MAINLINE®
Reliably Comfortable.™

Elite® iM Air Conditioners

MLA16AY

Cooling Efficiencies up to: 17 SEER2 / 12.0 EER2
Nominal Sizes: 2 to 5 Tons [7.0 to 17.6 kW]
Cooling Capacities: 22.8 kBTU to 56.0 kBTU [7.0 to 16.4 kW]
Refrigerant Type: R-454B

Manufactured for
Mainline®
HVACmainline.com

ISO 9001:2015

AHRI CERTIFIED www.ahridirectory.org Unitary Small AC AHRI Standard 210/240

c UL us LISTED

ENERGY STAR[1]

[1]Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet ENERGY STAR®. Ask your Contractor for details or visit www.energystar.gov.

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Features and Benefits

- **Swept Wing Fan Technology:** Features quieter operation and improved unit acoustics
- **7mm Condenser Copper Coil:** Requires less refrigerant allowing for a smaller and lighter footprint while enhancing reliability
- **Two-Stage Scroll Compressor:** Features two speeds (high and low) of cooling and heating, providing more precise temperature control, lower humidity and greater efficiency when compared to single-stage compressors
- **Expanded Valve Space:** 3 in. – 4 in. – 5 in. service valve space—provides a minimum working area of 27-square inches for easier access
- **Triple Service Access:** 15 in. wide, industry leading access, makes repairs faster and easier
- **Designing for Sustainability with Low GWP:** For 2025, the Environmental Protection Agency (EPA) has set a global warming potential (GWP) limit of 700 for refrigerant used in heating and cooling systems. This new requirement will result a 78%[1] lower GWP than previous-generation refrigerants—with only minimal changes to system installation. For us, this is another step toward our continued sustainability goal of reducing greenhouse gas emissions, while still delivering an exceptional level of energy efficient, dependable comfort
- **Refrigerant Detection System[2]:** An integrated one-box, patented design featuring the A2L sensor and mitigation board, offering easier commissioning with a single component and simplified wiring configuration, compatibility with any 24V thermostat application and system protection by automatically pausing outdoor unit operation—if excess refrigerant is detected

[1]When comparing the GWP of R-454B to R-410A refrigerant. [2]Factory or field installed in the furnace coil or air handler and is applicable to the complete heating and cooling system featuring Low GWP Refrigerant (A2L).

Model Number Identification
MLA16AY

Air Conditioners

ML	A	16	A	Y	24	A	J	2	N	A
Brand	**Product Category**	**SEER2**	**Region**	**Refrigerant**	**Capacity BTU/HR**	**Major Series**	**Voltage**	**Type**	**Controls**	**Minor Series**
ML - Mainline	A - Air Conditioners	16 - 16 SEER2	A - All	Y - R-454B	24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	A - 1st Design	J - 1ph, 208-230/60	2 - Two-Stage	N - Non-Communicating	A - 1st Design

[ ] Designates Metric Conversions

AVAILABLE MODELS	DESCRIPTION
MLA16AY24AJ2NA	Elite® 2 ton 16 SEER2 2-Stage Air Conditioner – 208/230/1/60
MLA16AY36AJ2NA	Elite® 3 ton 16 SEER2 2-Stage Air Conditioner – 208/230/1/60
MLA16AY48AJ2NA	Elite® 4 ton 16 SEER2 2-Stage Air Conditioner – 208/230/1/60
MLA16AY60AJ2NA	Elite® 5 ton 16 SEER2 2-Stage Air Conditioner – 208/230/1/60

STANDARD EQUIPMENT
R-454B Refrigerant
Scroll Compressor
Field Installed Filter Drier
Front Seating Service Valves
Internal Pressure Relief Valve
Internal Thermal Overload
Long Line capability
High Pressure Control
Low Pressure Control
Low Ambient capability with Kit
3-4-5 Expanded Valve Space
Composite Basepan
2 Screw Control Box Access
Quick release louver panel design
No fasteners to remove along bottom
Optimized Venturi Airflow
Powder coated paint
Rust resistant screws
QR code
External gauge ports
Service trays

General Data

MODEL NO.	MLA16AY24	MLA16AY36	MLA16AY48	MLA16AY60
Nominal Tonnage	2.0	3.0	4.0	5.0
Valve Connections				
Liquid Line O.D. – in.	3/8	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	7/8	7/8
Refrigerant (R-454B) furnished oz.[1]	103	109	133	189
Compressor Type	2-Stage Scroll			
Outdoor Coil				
Net face area – Outer Coil	13.3	16.4	19.5	27.9
Net face area – Inner Coil	12.9	15.9	18.8	27.1
Tube diameter – in.	0.276	0.276	0.276	0.276
Number of rows	2	2	2	2
Fins per inch	24	24	24	24
Outdoor Fan				
Diameter – in.	24	24	24	26
Number of blades	2	2	3	3
Motor hp	1/6	1/6	1/5	1/5
CFM	2723	3010	3606	4169
RPM	825	825	850	850
Watts	161	174	251	245
Shipping weight – lbs.	190	215	255	285
Operating weight – lbs.	184	208	248	277

Electrical Data

Line Voltage Data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
Maximum overcurrent protection (amps)[2]	25	30	40	50
Minimum circuit ampacity[3]	16	20	26	29
Compressor				
Rated load amps	12	15	19	22
Locked rotor amps	65	90	138	149
Condenser Fan Motor				
Full load amps	0.8	0.8	1.0	1.0
Locked rotor amps	1.7	1.7	2.6	2.6

[1]Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required.
[2]HACR type circuit breaker of fuse.
[3]Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.

Accessories

MODEL NO.		MLA16AY24	MLA16AY36	MLA16AY48	MLA16AY60
Compressor crankcase heater (with temperature thermostat)		44-101884-08	44-101884-08	44-103663-16	Factory Standard
Compressor crankcase heater (without temperature thermostat)		44-17402-44	44-17402-44	44-17402-45	44-17402-45
Low ambient control		RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08
Compressor sound cover		68-23427-26	68-23427-26	68-23427-25	68-23427-25
Low pressure control		Factory Standard	Factory Standard	Factory Standard	Factory Standard
High pressure control		Factory Standard	Factory Standard	Factory Standard	Factory Standard
Compressor hard start kit		SK-A1	SK-A1	SK-A1	SK-A1
Compressor time delay		RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V

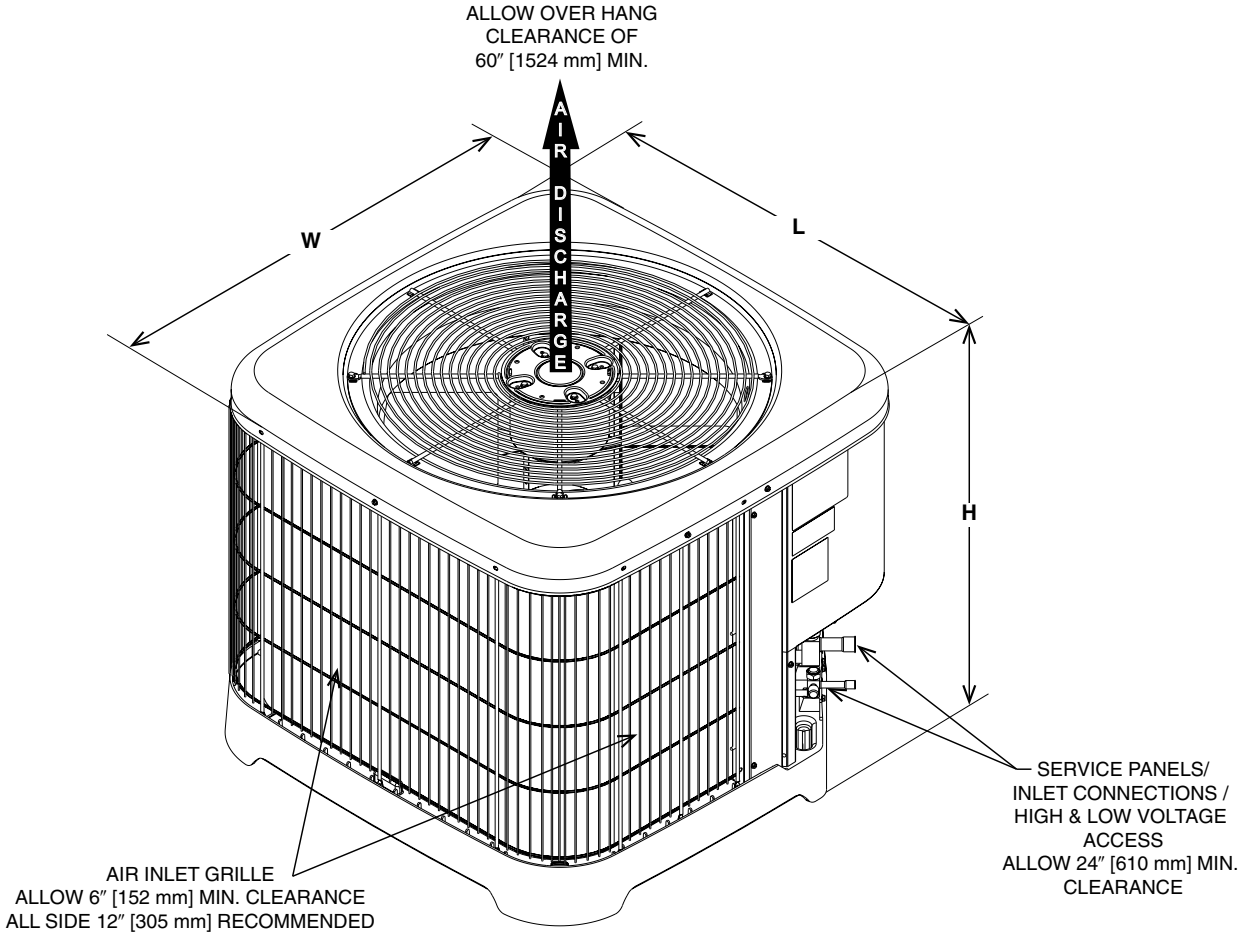
Weighted Sound Power Level (dBA)

UNIT SIZE - VOLTAGE, SERIES	STANDARD RATING (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA WITHOUT TONE ADJUSTMENT)						
		125	250	500	1000	2000	4000	8000
MLA16AY24	74.1	69.8	69.6	65.6	66.9	60.2	54.3	49.8
MLA16AY36	71.9	68.6	64.1	62.7	62.5	57.0	59.9	54.8
MLA16AY48	73.2	65.3	64.3	65.7	59.3	59.3	59.9	57.7
MLA16AY60	74.0	68.5	70.4	67.0	65.2	59.3	56.2	49.3

NOTE: Tested in accordance with AHRI Standard 270-08 (not listed in AHRI)

Unit Dimensions

MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
MLA16AY24	25.00	635	33.75	857	33.75	857	26.50	673	36.38	924	36.38	924
MLA16AY36	31.00	787	33.75	857	33.75	857	32.50	826	36.38	924	36.38	924
MLA16AY48	35.00	889	33.75	857	33.75	857	36.50	927	36.38	924	36.38	924
MLA16AY60	45.00	1143	35.75	908	35.75	908	46.50	1181	38.38	975	38.38	975



[ ] Designates Metric Conversions

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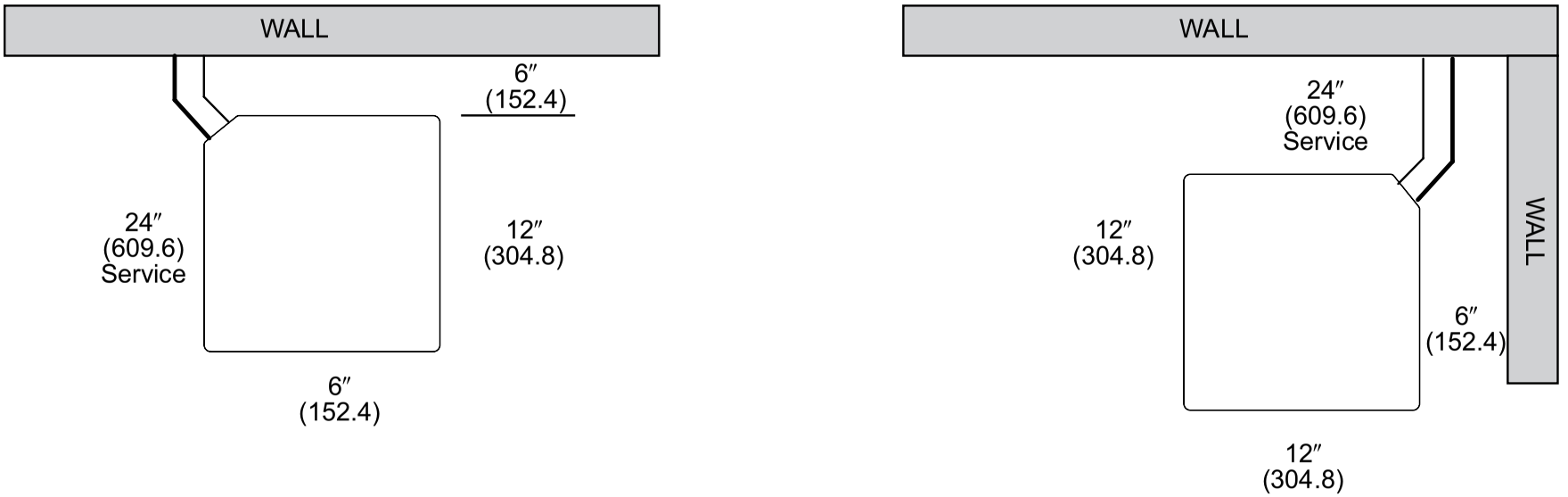
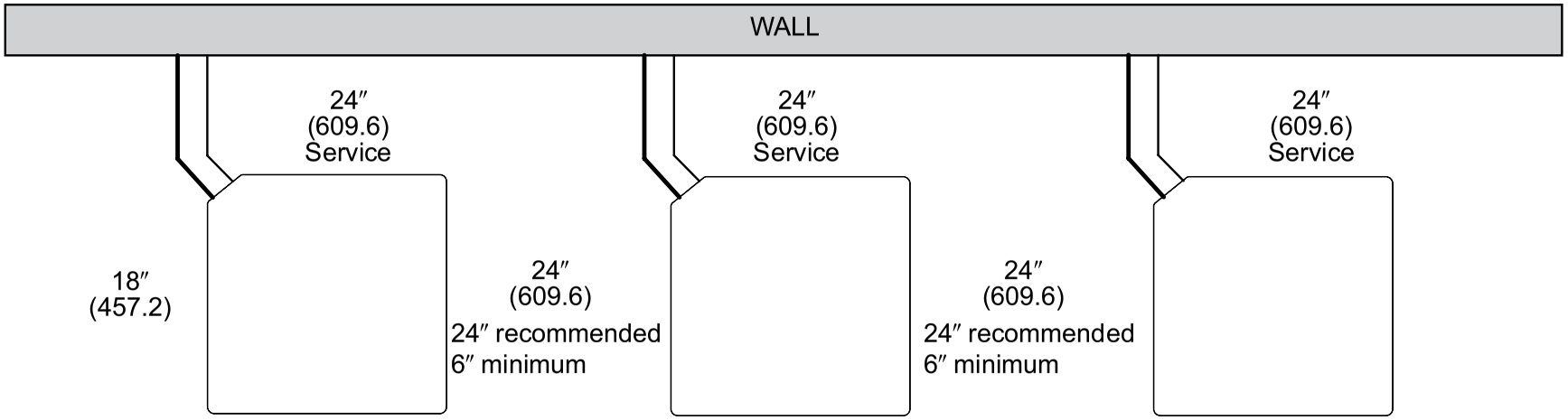
CLEARANCES





NOTE: NUMBERS IN () = mm

IMPORTANT: When installing multiple units in an alcove, roof well or partially enclosed area, ensure there is adequate ventillation to prevent re-circulation of discharge air.

Refrigerant Line Size Information

16 SEER2 2-STAGE AC R-454B											
UNIT SIZE	ALLOWABLE LIQUID LINE SIZE	ALLOWABLE SUCTION LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH (FEET)									
			0-25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	226-250
			MAXIMUM VERTICAL SEPARATION / CAPACITY MULTIPLIER									
2.0 Ton **SEE NOTE 3	1/4"	5/8"	25/1	50/0.99	33/0.98	3/0.98	0/0.97	0/0.96	0/0.95	0/0.95	0/0.94	0/0.94
	5/16"	5/8"	25/1	50/0.99	75/0.98	91/0.98	82/0.97	73/0.96	65/0.95	56/0.95	48/0.94	42/0.94
	3/8"	5/8"	25/1	50/0.99	75/0.98	100/0.98	110/0.97	107/0.96	104/0.95	101/0.95	98/0.94	95/0.94
	1/4"	3/4"	25/1	50/1	33/0.99	3/0.99	0/0.99	0/0.99	0/0.98	0/0.98	0/0.98	0/0.98
	5/16"	3/4"	25/1	50/1	75/0.99	91/0.99	82/0.99	73/0.99	65/0.98	56/0.98	48/0.98	42/0.98
	3/8"	3/4"	25/1	50/1	75/0.99	100/0.99	110/0.99	107/0.99	104/0.98	101/0.98	98/0.98	95/0.98
3 Ton	5/16"	5/8"	25/1	50/0.98	71/0.97	53/0.95	35/0.93	17/0.92	0/0.9	0/0.89	0/0.87	0/0.87
	3/8"	5/8"	25/1	50/0.98	75/0.97	100/0.95	94/0.93	87/0.92	81/0.9	75/0.89	68/0.87	62/0.87
	5/16"	3/4"	25/1	50/0.99	71/0.99	53/0.98	35/0.98	17/0.97	0/0.96	0/0.96	0/0.95	0/0.95
	3/8"	3/4"	25/1	50/0.99	75/0.99	100/0.98	94/0.98	87/0.97	81/0.96	75/0.96	68/0.95	62/0.95
	1/2"	3/4"	25/1	50/0.99	75/0.99	100/0.98	119/0.98	118/0.97	116/0.96	115/0.96	114/0.95	113/0.95
	3/8"	7/8"	25/1	50/1	75/0.99	100/0.99	94/0.99	87/0.99	81/0.98	75/0.98	68/0.98	62/0.98
	1/2"	7/8"	25/1	50/1	75/0.99	100/0.99	119/0.99	118/0.99	116/0.98	115/0.98	114/0.98	113/0.98
4 Ton	3/8"	3/4"	25/1	50/0.99	75/0.98	83/0.97	72/0.96	61/0.95	51/0.94	40/0.93	29/0.92	19/0.91
	1/2"	3/4"	25/1	50/0.99	75/0.98	100/0.97	114/0.96	112/0.95	110/0.94	108/0.93	106/0.92	105/0.91
	3/8"	7/8"	25/1	50/1	75/0.99	83/0.99	72/0.98	61/0.98	51/0.97	40/0.97	29/0.96	19/0.96
	1/2"	7/8"	25/1	50/1	75/0.99	100/0.99	114/0.98	112/0.98	110/0.97	108/0.97	106/0.96	105/0.96
5 Ton	3/8"	3/4"	25/1	50/0.98	75/0.97	61/0.95	45/0.94	29/0.92	13/0.9	0/0.89	0/0.87	0/0.86
	1/2"	3/4"	25/1	50/0.98	75/0.97	100/0.95	109/0.94	106/0.92	102/0.9	99/0.89	96/0.87	94/0.86
	3/8"	7/8"	25/1	50/0.99	75/0.99	61/0.98	45/0.97	29/0.97	13/0.96	0/0.95	0/0.95	0/0.94
	1/2"	7/8"	25/1	50/0.99	75/0.99	100/0.98	109/0.97	106/0.97	102/0.96	99/0.95	96/0.95	94/0.94

NOTES:

1) Maximum Equivalent Line Length may not exceed 250'.
2) Maximum Actual Line Length may not exceed 200'.
3) Light Grey shaded areas are considered long line and may require accessories as recommended in Long Line Set Guide.
4) **DO NOT** use suction line traps in the suction riser as this adds additional unwanted pressure drop in the system.

Refrigerant Line Size Information (Con't.)

16 SEER2 2-STAGE AC R-454B												
UNIT SIZE	ALLOWABLE LIQUID LINE SIZE	ALLOWABLE SUCTION LINE SIZE	OUTDOOR UNIT ABOVE OR BELOW INDOOR UNIT EQUIVALENT LENGTH (METERS)									
			0-8	8-15	16-23	23-30	31-38	38-46	46-53	54-61	61-69	69-76
			MAXIMUM VERTICAL SEPARATION / CAPACITY MULTIPLIER									
2.0 Ton **SEE NOTE 3	1/4"	5/8"	8/1	15/0.99	10/0.98	1/0.98	0/0.97	0/0.96	0/0.95	0/0.95	0/0.94	0/0.94
	5/16"	5/8"	8/1	15/0.99	23/0.98	28/0.98	25/0.97	22/0.96	20/0.95	17/0.95	15/0.94	13/0.94
	3/8"	5/8"	8/1	15/0.99	23/0.98	30/0.98	34/0.97	33/0.96	32/0.95	31/0.95	30/0.94	29/0.94
	1/4"	3/4"	8/1	15/1	10/0.99	1/0.99	0/0.99	0/0.99	0/0.98	0/0.98	0/0.98	0/0.98
	5/16"	3/4"	8/1	15/1	23/0.99	28/0.99	25/0.99	22/0.99	20/0.98	17/0.98	15/0.98	13/0.98
	3/8"	3/4"	8/1	15/1	23/0.99	30/0.99	34/0.99	33/0.99	32/0.98	31/0.98	30/0.98	29/0.98
3 Ton	5/16"	5/8"	8/1	15/0.98	22/0.97	16/0.95	11/0.93	5/0.92	0/0.9	0/0.89	0/0.87	0/0.87
	3/8"	5/8"	8/1	15/0.98	23/0.97	30/0.95	29/0.93	27/0.92	25/0.9	23/0.89	21/0.87	19/0.87
	5/16"	3/4"	8/1	15/0.98	22/0.99	16/0.98	11/0.98	5/0.97	0/0.96	0/0.96	0/0.95	0/0.95
	3/8"	3/4"	8/1	15/0.98	23/0.99	30/0.98	29/0.98	27/0.97	25/0.96	23/0.96	21/0.95	19/0.95
	1/2"	3/4"	8/1	15/0.98	23/0.99	30/0.98	36/0.98	36/0.97	35/0.96	35/0.96	35/0.95	34/0.95
	3/8"	7/8"	8/1	15/1	23/0.99	30/0.99	29/0.99	27/0.99	25/0.98	23/0.98	21/0.98	19/0.98
	1/2"	7/8"	8/1	15/1	23/0.99	30/0.99	36/0.99	36/0.99	35/0.98	35/0.98	35/0.98	34/0.98
4 Ton	3/8"	3/4"	8/1	15/0.99	23/0.98	25/0.97	22/0.96	19/0.95	16/0.94	12/0.93	9/0.92	6/0.91
	1/2"	3/4"	8/1	15/0.99	23/0.98	30/0.97	35/0.96	34/0.95	34/0.94	33/0.93	32/0.92	32/0.91
	3/8"	7/8"	8/1	15/1	23/0.99	25/0.99	22/0.98	19/0.98	16/0.97	12/0.97	9/0.96	6/0.96
	1/2"	7/8"	8/1	15/1	23/0.99	30/0.99	35/0.98	34/0.98	34/0.97	33/0.97	32/0.96	32/0.96
5 Ton	3/8"	3/4"	8/1	15/0.98	23/0.97	19/0.95	14/0.94	9/0.92	4/0.9	0/0.89	0/0.87	0/0.86
	1/2"	3/4"	8/1	15/0.98	23/0.97	30/0.95	33/0.94	32/0.92	31/0.9	30/0.89	29/0.87	29/0.86
	3/8"	7/8"	8/1	15/0.99	23/0.99	19/0.98	14/0.97	9/0.97	4/0.96	0/0.95	0/0.95	0/0.94
	1/2"	7/8"	8/1	15/0.99	23/0.99	30/0.98	33/0.97	32/0.97	31/0.96	30/0.95	29/0.95	29/0.94

NOTES:

1) Maximum Equivalent Line Length may not exceed 76 meters.
2) Maximum Actual Line Length may not exceed 61 meters.
3) Light Grey shaded areas are considered long line and may require accessories as recommended in Long Line Set Guide.
4) **DO NOT** use suction line traps in the suction riser as this adds additional unwanted pressure drop in the system.

ADDITIONAL OIL, OZ.											
LINESET LENGTH	50	60	70	80	90	100	110	120	130	140	150
2T	N/A	N/A	N/A	N/A	N/A	1	2	3	5	6	7
3T	N/A	N/A	N/A	N/A	N/A	N/A	1	2	3	5	6
4T	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5T	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance Data @ AHRI Standard Conditions – Cooling

DESIGNATED TESTED COMBINATION (DTC)							
OUTDOOR UNIT	**INDOOR COIL**	**TOTAL CAPACITY BTU/H [KW]**	**NET SENSIBLE BTU/H [KW]**	**NET LATENT BTU/H [KW]**	**SEER2**	**EER2**	**INDOOR CFM [L/S]**
MLA16AY24	TCFY2417STAN	22,800 [6.7]	16,200 [4.7]	6,600 [1.9]	14.3	11.7	750 [354.0]
MLA16AY36	TCFY3617STAN	34,200 [10.0]	24,300 [7.1]	9,900 [2.9]	14.3	11.7	1,075 [507.3]
MLA16AY48	TCFY4821STAN	45,500 [13.3]	32,300 [9.5]	13,200 [3.9]	13.8	11.2	1,450 [684.3]
MLA16AY60	TCFY6024STAN	56,000 [16.4]	39,600 [11.6]	16,400 [4.8]	13.8	11.2	1,600 [755.1]

NOTE: This data includes DTC (Designated Test Combination) ratings and is for reference purposes only. A full listing of official ratings and system match-ups, along with downloadable certificates, can be accessed from the AHRI website: www.ahridirectory.org.

[ ] Designates Metric Conversions

MAINLINE®
Reliably Comfortable.™

GENERAL TERMS OF LIMITED WARRANTY*

Mainline® will furnish a replacement for any part of this product which fails in normal use and service within the applicable period stated, in accordance with the terms of the limited warranty.

***For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.**

Conditional Parts
(Registration Required).....Ten (10) Years

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.

"In keeping with its policy of continuous progress and product improvement, Mainline reserves the right to make changes without notice."

www.MainlineCollection.com

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