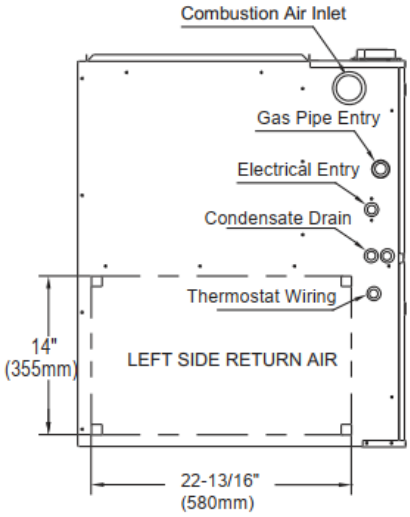
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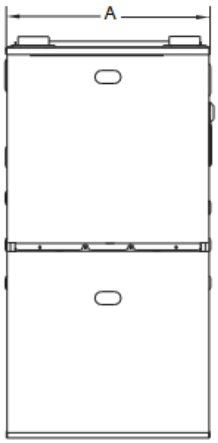
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MGV96 Series

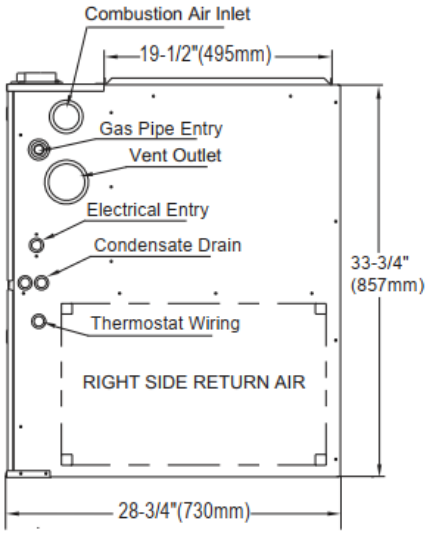
Heating capacity: 20–120 kBTU/h



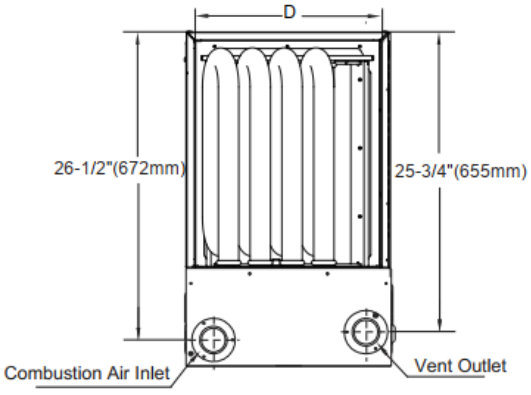
(Left)



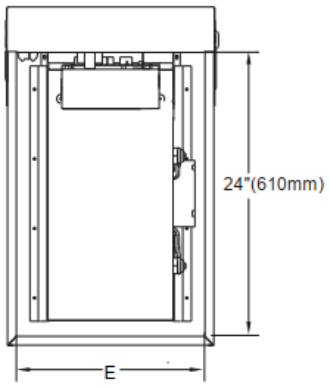
(Front)



(Right)



(Top)



(Bottom with panel removed)

FURNACE SIZE	A CABINET WIDTH IN.[mm]	D SUPPLY AIR WIDTH IN.[mm]	E RETURN AIR WIDTH IN.[mm]	NET/SHIP WT (lbs)
60B3C	17.5[445]	16[406]	15-27/32[402]	130/147.5
80B3C	17.5[445]	16[406]	15-27/32[402]	139.5/152
80C4C	21[533]	19.5[495]	19-13/32[493]	151/165
100C5C	21[533]	19.5[495]	19-13/32[493]	153/170.5
100D5C	24.5[622]	23[584]	22-27/32[580]	160.5/181.5
120D5C	24.5[622]	23[584]	22-27/32[580]	166/187

Specifications

	MGV96U060B3C	MGV96U080B3C	MGV96U080C4C
FUEL TYPE	Natural/Propane Gas	Natural/Propane Gas	Natural/Propane Gas
GAS HEATING PERFORMANCE			
High Fire Input (BTU/h)	60,000	80,000	80,000
Natural Gas	57,000	76,000	76,000
LP Gas	57,000	76,000	76,000
Low Fire Input (BTU/h)	39,000	52,000	52,000
Natural Gas	37,000	49,000	49,000
LP Gas	37,000	49,000	49,000
AFUE	96	96	96
Available AC @ 0.5" ESP	1.5/2/2.5/3	2.5/3/3.5/4	2.5/3/3.5/4
Temperature Rise Range (° F)	30-60	35-65	35-65
Static pressure(in.w.c)			
Heating	0.12	0.15	0.15
Cooling	0.5	0.5	0.5
ELECTRICAL DATA			
Voltage/Phase (60Hz)	115	115	115
Min. / Max. Voltage (V)	104/127	104/127	104/127
Min. Circuit Ampacity (MCA) (A)	8	8	8
Max. Overcurrent Protection (MOP) (A)	15	15	15
FAN MOTOR			
Motor Type	ECM	ECM	ECM
Horsepower (HP)	1	1	1
Rated RPM	1050	1050	1050
Full Load Amps (FLA) (A)	8	8	8
Capacitor (uF)	/	/	/
CIRCULATOR BLOWER			
Material	Metal	Metal	Metal
Size (D x H) (in.)	12-3/8 x 8	12-3/8 x 8	12-6/8 x 11-1/4
Vent Diameter (in.)	2/3	2/3	2/3
No. of Burners	3	4	4
Speed Mode Number	5	5	5

Specifications

	MGV96U100C5C	MGV96U100D5C	MGV96U120D5C
FUEL TYPE	Natural/Propane Gas	Natural/Propane Gas	Natural/Propane Gas
GAS HEATING PERFORMANCE			
High Fire Input (BTU/h)	100,000	100,000	120,000
Natural Gas	95,000	95,000	115,000
LP Gas	95,000	95,000	115,000
Low Fire Input (BTU/h)	70,000	70,000	84,000
Natural Gas	67,000	67,000	80,500
LP Gas	67,000	67,000	80,500
AFUE	96	96	96
Available AC @ 0.5" ESP	3.5/4/4.5/5	3.5/4/4.5/5	3.5/4/4.5/5
Temperature Rise Range (° F)	35-65	35-65	40-70
Static pressure(in.w.c)			
Heating	0.2	0.2	0.2
Cooling	0.5	0.5	0.5
ELECTRICAL DATA			
Voltage/Phase (60Hz)	115	115	115
Min. / Max. Voltage (V)	104/127	104/127	104/127
Min. Circuit Ampacity (MCA) (A)	12	12	12
Max. Overcurrent Protection (MOP) (A)	20	20	20
FAN MOTOR			
Motor Type	ECM	ECM	ECM
Horsepower (HP)	1	1	1
Rated RPM	1050	1050	1050
Full Load Amps (FLA) (A)	12	12	12
Capacitor (uF)	/	/	/
CIRCULATOR BLOWER			
Material	Metal	Metal	Metal
Size (D x H) (in.)	12-6/8 x 11-1/4	12-6/8 x 11-1/4	12-6/8 x 11-1/4
Vent Diameter (in.)	2/3	2/3	3
No. of Burners	5	5	6
Speed Mode Number	5	5	5

Consumption system specifications

Model			060B3A	080B3A	080C4A	100C5A	100D5A	120D5A
Max. Inlet Gas Press	Natural Gas	in.w.c	10.5	10.5	10.5	10.5	10.5	10.5
	Propane Gas (LP)	in.w.c	13	13	13	13	13	13
Min. Inlet Gas Press	Natural Gas	in.w.c	4.5	4.5	4.5	4.5	4.5	4.5
	Propane Gas (LP)	in.w.c	11	11	11	11	11	11
Natural Gas Manifold Pressure (High fire)		in.w.c	3.5	3.5	3.5	3.5	3.5	3.5
Natural Gas Manifold Pressure (Low fire)		in.w.c	1.6	1.6	1.6	1.6	1.6	1.6
Propane Gas Manifold Pressure (High fire)		in.w.c	10	10	10	10	10	10
Propane Gas Manifold Pressure (Low fire)		in.w.c	4	4	4	4	4	4
Natural Gas Factory Orifice (0-2000 feet)		#	45	45	45	45	45	45
Propane Gas (LP) Factory Orifice (0-2000 feet)		#	55	55	55	55	55	55
Gas Connection Size		in. NPT	1/2	1/2	1/2	1/2	1/2	1/2
Igniton Device			Hot surface					
Number of Burners		#	3	4	4	5	5	6
Primary Heat exchanger Diameter		Inch	1-6/8	1-6/8	1-6/8	1-6/8	1-6/8	1-6/8
Primary Heat exchanger		# tubes	3	4	4	5	5	6
Secondary Heat Exchanger Diameter		Inch	3/8	3/8	3/8	3/8	3/8	3/8
Secondary Heat Exchanger		# tubes	33	33	39	39	48	48
Flue Vent Diameter		Inch	2“/3”	2“/3”	2“/3”	2“/3”	2“/3”	3”
Safety Switch Settings								
Pressure Switch Factory Setting	High	in.w.c	1.1	1.1	1.1	1.1	1.1	1.1
Pressure Switch Factory Setting	Low	in.w.c	0.55	0.55	0.55	0.55	0.55	0.55
Rollout switch - resettable	Off/On	°F	300	300	300	300	300	300
Inlet High Temperature Limit switch - fixed	Off/On	°F	150/120	150/120	130/100	150/120	150/120	150/120

Airflow Data

Air Delivery - CFM without filter

FURANCE SIZE	RETURN-AIR INLET	SPEED		EXTERNAL STATIC PRESSURE(IN.W.C)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
60B	Bottom or Sides	H	CFM	1339	1327	1338	1309	1321	1320	1342	1334	1316	1335
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	37.3	37.7	37.5	38.3	38.1	38.1	37.6	37.9	38.5	38.0
		Mid-H	CFM	1124	1118	1102	1106	1096	1099	1102	1109	1089	1105
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	44.2	44.5	45.2	45.1	45.6	45.5	45.5	45.3	46.2	45.6
		Mid	CFM	880	870	853	858	865	858	854	866	871	839
			Temp Rise-1st stage℉	36.7	37.2	37.9	37.8	37.6	38.0	38.2	37.8	37.6	39.1
			Temp Rise-2nd stage℉	56.3	57.0	58.1	57.9	57.5	58.0	58.4	57.7	57.4	59.7
		Mid-L	CFM	779	768	762	756	740	753	757	747	785	766
			Temp Rise-1st stage℉	41.4	42.0	42.4	42.8	43.8	43.1	43.0	43.6	41.6	42.7
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
		Low	CFM	553	586	543	569	552	562	584	572	575	567
			Temp Rise-1st stage℉	58.1	54.9	59.3	56.7	58.5	57.6	55.5	56.8	56.5	57.4
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
80B	Bottom or Sides	H	CFM	1230	1233	1222	1226	1214	1236	1255	1244	1249	1251
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	53.9	53.8	54.4	54.3	54.8	53.9	53.2	53.7	53.6	53.6
		Mid-H	CFM	1052	1052	1041	1044	1037	1034	1048	1046	1024	1076
			Temp Rise-1st stage℉	41.0	41.0	41.5	41.5	41.8	42.1	41.5	41.7	42.7	40.7
			Temp Rise-2nd stage℉	62.8	62.8	63.6	63.5	64.0	64.3	63.4	63.7	65.1	62.1
		Mid	CFM	849	861	854	853	855	844	855	848	834	859
			Temp Rise-1st stage℉	50.6	50.0	50.4	50.5	50.5	51.2	50.6	51.2	52.1	50.7
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
		Mid-L	CFM	754	771	765	764	728	761	782	739	758	758
			Temp Rise-1st stage℉	56.9	55.7	56.2	56.3	59.2	56.8	55.3	58.5	57.2	57.3
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
		Low	CFM	569	554	571	572	568	572	598	594	572	548
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
80C	Bottom or Sides	H	CFM	1303	1301	1281	1291	1289	1291	1290	1295	1298	1253
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	50.8	50.9	51.8	51.5	51.6	51.6	51.7	51.6	51.6	53.5
		Mid-H	CFM	1120	1127	1134	1130	1135	1138	1132	1143	1107	1112
			Temp Rise-1st stage℉	38.5	38.3	38.1	38.3	38.2	38.2	38.5	38.2	39.5	39.4
			Temp Rise-2nd stage℉	59.0	58.7	58.4	58.7	58.5	58.4	58.8	58.3	60.3	60.1
		Mid	CFM	908	894	896	902	896	894	864	891	935	880
			Temp Rise-1st stage℉	47.3	48.1	48.0	47.8	48.2	48.4	50.1	48.7	46.5	49.5
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
		Mid-L	CFM	818	819	825	800	813	803	831	838	791	802
			Temp Rise-1st stage℉	52.4	52.4	52.1	53.8	53.1	53.8	52.1	51.8	54.9	54.2
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
		Low	CFM	577	628	605	624	615	601	628	573	590	588
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
100C	Bottom or Sides	H	CFM	1752	1764	1768	1781	1774	1786	1762	1802	1792	1786
			Temp Rise-1st stage℉										
			Temp Rise-2nd stage℉	47.5	47.3	47.3	47.0	47.3	47.0	47.7	46.8	47.2	47.4
		Mid-H	CFM	1512	1506	1536	1523	1514	1509	1529	1551	1565	1532
			Temp Rise-1st stage℉	38.6	38.8	38.1	38.5	38.8	39.0	38.6	38.1	37.9	38.8
			Temp Rise-2nd stage℉	54.8	55.1	54.1	54.6	55.1	55.3	54.7	54.0	53.6	54.8
		Mid	CFM	1354	1354	1362	1370	1357	1381	1389	1394	1416	1383
			Temp Rise-1st stage℉	42.9	43.0	42.8	42.6	43.1	42.4	42.3	42.2	41.7	42.7
			Temp Rise-2nd stage℉	61.1	61.1	60.8	60.6	61.2	60.3	60.0	59.9	59.0	60.5
		Mid-L	CFM	1165	1165	1176	1164	1185	1190	1186	1205	1174	1199
			Temp Rise-1st stage℉	49.7	49.7	49.3	49.9	49.2	49.0	49.2	48.6	49.9	49.0
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
		Low	CFM	994	1025	1018	1024	1032	1026	1035	988	1005	1041
			Temp Rise-1st stage℉	58.1	56.4	56.9	56.6	56.3	56.7	56.3	59.0	58.1	56.2
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--

FURANCE SIZE	RETURN-AIR INLET	SPEED		EXTERNAL STATIC PRESSURE(IN.W.C)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
100D	Bottom or Sides	H	CFM	1926	1926	1931	1943	1936	1941	1960	1974	2015	2043
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	43.2	43.3	43.2	43.1	43.3	43.3	42.9	42.7	42.0	41.6
		Mid-H	CFM	1746	1752	1749	1748	1749	1763	1771	1776	1794	1791
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	47.5	47.4	47.6	47.7	47.7	47.4	47.3	47.2	46.9	47.0
		Mid	CFM	1488	1525	1525	1515	1528	1546	1501	1525	1546	1544
			Temp Rise-1st stage℉	39.0	38.2	38.2	38.6	38.3	37.9	39.1	38.6	38.2	38.3
			Temp Rise-2nd stage℉	55.6	54.3	54.4	54.8	54.4	53.9	55.5	54.7	54.1	54.2
		Mid-L	CFM	1348	1374	1341	1383	1381	1385	1408	1404	1400	1401
			Temp Rise-1st stage℉	43.0	42.3	43.3	42.1	42.2	42.2	41.6	41.8	42.0	42.0
			Temp Rise-2nd stage℉	61.2	60.2	61.7	59.9	60.1	60.0	59.1	59.3	59.6	59.6
		Low	CFM	1163	1186	1164	1167	1174	1178	1182	1129	1163	1172
			Temp Rise-1st stage℉	49.7	48.8	49.8	49.7	49.5	49.4	49.3	51.7	50.3	50.0
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
120D	Bottom or Sides	H	CFM	1926	1933	1915	1923	1916	1929	1971	1941	2036	1998
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	51.8	51.7	52.2	52.1	52.4	52.1	51.1	52.0	49.8	50.7
		Mid-H	CFM	1721	1747	1716	1749	1760	1768	1778	1783	1747	1788
			Temp Rise-1st stage℉	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage℉	57.8	57.0	58.1	57.1	56.8	56.6	56.4	56.3	57.5	56.4
		Mid	CFM	1489	1497	1503	1504	1507	1488	1496	1518	1519	1568
			Temp Rise-1st stage℉	46.7	46.6	46.4	46.5	46.5	47.1	47.0	46.4	46.4	45.1
			Temp Rise-2nd stage℉	66.5	66.3	66.1	66.1	66.1	67.0	66.7	65.8	65.9	64.0
		Mid-L	CFM	1384	1360	1365	1384	1382	1383	1379	1401	1421	1414
			Temp Rise-1st stage℉	50.2	51.1	51.0	50.4	50.6	50.6	50.8	50.1	49.5	49.9
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--
		Low	CFM	1165	1175	1162	1158	1158	1184	1186	1204	1201	1185
			Temp Rise-1st stage℉	59.5	59.0	59.8	60.0	60.1	58.9	58.9	58.1	58.4	59.2
			Temp Rise-2nd stage℉	--	--	--	--	--	--	--	--	--	--

A filter is required for each return -air Inlet. Airflow performance Included 3/4-In. (19 mm) washable filter media such as contained In factory-authorized accessory filter rack. To determine airflow performance with this filter, assume an additional 0.1 in.w.c available external static pressure.

Filter Size Information - In.

FURNACE CASING WIDTH (IN.)	FILTER SIZE		FILTER TYPE
	SIDE RETURN (IN.)	BOTTOM RETURN (IN.)	
14-1/2	16X25	14X25	High Velocity (600 FPM)
17-1/2	16X25	16X25	
21	16X25	20X25	
24.5	16X25	24X25	

NOTES:

1. Air velocity through throwaway type filters may not exceed 300 feet per minute (91.4 m/min). All velocities over this require the use of high velocity filters.
2. Do not exceed 1800 CFM using a single side return and a 16x25 filter. For CFM greater than 1800, you may use two side returns or one side and the bottom or one side return with a transition to allow use of a 20x25 filter.

Minimum Area in Square Inch Required for Each Opening

BTUH Input Rating	Minimum Free Area in Square Inch Required for Each Opening
60,000	60 in^2
80,000	80 in^2
100,000	100 in^2
120,000	120 in^2

Minimum Free Area Required for Each Opening

BTUH Input Rating	Minimum Free Area Required for Each Opening		
	Horizontal Duct (2,000 BTUH)	Vertical Duct or Opening to Outside (4,000 BTUH)	Round Duct (4,000 BTUH)
60,000	30 in^2	15 in^2	5″
80,000	40 in^2	20 in^2	5″
100,000	50 in^2	25 in^2	6″
120,000	60 in^2	30 in^2	7″

EXAMPLE: Determining Free Area.

Appliance 1 Appliance 2 Total Input

100,000 + 30,000 = (130,000 ÷ 4,000) = 32.5 Sq. In. Vertical

Appliance 1 Appliance 2 Total Input

100,000 + 30,000 = (130,000 ÷ 2,000) = 65 Sq. In. Horizontal

Piston

High Altitude Derate Orifice Size Chart (Natural and LP Gas*) US installation

Input Rate KBTU/H	Number of Burner	Elevation (Ft)									
		0-2000		2000-4000		4000-6000		6000-8000		8000-10000	
		Nat	LP	Nat	LP	Nat	LP	Nat	LP	Nat	LP
60	3	45	55	47	56	48	57	49	58	50	59
80	4	45	55	47	56	48	57	49	58	50	59
100	5	45	55	47	56	48	57	49	58	50	59
120	6	45	55	47	56	48	57	49	58	50	59

*LP orifice based on 10 in.w.c manifold pressure

The input to the furnace must be checked AFTER reorificing.

High Altitude Derate Orifice Size Chart (Natural and LP Gas*) Canada installation

Input Rate KBTU/H	Number of Burner	Elevation (Ft)									
		0-2000		2000-4000		4000-6000		6000-8000		8000-10000	
		Nat	LP	Nat	LP	Nat	LP	Nat	LP	Nat	LP
60	3	45	55	47	56	48	57	49	58	50	59
80	4	45	55	47	56	48	57	49	58	50	59
100	5	45	55	47	56	48	57	49	58	50	59
120	6	45	55	47	56	48	57	49	58	50	59

*LP orifice based on 10 in.w.c manifold pressure

The input to the furnace must be checked AFTER reorificing.

For Canada application, based on regulation that requires 10% derating between 2000-4500ft. orifice change is NOT required up to 4500ft.

Features

- Durable aluminized steel tubular heat exchanger. Stainless-steel secondary heat exchanger.
- Two-stage gas valve.
- The gas furnace's igniter does not generate electric sparks, thereby enhancing safety.
- Quiet multi-speed ECM circulator blower motor.
- Control board with self-diagnostics and Low-voltage terminal block.
- R454b refrigerant leakage sensor adaptable
- UL60335-2-40 certified.
- Natural gas and propane (LP) convertible.
- Designed for multi-position installation: Up flow, horizontal. Industry-standard cabinet sizes for easy replacement, installation and add-on cooling.
- Convenient left or right connection for gas and electric service.
- Removable bottom for side or bottom return applications.
- Perfect match with Midea evaporator coil, no need extra kit for R454b system.