98	8.30	27.08	17.54	8.50	28.48	12.28	8.63	24.18	21.98	8.73	25.88	16.76	8.96	27.18	11.72	9.10
	29.40	26.16	25.16	8.32	27.62	22.64	8.52	29.05	17.29	8.65	24.66	23.72	8.75	26.40	21.64	8.98	27.72	16.50	9.12
	32.20	27.08	26.55	8.34	28.17	25.61	8.54	29.63	21.79	8.67	25.16	24.66	8.77	26.93	24.48	9.00	28.28	20.79	9.15
2310	23.90	25.02	21.03	8.48	27.16	15.70	8.68	28.53	6.73	8.81	24.31	20.43	8.91	25.98	15.02	9.14	27.25	6.43	9.28
	26.70	25.90	23.98	8.50	27.70	19.65	8.70	29.10	12.76	8.83	24.80	22.96	8.93	26.50	18.79	9.16	27.80	12.19	9.30
	29.40	26.81	26.28	8.52	28.25	23.74	8.72	29.68	18.10	8.85	25.30	24.80	8.95	27.03	22.71	9.18	28.36	17.29	9.32
	32.20	27.74	27.74	8.54	28.82	26.68	8.74	30.28	22.59	8.87	25.80	25.80	8.97	27.57	25.53	9.21	28.92	21.58	9.35
2650	23.90	25.51	23.40	8.72	27.65	17.28	9.05	29.02	7.52	9.05	24.80	22.76	9.15	26.47	16.54	9.38	27.75	7.19	9.52
	26.70	26.40	26.40	8.74	28.20	21.69	8.94	29.60	14.16	9.07	25.30	25.30	9.17	27.00	20.77	9.40	28.30	13.54	9.54
	29.40	27.32	27.32	8.76	28.76	26.39	8.96	30.19	19.99	9.09	25.81	25.81	9.19	27.54	25.27	9.42	28.87	19.12	9.56
	32.20	28.28	28.28	8.78	29.34	26.67	8.98	30.80	25.04	9.12	26.32	26.32	9.22	28.09	25.54	9.45	29.44	23.94	9.59

Gross Cooling Capacity (kW)																												
Outdoor DB(°C)		40.60									46.10									51.70								
Indoor	WB(°C)	16.10			19.40			22.80			16.10			19.40			22.80			16.10			19.40			22.80		
CFM	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2125	23.90	23.41	19.19	9.49	24.98	14.11	9.73	26.25	6.06	9.88	21.94	17.98	9.68	23.41	13.23	9.94	24.59	5.68	10.18	19.69	16.14	11.67	20.96	11.84	12.03	22.04	5.09	12.28
	26.70	23.88	21.71	9.51	25.48	16.50	9.75	26.78	11.54	9.90	22.38	20.35	9.70	23.88	15.47	9.96	25.08	10.81	10.21	20.08	18.25	11.70	21.38	13.85	12.06	22.48	9.69	12.31
	29.40	24.36	23.42	9.53	25.99	21.30	9.77	27.32	16.26	9.92	22.83	21.95	9.72	24.36	19.97	9.98	25.58	15.23	10.24	20.48	19.69	11.73	21.81	17.88	12.09	22.93	13.65	12.34
	32.20	24.84	24.36	9.56	26.51	24.10	9.80	27.86	20.49	9.95	23.28	22.83	9.75	24.84	22.59	10.01	26.09	19.19	10.26	20.89	20.48	11.76	22.24	20.22	12.12	23.39	17.20	12.37
2310	23.90	24.02	20.18	9.69	25.59	14.79	9.93	26.86	6.34	10.07	22.55	18.95	9.88	24.02	13.88	10.13	25.20	5.94	10.38	20.29	17.05	11.87	21.57	12.47	12.23	22.65	5.34	12.48
	26.70	24.50	22.69	9.71	26.10	18.51	9.95	27.40	12.02	10.10	23.00	21.30	9.90	24.50	17.38	10.16	25.70	11.27	10.41	20.70	19.17	11.90	22.00	15.60	12.26	23.10	10.13	12.51
	29.40	24.99	24.50	9.73	26.62	22.37	9.97	27.95	17.04	10.13	23.46	23.00	9.92	24.99	21.00	10.19	26.21	15.98	10.44	21.11	20.70	11.93	22.44	18.86	12.29	23.56	14.37	12.54
	32.20	25.49	25.49	9.76	27.15	25.14	10.00	28.51	21.27	10.15	23.93	23.93	9.95	25.49	23.60	10.21	26.74	19.95	10.46	21.54	21.54	11.96	22.89	21.19	12.32	24.03	17.94	12.57
2650	23.90	24.51	22.49	9.93	26.08	16.30	10.31	27.35	7.09	10.31	23.04	21.14	10.11	24.51	15.32	10.37	25.69	6.65	10.62	20.78	19.07	12.11	22.06	13.79	12.47	23.14	5.99	12.72
	26.70	25.00	25.00	9.95	26.60	20.46	10.19	27.90	13.35	10.34	23.50	23.50	10.14	25.00	19.23	10.40	26.20	12.54	10.65	21.20	21.20	12.14	22.50	17.31	12.50	23.60	11.29	12.75
	29.40	25.50	25.50	9.97	27.13	24.89	10.22	28.46	18.85	10.37	23.97	23.97	10.17	25.50	23.39	10.43	26.72	17.70	10.68	21.62	21.62	12.17	22.95	21.06	12.53	24.07	15.94	12.78
	32.20	26.01	26.01	10.00	27.67	25.16	10.24	29.03	23.60	10.39	24.45	24.45	10.19	26.01	23.65	10.45	27.26	22.16	10.70	22.06	22.06	12.20	23.41	21.28	12.56	24.55	19.96	12.81

## 8. Electric Characteristics

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min.	Max.	MCA	MFA	KW	FLA
TMFV-100HT3	50	220V	198V	254V	3.5	15	0.59	2.773
TMFV-100CT3	50	220V	198V	254V	3.5	15	0.59	2.773

**Remark:**

MCA: Min. Current Amps. (A)

MFA : Max. Fuse Amps. (A)

KW : Fan Motor Rated Output (KW)

FLA : Full Load Amps. (A)

IFM : Indoor Fan Motor

# TMFV-100HT3. Outdoor Unit

## 1. Specifications

Model		TMFV-100CT3	
Power supply		V-Ph-Hz	380-415~3~50
Cooling	Capacity	Btu/h	96000
	Input	W	9816
	Rated current	A	18.4
Max. input consumption		W	14500
Max. input current		A	27.1
Starting current		A	53
Compressor	Model		503DH-83D2Y
	Type		Scroll
	Brand		Hitachi
	Supplier		Hitachi
	Capacity	Btu/h	52800
	Input	W	4550
	Rated current (RLA)	A	8
	Locked rotor Amp (LRA)	A	53
	Thermal protector		Inner
	Capacitor	uF	/
	Refrigerant oil	ml	1800
Outdoor fan motor	Model		YDK210-6A (×2)
	Type		AC motor
	Brand		YongAn/willing
	Input	W	573
	Capacitor	uF	/
	Speed	r/min	820
Outdoor coil	Number of rows		2
	Tube pitch(a)x row pitch(b)	mm	22*19.05
	Fin spacing	mm	1.4
	Fin type		hydrophilic actuate fin aluminum foil
	Tube outside dia. and type	mm	φ 9.53
			innergroove tube
	Coil length x height	mm	2171*880
Number of circuits		19	
Outdoor air flow		m <sup>3</sup> /h	10599
Outdoor noise level		dB(A)	65.5
Outdoor unit	Dimension (W×H×D)	mm	1200X1860X420
	Packing (W×H×D)	mm	1362X2023X582
	Net/ Gross weight	kg	158/174
Refrigerant type/Quantity	Type		R22
	Charged volume	g	6200
Design pressure		MPa	3.3
Refrigerant piping	Liquid side/ Gas side	mm(inch)	φ 9.53/ φ 19
	Max. pipe length	m	50
	Max. difference in level	m	30
Connection wiring	Power wiring	mm <sup>2</sup>	6.0×6.0
	Signal wiring	mm <sup>2</sup>	1.0×1.0
Operation temp		℃	17℃~32℃
Ambient temp		℃	Cooling: 17℃~52℃

		Heating:- 7℃~24℃
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Model		TMFV-100HT3	
Power supply		V- Ph-Hz	380-415~3~50
Cooling	Capacity	Btu/h	96000
	Input	W	9669
	Rated current	A	18.3
Heating	Capacity	Btu/h	103724
	Input	W	9004
	Rated current	A	16.8
Max. input consumption		W	14500
Max. input current		A	22.1
Starting current		A	53
Compressor	Model		503DH-83D2Y
	Type		Scroll
	Brand		Hitachi
	Supplier		Hitachi
	Capacity	Btu/h	52800
	Input	W	4550
	Rated current (RLA)	A	8
	Locked rotor Amp (LRA)	A	53
	Thermal protector		Inner
	Capacitor	uF	/
	Refrigerant oil	ml	1800
Outdoor fan motor	Model		YDK210-6A (×2)
	Type		AC motor
	Brand		YongAn/willing
	Input	W	573
	Capacitor	uF	/
	Speed	r/min	820
Outdoor coil	Number of rows		2
	Tube pitch(a)x row pitch(b)	mm	22*19.05
	Fin spacing	mm	1.4
	Fin type		hydrophilic actuate fin aluminum foil
	Tube outside dia. and type	mm	φ9.53 innergroove tube
	Coil length x height x width	mm	2171*880
	Number of circuits		19
Outdoor air flow		m <sup>3</sup> /h	10599
Outdoor noise level		dB(A)	64.7
Outdoor unit	Dimension (W×H×D)	mm	1200X1860X420
	Packing (W×H×D)	mm	1362X2023X582
	Net/ Gross weight	kg	158/174
Refrigerant type/Quantity	Type		R22
	Charged volume	g	6200
Design pressure		MPa	3.3
Refrigerant piping	Liquid side/ Gas side	mm(inch)	φ9.53/φ19
	Max. pipe length	m	50
	Max. difference in level	m	30
Connection wiring	Power wiring	mm <sup>2</sup>	6.0×6.0
	Signal wiring	mm <sup>2</sup>	1.0×1.0
Operation temp		℃	cooling:17-32,heating:15-27



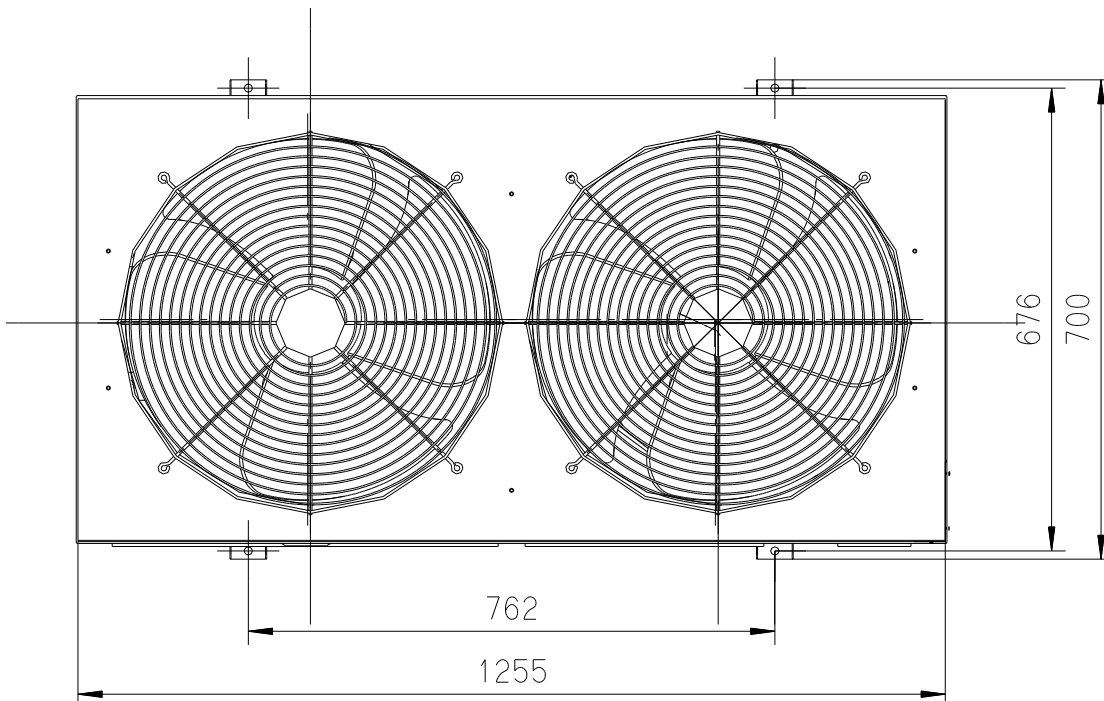
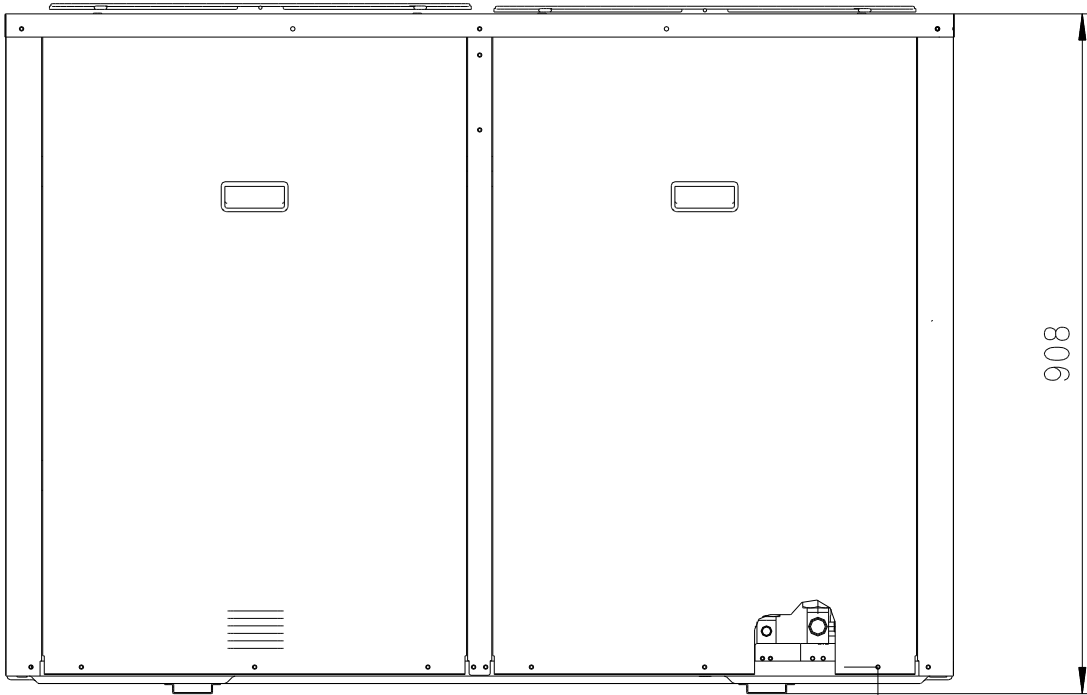
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Ambient temp	°C	cooling:17-52,heating:-7-24
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## 2. Dimension

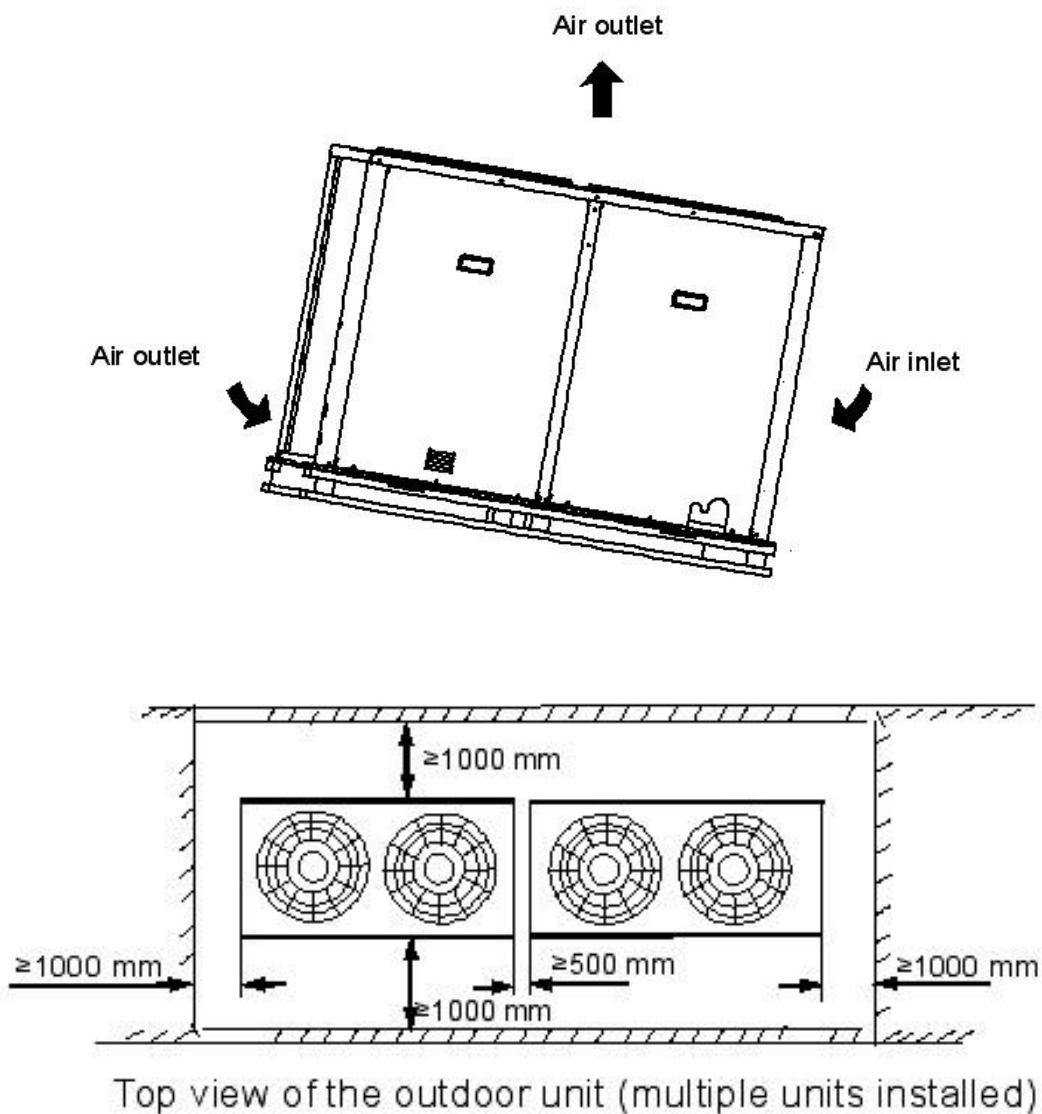
### 2.1 TMFV-100CT3 TMFV-100HT3

Unit: mm



### 3. Service Space

#### 3.1 TMFV-100CT3 TMFV-100HT3

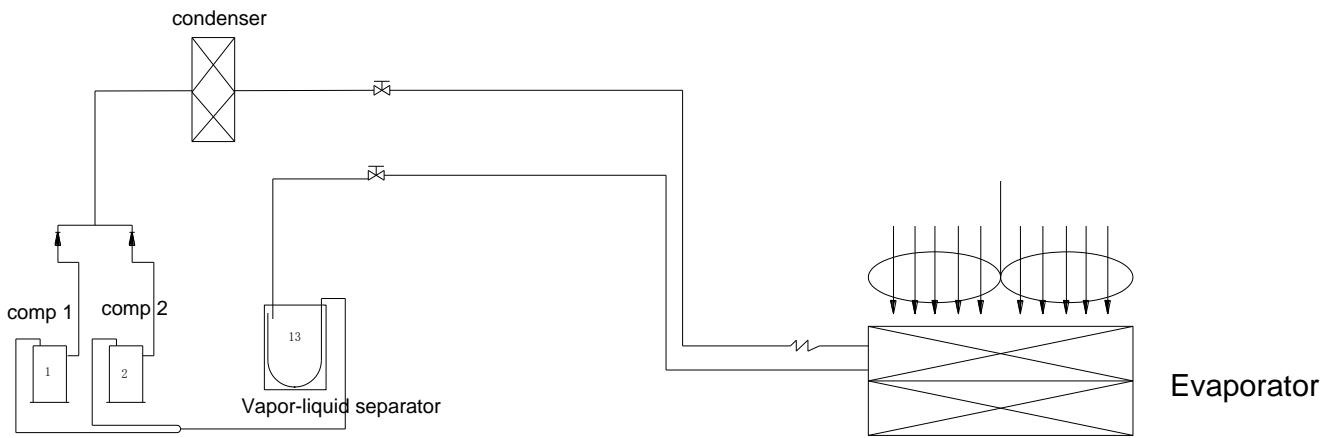


**Note:**

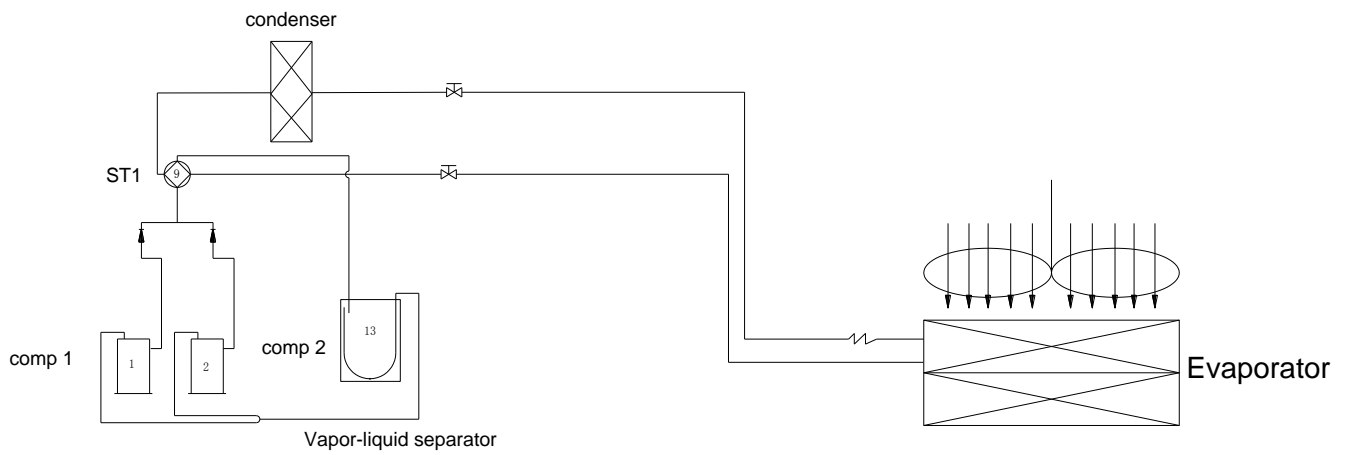
1. In case any obstacles exist above the outdoor unit, such obstacles must be 2000mm above the outdoor unit.
2. If miscellaneous articles are piled around the outdoor unit, such articles must be 400mm below the top of the outdoor unit.

## 4. Piping Diagrams

### 4.1 TMFV-100CT3

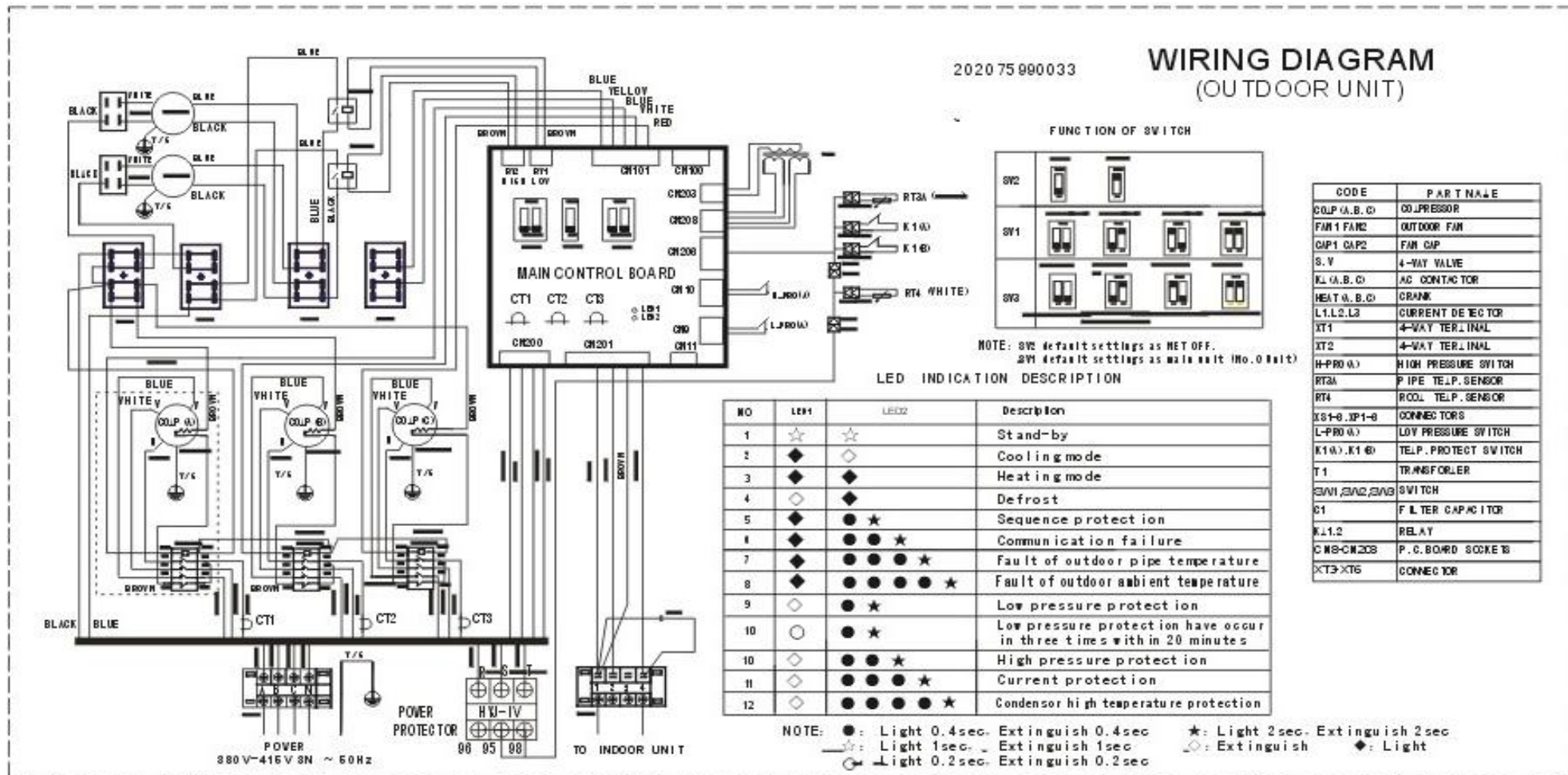


### 4.2 TMFV-100HT3

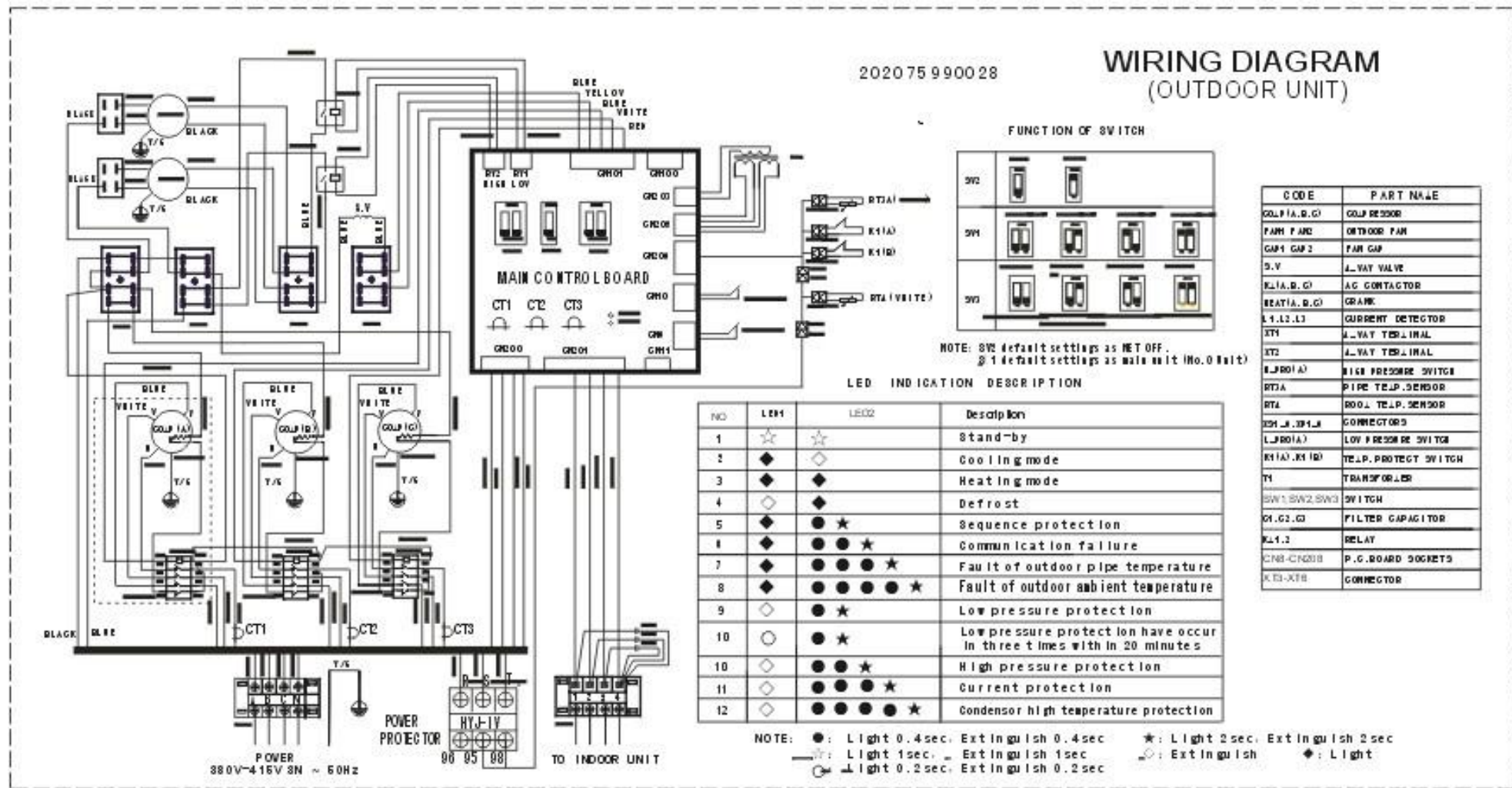


# 5. Wiring Diagrams

## 5.1 TMFV-100CT3

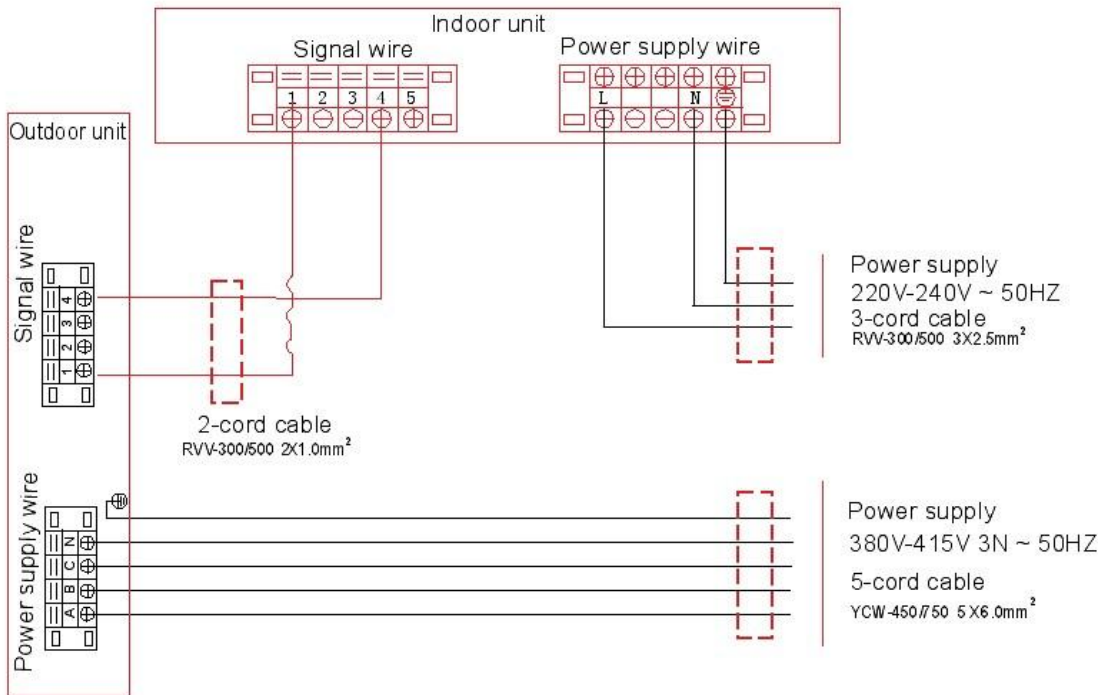


5.2 TMFV-100HT3

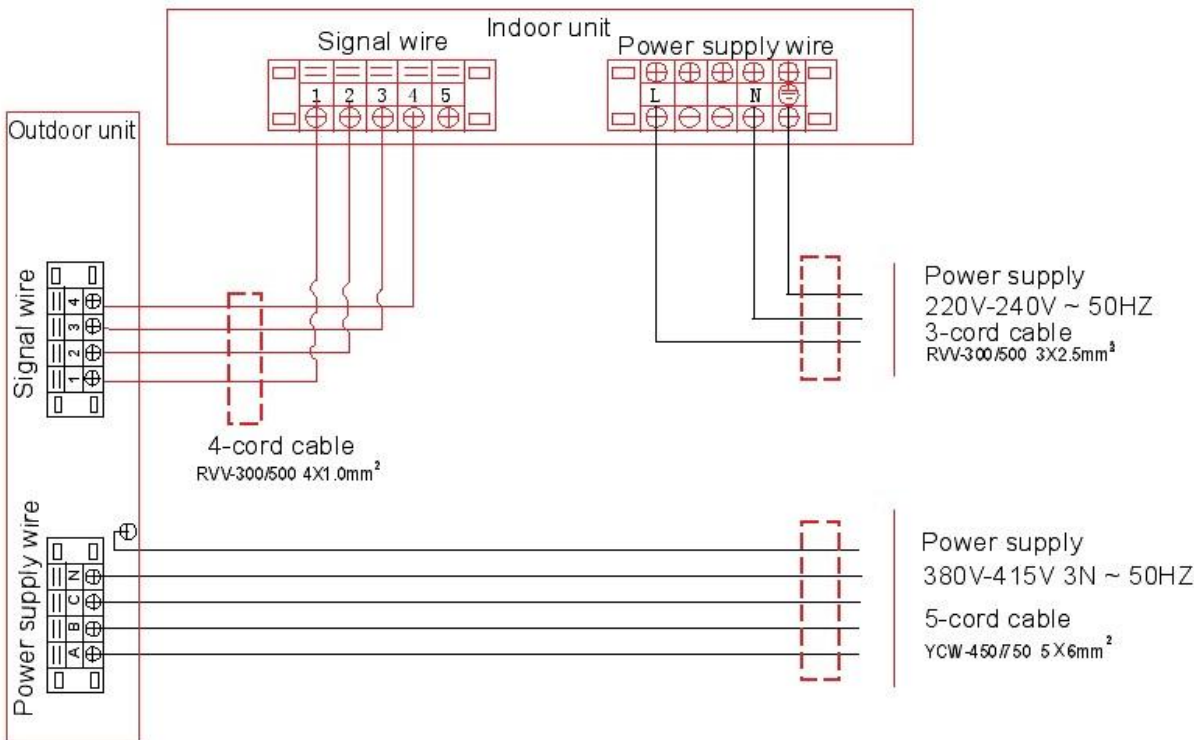


## 6. Field Wiring

### 6.1 TMFV-100CT3



### 6.2 TMFV-100HT3



## 7. Electric Characteristics

Model	Outdoor Unit				Power Supply			Compressor		OFM	
	Hz	Voltage	Min.	Max.	MCA	TOCA	MFA	MSC	RLA	KW	FLA
TMFV-100CT3	50	380-415V	342V	438V	20	21	31.5	53A*2	8A*2	0.573	2.613
TMFV-100HT3	50	380-415V	342V	438V	20	21	31.5	53A*2	8A*2	0.573	2.613

**Remark:**

MCA: Min. Current Amps. (A)

TOCA: Total Over-current Amps. (A)

MFA: Max. Fuse Amps. (A)

MSC: Max. Starting Amps. (A)

RLA: Rated Locked Amps. (A)

OFM: Outdoor Fan Motor.

FLA: Full Load Amps. (A)

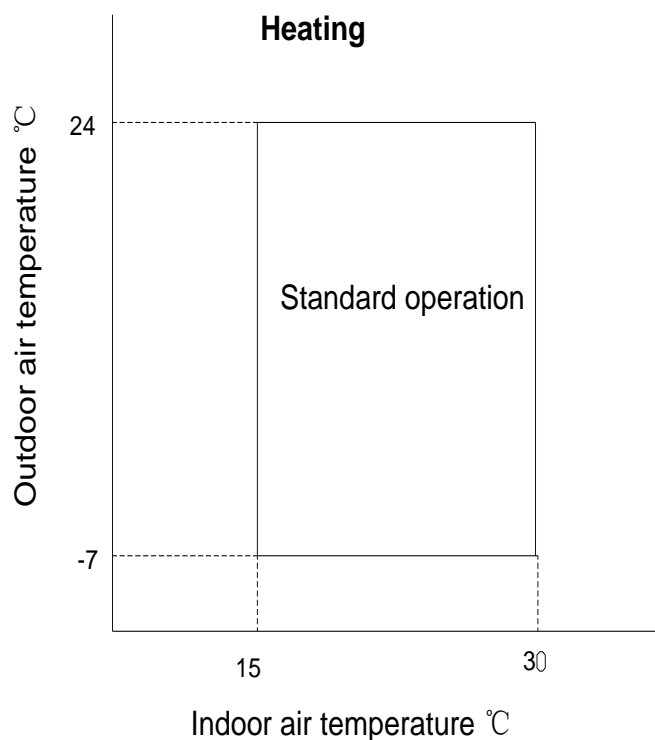
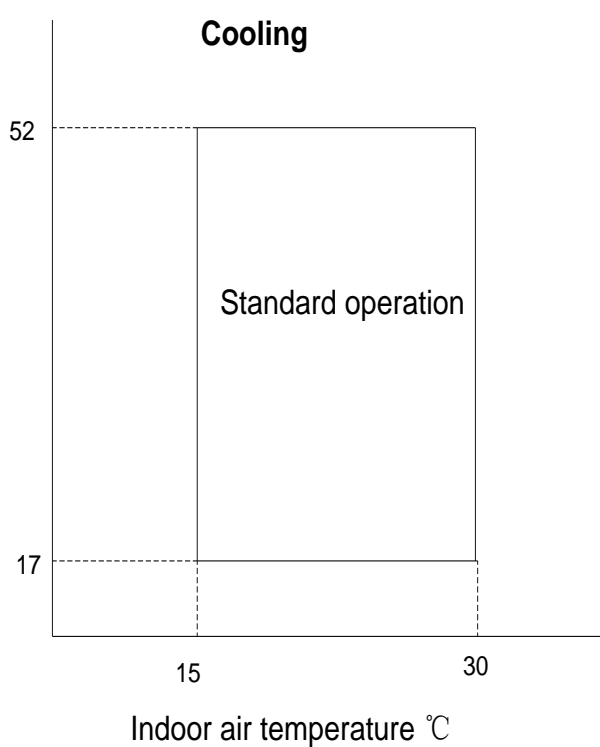
KW: Rated Motor Output (kW)



## 8. Operation Limits

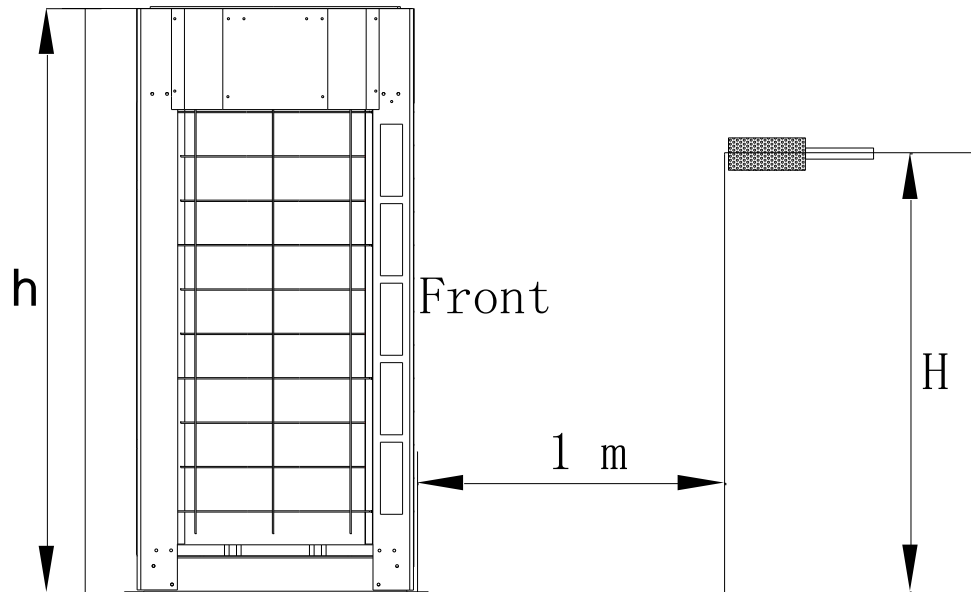
Temperature range for unit operation:

Model \ Item	Cooling mode		Heating mode	
	Outdoor	Indoor	Outdoor	Indoor
All model	17°C~52°C	15°C~30°C	-7°C~24°C	15°C~30°C



## 9. Sound Levels

### Standard of testing

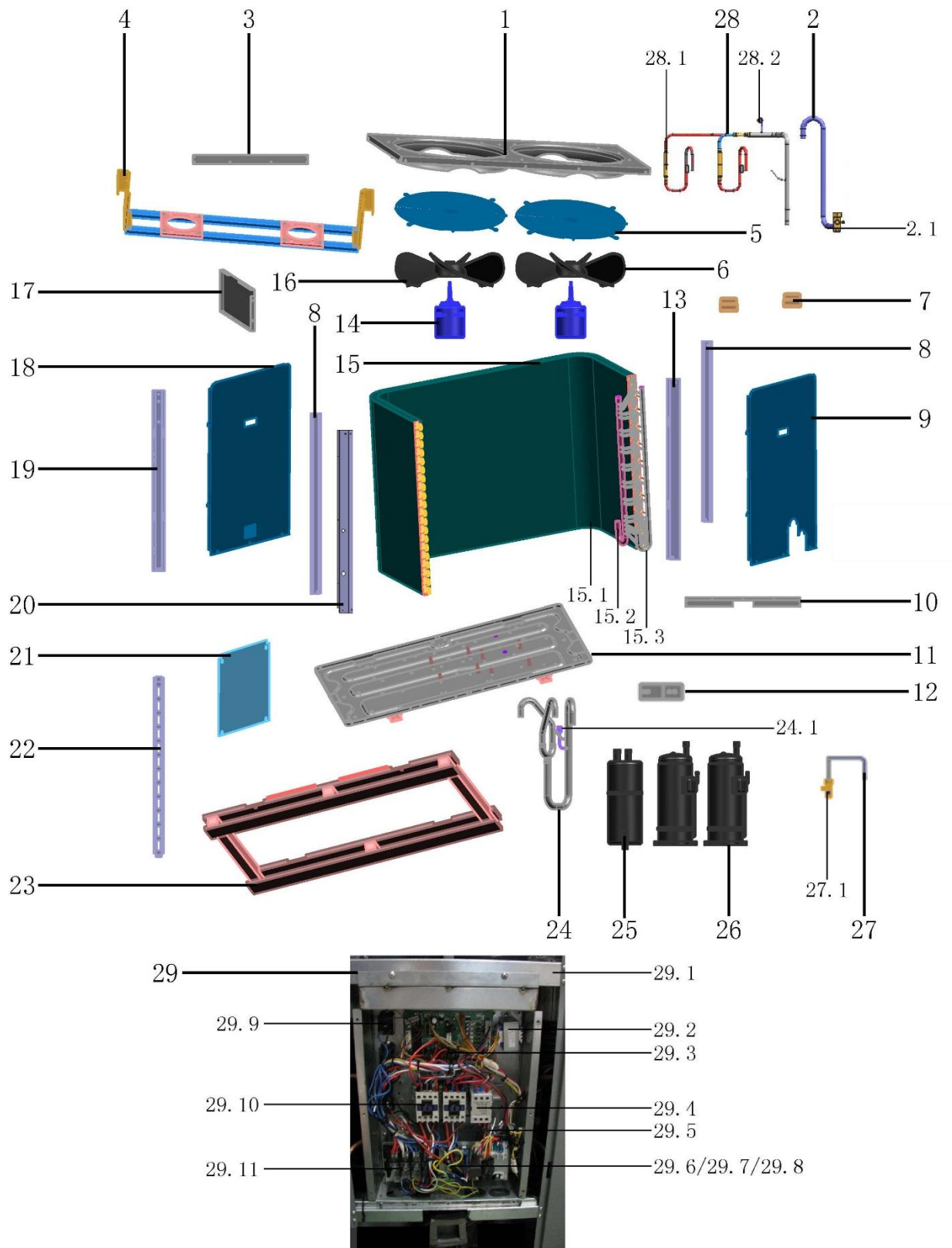


Note:  $H = (h+1) / 2$

Unit Number	Model	Noise level (dB(A))
1	TMFV-100CT3	60.9
2	TMFV-100HT3	60.9

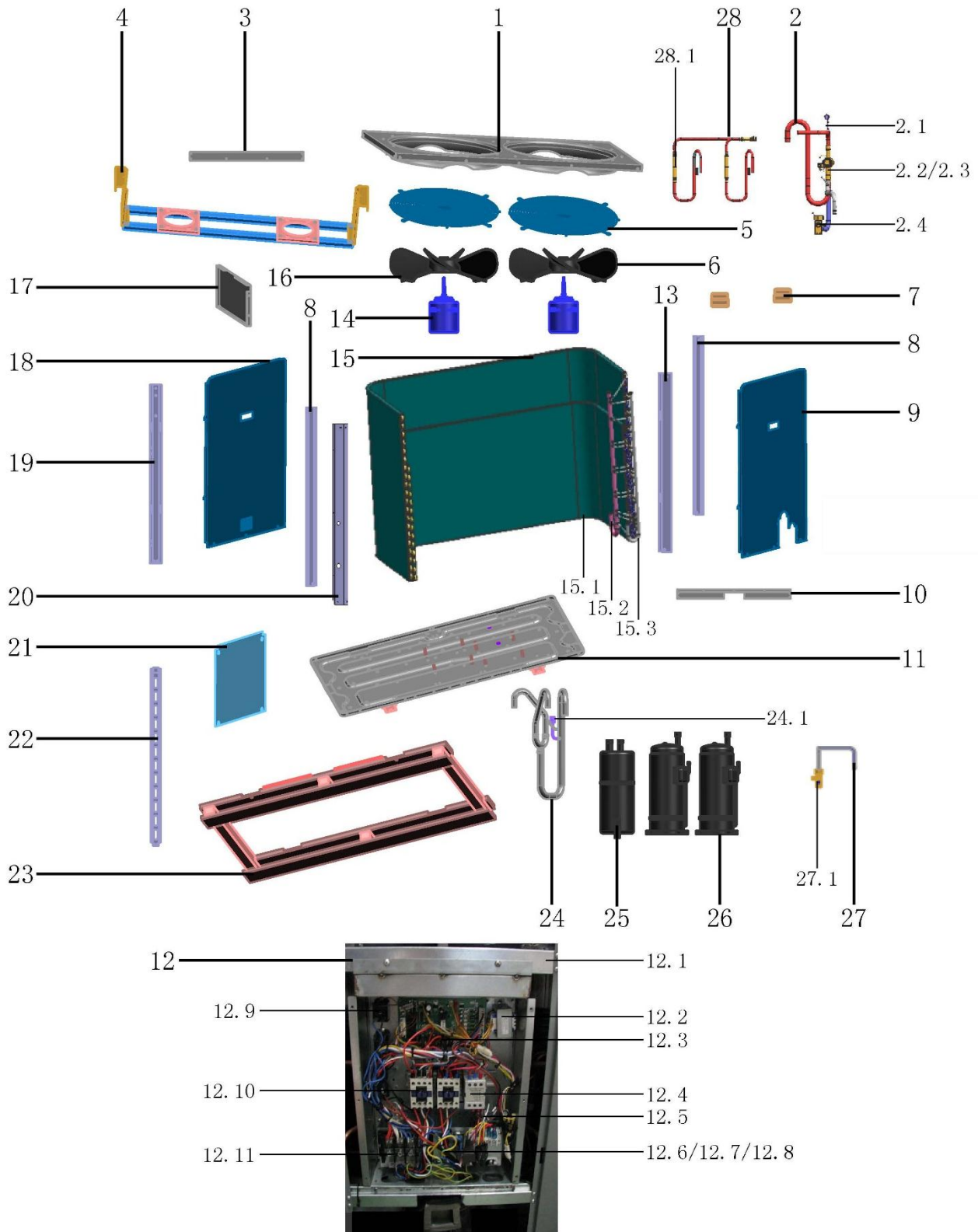
# 10. Exploded View

## 10.1 TMFV-100CT3



No.	Part Name	Qty	No.	Part Name	Qty
1	top cover subassembly	1	13	Front-left supporting board	1
2	low pressure valve subassembly	1	14	fan motor	2
2.1	block valve	1	15	Condenser assembly	1
3	Electricity controls box up install board	1	15.1	Condenser	1
4	Holder for fan motor	1	15.2	condenser afferent canal	1
5	air outlet net cover(black)	2	15.3	condenser output tube	1
6	axial flow fan	1	16	axial flow fan	1
7	Handle	2	17	middle clapboard	1
8	back-left right supporting board weldment	2	18	left-front panel	1
9	rear-front panel	1	19	Front-mid supporting board	1
10	Electricity controls box descend install board	1	20	Front-left supporting board	1
11	Base plate pedestal solder piece	1	21	cover of the electric box	1
12	Electricity controls box assembly	1	22	back-mid supporting board	1
12.1	Electricity controls box weldment	1	23	Wood Base chassis	1
12.2	Transformer	1	24	Suction pipe subassembly	1
12.3	outdoor main control box assembly	1	24.1	Pressure controller	1
12.4	3-phase power protector	1	25	Vapor-liquid separator	1
12.5	Capacitor	2	26	Compressor	2
12.6	Connectors installation assembly	1	27	high pressure valve assembly	1
12.7	Wire joint	4	27.1	Valve body	1
12.8	Wire joint	1	28	discharge pipe subassembly	1
12.9	Relay	2	28.1	One way valve	2
12.10	AC contactor	2	28.2	Pressure controller	1
12.11	Wire joint	1			

## 10.2 TMFV-100HT3



No.	Part Name	Qty	No.	Part Name	Qty
1	top cover subassembly	1	13	Front-left supporting board	1
2	low pressure valve subassembly	1	14	fan motor	2
2.1	block valve	1	15	Condenser assembly	1
2.2/2.3	4 way valve	1	15.1	Condenser	1
2.4	Valve body	1	15.2	condenser afferent canal	1
3	Electricity controls box up install board	1	15.3	condenser output tube	1
4	Holder for fan motor	1	16	axial flow fan	1
5	air outlet net cover(black)	2	17	middle clapboard	1
6	axial flow fan	1	18	left-front panel	1
7	Handle	2	19	Front-mid supporting board	1
8	back-left right supporting board weldment	2	20	Front-left supporting board	1
9	rear-front panel	1	21	cover of the electric box	1
10	Electricity controls box descend install board	1	22	back-mid supporting board	1
11	Base plate pedestal solder piece	1	23	Wood Base chassis	1
12	Electricity controls box assembly	1	24	Suction pipe subassembly	1
12.1	Electricity controls box weldment	1	24.1	Pressure controller	1
12.2	Transformer	1	25	Vapor-liquid separator	1
12.3	outdoor main control box assembly	1	26	Compressor	2
12.4	3-phase power protector	1	27	high pressure valve assembly	1
12.5	Capacitor	2	27.1	Valve body	1
12.6	Connectors installation assembly	1	28	discharge pipe subassembly	1
12.7	Wire joint	4	28.1	One way valve	2
12.8	Wire joint	1	28.2	Pressure controller	1
12.9	Relay	2	12.11	Wire joint	1
12.10	AC contactor	2	12.12	Wire joint	1

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## Floor-Standing Type ( E Series)

**Model:** TMFE-60H

### **Part 1. Product Features**

With a spiral shape, the computer-aided simulation designed air passage system can efficiently reduce noise. The “Soft touch” membrane switch allows more comfortable and convenient operation. It is convenient to operate the air-conditioner as it has both manual control and remote control functions. The air-conditioner starts and operates at an ultra-low voltage.

**Part 2. Specification**  
**R22**

Model		TMFE-60H	MFE-60AE
Power supply		Ph-V-Hz	3Ph / 380V~ / 50Hz
Cooling	Capacity	Btu/h	60000
	Input	W	6300
	Rated current	A	11.0
	EER	Btu/w.h	9.5
Heating	Capacity	Btu/h	—
	Input	W	—
	Rated current	A	—
	COP	Btu/w.h	—
Moisture Removal		L/h	5.5
Max. input consumption		W	7550
Max. current		A	13.5
Starting current		A	69
Compressor	Model		C-SB453H8A
	Type		Scroll
	Brand		SANYO(DaLian)
	Capacity	Btu/h	60560
	Input	W	5430
	Rated current(RLA)	A	9.3
	Locked rotor Amp(LRA)	A	74
	Thermal protector		Internal
	Capacitor	uF	—
	Refrigerant oil	ml	1700
Indoor fan motor	Model		YDK160-8-L / YDK160-8-LD
	Brand		Xijiao / Deshun
	Input	W	383 /330 /285
	Capacitor	uF	9.0uF/≥450VAC
	Speed(hi/mi/lo)	r/min	600/530/460
Indoor coil	Number of rows		3
	Tube pitch(a)x row pitch(b)	mm	25.4*22
	Fin spacing	mm	1.5
	Fin type (code)		Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ9.53, innergroove tube
	Coil length x height x width	mm	482*813*66
	Number of circuits		10
Indoor air flow (Hi/Mi/Lo)		m3/h	2200/1940/1690



Indoor noise level (Hi/Mi/Lo)		dB(A)	53/50/47	53/50/47
Indoor unit	Dimension (W*H*D)	mm	600*1900*358	600*1900*358
	Packing (W*H*D)	mm	685*1985*450	685*1985*450
	Net/Gross weight	kg	65/75	65/75
Outdoor fan motor	Model		YDK65-6-WL; YDK65-6F-WL	YDK65-6-WL; YDK65-6F-WL
	Brand		Welling	Welling
	Input	W	148+138	148+138
	Capacitor	uF	4.0uF/≥450VAC *2	4.0uF/≥450VAC *2
	Speed	r/min	800	800
Outdoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	25.4*22	25.4*22
	Fin spacing	mm	1.5	1.5
	Fin type (code)		Unhydrophilic aluminium	Unhydrophilic aluminium
	Tube outside dia.and type	mm	Φ9.53,innergroove tube	Φ9.53,innergroove tube
	Coil length x height x width	mm	924*1220*44	924*1220*44
	Number of circuits		8	8
Outdoor air flow		m <sup>3</sup> /h	5220	5220
Outdoor noise level		dB(A)	58	58
Outdoor unit	Dimension(W*H*D)	mm	940*1245*360	940*1245*360
	Packing (W*H*D)	mm	1020*1370*435	1020*1370*435
	Net/Gross weight	kg	114/129	116/131
Refrigerant type R22		g	R22/4400g	R22/5000g
Design pressure		MPa	2.6	2.6
Refrigerant piping	Liquid side/ Gas side	mm(inch)	12.7/19(1/2"-3/4")	12.7/19(1/2"-3/4")
	Max. refrigerant pipe length	m	15	15
	Max. difference in level	m	5	5
Connection wiring			No	No
Plug type			No	No
Controller			Remote	Remote
Operation temp		°C	17~30	17~30
Ambient temp		°C	18~45	—7~45
Application area		m <sup>2</sup>	100-130	100-130
Qty'per 20' /40' /40'HQ		set	20/43/48	20/43/48

- Notes: 1. Nominal cooling capacities are based on the following conditions: Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;
2. Nominal heating capacities are based on the following conditions: Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

## Part 3. Circuit principles

### 3.1 Technical data

The temperatures for the start-up and shutdown of the compressor during cooling:

Compressor	Set at 17°C	Set at 25°C	Set at 30°C
ON	18±1.5°C	26±1.5°C	31±1.5°C
OFF	16±1.5°C	24±1.5°C	29±1.5°C
DIFF	1~2°C	1~2°C	1~2°C

Anti-low-temperature control accuracy (during cooling) OFF (protection temperature): -0±1.5°C

ON (resuming temperature):  
10±1.5°C

### 3.2. Description of functions

#### 3.2.1 Testing of operation function

Press the “Testing Operation” key at the same time when turning on the air-conditioner, the air-conditioner will go into the testing operation immediately according to the current settings (mode, air speed, swing) for one hour independent of the set temperature.

During the period of testing operation, indication of “Testing” is added and others (except the time clock) remain unchanged. The air-conditioner will not respond to any other keys except the “ON/OFF” key, “Transfer” key, and “Testing Operation” key.

After turning the air-conditioner into testing operation, cancel the setting and indication of timing, then press “Transfer” key to switch over the indications of time and the temperatures at three temperature-responding points. The details are as follows:

Press “Transfer” key for the first time to indicate the temperature at the first temperature-responding point.

Press “Transfer” key for the second time to indicate the temperature at the second temperature-responding point.

Press “Transfer” key for the third time to indicate the temperature at the third temperature-responding point. Press “Transfer” key for the fourth time to indicate time.

When the reaction temperature is being indicated, the indication of time will be resumed if the “Transfer” key has not been pressed for 10 seconds. The indication of temperatures makes use of time indication sections. The forms are as follows:

Temperature-responding points	Names of temperature-responding points	Contents of indication	
		Time sections	Minute sections
T <sub>1</sub>	Indoor returning air	T <sub>1</sub>	Temperature
T <sub>2</sub>	Indoor evaporator	T <sub>2</sub>	Temperature
T <sub>3</sub>	Outdoor pipe temperature	T <sub>3</sub>	Temperature

Notes: ① “.” means no indication.

② The range of temperature testing is -19°C to +70°C. The positive and negative indications of temperature: “-” means negative and “+” positive.

③ If, after the air-conditioner goes into testing operation, the “ON/OFF” key is pressed, the air-conditioner will end the testing operation and return to waiting condition.

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When the “Testing Operation” key is pressed again, the testing operation will be cancelled and the air-conditioner will resume its original normally set operation. Otherwise, after the testing operation ends automatically one hour later, the air-conditioner will resume its original normally set operation.

## **Floor-Standing Type (S2 Series)**

**Model: TMFS-50HE**

## **Part 1. Product Features**

Strong air supply.  
Wide angle and long distance air supply.  
Easy installation.  
Streamline stylish appearance.  
LCD display, easy operation.

## Part 2. Specification

### R22

Model		TMFS-50HE	
Power supply		Ph-V-Hz	380-420V,3N~, 50Hz
Cooling	Capacity	Btu/h	42000
	Capacity	kW	12
	Input	W	5100
	Rated current	A	8.6
	EER	Btu/w.h	9
Heating	Capacity	Btu/h	52000
	Capacity	kW	14
	Electric heating	W	3500
	Input	W	5100+3500
	Rated current	A	8.6+5.8
	COP	Btu/w.h	10
Moisture Removal		L/h	4.2
Max. input consumption		W	9000
Max. current		A	15.0
Compressor	Model		JT160BCBY1L
	Type		Scroll
	Brand		DAIKIN
	Capacity	Btu/h	51180
	Input	W	4660
	Rated current(RLA)	A	8.6
	Locked rotor Amp(LRA)	A	58
	Thermal protector		internal
	Capacitor	uF	/
	Refrigerant oil	ml	1500
Indoor motor	Model		YDK120-8N
	Brand		WELLING
	Input	W	341/268
	Capacitor	uF	6.5
	Speed(hi/mi/lo)	r/min	580/480
Indoor coil	Number of rows		2
	Tube pitch(a)x row pitch(b)	mm	21X13.37
	Fin spacing	mm	1.4
	Fin type (code)		Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ7,Innergroove tube
	Coil length x height x width	mm	422x966x26.74
	Number of circuits		10
Indoor air flow		m <sup>3</sup> /h	2000
Indoor noise level		dB(A)	44
Indoor unit	Dimension (W*H*D)	mm	540×1775×379
	Packing (W*H*D)	mm	665×1915×475
	Net/Gross weight	kg	58/73

Outdoor motor	Model		YDK250-6D
	Brand		WELLING/HESHAN/ZHONGSHAN BROAD-OCEAN
	Input	W	307/292/290
	Capacitor	uF	10
	Speed	r/min	740
Outdoor coil	Number of rows		2
	Tube pitch(a)x row pitch(b)	mm	25.4x22
	Fin spacing	mm	1.7
	Fin type (code)		Non-hydrophilic aluminium
	Tube outside dia.and type	mm	Φ9.53,Innergroove tube
	Coil length x height x width	mm	890x914x44
	Number of circuits		8
Outdoor air flow		m <sup>3</sup> /h	5000
Outdoor noise level		dB(A)	57
Outdoor unit	Dimension(W*H*D)	mm	990×960×360
	Packing (W*H*D)	mm	1120×1090×435
	Net/Gross weight	kg	101/116
Refrigerant type R22		g	3100
Design pressure		MPa	2.6
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ12.7/Φ19(1/2"-3/4")
	Max. refrigerant pipe length	m	15
	Max. difference in level	m	5
Connection wiring			No
Plug type			No
Controller			Remote
Operation temp		°C	17-30
Ambient temp		°C	—7-45
Application area		m <sup>2</sup>	40~56
Qty' per 20' & 40' Fcl		Pieces	25/48/60

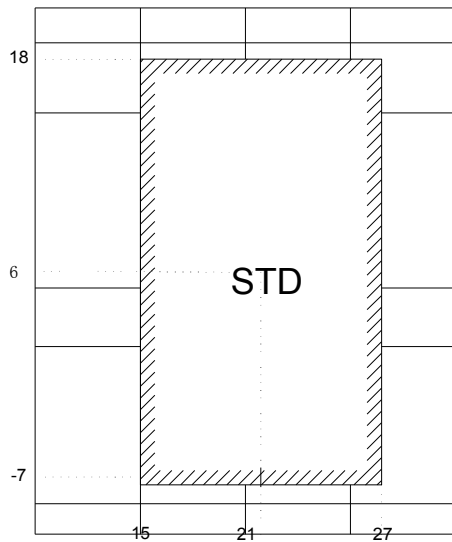
- Notes: 1. Nominal cooling capacities are based on the following conditions: Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;
2. Nominal heating capacities are based on the following conditions: Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;
3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room

### Part 3 Operation Range

Ensure the operating temperature is in allowable range.

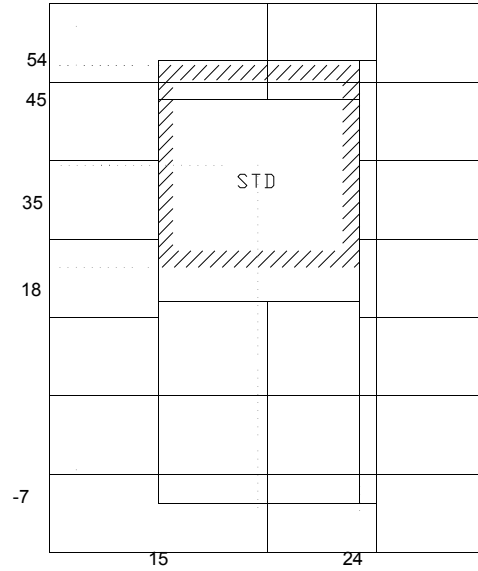
#### Heat pump

Heating



Indoor temp.(°CDB)

Cooling



Indoor temp.(°CDB)



## Part 4 Capacity Table

### Model: TMFS-50HE

COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total capacity kW	11.19	10.79	10.38	10.08	9.27	8.16	7.56
	Sensitive capacity kW	8.95	8.63	8.31	8.06	7.42	6.53	6.05
	Input kW.	3.40	3.89	4.37	4.86	5.35	5.83	6.32
24°C D 17°C W	Total capacity kW	12.25	11.81	11.37	11.04	10.16	8.94	8.28
	Sensitive capacity kW	9.80	9.45	9.10	8.83	8.13	7.15	6.62
	Input kW.	3.59	4.10	4.62	5.13	5.64	6.16	6.67
27°C D 19°C W	Total capacity kW	13.32	12.84	12.36	<b>12.00</b>	11.04	9.72	9.00
	Sensitive capacity kW	10.66	10.27	9.89	9.60	8.83	7.78	7.20
	Input kW.	3.78	4.32	4.86	<b>5.40</b>	5.94	6.48	7.02
32°C D 23°C W	Total capacity kW	15.32	14.77	14.21	13.80	12.70	11.18	10.35
	Sensitive capacity kW	12.25	11.81	11.37	11.04	10.16	8.94	8.28
	Input kW.	4.35	4.97	5.59	6.21	6.83	7.45	8.07

### Model: TMFS-50HE

HEATING		OUTDOOR TEMPERATURE							
Indoor Conditions		24°C D	12°C D	7°C D	4°C D	0°C D	-5°C D	-7°C D	-15°C D
		18°C W	11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W	-16°C W
15°C	Capacity kW	15.12	12.88	11.20	9.52	8.51	7.82	6.94	6.27
	Input kW.	6.60	5.28	4.40	4.18	3.96	3.74	3.52	3.08
18°C	Capacity kW	17.01	14.49	12.60	10.71	9.58	8.69	7.81	7.06
	Input kW.	7.43	5.94	4.95	4.70	4.46	4.21	3.96	3.47
20°C	Capacity kW	18.90	16.10	<b>14.00</b>	11.90	10.64	9.66	8.68	7.84
	Input kW.	8.25	6.60	<b>5.50</b>	5.23	4.95	4.68	4.40	3.85
22°C	Capacity kW	20.79	17.71	15.40	13.09	11.70	10.63	9.55	8.62
	Input kW.	9.08	7.26	6.05	5.75	5.45	5.14	4.84	4.24
27°C	Capacity kW	24.57	20.93	18.20	15.47	13.83	12.56	11.28	10.19
	Input kW.	10.73	8.58	7.15	6.79	6.44	6.08	5.72	5.01

## Part 5. Electric Control Functions

### 1. Performance Index

No.	Item	Index
1	Applicable Voltage Range	185-253V, 342-418V
2	A/C Frequency	50Hz
3	Working environment temperature	-5°C- +43°C

### 2. Main data Introduction

Ts : Set temperature,

T1 : Room temperature

T2: Evaporator pipe temperature

### 3. Operation Modes and Functions

#### 3.1 Manual Operation

#### 3.2 Heating Mode

3.2.1 Four-way valve opens at once, while defrosting process closes.

3.2.2 Condition for the compressor action: (Ts = set temperature, T1 = room temperature)

	Condition	Compressor and outdoor fan
Room temperature up	$T1-Ts=0^{\circ}\text{C}$	Off
	$T1-Ts>-1^{\circ}\text{C}$	On
Room temperature down	$T1-Ts<-1^{\circ}\text{C}$	On
	$T1-Ts=0^{\circ}\text{C}$	Off

#### 3.2.3 Indoor Fan Action

3.2.3.1 Anytime remote switchover for fan speed among high/low/auto, anti-cold air function takes priority.

Auto fan in heating mode

	Condition	Fan
Room temperature up	$T1-Ts>-1^{\circ}\text{C}$	Low
	$T1-Ts<-1^{\circ}\text{C}$	Hi.
Room temperature down	$T1-Ts<-2^{\circ}\text{C}$	Hi.
	$-2^{\circ}\text{C} < T1-Ts < -1^{\circ}\text{C}$	Low

#### 3.2.3.2 Anti-cold air:

Switchover between fan speed and fine tune can be set according to temperature of evaporator pipe (T2).

	Condition	Fan
Room temperature up	$T2<25^{\circ}\text{C}$	Off
	$25^{\circ}\text{C} < T2 < 32^{\circ}\text{C}$	Low
	$T2>32^{\circ}\text{C}$	Set fan speed
Room temperature down	$T2>22^{\circ}\text{C}$	Set fan speed
	$20^{\circ}\text{C} < T2 < 22^{\circ}\text{C}$	Low
	$T2<20^{\circ}\text{C}$	Off

### 3.3 Defrost (only available to heating mode)

### 3.3.1 Defrosting Conditions

#### 3.3.1.1 Starting Of Defrosting Condition (meet one of the following is ok):

(1) Accumulated compressor operating time when temperature of outdoor heat exchanger coil T3 is below  $-2^{\circ}\text{C}$  reaches up to over 46 minutes. (When T3 is over  $20^{\circ}\text{C}$ , calculate time again.)

(2) Under evaporator high temperature protection, the accumulated time when outdoor fan motor is off and compressor is on reaches up to over 90 minutes. (When T3 is over  $20^{\circ}\text{C}$ , calculate time again.)

#### 3.3.1.2 High temperature defrosting condition:

Under high temperature protection of evaporator, the time when outdoor fan is shut down but compressor is not has been accumulated for up to 90 minutes.

### 3.3.2 Defrosting Action

Four-way valve, indoor fan, outdoor fan are shut down. Compressor keeps on.

#### 3.3.3 Ending Of Defrosting Condition (meet one of the following is ok):

(1) Time of defrosting lasts 10 minutes.

(2) Temperature of outdoor coil T3 is up to  $20^{\circ}\text{C}$ .

### 3.4 Cooling Mode

3.4.1. Four-way valve is closed. If four-way valve is open before the machine enters cooling mode, then four-way valve will be closed at the first time, the compressor starts under the cooling mode.

#### 3.4.2. Conditions for the compressor and outdoor fan action ( $T_s$ = set temperature)

	Condition	Compressor and outdoor fan
Room temperature up	$T1-T_s=0^{\circ}\text{C}$	Off
	$T1-T_s>1^{\circ}\text{C}$	On
Room temperature down	$T1-T_s>0^{\circ}\text{C}$	On
	$T1-T_s=0^{\circ}\text{C}$	Off

#### 3.4.3. Action of Indoor Fan

3.4.3.1 HIGH/LOW/AUTO fan can be switched over for your comfort.

3.4.3.2 Auto fan under cooling mode.

	Condition	Fan
Room temperature up	$T1-T_s>2^{\circ}\text{C}$	Hi.
	$1^{\circ}\text{C} < T1-T_s < 2^{\circ}\text{C}$	Low
Room temperature down	$T1-T_s>1^{\circ}\text{C}$	Hi.
	$T1-T_s < 1^{\circ}\text{C}$	Low

### 3.5 Dehumidifying Mode

3.5.1 Indoor fan speed is low.

3.5.2. If certain protective condition is met, operation will be carried out.

### 3.6 Auto Mode

3.6.1. Under auto mode, the indoor fan is set to be auto.

3.6.2. When entering auto mode, the heating, fan only or cooling operation will be automatically chosen according to the room temperature T1 and the set temperature  $T_s$ .

Condition	Mode
$T1-T_s>1^{\circ}\text{C}$	Cooling
$-1^{\circ}\text{C} < T1-T_s < 1^{\circ}\text{C}$	Fan
$T1-T_s < -1^{\circ}\text{C}$	Heating(fan for cooling only type)

3.6.3. After one mode is chosen, if the condition lasts for 15 minutes, meanwhile the compressor doesn't

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start up within consecutive 15 minutes, the operation mode will be re-chosen according to the T1 and Ts.

3.6.4. If certain condition is met, then the corresponding protective function will be executed.

### **3.7. Fan Only Mode**

3.7.1. Under this mode, four-way valve, compressor and outdoor fan are shut down.

3.7.2. High/Low/Auto fan can be switched over through manual control. Auto fan will be controlled in line with cooling auto fan with temperature set to be 24C.

## **4. Other Functions**

### **4.1. LCD display**

Mode, Set temp fan speed, time, timer, protection etc.

### **4.2. Timer**

The machine should be provided with max. Interval of 24h and



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Shiraz office: 8 th floor, Alvand Blog., Dostan St.,  
Moaliabad Ave., SHIRAZ, IRAN., Post code: 71877-14446

Tel.: +98-71-36341070

Fax.: +98-71-36341094

Tehran office: No. 19- koohe nour St.- Motahhari St.-

TEHRAN, IRAN., Post code: 15876-73111

Tel.: +98-21-89389

Fax.: +98-21-88541903

Ahwaz office: No. 309- Kaveh St.- AHWAZ, IRAN., Post code: 61939-47911

Tel.: +98-61-32230647-8

Fax.: +98-61-32230647

E-mail: [info@trustacs.com](mailto:info@trustacs.com)

Web site: <http://www.trustacs.com>

برند برتر در اولین جشنواره بین المللی  
برترین نام و نشان های تجاری ایران

