

TECHNICAL SPECIFICATIONS

M7RL Series

High Efficiency / Direct Vent Condensing Downflow Gas Furnace

Induced Draft - 95%+ AFUE
Input 45,000 thru 72,000 Btuh

The high efficiency downflow gas furnace is especially designed for Modular Housing. It may be installed in a utility room, or enclosed in a closet. CSA design certified for use in the United States and Canada.



AW Models



AWT Models



BW Models



BWT Models

FEATURES and BENEFITS

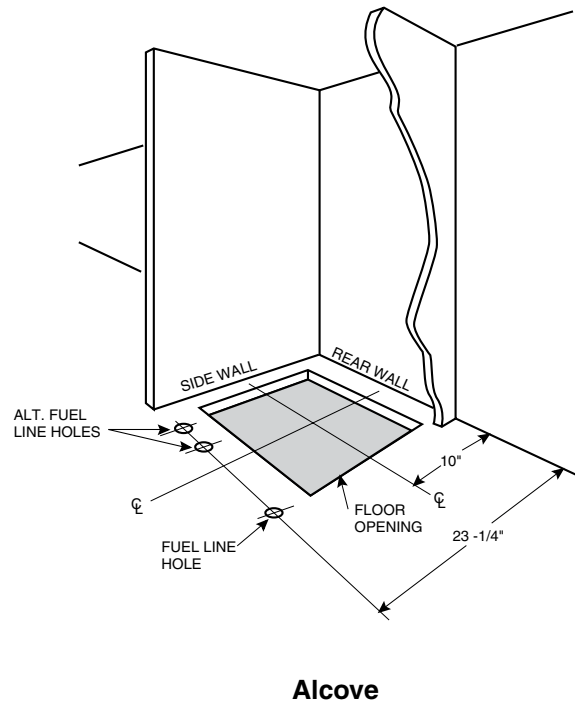
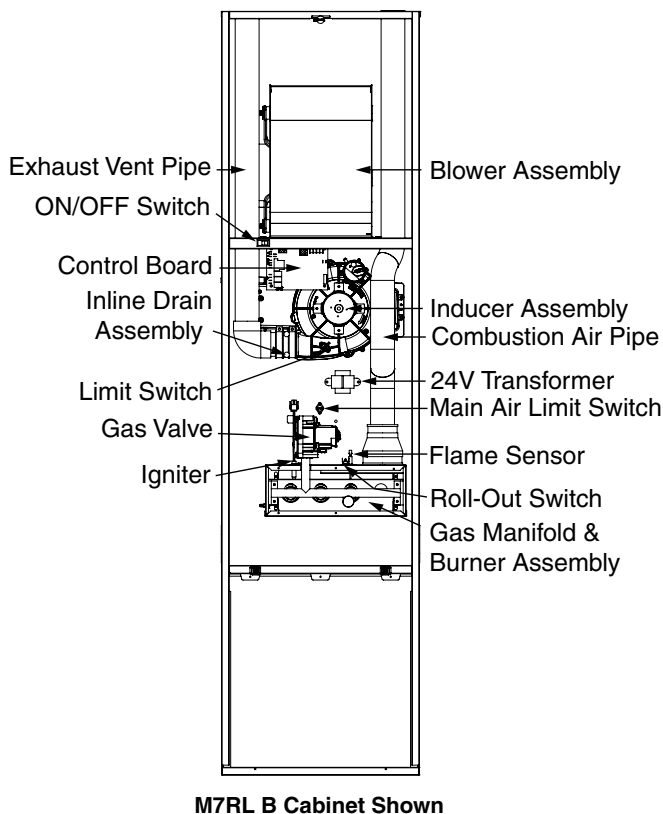
- **100% fired and tested:** All units and each component (both mechanical and electrical) are tested on the manufacturing line.
- **Clean and quiet operation:** Due to the unique design of in-shot burners, location of inducer and use of insulation.
- **Fixed 30 second blower delay:** At burner start-up assures a warm outlet air temperature at furnace start-up. Adjustable blower off settings (60, 90, 120 and 180 seconds).
- **Fixed 30-second post purge:** Increases life of heat exchanger.
- **Dependable, hot surface ignitor:** Innovative application of silicon nitride type igniter. Utilizes proven Smartlite® technology to extend igniter life.
- **Tubular primary heat exchanger:** Heavy gauge aluminized steel heat exchanger assures a long life.
- **Stainless steel secondary heat exchanger:** Assures a long life.
- **60 second fixed cooling cycle blower-off delay (TDR):** Increases cooling performance when matched with a Nortek Global HVAC coil.
- **Sealed combustion approved for direct vent furnace, category IV venting system:** May be vertically or horizontally vented using a two-pipe system for maximum flexibility in installation.
- **LP convertible:** Simple burner orifice (included w/unit) and gas valve regulator change for ease of convertibility.
- **3 amp fuse protection against low voltage shorts:** Protects transformer and control board.
- **Low voltage terminal board:** For easy field wiring.
- **Easy open pawl latch:** Secures the door firmly for transit, yet allows easy removal for access.
- **Appliance quality door:** Protects against rust and other corrosion. Baked enamel finish allows for easy cleaning.
- **Fully insulated cabinet:** Insures minimized heat loss and quiet operation.
- **Color coded wire harness:** Designed to fit the components, all with quick-connect fittings for ease of service and replacement.
- **Multi-speed direct drive blower:** Designed to give a wide range of cooling capacities. Switches on PCB, provide ultra easy motor speed selection. 40VA transformer included.
- **Diagnostic lights for easy troubleshooting without counting flashes:** Dedicated light for flame signal strength and 2 lights in combination to indicate all other fault codes with easy to recognize states without counting flashes.

Note: The M7RL will fit in the same footprint and uses the same duct connector as the M1 & M3 furnaces. The design of the M7RL allows for direct substitution in place of the M1 & M3 series furnaces.

FEATURES

High Efficiency Downflow 95% AFUE + Gas Furnace

Downflow Furnace



SPECIFICATIONS

M7RL MODEL NUMBERS:	045A	060A	072A
Input (BTUH)*	45000	60000	72000
Heating Capacity (BTUH)	42750	57000	68400
AFUE (%)	95.1	95.1	95.1
Motor FLA (Amps)	8.60	8.60	8.00
Rated Ext. SP (in. WC)	0.3	0.3	0.3
Temperature Rise Range (°F)	25-55	25-55	30-60
Fuse or Breaker (Amps)	20	20	15

Note: All models are 115V, 60 Hz, 1 phase. Gas Connections are 1/2" NPT. AFUE = Annual Fuel Utilization Efficiency

* Ratings to 2,000 ft. Over 2,000 ft. reduce 4% for each 1,000 ft. above sea level.

STANDARD EQUIPMENT

Direct vent; draft inducer; pressure switch; redundant main gas control; hot-surface ignition; timed ON/OFF blower controls (TDR); 40VA transformer for air conditioner application; limit controls; direct drive motor; all models can be converted to use LP (propane) gas.

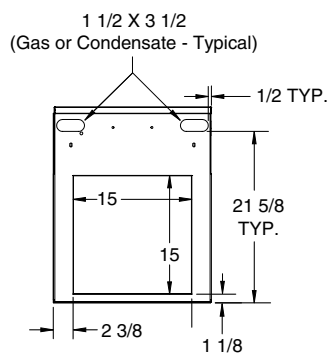
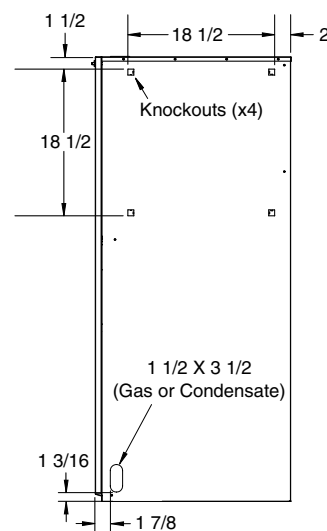
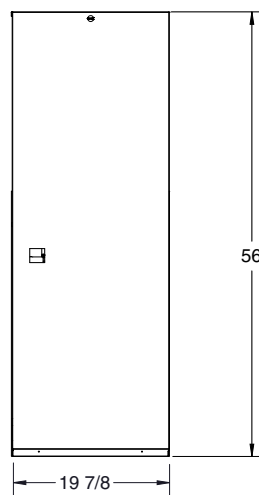
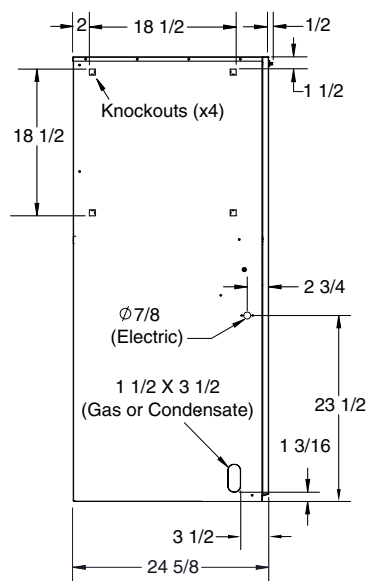
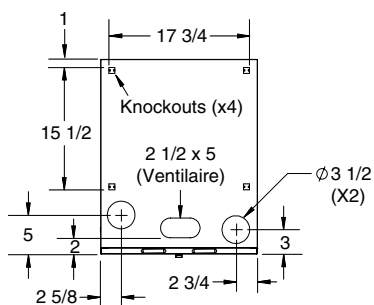
Shipping Weights

Furnace Model	Shipping Weight (lbs)
M7RL 045A AW*	150
M7RL 045A BW*	170
M7RL 060A AW*	150
M7RL 060A BW*	170
M7RL 072A AW*	155
M7RL 072A BW*	175

*May include suffix - T

DIMENSIONS

AW Top



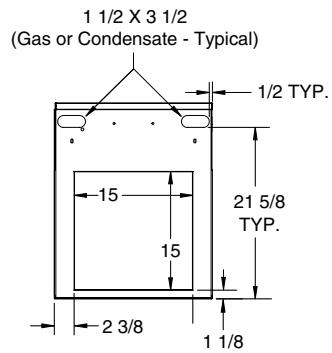
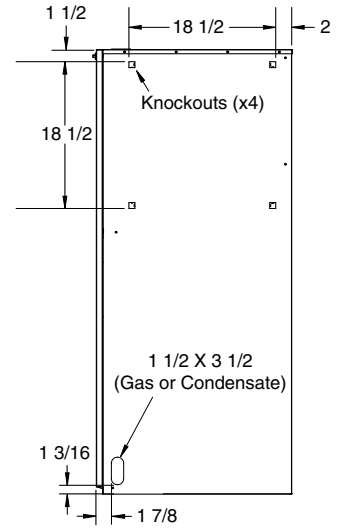
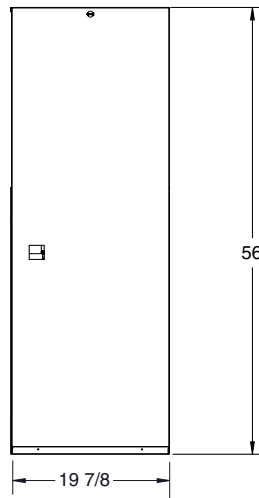
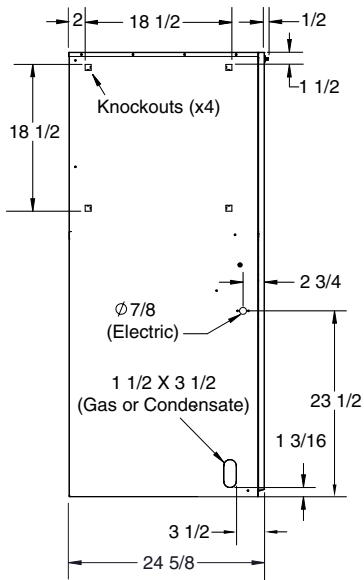
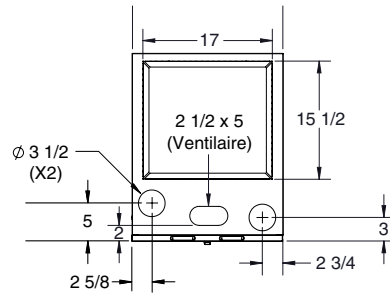
ALL MODELS	CLOSET	ALCOVE
	Inches	Inches
Front	1*	1*
Back	0	0
Sides	0	0
Vent	0	0
Top	6	6
Duct (Plenum) w/ Coil Box	0	0
w/o Coil Box (within 3 feet)	1/4	1/4

*Note: For 1" clearance, use a fully louvered door with at least 400 square inches of free airflow area.

Minimum Clearances

AW Models

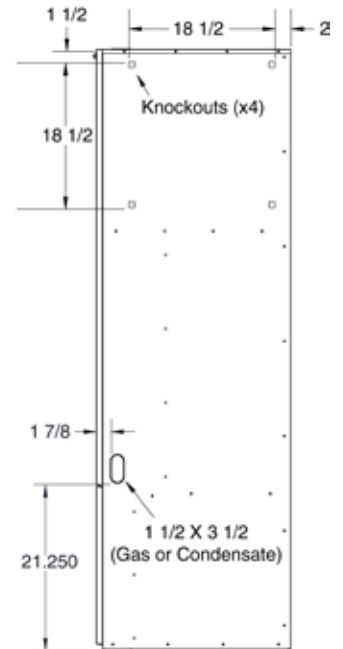
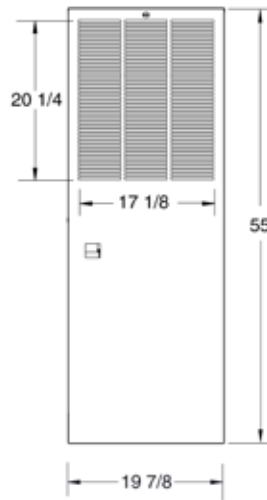
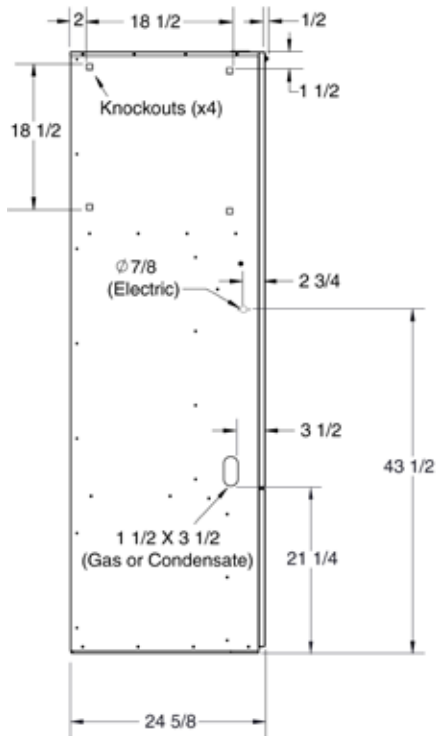
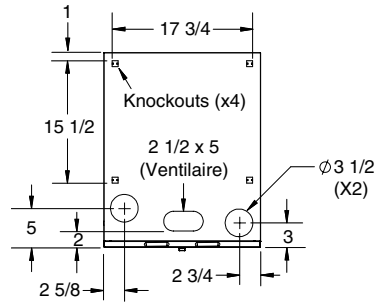
AWT Top



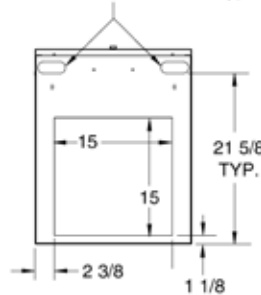
AWT Models

DIMENSIONS

BW Top



1 1/2 X 3 1/2
(Gas, Condensate, or Linesets - Typical)



ALL MODELS	CLOSET	ALCOVE
	Inches	Inches
Front	1*	1*
Back	0	0
Sides	0	0
Vent	0	0
Top	6	6
Duct (Plenum) w/ Coil Box	0	0
w/o Coil Box (within 3 feet)	1/4	1/4

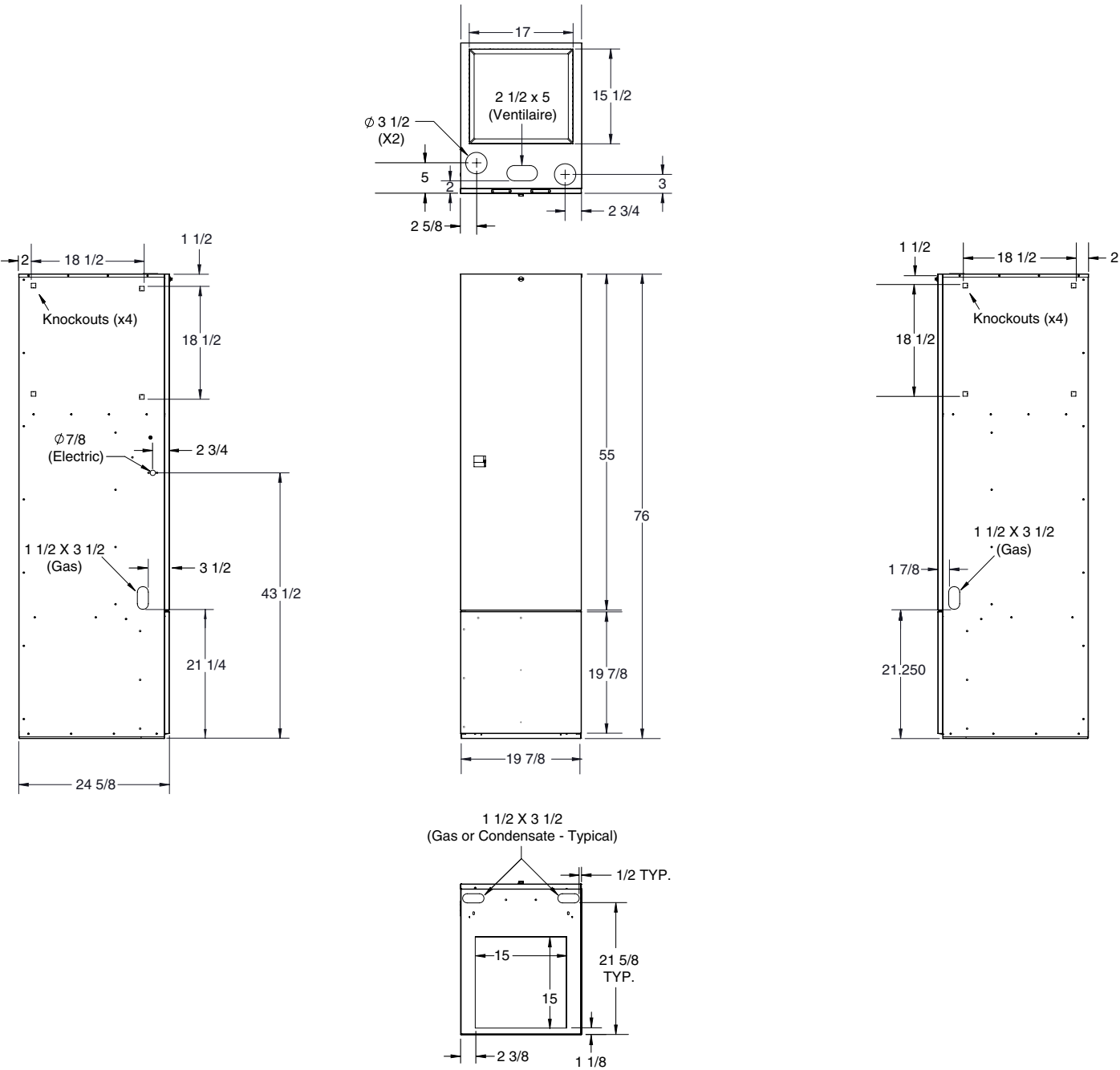
*Note: For 1" clearance, use a fully louvered door with at least 400 square inches of free airflow area.

Minimum Clearances

BW Models

DIMENSIONS

BWT Top



BWT Models

BLOWER PERFORMANCE

Model Number & Heating Input (BTUH)	Motor Speed	External Static Pressure (Inches Water Column)										Recommended A/C Ton
		0.1		0.2		0.3		0.4		0.5		
		CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	
M7RL 045 45,000	HIGH*	1580	25	1530	26	1485	27	1435	28	1380	29	4
	MED HIGH	1355	29	1330	30	1300	30	1265	31	1220	32	3
	MED LOW	1185	33	1165	34	1140	35	1100	36	1065	37	2 1/2
	LOW**	910	44	890	45	865	46	835	47	810	49	2
M7RL 060 60,000	HIGH*	1580	33	1530	35	1485	36	1435	37	1380	38	4
	MED HIGH**	1355	39	1330	40	1300	41	1265	42	1220	43	3
	MED LOW	1185	45	1165	45	1140	46	1100	48	1065	50	2 1/2
	LOW	910		890		865		835		810		2
M7RL 072 72,000	HIGH*	1555	41	1505	42	1460	43	1405	45	1350	47	4
	MED HIGH**	1490	43	1450	44	1405	45	1355	47	1310	48	3
	MED LOW	1005		975		950		925		875		2 1/2
	LOW	900		875		845		810		775		2

* Factory Set Cooling Speed

** Factory Set Heating Speed

1. Temperature rises (°F) in the table are approximate. Actual temperature rises may vary.

2. Temperature rises shaded in gray indicate a temperature rise outside of the recommended range.

3. Airflow performance is with a filter.

ACCESSORIES

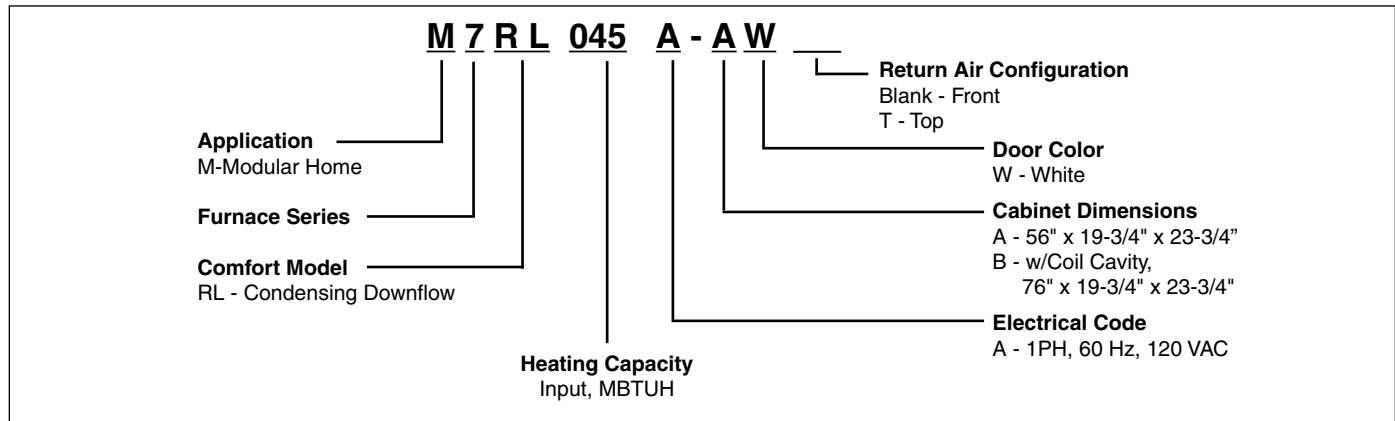
Description	Part Number
Automatic Cavity Damper	901083
"VEE" Box Adapters (12") - 5 / carton	902149
A/C Coil Box 20"	911969A
A/C Coil Box 24"	922594
Concentric Vent Termination Kit 3" U.S. Canadian Approved (for horizontal and vertical venting)	904953
Concentric Vent Termination Kit 2" U.S. Canadian Approved (for horizontal and vertical venting)	904952
Concentric Vent Termination Kit 3" U.S. Approved Only (for horizontal and vertical venting)	904176
Concentric Vent Termination Kit 2" U.S. Approved Only (for horizontal and vertical venting)	904177
Neutralizer Kit - All Models	902377
PVC Isolation Kit	904063
Vent Transition Kit	904106

ACCESSORY VENT KITS

Fresh Air and Vent Kits	Part Number
Soffit Air Inlet (for VentilAire III only)	917201
VentilAire III - Sloped 3/12	914098
VentilAire IV - Sloped 3/12	914229

Duct Connectors	Part Number
11.25 x 13.50 x 0.88 12 / carton	901987A
11.25 x 13.50 x 2.00 12 / carton	901988A
11.25 x 13.50 x 4.25 6 / carton	901989A
11.25 x 13.50 x 6.25 6 / carton	901990A
11.25 x 13.50 x 8.25 4 / carton	901991A
11.25 x 13.50 x 10.25 3 / carton	901992A
11.25 x 13.50 x 12.25 3 / carton	901993A
11.25 x 13.50 x 6.25 24 / carton	902681A

IDENTIFICATION CODE



VENTING

All models are approved for both vertical and horizontal direct (2 pipe) venting applications. See Vent Table below for specified sizes and allowable lengths.

Maximum Direct Vent, Dual Pipe Length (ft.)*		
M7RL Inputs (BTUH)	Inlet / Outlet 3 in. Diameter	Inlet / Outlet 2 in. Diameter
45,000	60	30
60,000	60	30
72,000	60	30

*NOTES:

1. Subtract 3.5 ft. for each additional 3" 90 degree elbow.
2. Two 45 degree elbows are equivalent to one 90 degree elbow.
3. One short radius elbow is equivalent to two long radius elbows
4. Do not include termination elbows in calculation of vent length
5. This table is applicable for elevations from sea level to 2,000 ft.
For higher elevations decrease vent pipe lengths by 8% per 1000 ft. of altitude.
6. Only the listed pipe materials are approved for use with M7 condensing furnaces.
7. For Canadian applications, use ULC S636 approved material.

Pipe Materials	ANSI/ASTM Standard
Schedule 40PVC	D1785
PVC-DWV	D2665
SDR-21 & SDR-26	D2241
ABS-DWV	D2661
Schedule 40 ABS	F628
Foam / Cellular Core PVC	F891



GENERAL TERMS OF LIMITED WARRANTY

Nortek Global HVAC, LLC will furnish a replacement for any part of this product which fails in normal use and service within the terms and conditions of the warranty.

For complete details of the Limited Warranty, including applicable terms and conditions, see your local installer or contact the Nortek Global HVAC, LLC warranty department for a copy.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer. Specifications and illustrations subject to change without notice and without incurring obligations. Printed in U.S.A (09/2017)