|  |  |
| --- | --- |
| **Submittal** |  TAG: |

**MGV96 Series**

**Heating capacity: 20–120 kBTU/h**

****

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FURNACE SIZE | ACABINET WIDTH IN. | DSUPPLY AIR WIDTH IN. | ERETURN AIR WIDTH IN. | NET/SHIP WT (lbs) |
| 60B3B | 17.5 | 16 | 15-57/32 | 135/147.5 |
| 80B3B | 17.5 | 16 | 15-57/32 | 141/153 |
| 80C4B | 21 | 19.5 | 19-13/32 | 152/165 |
| 100C5A | 21 | 19.5 | 19-13/32 | 162/173 |
| 100D5A | 24.5 | 23 | 22-27/32 | 170/185 |
| 120D5A | 24.5 | 23 | 22-27/32 | 176/190 |

# 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 | 7.8 |
| Max. Overcurrent Protection (MOP) (A) | 15 | 15 | 15 |
| **FAN MOTOR** |  |  |  |
| Motor Type | ECM | ECM | ECM |
| Horsepower (HP) | 3/4 | 3/4 | 3/4 |
| Rated RPM | 1050 | 1050 | 1050 |
| Full Load Amps (FLA) (A) | 8 | 8 | 7.8 |
| 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) | 11.5 | 10.5 | 10.5 |
| 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) | 11.5 | 10.5 | 10.5 |
| 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 (0-2000feet) | # | 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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FURANCESIZE | RETURN-AIRINLET | 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℉ | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FURANCESIZE | RETURN-AIRINLET | 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-ln. (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 SquareInch Required for Each Opening |
| 60,000 | 60 in2 |
| 80,000 | 80 in2 |
| 100,000 | 100 in2 |
| 120,000 | 120 in2 |

# Minimum Free Area Required for Each Opening

|  |  |
| --- | --- |
| BTUH Input Rating | Minimum Free Area Required for Each Opening |
| Horizontal Duct (2,000 BTUH) | Vertical Duct orOpening to Outside (4,000 BTUH) | Round Duct (4,000 BTUH) |
| 60,000 | 30 in2 | 15 in2 | 5″ |
| 80,000 | 40 in2 | 20 in2 | 5″ |
| 100,000 | 50 in2 | 25 in2 | 6″ |
| 120,000 | 60 in2 | 30 in2 | 7″ |
| EXAMPLE: Determining Free Area.Appliance 1 Appliance 2 Total Input100,000 + 30,000 = (130,000 ÷ 4,000) = 32.5 Sq. In. VerticalAppliance 1 Appliance 2 Total Input100,000 + 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.
* Hot surface igniter.
* 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.



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Note: Product specifications change from time to time as product improvements and developments are released and may vary from those in this document.