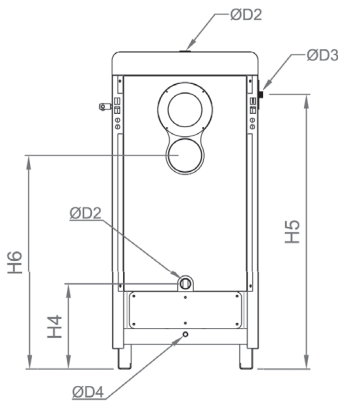
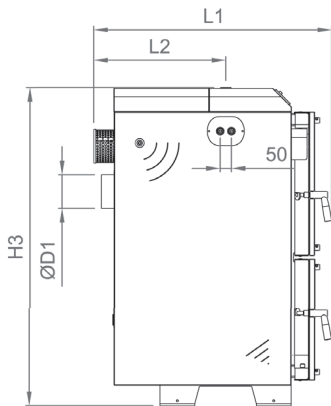
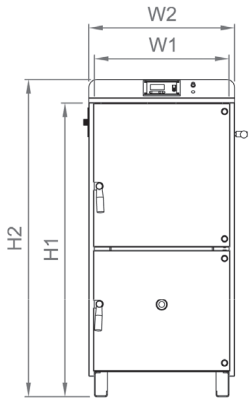


# Technical Specifications



| TECHNICAL SPECIFICATION OF VENTUM TYPE WOOD GASIFICATION BOILERS |  | Unit               | BOILER TYPE              |                                   |         |            |         |                            |      |
|--|--|--------------------|--------------------------|-----------------------------------|---------|------------|---------|----------------------------|------|
|  |  |                    | VG20                     | VG30                              | VG40    | VG60       | VG80    | VG100                      |      |
| CAPACITY   | Nominal Heat Output                                      | kW                 | 20                       | 30                                | 40      | 60         | 80      | 100                        |      |
|  |  | kcal/h             | 17.200                   | 25.800                            | 34.400  | 51.600     | 68.800  | 86.000                     |      |
|  | Direct Efficiency  | %                  | 90,1                     | 90,4                              | 91,2    | 91,7       | 91,5    | 91,3                       |      |
| OPERATING CONDITIONS   | Boiler Class   | -                  | CLASS 5 acc. To EN 303-5 |                                   |         |            |         |                            |      |
|  | Safety Limit Temperature                                 | °C                 | 97                       |                                   |         |            |         |                            |      |
|  | Setting Range of Operating Temperature                   | °C                 | 85 - 55                  |                                   |         |            |         |                            |      |
|  | Min. Water Return Temperature                            | °C                 | 55                       |                                   |         |            |         |                            |      |
|  | Operating Pressure                                       | bar                | 3                        |                                   |         |            |         |                            |      |
|  | Boiler Test Pressure                                     | bar                | 4,5                      |                                   |         |            |         |                            |      |
|  | Electrical Connection                                    | -                  | 230 Vac , 50 Hz          |                                   |         |            |         |                            |      |
|  | Recommended Fuel Types                                   |                    |                          | Ø80x500 mm                        |         | Ø80x700 mm |         | Ø80x1000 mm<br>2xØ80x500mm |      |
|  |  |                    |                          | Hard Wood, 15% < Humidity < 30% * |         |            |         |                            |      |
|  | Minimum Required Stack Draught                           | Pa                 | 10                       |                                   |         |            |         |                            |      |
|  | Boiler Gas Side Resistance                               | Pa                 | 125                      | 110                               | 140     | 230        | 240     | 250                        |      |
|  | Boiler Water Side Pressure Drop                          | DT = 20 °C<br>mbar | 11,0                     | 3,2                               | 5,5     | 23,0       | 25,0    | 28,0                       |      |
|  | Fuel Filling Volume                                      | lt                 | 89                       | 113                               | 137     | 200        | 385     |                            |      |
|  |  | kg                 | 30                       | 40                                | 50      | 70         | 135     |                            |      |
|  | Approximately Combustion Period                          | h                  | 5                        |                                   |         |            |         |                            |      |
| Required Accumulation Tank Volume                                | lt   | 1000               | 1500                     | 2000                              | 3000    | 4500       | 5500    |                            |      |
| Airborne Noise Level   | dB   | < 60 dB            |                          |                                   |         |            |         |                            |      |
| MAIN DIMENSIONS  | Boiler Width, W1   | mm                 | 600                      |                                   |         |            | 650     |                            |      |
|  | Total Width with Cover Plates, W2                        | mm                 | 650                      |                                   |         |            | 700     |                            |      |
|  | Boiler Length, L1  | mm                 | 1060                     |                                   |         | 1360       | 1635    | 1805                       |      |
|  | Boiler Height, H1  | mm                 | 1060                     | 1210                              | 1310    | 1360       | 1610    |                            |      |
|  | Total Height, H2   | mm                 | 1165                     | 1315                              | 1415    | 1465       | 1715    |                            |      |
|  | Stack Diameter, ØD1 (inner-outer)                        | mm                 | 125-130                  |                                   | 146-150 |            | 176-180 |                            |      |
|  | Height of Stack Connection, H6                           | mm                 | 715                      | 865                               | 955     | 1005       | 1225    |                            |      |
|  | Water Content  | lt                 | 90                       | 104                               | 114     | 168        | 285     | 345                        |      |
|  | Approx. Empty Weight                                     | kg                 | 385                      | 425                               | 450     | 600        | 860     | 960                        |      |
|  | Hot Water Outlet Connection                              | Diameter, ØD2      | inch                     | 1 1/2"                            |         |            |         | 2"                         |      |
|  |  | Position, H3       | mm                       | 1137                              | 1287    | 1387       | 1437    | 1766                       |      |
|  |  | Position, L2       | mm                       | 590                               |         |            | 890     | 1147                       | 1317 |
|  | Water Inlet Connection                                   | Diameter, ØD2      | inch                     | 1 1/2"                            |         |            |         | 2"                         |      |
|  |  | Position, H4       | mm                       | 380                               |         |            |         | 435                        |      |
|  | Safety Cooling Heat Exchanger<br>15 °C, 2 bar cold water | Diameter, ØD3      | inch                     | 3/4"                              |         |            |         |                            |      |
| Position, H5   |  | mm                 | 975                      | 1125                              | 1225    | 1275       | 1525    |                            |      |
| Filling & Drain Connection                                       | Diameter, ØD4  | mm                 | 1/2"                     |                                   |         |            |         |                            |      |
| EMISSION RATES   | Flue Gas Temperature                                     | °C                 | 145-165                  |                                   |         |            |         |                            |      |
|  | Average Mass Flow Rate of Solid Pollutants (dust)        | g/h                | 1,8                      | 2,3                               | 2,9     | 4,6        | 9       | 10                         |      |
|  | CO   | mg/m³              | < 700                    |                                   |         |            |         |                            |      |
| POWER CONSUMPTIONS   | Average Electricity Consumption                          | in stand-by        | 3                        |                                   |         |            |         |                            |      |
|  |  | in full load, 100% | 57                       | 64                                | 70      | 79         | 85      | 90                         |      |