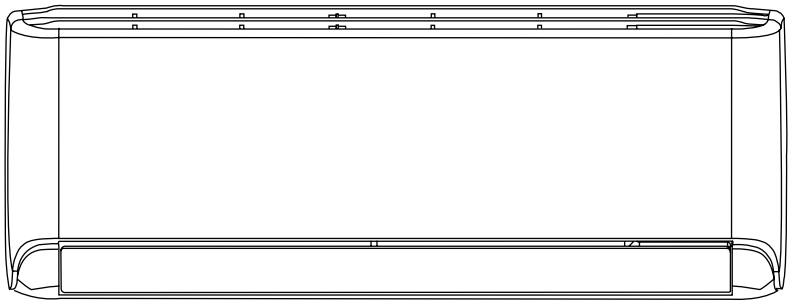
TECHNICAL MANUAL

EX R32 3D INVERTER CONTROL



INDOOR UNIT

EX-09RE1N-I
EX-09RE1N-I
EX-12RE1N-I
EX-12RE1N-I

OUTDOOR UNIT

EXH-09RE1N-O
EXH-09RE2-O
EXH-12RE1N-O
EXH-12RE2-O

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1. Specifications

1.1 Technical Specifications

Model			EX-09RE1N-I+EXH-09RE1N-O	EX-12RE1N-I+EXH-12RE1N-O
Power supply		V- Ph-Hz	220-240-1-50	220-240-1-50
Rated Power Input		W	3210	3210
Rated Current		A	14	14
Compressor	Model		KTM140D79UFZA3	KTM140D79UFZA3
	Type		TWIN ROTARY	TWIN ROTARY
	Brand		GMCC	GMCC
	Capacity	W	4400	4400
	Input	W	1115	1115
	Rated current(RLA)	A	7.55	7.55
	Refrigerant oil/oil charge	ml	POE VG75R/500±10	POE VG75R/500±10
Indoor fan motor	Model		ZKFP-20-8-6-7	ZKFP-20-8-6-7
	Input	W	50	50
	Speed(Hi/Mi/Lo)	r/min	1000/880/820	1000/880/820
Indoor coil	Number of rows		3	3
	Tube pitch(a)x row pitch(b)	mm	14.5*12.56	14.5*12.56
	Fin spacing	mm	1,2	1,2
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ5,Inner groove tube	Φ5,Inner groove tube
	Coil length x height x width	mm	620x87x25.12+620x130.5x37.68+620x101.5x25.12	620x87x25.12+620x130.5x37.68+620x101.5x25.12
	Number of circuits		4	4
Indoor Indoor side air flow(Si/Lo/Mi/Hi/SH)		m³/h	680/570/370/290/110	680/570/370/290/110
Indoor noise level (Turbo/Hi/Mi/Lo/Si)		dB(A)	45,0/39,5/32,0/22,5/19,0	45,0/39,5/32,0/22,5/19,0
Indoor noise (sound power) in refrigeration room		dB(A)	59	59
Indoor unit	Indoor Unit Dimension W×D×H	mm	822×194×309	822×194×309
	Indoor Package Dimension W×D×H	mm	892×305×383	892×305×383
	Indoor Item Net/Gross weight	kg	9,8/12,5	9,8/12,5
Outdoor fan motor	Model		ZKFN-79-10-1L	ZKFN-79-10-1L
	Input	W	80	80
	Speed	r/min	700/610/530	700/610/530
Outdoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	21x22	21x22
	Fin spacing	mm	1,3	1,3
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ7,Inner groove tube	Φ7,Inner groove tube
	Coil length x height x width	mm	900*609*22+865*609*22	900*609*22+865*609*22
	Number of circuits		6	6
Outdoor Outdoor air flow		m³/h	3500	3500
Outdoor noise level (Hi)		dB(A)	56	56
Outdoor noise from refrigeration (sound power)		dB(A)	62	59
Outdoor unit	Outdoor Unit Dimension W×D×H	mm	890×342×673	890×342×673
	Outdoor Package Dimension W×D×H	mm	995×398×740	995×398×740
	Outdoor Item Net/Gross weight	kg	43,5/47	43,5/47

Refrigerant	Type		R32	R32
	GWP		675	675
	Charged quantity	kg	1.0	1.0
Design pressure		MPa	4.3/1.7	4.3/1.7
Refrigerant piping	Liquid side/ Gas side	mm (inch)	Φ6.35/Φ9.52(1/4"/3/8")	Φ6.35/Φ9.52(1/4"/3/8")
	Max. refrigerant pipe length	m	25	25
	Max. difference in level	m	10	10
Connection wiring			5x1.5	5x1.5
Thermostat type			Remote Control	Remote Control
Ambient temperature	Indoor(cooling/ heating)	°C	16~32/0~30	16~32/0~30
	Outdoor(cooling/heating)	°C	-15~50/-40~24	-15~50/-40~24
Qty'per 20' /40' /40'HQ			72/154/165	72/154/165

Notes:

1) Capacities are based on the following conditions:

Cooling(T1): - Indoor Temperature 27°C(80.6°F) DB /19 °C(66.2°F) WB
-Outdoor Temperature 35 °C(95°F) DB /24 °C(75.2°F) WB
-Interconnecting Piping Length 5m
- Level Difference of Zero.

Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
-Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 5 m
- Level Difference of Zero.

2) Capacities are Net Capacities.

3) Due to our policy of innovation some specifications may be changed without notification.

Model			EX-09RE1N-I+EXH-09RE2-O	EX-12RE1N-I+EXH-12RE2-O
Power supply		V- Ph-Hz	220-240-1-50	220-240-1-50
Rated Power Input		W	2950	2950
Rated Current		A	13,0	13,0
Compressor	Model		KSN98D64UFZ3	KSN98D64UFZ3
	Type		ROTARY	ROTARY
	Brand		GMCC	GMCC
	Capacity	W	1930/3100 ±3%	1930/3100 ±3%
	Input	W	292/765 ±3%	292/765 ±3%
	Rated current(RLA)	A	2.15/4.65 ±3%	2.15/4.65 ±3%
	Refrigerant oil/oil charge	ml	ESTER OIL VG74 300±10	ESTER OIL VG74 300±10
Indoor fan motor	Model		ZKFP-20-8-6-7	ZKFP-20-8-6-7
	Input	W	50	50
	Speed(Hi/Mi/Lo)	r/min	1000/880/820	1000/880/820
Indoor coil	Number of rows		3	3
	Tube pitch(a)x row pitch(b)	mm	14.5*12.56	14.5*12.56
	Fin spacing	mm	1,2	1,2
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ5,Inner groove tube	Φ5,Inner groove tube
	Coil length x height x width	mm	620x87x25.12+620x130.5x37.68+ 620x101.5x25.12	620x87x25.12+620x130.5x37.68+ 620x101.5x25.12
	Number of circuits		4	4
Indoor Indoor side air flow(Si/Lo/Mi/Hi/SH)		m³/h	680/570/370/290/110	680/570/370/290/110
Indoor noise level (Turbo/Hi/Mi/Lo/Si)		dB(A)	46,0/39,5/33,0/22,5/19,0	46,0/39,5/33,0/22,5/19,0
Indoor noise (sound power) in refrigeration room		dB(A)	58	58
Indoor unit	Indoor Unit Dimension W×D×H	mm	822×222×309	822×222×309
	Indoor Package Dimension W×D×H	mm	892×305×383	892×305×383
	Indoor Item Net/Gross weight	kg	9,8/12,5	9,8/12,5
Outdoor fan motor	Model		ZKFN-34-10-1L-1	ZKFN-34-10-1L-1
	Input	W	/	/
	Speed	r/min	800/700/600	800/700/600
Outdoor coil	Number of rows		2.0	2.0
	Tube pitch(a)x row pitch(b)	mm	21x22	21x22
	Fin spacing	mm	1,3	1,3
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ7,Inner groove tube	Φ7,Inner groove tube
	Coil length x height x width	mm	860*504*44	860*504*44
	Number of circuits		4	4
Outdoor Outdoor air flow		m³/h	2350	2350
Outdoor noise level (Hi)		dB(A)	54	54
Outdoor noise from refrigeration (sound power)		dB(A)	65	65
Outdoor unit	Outdoor Unit Dimension W×D×H	mm	805×330×554	805×330×554
	Outdoor Package Dimension W×D×H	mm	915×370×615	915×370×615
	Outdoor Item Net/Gross weight	kg	32,3/34,8	32,3/34,8
Refrigerant	Type		R32	R32
	GWP		675	675
	Charged quantity	kg	0,9	0,9

Design pressure		MPa	4,3/1,7	4,3/1,7
Refrigerant piping	Liquid side/ Gas side	mm (inch)	Φ6.35/Φ9.52(1/4"/3/8")	Φ6.35/Φ9.52(1/4"/3/8")
	Max. refrigerant pipe length	m	25	25
	Max. difference in level	m	10	10
Connection wiring			5x1.5	5x1.5
Thermostat type			Remote Control	Remote Control
Ambient temperature	Indoor(cooling/ heating)	°C	16~32/0~30	16~32/0~30
	Outdoor(cooling/heating)	°C	-15~50/-30~24	-15~50/-30~24
Qty'per 20' /40' /40'HQ			90/182/218	90/182/218

Notes:

1) Capacities are based on the following conditions:

Cooling(T1): - Indoor Temperature 27°C(80.6°F) DB /19 °C(66.2°F) WB
-Outdoor Temperature 35 °C(95°F) DB /24 °C(75.2°F) WB
-Interconnecting Piping Length 5m
- Level Difference of Zero.

Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
-Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 5 m
- Level Difference of Zero.

2) Capacities are Net Capacities.

3) Due to our policy of innovation some specifications may be changed without notification.

1.2 Electrical Characteristics

Model	Outdoor Unit			Power Supply			IFM		Compressor		OFM		
	Phase	Hz	Voltage	MCA	MOP	MFA	W	FLA	MSC	RLA	Qty	W	FLA
EXH-09RE1N-O	1	50	220-240 Min:198 Max:264	10.22	17.77	15	20	0.11	/	7.55	1	79	0.67
EXH-12RE1N-O				10.22	17.77	15	20	0.11	/	7.55	1	79	0.67
EXH-09RE2-O				6.65	11.30	15	20	0.11	/	4.65	1	34	0.73
EXH-12RE2-O				6.65	11.30	15	20	0.11	/	4.65	1	34	0.73

Notes:

MCA: Minimum Circuit Amperes (A)

MOP: Maximum rating over current protective device

MFA: Maximum Fuse Amperes (A)

MSC: Maximum Starting Current

RLA: Rated Load Amperes (A)

IFM: Indoor Fan Motor

OFM: Outdoor Fan Motor

FLA: Full Load Amperes (A)

2. Capacity Tables

2.1 Cooling

EX-09RE1N-I+EXH-09RE1N-O																		
INDOOR AIRFLOW (CMH)	OUT-DOOR DB(℃)	ID WB (℃)	16.0				18.0				19.0				22.0			
		ID DB (℃)	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0
570	-15	TC	2.97	2.97	2.98	2.98	3.15	3.15	3.15	3.16	3.33	3.34	3.34	3.35	3.54	3.54	3.54	3.55
		S/T	0.63	0.74	0.84	0.96	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81
		PI	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35
	-10	TC	2.80	2.81	2.81	2.81	2.97	2.97	2.98	2.98	3.15	3.15	3.16	3.16	3.34	3.34	3.34	3.35
		S/T	0.62	0.73	0.83	0.94	0.59	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79
		PI	0.28	0.28	0.28	0.28	0.30	0.30	0.30	0.30	0.32	0.32	0.32	0.32	0.34	0.34	0.34	0.34
	-5	TC	2.74	2.74	2.74	2.75	2.90	2.91	2.91	2.91	3.08	3.08	3.08	3.09	3.26	3.26	3.27	3.27
		S/T	0.61	0.72	0.81	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78
		PI	0.27	0.27	0.27	0.27	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.30	0.32	0.32	0.32	0.32
	0	TC	2.72	2.73	2.73	2.73	2.89	2.89	2.89	2.90	3.06	3.06	3.07	3.07	3.24	3.25	3.25	3.26
		S/T	0.60	0.71	0.80	0.91	0.57	0.67	0.76	0.86	0.54	0.63	0.71	0.81	0.50	0.59	0.67	0.77
		PI	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31
	5	TC	2.57	2.57	2.57	2.58	2.72	2.73	2.73	2.73	2.89	2.89	2.89	2.90	3.06	3.06	3.07	3.07
		S/T	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.73	0.83	0.51	0.60	0.69	0.78
		PI	0.23	0.23	0.23	0.24	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.28	0.28	0.28	0.28
	10	TC	2.41	2.41	2.41	2.42	2.55	2.55	2.56	2.56	2.70	2.71	2.71	2.71	2.87	2.87	2.87	2.88
		S/T	0.62	0.73	0.82	0.94	0.58	0.68	0.78	0.89	0.55	0.65	0.73	0.84	0.52	0.61	0.69	0.79
		PI	0.22	0.22	0.23	0.23	0.24	0.24	0.24	0.24	0.25	0.25	0.25	0.25	0.27	0.27	0.27	0.27
	15	TC	2.38	2.38	2.38	2.39	2.52	2.52	2.53	2.53	2.67	2.68	2.68	2.68	2.83	2.84	2.84	2.84
		S/T	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81	0.50	0.59	0.67	0.76
		PI	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.28	0.28	0.28	0.28	0.29	0.29	0.30	0.30
	20	TC	2.35	2.35	2.36	2.36	2.49	2.49	2.50	2.50	2.64	2.64	2.65	2.65	2.80	2.80	2.81	2.81
		S/T	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78	0.48	0.57	0.65	0.74
		PI	0.27	0.27	0.27	0.27	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.30	0.32	0.32	0.32	0.32
	25	TC	2.32	2.32	2.33	2.33	2.46	2.46	2.47	2.47	2.61	2.61	2.61	2.62	2.77	2.77	2.77	2.78
		S/T	0.55	0.65	0.74	0.84	0.52	0.61	0.70	0.80	0.49	0.58	0.66	0.75	0.47	0.55	0.62	0.71
		PI	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35
	30	TC	2.35	2.35	2.35	2.35	2.49	2.49	2.49	2.50	2.64	2.64	2.64	2.65	2.79	2.80	2.80	2.80
		S/T	0.58	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79	0.49	0.58	0.65	0.75
		PI	0.37	0.38	0.38	0.38	0.40	0.40	0.40	0.40	0.42	0.42	0.42	0.42	0.45	0.45	0.45	0.45
	35	TC	2.40	2.40	2.40	2.41	2.54	2.54	2.55	2.55	2.69	2.70	**2.70**	2.70	2.86	2.86	2.86	2.87
		S/T	0.64	0.75	0.85	0.97	0.60	0.71	0.81	0.92	0.57	0.67	**0.76**	0.87	0.54	0.63	0.72	0.82
		PI	0.49	0.49	0.49	0.49	0.52	0.52	0.52	0.52	0.55	0.55	**0.55**	0.55	0.58	0.58	0.58	0.58
	40	TC	2.08	2.08	2.08	2.09	2.20	2.21	2.21	2.21	2.34	2.34	2.34	2.34	2.48	2.48	2.48	2.48
		S/T	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88
		PI	0.43	0.43	0.43	0.44	0.46	0.46	0.46	0.46	0.49	0.49	0.49	0.49	0.52	0.52	0.52	0.52
	45	TC	1.61	1.61	1.61	1.61	1.70	1.71	1.71	1.71	1.81	1.81	1.81	1.81	1.92	1.92	1.92	1.92
		S/T	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.77	0.87	0.99	0.62	0.72	0.82	0.94
		PI	0.36	0.36	0.36	0.36	0.38	0.38	0.38	0.38	0.40	0.40	0.40	0.40	0.42	0.43	0.43	0.43
	50	TC	0.91	0.91	0.91	0.91	0.96	0.96	0.97	0.97	1.02	1.02	1.02	1.02	1.08	1.08	1.09	1.09
		S/T	0.75	0.88	1.00	1.00	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99
		PI	0.24	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.28	0.28	0.28	0.28	0.29	0.29	0.29	0.29

TC:Total Cooling Capacity (kW)

S/T:Sensible Cooling Capacity Ratio

PI:Power Input(kW)

Note: The table shows the case where the operation frequency of a compressor is fixed.

EX-12RE1N-I+EXH-12RE2-O																		
INDOOR AIRFLOW (CMH)	OUT-DOOR DB(℃)	ID WB (℃)	16.0				18.0				19.0				22.0			
		ID DB (℃)	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0
570	-15	TC	3.96	3.96	3.97	3.97	4.20	4.20	4.20	4.21	4.45	4.45	4.46	4.46	4.71	4.72	4.72	4.73
		S/T	0.63	0.74	0.84	0.96	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81
		PI	0.41	0.41	0.41	0.41	0.43	0.43	0.43	0.43	0.46	0.46	0.46	0.46	0.48	0.48	0.48	0.48
	-10	TC	3.74	3.74	3.74	3.75	3.96	3.97	3.97	3.97	4.20	4.20	4.21	4.21	4.45	4.45	4.46	4.47
		S/T	0.62	0.73	0.83	0.94	0.59	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79
		PI	0.39	0.39	0.39	0.39	0.41	0.42	0.42	0.42	0.44	0.44	0.44	0.44	0.47	0.47	0.47	0.47
	-5	TC	3.65	3.65	3.66	3.66	3.87	3.87	3.88	3.88	4.10	4.11	4.11	4.12	4.35	4.35	4.36	4.36
		S/T	0.61	0.72	0.81	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78
		PI	0.37	0.37	0.37	0.37	0.40	0.40	0.40	0.40	0.42	0.42	0.42	0.42	0.44	0.45	0.45	0.45
	0	TC	3.63	3.64	3.64	3.65	3.85	3.85	3.86	3.86	4.08	4.09	4.09	4.10	4.33	4.33	4.34	4.34
		S/T	0.60	0.71	0.80	0.91	0.57	0.67	0.76	0.86	0.54	0.63	0.71	0.81	0.50	0.59	0.67	0.77
		PI	0.35	0.35	0.35	0.36	0.38	0.38	0.38	0.38	0.40	0.40	0.40	0.40	0.42	0.42	0.42	0.42
	5	TC	3.42	3.43	3.43	3.44	3.63	3.63	3.64	3.64	3.85	3.85	3.86	3.86	4.08	4.08	4.09	4.09
		S/T	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.73	0.83	0.51	0.60	0.69	0.78
		PI	0.32	0.32	0.32	0.32	0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.37	0.39	0.39	0.39	0.39
	10	TC	3.21	3.21	3.22	3.22	3.40	3.41	3.41	3.41	3.61	3.61	3.61	3.62	3.82	3.83	3.83	3.84
		S/T	0.62	0.73	0.82	0.94	0.58	0.68	0.78	0.89	0.55	0.65	0.73	0.84	0.52	0.61	0.69	0.79
		PI	0.31	0.31	0.31	0.31	0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35	0.37	0.37	0.37	0.37
	15	TC	3.17	3.18	3.18	3.18	3.36	3.37	3.37	3.37	3.56	3.57	3.57	3.58	3.78	3.78	3.79	3.79
		S/T	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81	0.50	0.59	0.67	0.76
		PI	0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.36	0.38	0.38	0.38	0.39	0.41	0.41	0.41	0.41
	20	TC	3.13	3.14	3.14	3.14	3.32	3.33	3.33	3.33	3.52	3.52	3.53	3.53	3.73	3.74	3.74	3.75
		S/T	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78	0.48	0.57	0.65	0.74
		PI	0.37	0.37	0.37	0.37	0.39	0.40	0.40	0.40	0.42	0.42	0.42	0.42	0.44	0.44	0.44	0.45
	25	TC	3.10	3.10	3.10	3.11	3.28	3.29	3.29	3.29	3.48	3.48	3.49	3.49	3.69	3.69	3.70	3.70
		S/T	0.55	0.65	0.74	0.84	0.52	0.61	0.70	0.80	0.49	0.58	0.66	0.75	0.47	0.55	0.62	0.71
		PI	0.40	0.40	0.40	0.41	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.46	0.48	0.48	0.48	0.48
	30	TC	3.13	3.13	3.14	3.14	3.32	3.32	3.32	3.33	3.51	3.52	3.52	3.53	3.73	3.73	3.73	3.74
		S/T	0.58	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79	0.49	0.58	0.65	0.75
		PI	0.52	0.52	0.52	0.52	0.55	0.55	0.55	0.55	0.58	0.58	0.58	0.58	0.62	0.62	0.62	0.62
	35	TC	3.20	3.20	3.20	3.21	3.39	3.39	3.40	3.40	3.59	3.60	**3.60**	3.60	3.81	3.81	3.82	3.82
		S/T	0.64	0.75	0.85	0.97	0.60	0.71	0.81	0.92	0.57	0.67	**0.76**	0.87	0.54	0.63	0.72	0.82
		PI	0.67	0.68	0.68	0.68	0.72	0.72	0.72	0.72	0.76	0.76	**0.76**	0.76	0.80	0.80	0.81	0.81
	40	TC	2.77	2.77	2.78	2.78	2.94	2.94	2.94	2.95	3.11	3.12	3.12	3.13	3.30	3.31	3.31	3.31
		S/T	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88
		PI	0.60	0.60	0.60	0.60	0.64	0.64	0.64	0.64	0.67	0.67	0.68	0.68	0.71	0.71	0.72	0.72
	45	TC	2.14	2.15	2.15	2.15	2.27	2.28	2.28	2.28	2.41	2.41	2.41	2.42	2.55	2.56	2.56	2.56
		S/T	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.77	0.87	0.99	0.62	0.72	0.82	0.94
		PI	0.49	0.49	0.49	0.49	0.52	0.52	0.52	0.52	0.55	0.55	0.55	0.56	0.59	0.59	0.59	0.59
	50	TC	1.21	1.21	1.21	1.22	1.28	1.29	1.29	1.29	1.36	1.36	1.36	1.37	1.44	1.45	1.45	1.45
		S/T	0.75	0.88	1.00	1.00	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99
		PI	0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.36	0.38	0.38	0.38	0.38	0.40	0.40	0.40	0.40

TC:Total Cooling Capacity (kW)

S/T:Sensible Cooling Capacity Ratio

PI:Power Input(kW)

Note: The table shows the case where the operation frequency of a compressor is fixed.

EX-09RE1N-I+EXH-09RE2-O																		
INDOOR AIRFLOW (CMH)	OUT-DOOR DB(℃)	ID WB (℃)	16.0				18.0				19.0				22.0			
		ID DB (℃)	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0
570	-15	TC	2.97	2.97	2.98	2.98	3.15	3.15	3.15	3.16	3.33	3.34	3.34	3.35	3.54	3.54	3.54	3.55
		S/T	0.63	0.74	0.84	0.96	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81
		PI	0.30	0.30	0.30	0.30	0.32	0.32	0.32	0.32	0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.36
	-10	TC	2.80	2.81	2.81	2.81	2.97	2.97	2.98	2.98	3.15	3.15	3.16	3.16	3.34	3.34	3.34	3.35
		S/T	0.62	0.73	0.83	0.94	0.59	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79
		PI	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.32	0.32	0.32	0.32	0.34	0.34	0.34	0.34
	-5	TC	2.74	2.74	2.74	2.75	2.90	2.91	2.91	2.91	3.08	3.08	3.08	3.09	3.26	3.26	3.27	3.27
		S/T	0.61	0.72	0.81	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78
		PI	0.28	0.28	0.28	0.28	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.33	0.33	0.33	0.33
	0	TC	2.72	2.73	2.73	2.73	2.89	2.89	2.89	2.90	3.06	3.06	3.07	3.07	3.24	3.25	3.25	3.26
		S/T	0.60	0.71	0.80	0.91	0.57	0.67	0.76	0.86	0.54	0.63	0.71	0.81	0.50	0.59	0.67	0.77
		PI	0.26	0.26	0.26	0.26	0.28	0.28	0.28	0.28	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31
	5	TC	2.57	2.57	2.57	2.58	2.72	2.73	2.73	2.73	2.89	2.89	2.89	2.90	3.06	3.06	3.07	3.07
		S/T	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.73	0.83	0.51	0.60	0.69	0.78
		PI	0.24	0.24	0.24	0.24	0.25	0.25	0.25	0.25	0.27	0.27	0.27	0.27	0.28	0.28	0.28	0.29
	10	TC	2.41	2.41	2.41	2.42	2.55	2.55	2.56	2.56	2.70	2.71	2.71	2.71	2.87	2.87	2.87	2.88
		S/T	0.62	0.73	0.82	0.94	0.58	0.68	0.78	0.89	0.55	0.65	0.73	0.84	0.52	0.61	0.69	0.79
		PI	0.23	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27
	15	TC	2.38	2.38	2.38	2.39	2.52	2.52	2.53	2.53	2.67	2.68	2.68	2.68	2.83	2.84	2.84	2.84
		S/T	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81	0.50	0.59	0.67	0.76
		PI	0.25	0.25	0.25	0.25	0.27	0.27	0.27	0.27	0.28	0.28	0.28	0.28	0.30	0.30	0.30	0.30
	20	TC	2.35	2.35	2.36	2.36	2.49	2.49	2.50	2.50	2.64	2.64	2.65	2.65	2.80	2.80	2.81	2.81
		S/T	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78	0.48	0.57	0.65	0.74
		PI	0.27	0.27	0.28	0.28	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.33	0.33	0.33	0.33
	25	TC	2.32	2.32	2.33	2.33	2.46	2.46	2.47	2.47	2.61	2.61	2.61	2.62	2.77	2.77	2.77	2.78
		S/T	0.55	0.65	0.74	0.84	0.52	0.61	0.70	0.80	0.49	0.58	0.66	0.75	0.47	0.55	0.62	0.71
		PI	0.30	0.30	0.30	0.30	0.32	0.32	0.32	0.32	0.33	0.33	0.33	0.34	0.35	0.35	0.35	0.36
	30	TC	2.35	2.35	2.35	2.35	2.49	2.49	2.49	2.50	2.64	2.64	2.64	2.65	2.79	2.80	2.80	2.80
		S/T	0.58	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79	0.49	0.58	0.65	0.75
		PI	0.38	0.38	0.38	0.38	0.40	0.40	0.41	0.41	0.43	0.43	0.43	0.43	0.45	0.45	0.46	0.46
	35	TC	2.40	2.40	2.40	2.41	2.54	2.54	2.55	2.55	2.69	2.70	**2.70**	2.70	2.86	2.86	2.86	2.87
		S/T	0.64	0.75	0.85	0.97	0.60	0.71	0.81	0.92	0.57	0.67	**0.76**	0.87	0.54	0.63	0.72	0.82
		PI	0.50	0.50	0.50	0.50	0.53	0.53	0.53	0.53	0.56	0.56	**0.56**	0.56	0.59	0.59	0.59	0.59
	40	TC	2.08	2.08	2.08	2.09	2.20	2.21	2.21	2.21	2.34	2.34	2.34	2.34	2.48	2.48	2.48	2.48
		S/T	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88
		PI	0.44	0.44	0.44	0.44	0.47	0.47	0.47	0.47	0.50	0.50	0.50	0.50	0.53	0.53	0.53	0.53
	45	TC	1.61	1.61	1.61	1.61	1.70	1.71	1.71	1.71	1.81	1.81	1.81	1.81	1.92	1.92	1.92	1.92
		S/T	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.77	0.87	0.99	0.62	0.72	0.82	0.94
		PI	0.36	0.36	0.36	0.36	0.38	0.39	0.39	0.39	0.41	0.41	0.41	0.41	0.43	0.43	0.43	0.43
	50	TC	0.91	0.91	0.91	0.91	0.96	0.96	0.97	0.97	1.02	1.02	1.02	1.02	1.08	1.08	1.09	1.09
		S/T	0.75	0.88	1.00	1.00	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99
		PI	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.27	0.28	0.28	0.28	0.28	0.30	0.30	0.30	0.30

TC:Total Cooling Capacity (kW)

S/T:Sensible Cooling Capacity Ratio

PI:Power Input(kW)

Note: The table shows the case where the operation frequency of a compressor is fixed.

EX-12RE1N-I+EXH-12RE2-O																		
INDOOR AIRFLOW (CMH)	OUT-DOOR DB(℃)	ID WB (℃)	16.0				18.0				19.0				22.0			
		ID DB (℃)	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0	23.0	25.0	27.0	29.0
570	-15	TC	3.85	3.85	3.86	3.86	4.08	4.08	4.09	4.09	4.32	4.33	4.33	4.34	4.58	4.59	4.59	4.60
		S/T	0.63	0.74	0.84	0.96	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81
		PI	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.45	0.48	0.48	0.48	0.48	0.51	0.51	0.51	0.51
	-10	TC	3.63	3.64	3.64	3.65	3.85	3.86	3.86	3.86	4.08	4.09	4.09	4.10	4.33	4.33	4.34	4.34
		S/T	0.62	0.73	0.83	0.94	0.59	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79
		PI	0.41	0.41	0.41	0.41	0.44	0.44	0.44	0.44	0.46	0.46	0.46	0.46	0.49	0.49	0.49	0.49
	-5	TC	3.55	3.55	3.56	3.56	3.76	3.77	3.77	3.78	3.99	3.99	4.00	4.00	4.23	4.23	4.24	4.24
		S/T	0.61	0.72	0.81	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78
		PI	0.39	0.39	0.39	0.39	0.42	0.42	0.42	0.42	0.44	0.44	0.44	0.44	0.47	0.47	0.47	0.47
	0	TC	3.53	3.54	3.54	3.54	3.74	3.75	3.75	3.76	3.97	3.97	3.98	3.98	4.21	4.21	4.22	4.22
		S/T	0.60	0.71	0.80	0.91	0.57	0.67	0.76	0.86	0.54	0.63	0.71	0.81	0.50	0.59	0.67	0.77
		PI	0.37	0.37	0.37	0.37	0.39	0.40	0.40	0.40	0.42	0.42	0.42	0.42	0.44	0.44	0.44	0.45
	5	TC	3.33	3.33	3.34	3.34	3.53	3.53	3.54	3.54	3.74	3.74	3.75	3.75	3.97	3.97	3.97	3.98
		S/T	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88	0.54	0.64	0.73	0.83	0.51	0.60	0.69	0.78
		PI	0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.36	0.38	0.38	0.38	0.38	0.41	0.41	0.41	0.41
	10	TC	3.12	3.12	3.13	3.13	3.31	3.31	3.31	3.32	3.51	3.51	3.51	3.52	3.72	3.72	3.72	3.73
		S/T	0.62	0.73	0.82	0.94	0.58	0.68	0.78	0.89	0.55	0.65	0.73	0.84	0.52	0.61	0.69	0.79
		PI	0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35	0.37	0.37	0.37	0.37	0.39	0.39	0.39	0.39
	15	TC	3.08	3.09	3.09	3.09	3.27	3.27	3.28	3.28	3.46	3.47	3.47	3.48	3.67	3.68	3.68	3.69
		S/T	0.60	0.70	0.80	0.91	0.56	0.66	0.75	0.86	0.53	0.62	0.71	0.81	0.50	0.59	0.67	0.76
		PI	0.36	0.36	0.36	0.36	0.38	0.38	0.38	0.38	0.40	0.40	0.40	0.41	0.43	0.43	0.43	0.43
	20	TC	3.05	3.05	3.05	3.06	3.23	3.23	3.24	3.24	3.42	3.43	3.43	3.44	3.63	3.63	3.64	3.64
		S/T	0.58	0.68	0.77	0.88	0.54	0.64	0.72	0.83	0.51	0.60	0.68	0.78	0.48	0.57	0.65	0.74
		PI	0.39	0.39	0.39	0.39	0.42	0.42	0.42	0.42	0.44	0.44	0.44	0.44	0.47	0.47	0.47	0.47
	25	TC	3.01	3.01	3.02	3.02	3.19	3.19	3.20	3.20	3.38	3.39	3.39	3.39	3.58	3.59	3.59	3.60
		S/T	0.55	0.65	0.74	0.84	0.52	0.61	0.70	0.80	0.49	0.58	0.66	0.75	0.47	0.55	0.62	0.71
		PI	0.42	0.43	0.43	0.43	0.45	0.45	0.45	0.45	0.48	0.48	0.48	0.48	0.51	0.51	0.51	0.51
	30	TC	3.04	3.04	3.05	3.05	3.22	3.23	3.23	3.24	3.42	3.42	3.42	3.43	3.62	3.63	3.63	3.64
		S/T	0.58	0.69	0.78	0.89	0.55	0.65	0.74	0.84	0.52	0.61	0.69	0.79	0.49	0.58	0.65	0.75
		PI	0.54	0.55	0.55	0.55	0.58	0.58	0.58	0.58	0.61	0.61	0.61	0.61	0.65	0.65	0.65	0.65
	35	TC	3.11	3.11	3.11	3.12	3.29	3.30	3.30	3.31	3.49	3.50	**3.50**	3.50	3.70	3.71	3.71	3.72
		S/T	0.64	0.75	0.85	0.97	0.60	0.71	0.81	0.92	0.57	0.67	**0.76**	0.87	0.54	0.63	0.72	0.82
		PI	0.71	0.71	0.71	0.71	0.75	0.75	0.75	0.76	0.80	0.80	**0.80**	0.80	0.85	0.85	0.85	0.85
	40	TC	2.69	2.70	2.70	2.70	2.86	2.86	2.86	2.87	3.03	3.03	3.03	3.04	3.21	3.21	3.22	3.22
		S/T	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99	0.61	0.72	0.82	0.93	0.58	0.68	0.77	0.88
		PI	0.63	0.63	0.63	0.63	0.67	0.67	0.67	0.67	0.71	0.71	0.71	0.71	0.75	0.75	0.75	0.75
	45	TC	2.08	2.09	2.09	2.09	2.21	2.21	2.21	2.22	2.34	2.34	2.35	2.35	2.48	2.49	2.49	2.49
		S/T	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.77	0.87	0.99	0.62	0.72	0.82	0.94
		PI	0.52	0.52	0.52	0.52	0.55	0.55	0.55	0.55	0.58	0.58	0.58	0.58	0.62	0.62	0.62	0.62
	50	TC	1.18	1.18	1.18	1.18	1.25	1.25	1.25	1.25	1.32	1.33	1.33	1.33	1.40	1.40	1.41	1.41
		S/T	0.75	0.88	1.00	1.00	0.73	0.86	0.98	1.00	0.69	0.81	0.92	1.00	0.65	0.76	0.87	0.99
		PI	0.36	0.36	0.36	0.36	0.38	0.38	0.38	0.38	0.40	0.40	0.40	0.40	0.42	0.42	0.43	0.43

TC:Total Cooling Capacity (kW)

S/T:Sensible Cooling Capacity Ratio

PI:Power Input(kW)

Note: The table shows the case where the operation frequency of a compressor is fixed.

2.2 Heating

EX-12RE1N-I+EXH-12RE1N-O EX-09RE1N-I+EXH-09RE1N-O									[SI_Unit]
INDOOR AIRFLOW (CMH)	HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE								
	OUTDOOR DB(°C)	TC:TOTAL CAPACITY IN KILOWATTS (KW)				PI:TOTAL POWER IN KILOWATTS (KW)			
		Indoor Conditions (DB °C)				Indoor Conditions (DB °C)			
		16.0	20.0	22.0	24.0	16.0	20.0	22.0	24.0
570	-40.0	2.23	2.19	2.19	2.18	1.35	1.40	1.33	1.32
	-35.0	2.49	2.45	2.45	2.43	1.54	1.60	1.51	1.51
	-30.0	2.75	2.71	2.71	2.69	1.72	1.80	1.70	1.69
	-25.0	3.01	2.96	2.96	2.94	1.91	1.99	1.88	1.87
	-20.0	3.27	3.22	3.22	3.20	2.10	2.19	2.07	2.06
	-15.0	3.54	3.49	3.49	3.46	2.30	2.39	2.26	2.25
	-10.0	3.78	3.72	3.72	3.69	2.45	2.55	2.41	2.40
	-7.0	3.96	3.90	3.90	3.87	2.60	2.71	2.56	2.55
	-5.6	3.93	3.87	3.87	3.84	2.45	2.42	2.40	2.38
	-2.8	3.90	3.84	3.84	3.81	2.18	2.13	2.11	2.08
	0.0	3.81	3.78	3.75	3.73	1.89	1.83	1.80	1.77
	2.8	3.87	3.84	3.81	3.78	1.62	1.54	1.51	1.47
	5.6	4.07	4.02	3.99	3.96	1.35	1.27	1.22	1.18
	7.0	4.26	4.20	4.17	4.14	1.21	0.95	1.07	1.02
	11.1	4.32	4.26	4.23	4.20	1.09	1.03	0.97	0.92
	13.9	4.37	4.32	4.29	4.26	0.99	0.96	0.93	0.89
	16.7	4.43	4.37	4.34	4.32	0.92	0.89	0.87	0.85
	18.0	4.46	4.40	4.37	4.34	0.87	0.86	0.84	0.83

Max heating Capacity Tables

EEX-12RE1N-I+EXH-12RE1N-O EX-09RE1N-I+EXH-09RE1N-O																							
Indoor Conditions	Outdoor Conditions																						
	-40		-35		-30		-25		-20		-15		-10		-7		2		7		12		
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	
20DB(°C)	2.50	2.09	3.20	2.44	3.50	2.51	4.60	3.02	5.00	3.07	5.50	3.08	5.30	2.80	5.50	2.72	5.90	2.20	7.00	2.56	8.00	2.10	

Note: The table shows the case where the operation frequency of a compressor is fixed.

EX-09RE1N-I+EXH-09RE2-O EX-12RE1N-I+EEXH-12RE2-O									[SI_Unit]
INDOOR AIRFLOW (CMH)	HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE								
	OUTDOOR DB(°C)	TC:TOTAL CAPACITY IN KILOWATTS (KW)				PI:TOTAL POWER IN KILOWATTS (KW)			
		Indoor Conditions (DB °C)				Indoor Conditions (DB °C)			
		16.0	20.0	22.0	24.0	16.0	20.0	22.0	24.0
570	-30.0	2.55	2.53	2.51	2.51	1.02	1.06	1.03	1.03
	-25.0	2.79	2.77	2.75	2.75	1.14	1.18	1.14	1.14
	-20.0	3.03	3.01	2.99	2.99	1.25	1.29	1.25	1.25
	-15.0	3.28	3.26	3.23	3.23	1.36	1.42	1.37	1.37
	-10.0	3.51	3.48	3.45	3.45	1.45	1.51	1.46	1.46
	-7.0	3.67	3.64	3.61	3.61	1.55	1.61	1.56	1.56
	-5.6	3.67	3.64	3.61	3.61	1.49	1.49	1.49	1.49
	-2.8	3.67	3.64	3.61	3.59	1.38	1.38	1.38	1.37
	0.0	3.64	3.59	3.56	3.56	1.27	1.26	1.26	1.25
	2.8	3.70	3.67	3.64	3.61	1.17	1.16	1.15	1.14
	5.6	3.90	3.85	3.82	3.82	1.07	1.05	1.04	1.03
	7.0	4.16	4.10	4.04	4.01	1.02	0.94	0.99	0.98
	11.1	4.25	4.19	4.16	4.13	0.86	0.84	0.82	0.81
	13.9	4.33	4.27	4.25	4.19	0.76	0.73	0.71	0.69
	16.7	4.39	4.33	4.30	4.27	0.65	0.62	0.60	0.58
	18.0	4.45	4.36	4.33	4.30	0.60	0.56	0.54	0.52

Max heating Capacity Tables

EX-09RE1N-I+EXH-09RE2-O EX-12RE1N-I+EEXH-12RE2-O																			
Indoor Conditions	Outdoor Conditions																		
	-30		-25		-20		-15		-10		-7		2		7		12		
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	
20DB(°C)	2.27	1.21	2.43	1.27	2.87	1.52	3.10	1.55	3.64	1.62	3.94	1.70	4.81	1.90	5.57	1.50	6.60	1.41	

Note: The table shows the case where the operation frequency of a compressor is fixed.

3. Capacity Correction Factor for Height Difference

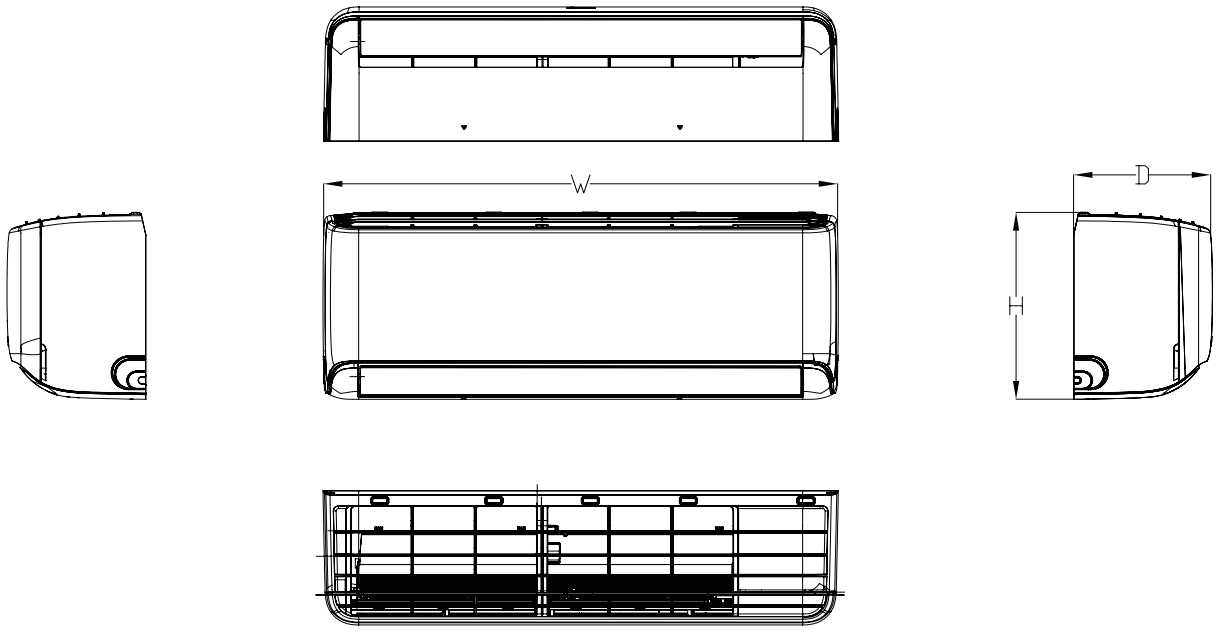
Capacity(Btu/h)	9k		Pipe Length (m)			
Indoor Upper than Outdoor			5	10	20	25
Height difference H (m)	Cooling	10		0.969	0.936	0.920
		5	0.995	0.979	0.946	0.929
		0	1.000	0.984	0.951	0.934
	Heating	10		0.989	0.967	0.956
		5	1.000	0.989	0.967	0.956
		0	1.000	0.989	0.967	0.956
Outdoor Upper than Indoor			5	10	20	25
Height difference H (m)	Cooling	0	1.000	0.984	0.951	0.934
		5	1.000	0.984	0.951	0.934
		10		0.984	0.951	0.934
	Heating	0	1.000	0.989	0.967	0.956
		5	0.992	0.981	0.959	0.948
		10		0.973	0.952	0.941

Capacity(Btu/h)	12k		Pipe Length (m)			
Indoor Upper than Outdoor			5	10	20	25
Height difference H (m)	Cooling	10		0.973	0.948	0.936
		5	0.995	0.983	0.958	0.945
		0	1.000	0.988	0.963	0.950
	Heating	10		0.993	0.978	0.970
		5	1.000	0.993	0.978	0.970
		0	1.000	0.993	0.978	0.970
Outdoor Upper than Indoor			5	10	20	25
Height difference H (m)	Cooling	0	1.000	0.988	0.963	0.950
		5	1.000	0.988	0.963	0.950
		10		0.988	0.963	0.950
	Heating	0	1.000	0.993	0.978	0.970
		5	0.992	0.985	0.970	0.962
		10		0.977	0.962	0.955

4. Dimensional Drawings & Centre of gravity

4.1 Dimensional Drawings

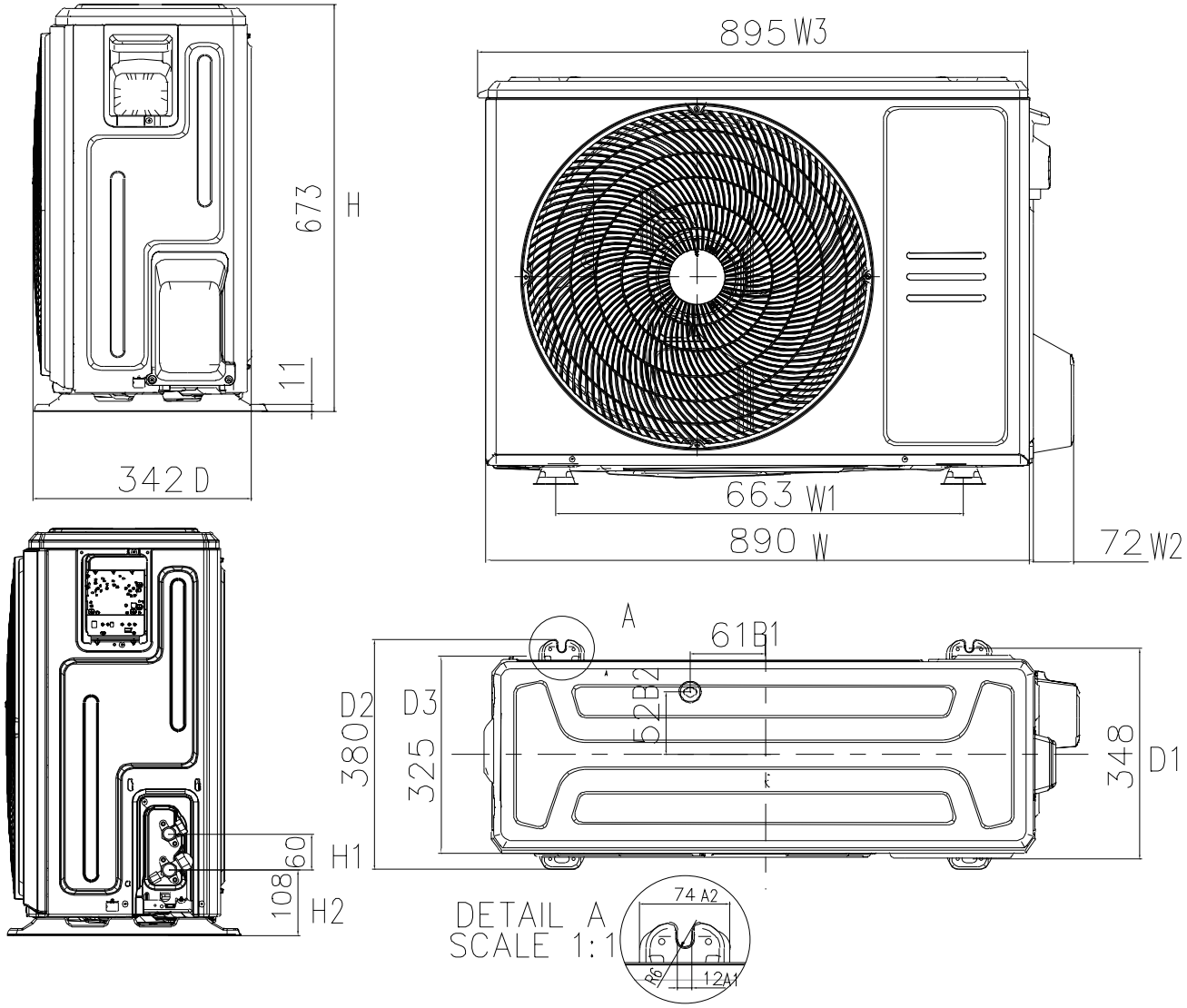
4.1.1 Indoor Unit



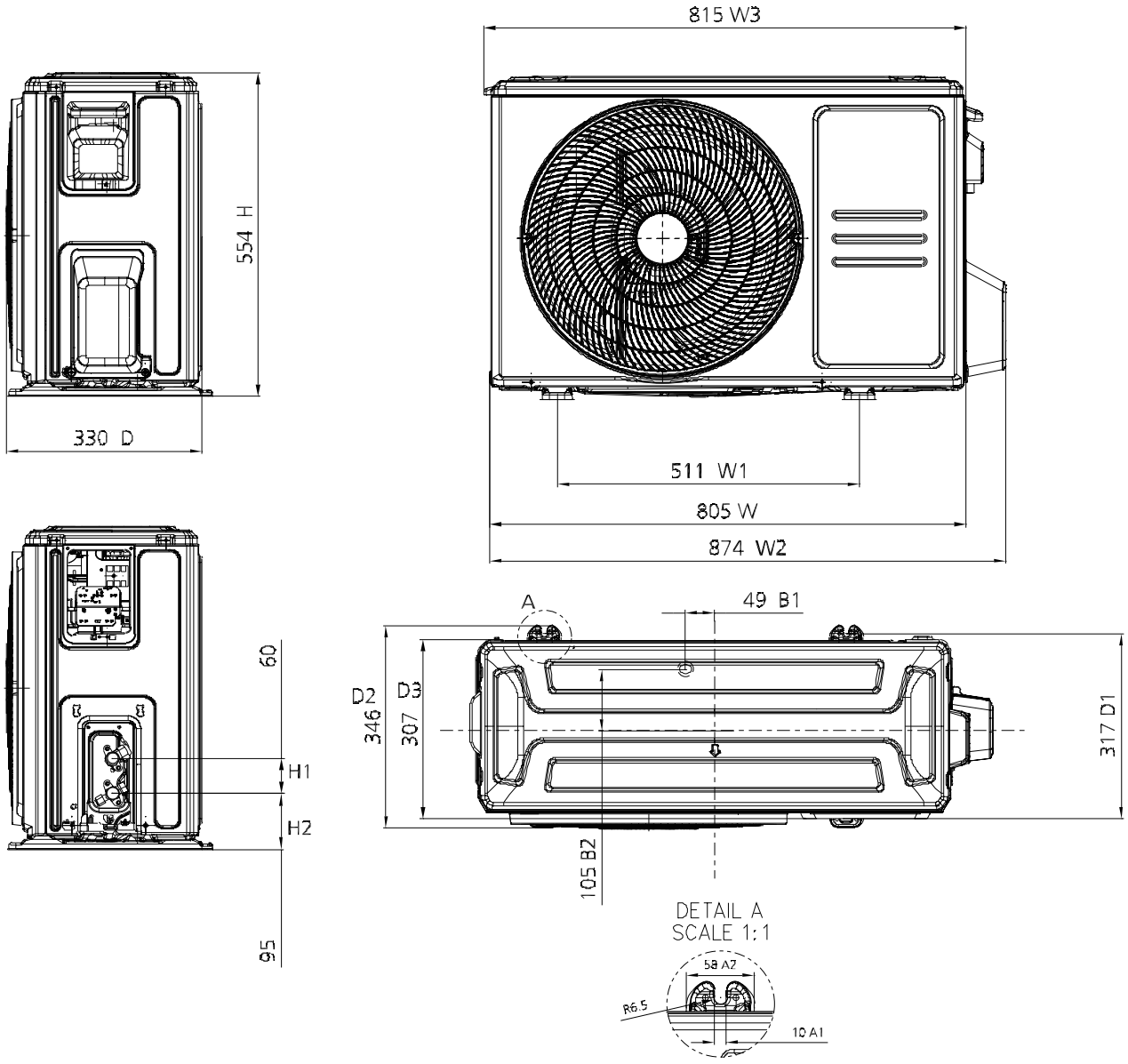
Model	Unit	W	D	H
EX-09RE1N-I EX-12RE1N-I	mm	822	194	309
	inch	32.36	7.64	12.17

4.1.2 Outdoor Unit

EXH-09RE1N-O, EXH-12RE1N-O

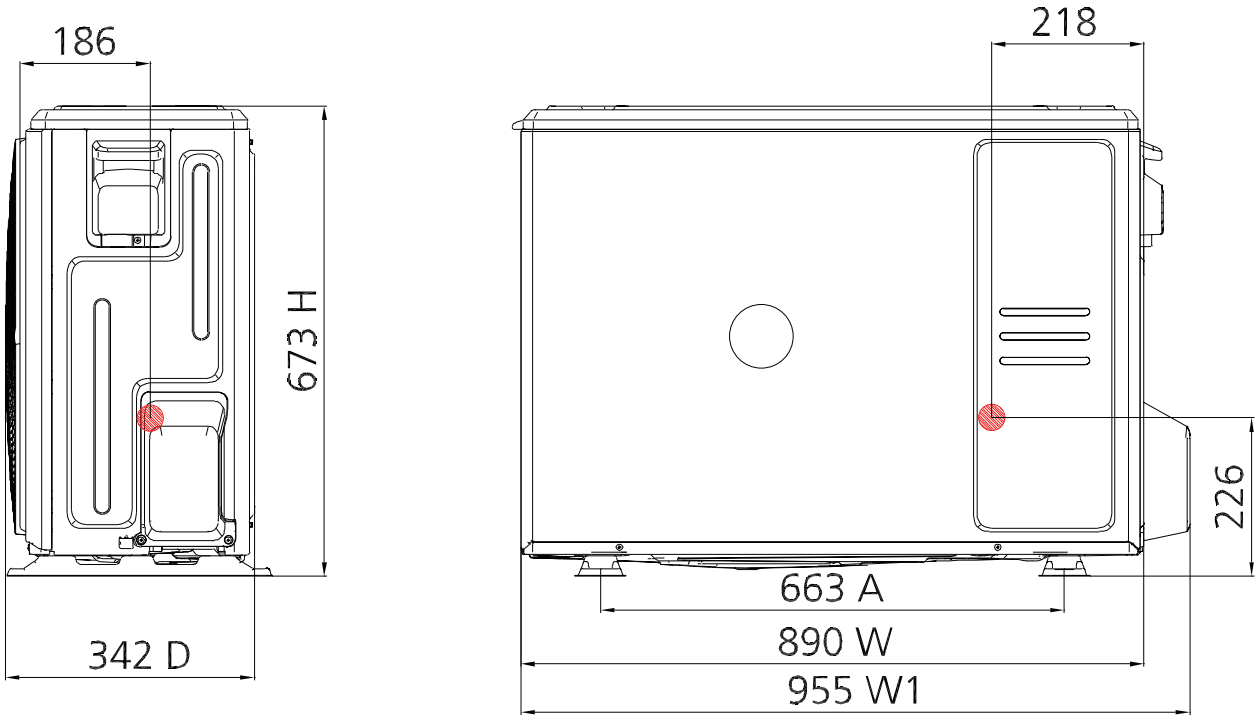


EXH-09RE2-O , EXH-12RE2-O

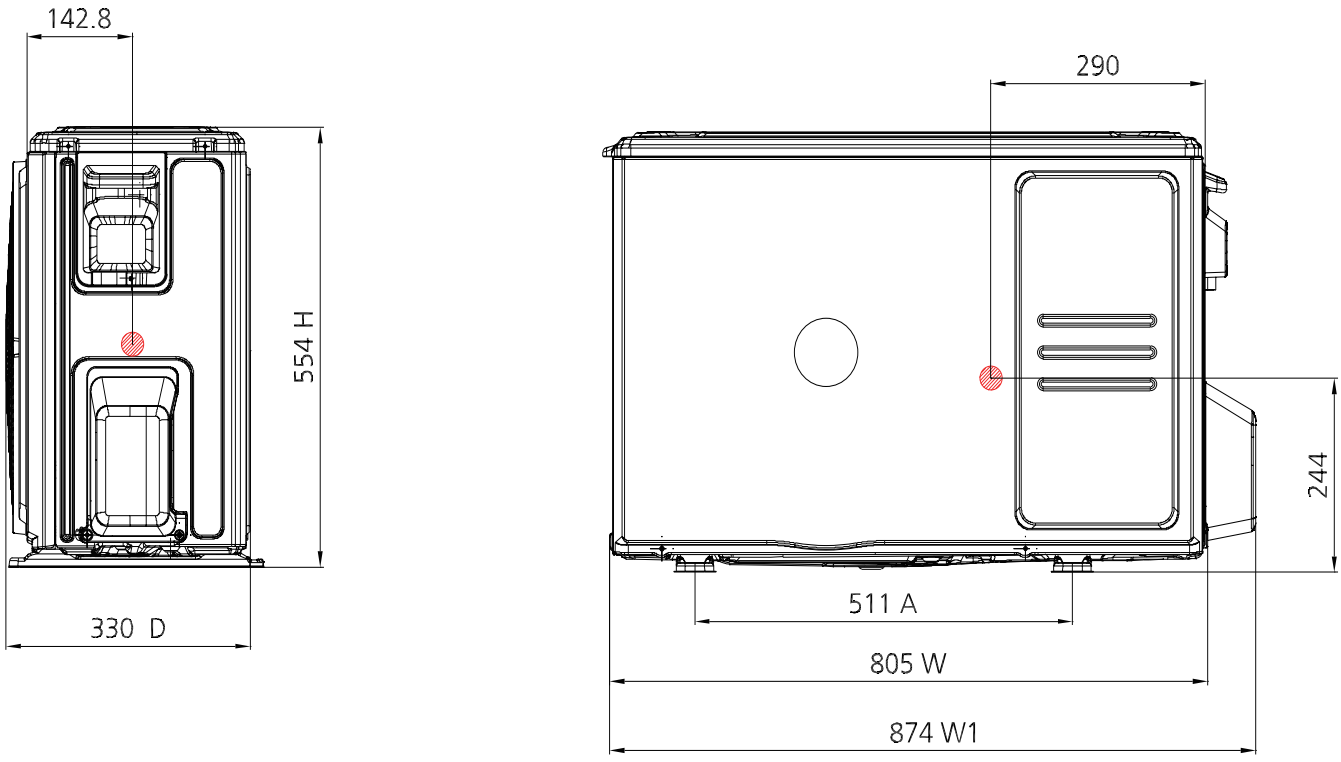


4.2 Centre of gravity

EXH-09RE1N-O, EXH-12RE1N-O



EXH-09RE2-O , EXH-12RE2-O

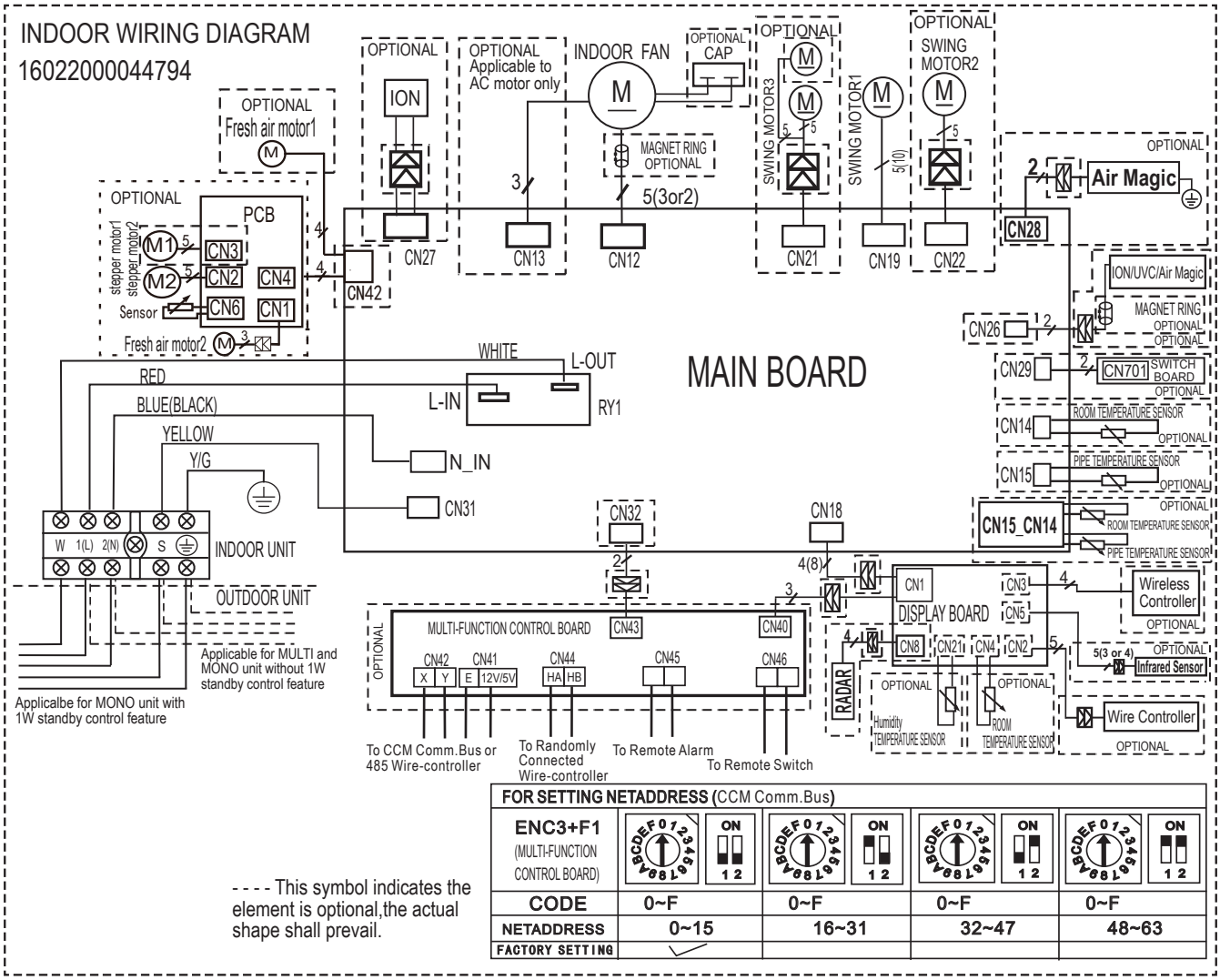


5. Electrical Wiring Diagrams

5.1 Indoor unit

Abbreviation	Paraphrase
Y/G	Yellow-Green Conductor
ION	Positive and Negative Ion Generator
CAP	Capacitor
PLASMA	Electronic Dust Collector
L	LIVE
N	NEUTRAL

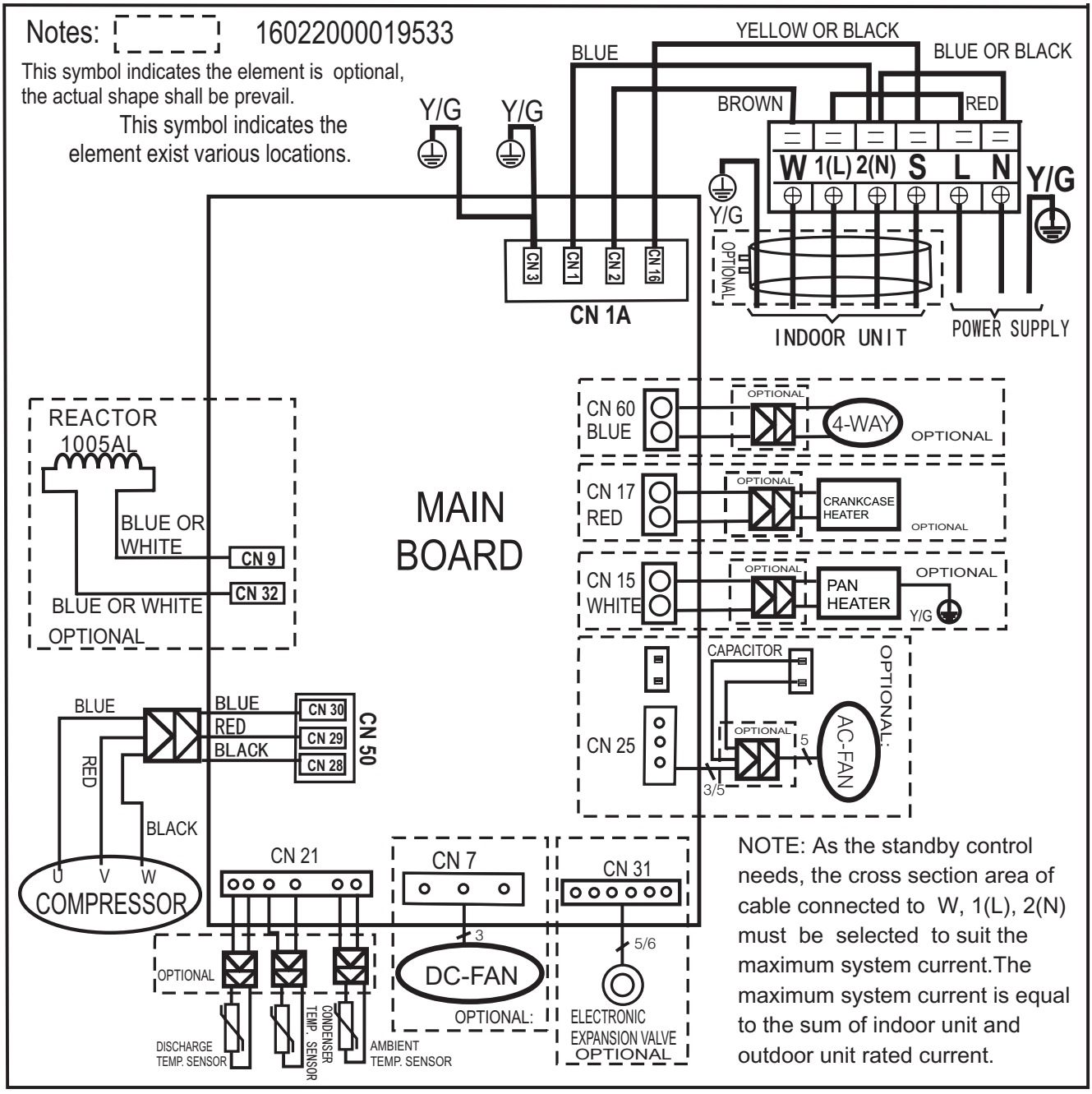
EX-09RE1N-I, EX-12RE1N-I



5.2 Outdoor Unit

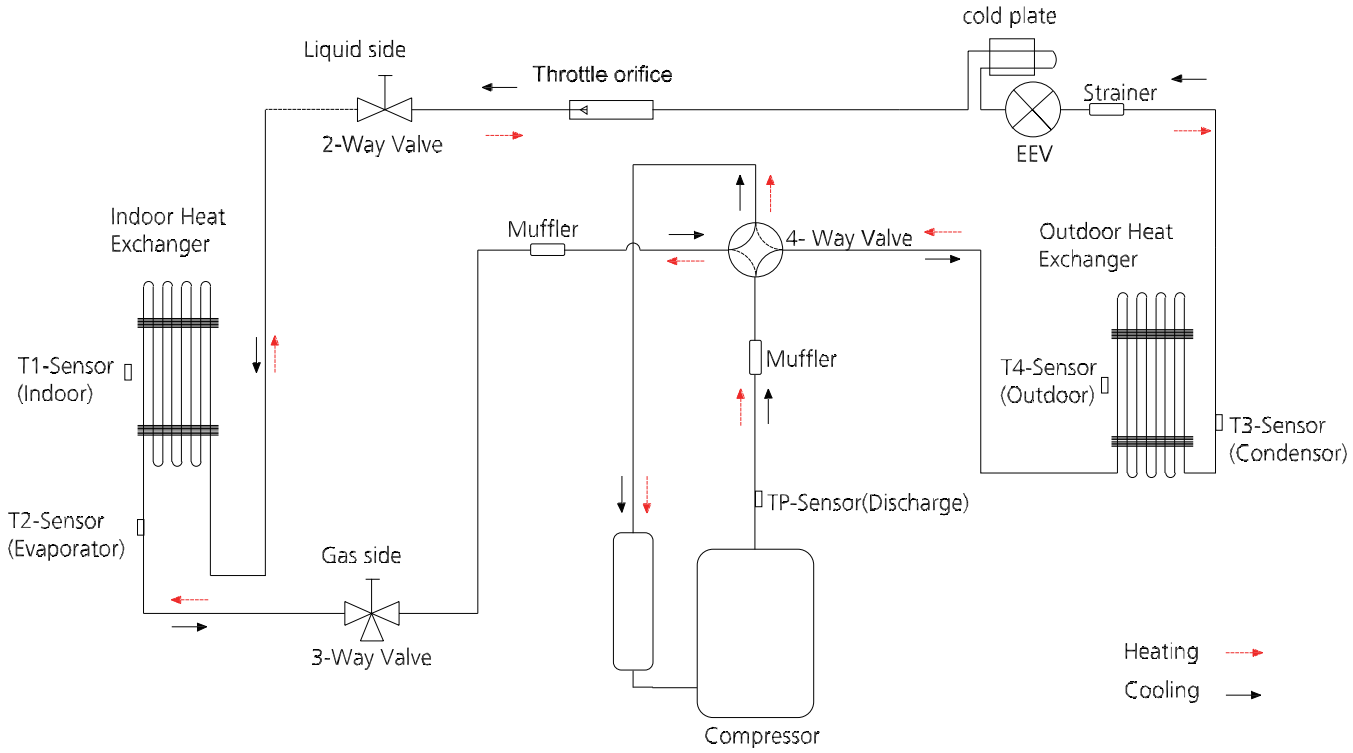
Abbreviation	Paraphrase
4-WAY	Gas Valve Assembly/4-WAY VALVE
AC-FAN	Alternating Current FAN
DC-FAN	Direct Current FAN
COMP	Compressor

EEXH-09RE1N-O, EXH-09RE2-O, EXH-12RE1N-O, EXH-12RE2-O

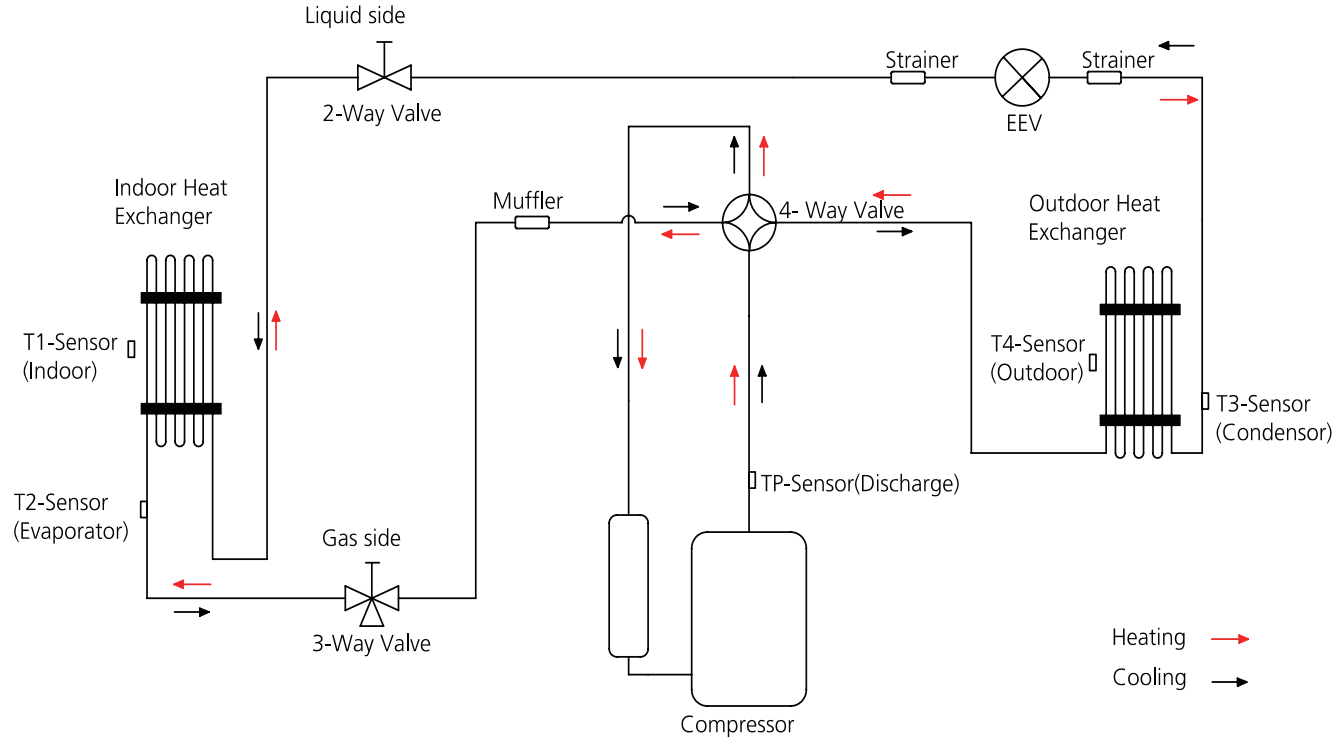


6. Refrigerant Cycle Diagrams

EXH-09RE1N-O, EXH-12RE1N-O

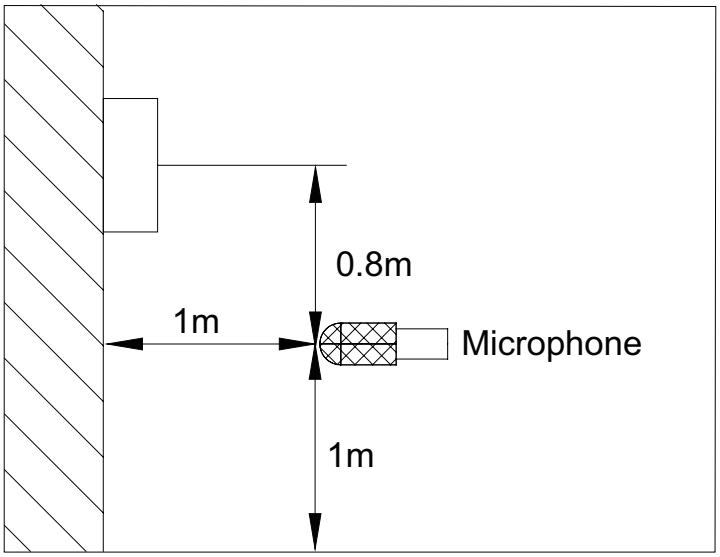


EXH-09RE2-O, EXH-12RE2-O



7. Noise Criterion Curves

7.1 Indoor Unit



Notes:

-Sound measured at 1.0m away from the center of the unit.

-Data is valid at nominal operation condition

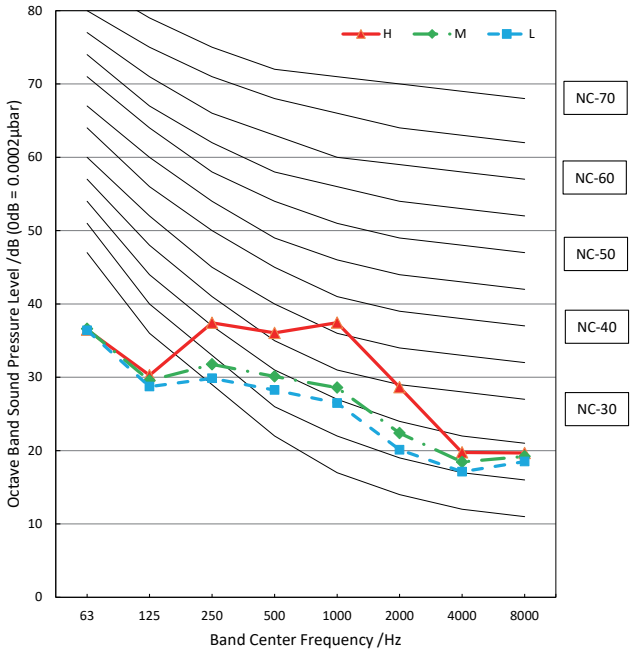
-Reference acoustic pressure OdB = 20μPa

-Sound level will vary depending on a range of factors such as the construction -(acoustic absorption coefficient) of particular room in which the equipment is installed.

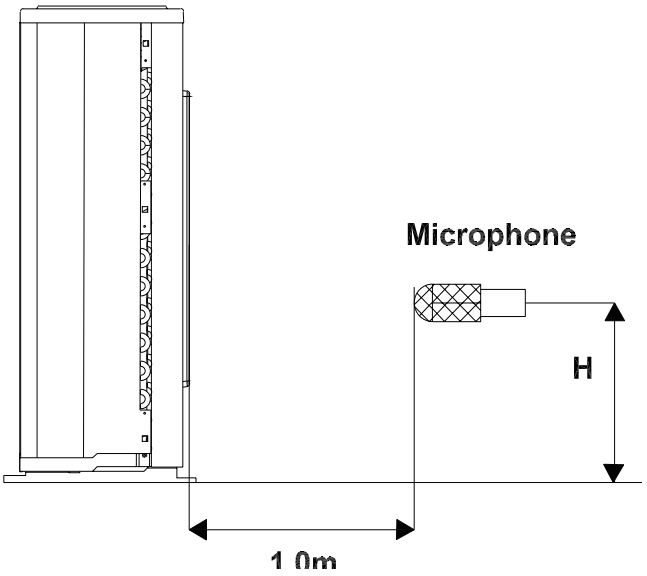
-The operating conditions are assumed to be standard.

EX-09RE1N-I

EX-12RE1N-I



7.2 Outdoor Unit



Note: H= 0.5 × height of outdoor unit

Notes:

-Sound measured at 1.0m away from the center of the unit.

-Data is valid at free field condition

-Data is valid at nominal operation condition

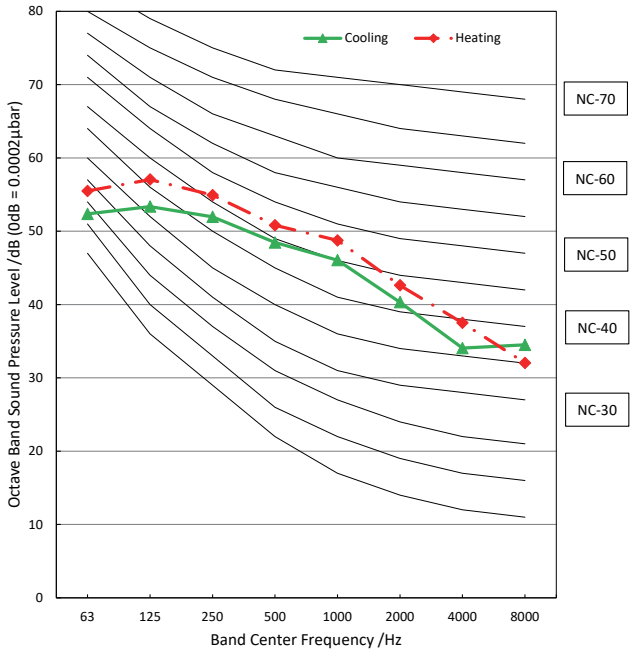
-Reference acoustic pressure OdB=20μPa

-Sound level will vary depending on arrange off actors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

-The operating conditions are assumed to be standard.

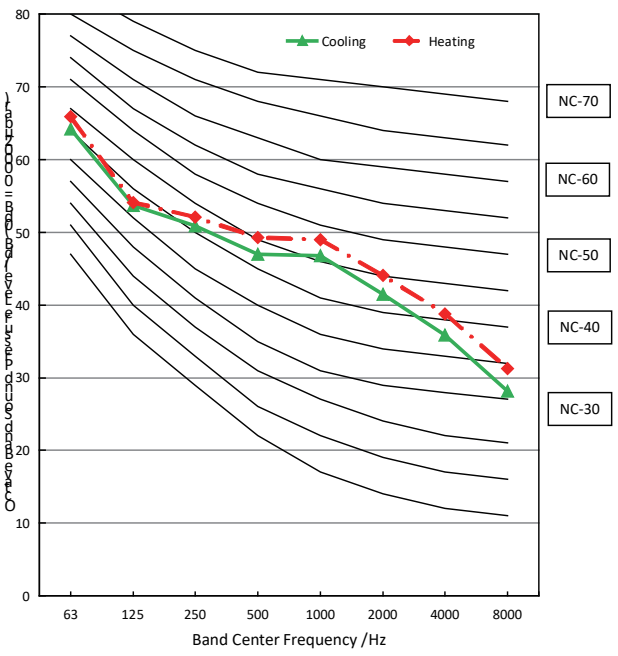
EXH-09RE1N-O

EXH-12RE1N-O



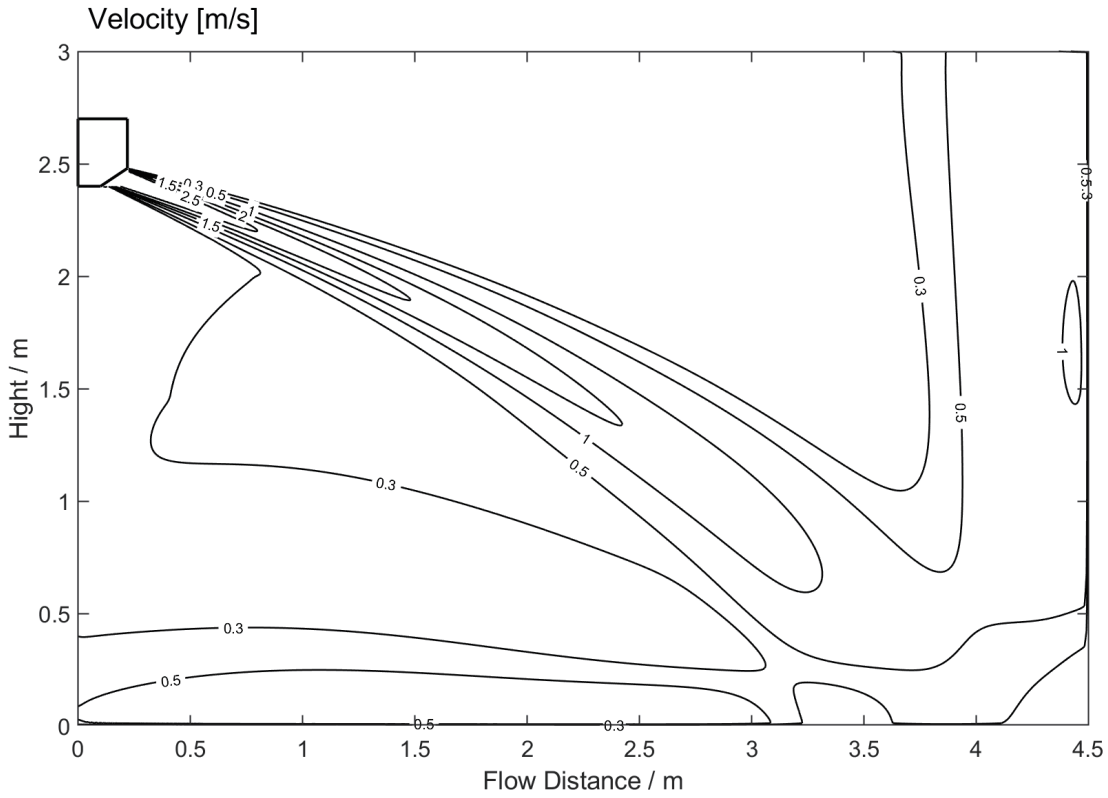
EXH-09RE2-O

EXH-12RE2-O

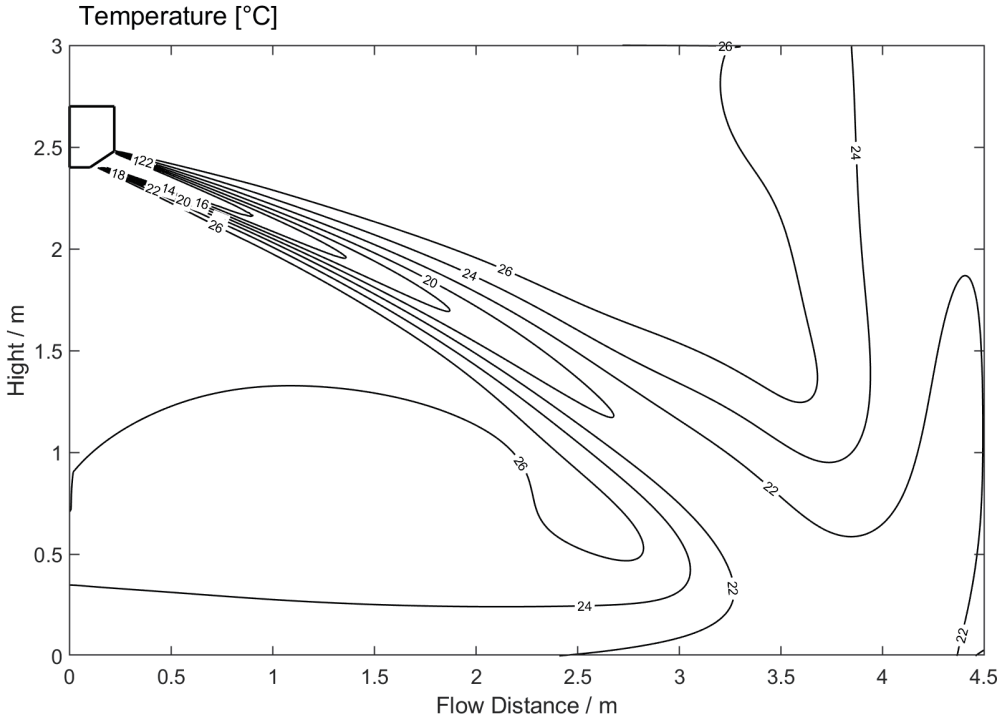


8. Air Velocity and Temperature Distributions

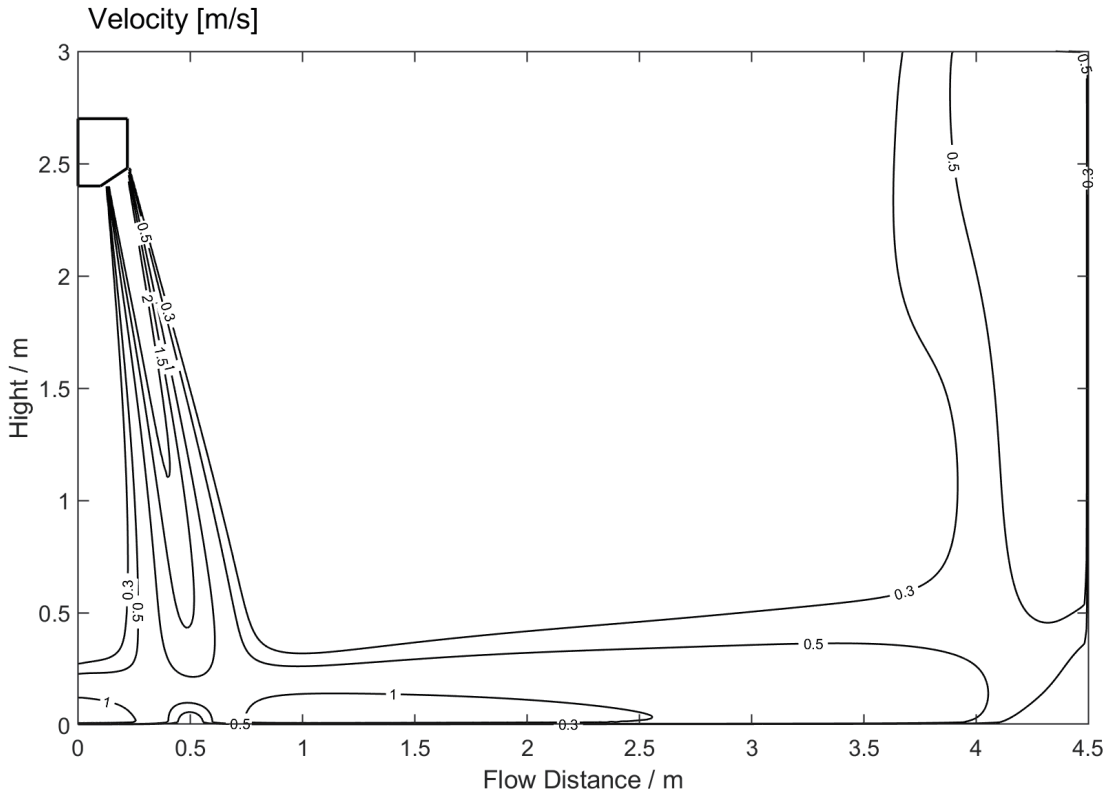
9k-Cooling(ID: 27°C/80.6°F, OD: 35°C/95°F)
Discharge Angle 20°
Airflow velocity distributions



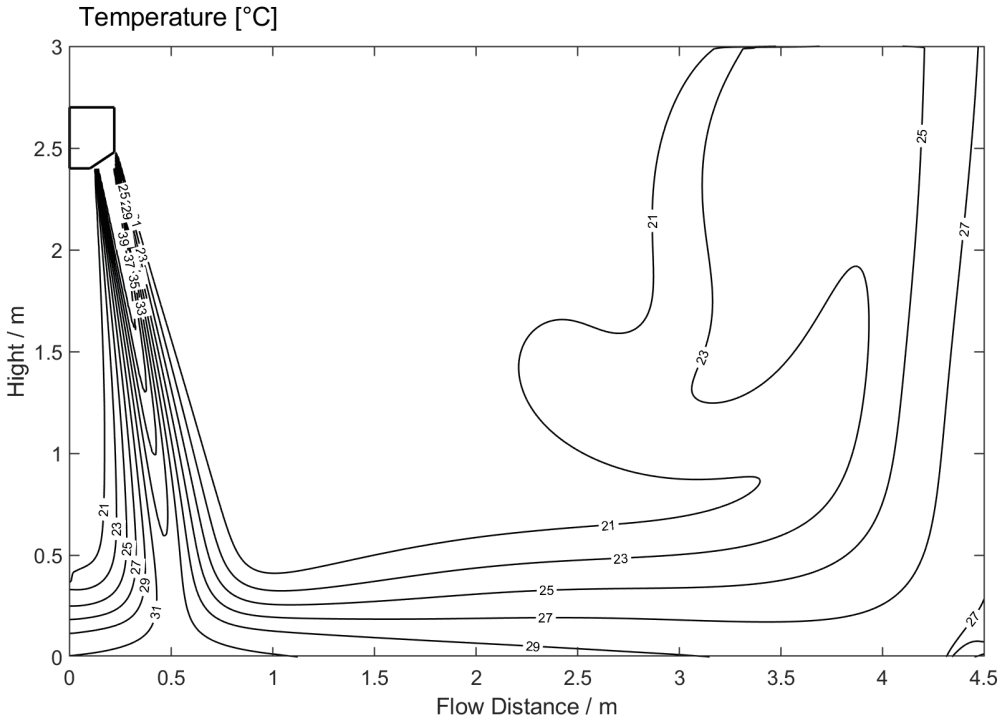
Temperature distributions



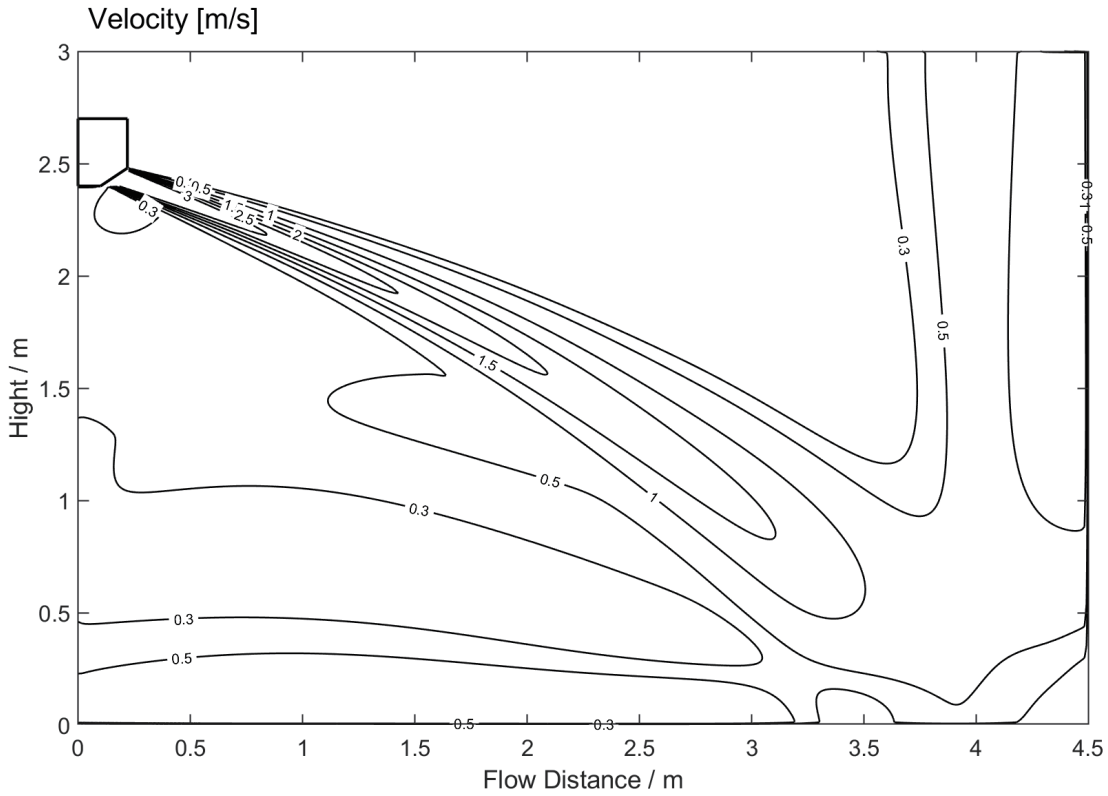
9k-Heating(ID: 20°C/68°F, OD: 7°C/44.6°F)
Discharge Angle 78°
Airflow velocity distributions



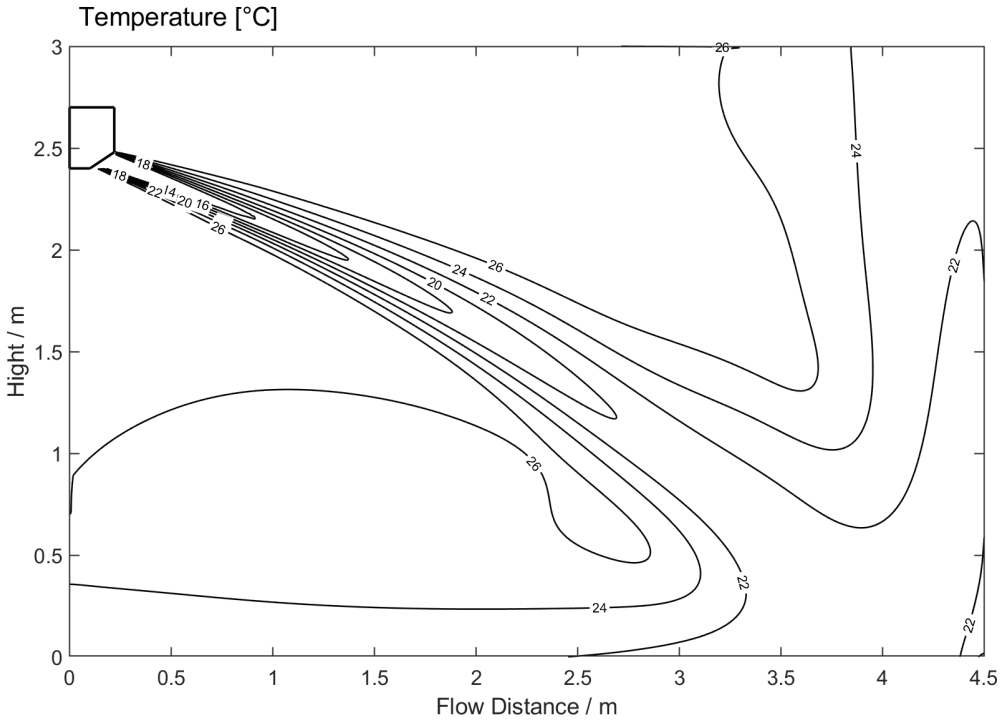
Temperature distributions



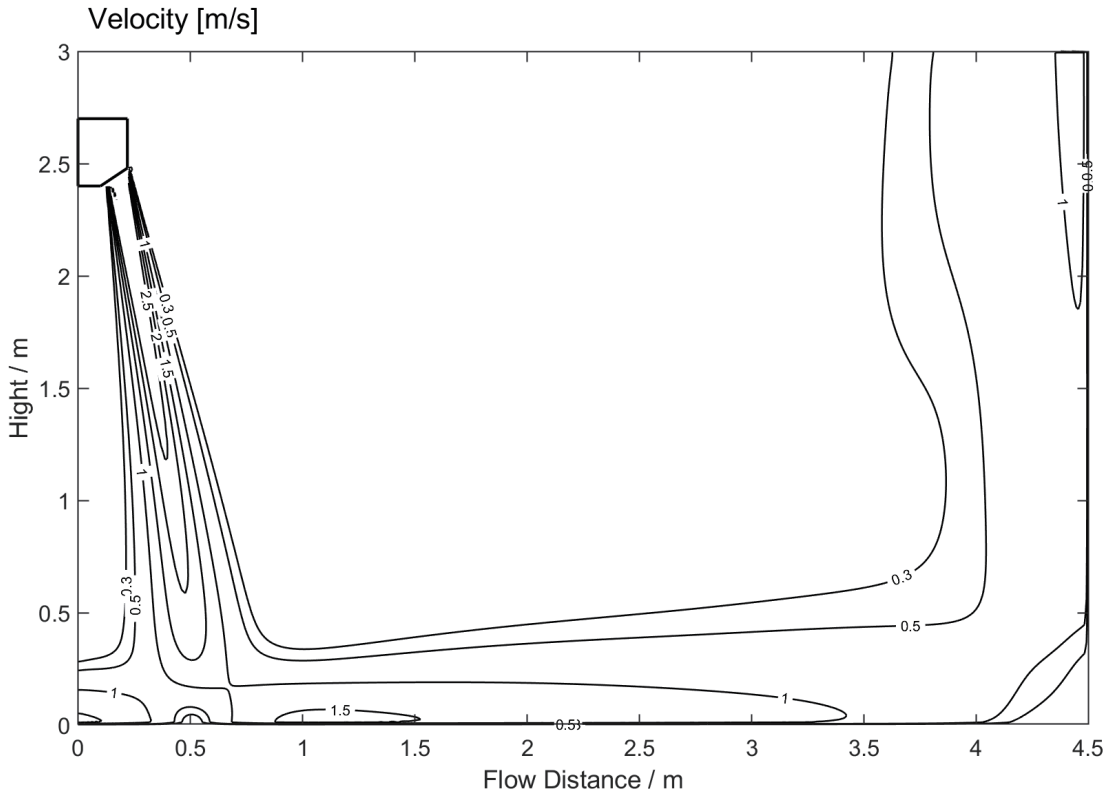
12k-Cooling(ID: 27°C/80.6°F, OD: 35°C/95°F)
Discharge Angle 20°
Airflow velocity distributions



Temperature distributions



12k-Heating(ID: 20°C/68°F, OD: 7°C/44.6°F)
Discharge Angle 78°
Airflow velocity distributions



Temperature distributions

