

ComfortStar®

Air Conditioning and Heating

SPECIFICATION sheet

MAH



Split System Air Conditioner

Standard features:

- R410a system
- High efficiency compressor
- Compact design for easy installation and transportation
- Ultra quiet
- Factory installed liquid line filter drier
- Pre-charged R410a good for 25' of lineset
- Brass liquid and suction service valves with sweat connections
- Contactor with lug connections
- Ground lug connection
- Terminal block provided for low voltage connections
- Copper Tube-Aluminum Fin Coil used on all models
- ARI certified
- ETL listed

Cabinet features:

- Heavy gauge galvanized steel with gray powder paint finish
- Fully louvered removable coil guard to protect condenser surface
- Easy access to service valves and electrical connections
- Easy access to fan motor without disconnecting wires

13 SEER
High Efficiency
R410a



MAH



7 Models

MAH18-410

MAH24-410

MAH30-410

MAH36-410

MAH42-410

MAH48-410

MAH60-410

13 SEER

High Efficiency

R410a

General Terms of Limited Warranty

ComfortStar USA warrants that our products conform to the manufacturer specifications and will be free of defects in material and workmanship under normal use and maintenance.

For complete details of the limited warranty, including applicable terms and conditions, see your local distributor or contact the manufacturer for a copy.



Model Number Identification

MAH

13 SEER
series air
conditioner

18

capacity
18,000 (Btu/h)

410

R410a

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all federal, state, provincial, and local codes, regulations and practices.

Condensing Unit Refrigerant Line Set Information

Suction line Sizing

Unit Size		1 1/2 Ton	2 Ton	2 1/2 Ton	3 Ton	3 1/2 Ton	4 Ton	5 Ton
Suction Line Connection Size	standard	3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.	3/4" I.D.	7/8" I.D.	7/8" I.D.
Suction Line Run - Feet	optional	5/8"	5/8"	5/8"	5/8"	5/8"	3/4"	1 1/8"
		Capacity Factor						
25'	standard	1.00	1.00	1.00	1.00	1.00	1.00	0.99
	optional	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50'	standard	0.98	0.98	0.98	0.99	0.98	0.98	0.98
	optional	0.97	0.97	0.97	0.97	0.98	0.98	0.99
100'	standard	0.95	0.95	0.96	0.97	0.97	0.97	0.94
	optional	0.94	0.94	0.94	0.94	0.95	0.95	0.98
150'	standard	0.92	0.92	0.93	0.96	0.96	0.96	0.90
	optional	0.90	0.90	0.90	0.90	0.91	0.92	0.97

Notes: * Standard size
Using suction line larger than shown in chart will result in poor oil return and is not recommended.

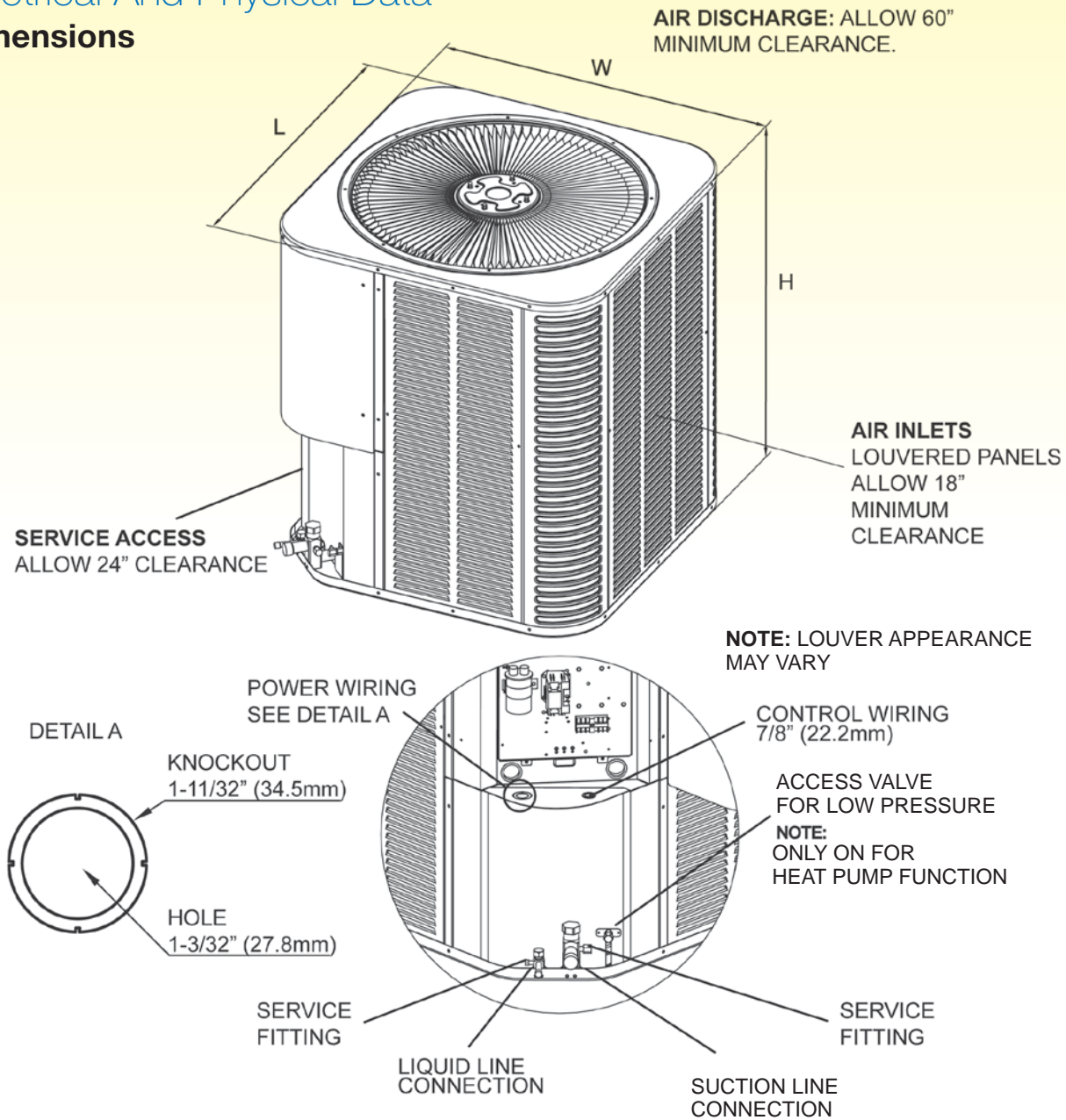
Liquid line Sizing

System Capacity	Liquid Line Connection Size (inch I.D.)	Compressor Type	Line Size Connection and Line Size (inch I.D.)	Liquid Line Size Outdoor Unit above or below indoor coil					
				Total Equivalent Length - Feet					
				25	50	75	100	125	150
				Maximum Vertical Separation - Feet					
1 1/2 Ton	3/8"	Rotary	3/8*	25	30	30	27	24	20
2 Ton	3/8"	Rotary	3/8*	25	30	30	24	20	15
2 1/2 Ton	3/8"	Rotary	3/8*	25	30	30	22	17	10
3 Ton	3/8"	Scroll	5/16	25	50	37	22	7	N/a
			3/8*	25	50	68	63	58	53
3 1/2 Ton	3/8"	Scroll	5/16	25	23	4	N/A	N/A	N/A
			3/8*	25	50	43	36	30	24
4 Ton	3/8"	Scroll	3/8*	25	46	38	30	22	15
			1/2	25	50	56	55	53	52
5 Ton	3/8"	Scroll	3/8*	25	50	56	44	32	20
			1/2	25	50	75	81	79	76

Notes: * Standard size
N/A Application not recommended

Electrical And Physical Data

Dimensions



Dimensional Data

Unit Model (Btu/h)	Dimensions (inches)			Refrigerant Connection Service Valve Size	
	"H" in (mm)	"W" in (mm)	"L" in (mm)	Liquid	Suction
1 1/2 Ton (Cooling Unit)	24-15/16 (633)	21-7/8 (554)	21-7/8 (554)	3/8	3/4
1 1/2 Ton (Heat Pump Unit)	24-15/16 (633)	23-5/8 (600)	23-5/8 (600)	3/8	3/4
2 Ton	24-15/16 (633)	23-5/8 (600)	23-5/8 (600)	3/8	3/4
2 1/2 Ton	24-15/16 (633)	28 (710)	28 (710)	3/8	3/4
3 Ton	24-15/16 (633)	29-1/8 (740)	29-1/8 (740)	3/8	3/4
3 1/2 Ton	29-7/8 (759)	28 (710)	28 (710)	3/8	3/4
4 Ton	33-3/16 (843)	28 (710)	28 (710)	3/8	7/8
5 Ton	33-3/16 (843)	29-1/8 (740)	29-1/8 (740)	3/8	7/8

Specifications

Model			MAH18-410	MAH24-410	MAH30-410	MAH36-410	MAH42-410	MAH48-410	MAH60-410
Power supply		V-Ph-Hz	208/230V-1Ph-60Hz	208/230V-1Ph-60Hz	208/230V-1Ph-60Hz	208/230V-1Ph-60Hz	208/230V-1Ph-60Hz	208/230V-1Ph-60Hz	208/230V-1Ph-60Hz
Cooling	Capacity	Btu/h	17500	23000	30000	35000	42000	48000	57000
	SEER	Btu/h.W	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Compressor	Model		PA150X 2CS-3KUU	PA200X 2CS-3MUU	PA270X 3CS-3MUU	ZP31K 5E-PFV-130	ZP36K 5E-PFV-130	ZP42K 5E-PFV-130	ZP51K 5E-PFV-130
	Type		Rotary	Rotary	Rotary	Scroll	Scroll	Scroll	Scroll
	Brand		Panasonic/ Toshiba	Panasonic/ Toshiba	Panasonic/ Toshiba	Copeland	Copeland	Copeland	Copeland
	Rated current (RLA)	A	6.65	8.75	12	13.5	16.3	18.4	21.8
	Locked rotor Amp (LRA)	A	32.6	34.8	59.93	79	112	117	134
	Capacitor	uF	40	50	55	45	45	70	70
Outdoor Fan Motor	Type		PSC motor	PSC motor	PSC motor	PSC motor	PSC motor	PSC motor	PSC motor
	Horsepower	HP	1/12	1/12	1/6	1/6	1/3	1/3	1/3
	Rated current	A	0.5	0.5	1	1	1.7	1.7	1.7
	Capacitor	uF	6	6	6	6	15	15	15
	Speed	RPM	1075	1075	825	825	1075	1075	1075
Outdoor Fan Blade	Type		Axial flow fan	Axial flow fan	Axial flow fan	Axial flow fan	Axial flow fan	Axial flow fan	Axial flow fan
	Diameter	inch	17-3/4	18-7/8	23	23-5/8	23	23	23-5/8
Outdoor air flow		CFM	1600	1600	3100	3300	4300	4300	4500
Outdoor sound level		dB(A)	57	57	60	60	65	67	66
Dimensions	Body (WxHxD)	inch	21-7/8"× 24-15/16"× 21-7/8"	23-5/8"× 24-15/16"× 23-5/8"	28"× 24-15/16"× 28"	29-1/8"× 24-15/16"× 29-1/8"	28"× 29-7/8"× 28"	28"× 33-3/16"× 28"	29-1/8"× 33-3/16"× 29-1/8"
	Packing (WxHxD)	inch	22-7/8"× 26-1/4"× 22-7/8"	24-3/4"× 26-1/4"× 24-3/4"	29"× 26-1/4"× 29"	30-1/4"× 26-1/4"× 30-1/4"	29"× 31-1/4"× 29"	29"× 34-1/2"× 29"	30-1/4"× 34-1/2"× 30-1/4"
	Net/Gross	lbs	119/130	128/139	156/169	161/174	191/207	200/216	213/229
Charged refrigerant type		Ozs	R410a/97	R410a/102	R410a/119	R410a/116	R410a/143	R410a/143	R410a/164
Refrigerant piping	Liquid/Suction	inch	3/8 / 3/4	3/8 / 3/4	3/8 / 3/4	3/8 / 3/4	3/8 / 3/4	3/8 / 7/8	3/8 / 7/8
	Max. refrigerant pipe length	ft	150	150	150	150	150	150	150
	Max. elevation between outdoor unit and indoor unit	ft	33	33	33	50	50	50	50
	Shipped with orifice size		0.054	0.061	0.065	0.073	0.077	0.105	0.097
MCA		A	8.9	11.5	16	18	22.1	24.7	29.1
MOP		A	15	20	30	30	40	40	50
Min/Max Volts		V	197/253	197/253	197/253	197/253	197/253	197/253	197/253
Electrical Conduit Size		inch	1/2"/3/4"/1"	1/2"/3/4"/1"	1/2"/3/4"/1"	1/2"/3/4"/1"	1/2"/3/4"/1"	1/2"/3/4"/1"	1/2"/3/4"/1"

Wire size should be determined in accordance with National Electrical Code
Must use time-delay fuses or HACR type circuit breaker

Outdoor Condenser Units

Outdoor Condenser	Indoor Coil or Air Handler	Cooling Capacity	SEER	EER
MAH-18-410	HD2-18	17500	13	10.95
	(U)AC1818A	17300	13	11.5
	(U)AC1818B	17800	13	11.9
MAH-24-410	HD2-24	23000	13	10.95
	(U)AC1824A	21700	13	11.2
	(U)AC1824B	22300	13	11.5
MAH-30-410	HD2-30	30000	13	11.2
	(U)AC2430A	27200	13	11
	(U)AC2430B	27600	13	11.8
MAH-36-410	HD2-36	35000	13	11.4
	(U)AC3036A	33200	13	11.3
	(U)AC3036B	33900	13	11.6
	(U)AC3036C	34800	13	12
MAH-42-410	HD2-42	42000	13	11.8
	(U)AC3642B	39300	13	11.2
	(U)AC3642C	40400	13	11.4
	(U)AC3642D	40000	13	11.4
MAH-48-410	HD2-48	48000	13	11.25
	(U)AC4248B	48200	13	11.5
	(U)AC4248C	48300	13	11.7
	(U)AC4248D	48300	13	11.8
MAH-60-410	HD2-60	57000	13	11
	(U)AC4860C	54300	13	10.7
	(U)AC4860D	54900	13	10.9



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Field Installed Optional Accessories

Thermostats:



CP series:

Horizontal non-programmable or programmable thermostat



CVT series:

Vertical non-programmable thermostat



CDT series:

Touch Screen programmable thermostat