

# DEFRO<sup>®</sup>

heating technology



**iHG**  
**23-40 kW**

## Fuels:

chunks of wood with 12 cm diameter and 15% moisture

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heating technology



5 years of warranty for heat exchanger tightness, 2 years for the remaining components and efficient operation of boiler;



high thermal efficiency reaching 90% thanks to increased heat recovery from flue gases



two-stage combustion process - fuel gasification



ceramic catalysts stabilising combustion process;



modern HG PID controller with touch display and servicing 3 pumps, mixing valve and exhaust valve



heat exchanger made of certified boiler steel P265GH/ with 6 mm thickness from steel mills of Arcelor Mittal Poland S.A. division Cracow and U.S. Steel Kosice s.r.o.;



in closed circuit;



exhaust fan;

controller HG LUX with PID



| Boiler name  | Unit            | HG 25                                  | HG 40   |      |
|--|-----------------|--|---------|------|
| Nominal power  | kW              | 23                                     | 40      |      |
| Boiler class according to PN-EN 303-5 standard               |                 | 5                                      |         |      |
| CO emission in combustion products according to: PN-EN 12809 |                 | 0,05%                                  |         |      |
| Heat returned to the environment                             | kW              | 0,50                                   | 0,80    |      |
| Area of heated rooms*  | m <sup>2</sup>  | do 230                                 | do 400  |      |
| Primary fuel   |                 | chunks of wood ~φ12cm, moisture 15-20% |         |      |
| Capacity of charging chamber                                 | dm <sup>3</sup> | ~92,6                                  | ~175,3  |      |
| Min. safe capacity of heat discharge tank**                  | dm <sup>3</sup> | 2500                                   | 3000    |      |
| Optimum thermal efficiency                                   | %               | 90%                                    |         |      |
| Max. permissible work pressure, system                       | open            | 2,0                                    |         |      |
|  | closed          | 2,5                                    |         |      |
| Required flue gas draught                                    | Pa              | 20                                     | 25      |      |
| Flue gas temperature for nominal power                       | °C              | 178-187                                |         |      |
| Flue gas stream for nominal power                            | g/s             | 16                                     | 25      |      |
| Max. supply water temperature min./max.                      | °C              | 65/85                                  |         |      |
| Min. return water temperature                                | °C              | 60                                     |         |      |
| Temperature adjustment range                                 | °C              | 60-85                                  |         |      |
| Resistance of flow through boiler                            | ΔT=10K          | mbar                                   | 15,8    | 22,8 |
|  | ΔT=20K          | mbar                                   | 2,9     | 7,5  |
| Chimney dimensions   | cm x cm         | 15x15                                  | 18x18   |      |
|  | Ø mm            | 170                                    | 210     |      |
| Minimum chimney height                                       | m               | 9                                      | 10      |      |
| Maximum permissible ambient temperature                      | °C              | 50                                     |         |      |
| Heating area   | m <sup>2</sup>  | 2,6                                    | 3,9     |      |
| Boiler water tank capacity                                   | l               | 172                                    | 252     |      |
| Power supply   | V/Hz            | ~230V/50Hz                             |         |      |
| Maximum power consumption                                    | W               | 80                                     | 162     |      |
| Boiler weight  | kg              | 542                                    | 718     |      |
| Width  | mm              | 712                                    | 812     |      |
| Depth  | mm              | 1369                                   | 1355    |      |
| Height***  | mm              | 1225                                   | 1525    |      |
| Dimensions of charging hole                                  | mm              | 330x284                                | 430x284 |      |
| Supply and return socket diameter                            |                 | 1½"                                    | 1½"     |      |
| Release socket diameter                                      |                 | ½"                                     | ½"      |      |
| Flue gases outlet diameter                                   | mm              | 127                                    | 127     |      |
| Operating pressure of coil min/max****                       | bar             | 2/6                                    |         |      |

\* Maximum heated area has been calculated based on individual demand for heat q=100 W/m<sup>2</sup>.

\*\* Minimum safe capacity of heat discharge tank calculated according to PN-EN 303-5

\*\*\* Height of DEFRO HG boiler can be additionally adjusted by means of provided levelling legs.

The regulation varies from 38 to 50 mm.

\*\*\*\* In case of higher pressure use pressure regulator