



HDG Euro with HDG Control

Price catalogue

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**Gasifying wood boiler for log wood (500 mm) waste wood,
wood chips, shavings and pressed wood briquettes**



Equipment features and specifications supplied

- Conical fuel chamber expanding towards the bottom to enable the fuel to slip down easy, made of 10 mm quality sheet steel
- Welded, fire-resistant special cladding for continuous heating of wood chips/shavings/woodworking waste (only in the model with scale lining)
- Ergonomic and safe filling with pneumatic fuel chamber door with safety catch
- Solid combustion grid and air-cooled burner nozzle, each made of grey cast iron, for a long life expectancy.
- Adjustable grid lifting rails and settable air zones for ideal adjustment to different fuels
- Precise air volume control with actuators for primary/secondary air
- Modular-design high-temperature combustion chamber lined with separate firebricks for low-emission recombustion of combustion gases
- Constantly high efficiency due to large, upright heat exchanger surfaces
- Long cleaning intervals due to generously dimensioned ash compartment and convenient ash removal
- Intuitive-to-operate heating and system controller with user-friendly 4.3" touch-screen display Combustion and output control assisted by Lambda sensor and flue gas temperature sensor Outside temperature sensor included

The HDG Euro is a gasifying wood boiler, which has made a name for itself as a topper for the combustion of different wood fuels. Its solid construction, convenient filling from above and also its large fuel chamber capacity of 220 l has made the HDG Euro a favourite among enthusiastic wood heaters for more than a decade.

The HDG Euro is optionally available with the HDG automatic ignition system. This makes wood heating more convenient, because the fuel chamber contents are ignited as required and automatically.

Type-tested in accordance with DIN EN 303-5, certified to EU Pressure Equipment Directive 97/23/EC.

HDG Euro boiler type (with HDG Control Touch)	Item no.	EURO	PG
HDG Euro 30	15131030		1
HDG Euro 40	15131040		1
HDG Euro 50	15131050		1
HDG Euro 30 with scale liner*	15131130		1
HDG Euro 40 with scale liner*	15131140		1
HDG Euro 50 with scale liner*	15131150		1
* for wood chips, shavings, pressed wood briquettes, fuel class 6+7			
HDG automatic ignition system for HDG Euro for mounting on RH side of boiler, consisting of: Ignition fan, differential pressure switch, cladding, mountings and fixings	16001007		7
Display wall-mounting installation kit Wall-mounting housing for display unit as an alternative to mounting on the boiler including dummy cover	16005037		7
HDG mounting aid for HDG Euro for removing the transport pallets 1 set consisting of: 4 lever arms, including spindles and washers	15110100		7






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HDG Control Touch control panel					Item no.	EURO	PG	
	HDG Control 4.3" touch-screen display for HDG Euro included as standard					Inc.		
	HDG Control XL 7" touch-screen display for HDG Euro with integrated web visualisation Extra charge				16005011		7	
The HDG Control can also control various plumbing system functions as well as the boiler. If the maximum number of the particular functions is exceeded, additional HDG Control touch-screen displays can be integrated in the system.								
Control of the various plumbing system functions requires the appropriate inputs and outputs, e.g. for sensors, pumps and mixer valves. The requirements must be compared with the available inputs and outputs and expansion modules added if necessary. Expansion modules with displays are listed in Section E.								
HDG Control sensor packages for controlling the following plumbing system functions (s. Section E for more details)		Inputs and outputs required			Max. per display	Item no.	EURO	PG
		Sensor	Pump	Mixing v.				
Accumulator management (1 accumulator)¹ incl. recharging management 3 immersion sensors for top, middle and bottom of accumulator ①		3			1	16005050		7
Accumulator management (2 accumulators) 3 immersion sensors for top, middle and bottom of accumulator		3			1	16005052		7
Accumulator management (2 accumulators) with charge transfer system 3 immersion sensors for top, middle and bottom of accumulator		3	1	1		16005053		7
External heat source (e.g. oil/gas boiler) 1 immersion sensor		1 ²	1 ²	1 ²	1	16005055		7
Weather-compensated heating circuit , 1 heating circuit contact sensor ②		2 ³	1	1	6	16005005		7
Grid pump (for district heating grids) 1 contact sensor		1 ²	1	1 ²	2	16005056		7
Domestic water management , 1 immersion sensor ③		1	1		2	16005006		7
Solar charge on buffer tank , 1 collector sensor		1 ²	1	0-2 ²	1	16005008		7
Solar charge on water and possibly buffer , 1 collector sensor, 1 immersion sensor		2 ²	1	0-2 ²		16005015		7
Control hardware expansion: control of the packages requires the appropriate control hardware. The hardware can be selectively expanded		Available inputs and outputs			Max. per display	Item no.	EURO	PG
		Sensor	Pump	Mixing v.				
Central module for HDG H20/25/30 (installed in the boiler) ④		12	3	3			Inc.	
EM4, extension module for installation in boiler		4	2	1	1 ²	16005021		7
EM8, external extension module in wall unit		8	3	2	3 ²	16005023		7
EM8+4, external extension module in wall unit		12	5	3		16005025		7



¹ The HDG Control accumulator management supplementary package is required for operation of the HDG H20/25/30.

² Depending on plumbing configuration.

³ Sensor input is reserved for room control unit light/room control sensor.

⁴ For speed control of solar operation using a PWM signal, an EM4, EM8 or EM8+4 is required in the system network.

Function guaranteed only if installed according to HDG plumbing configuration diagrams and using HDG system components and correctly installed and commissioned by HDG-trained staff.

System and hydraulic components					Item no.	EURO	PG
	HDG return temperature control A DN 32 for HDG Euro ⑤ Return temperature control set DN 32 with insulation, Wilo 30/1-7.5 energy-efficient circulation pump w/o display, 180 mm, DN 50 ext. thread, incl. insulation, three-way mixer valve DN 32, actuator SM 4.6, running time 150 seconds, 230 V, 2 ball valves DN 32 int. thread, side DN 25 connection for boiler safety set, angle piece, screw connection/seal				16002081		7
	HDG return temperature control A for HDG Euro with energy-efficient circulation pump Wilo 30/1-7.5 w/o display, 180 mm, DN 50 ext. thread, incl. insulation, three-way mixer valve DN 40, int. thread DN 40, actuator SM 4.10, running time 150 seconds, 230 V, screw connection/seal				16002080		7
Boiler safety set DN 25 , up to 50 kW, safety valve 3 bar DN 15, pressure gauge, automatic vent valve, insulation ⑥					15110030		7
Thermal safety device , DN 20 int. thread, immersion sleeve, 142 mm with DN 15 ext. thread ⑦					15110009		7

HDG system accumulators and accessories can be found in Section F

Accumulator layout for HDG Euro

The size of the accumulator must be adapted to the boiler type, the type of wood and the building's heating requirements. According to the environmental pollution legislation applicable in Germany, accumulators used with log wood boilers should have a volume of at least 12 l per litre of boiler fuel chamber capacity and/or a ratio of 55 l per kW of boiler output must be strictly adhered to. HDG recommends at least 3000 l with HDG Euro Please also take note of DIN EN 303-5, VDI 2035 and the information on the boiler and accumulator dimensioning. Functional warranty only if installed according to HDG hydraulic schemes and with HDG system components as well as qualified commissioning by HDG-trained staff.

HDG starter packages for HDG Euro for standard hydraulic systems	Consisting of:	Suitable for boiler type:	Item no.	EURO	PG
Accumulator charging only	① ④ ⑤ ⑥ ⑦	HDG Euro	16095114		99
Accumulator charging, 1 heating circuit, domestic hot water	① ② ③ ④ ⑤ ⑥ ⑦	HDG Euro	16095117		99
Accumulator charging, 2 heating circuits, domestic hot water	① ② ② ③ ④ ⑤ ⑥ ⑦	HDG Euro	16095120		99



HDG Euro functional principle

Gasifying wood boiler with bottom lateral burning

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The **flue gas temperature sensor** is the reference variable for the required primary air and also defines the output of the boiler.

The **lambda sensor** measures the residual oxygen content after combustion and is the reference variable for the correct volume of recombustion air, i.e. secondary air. It forms the basis for environmentally friendly combustion with low wood consumption and high efficiency. The Lambda sensor is fitted in a protective tube with a heat-resistant sealing washer. This makes the lambda sensor a reliable and durable reference variable.

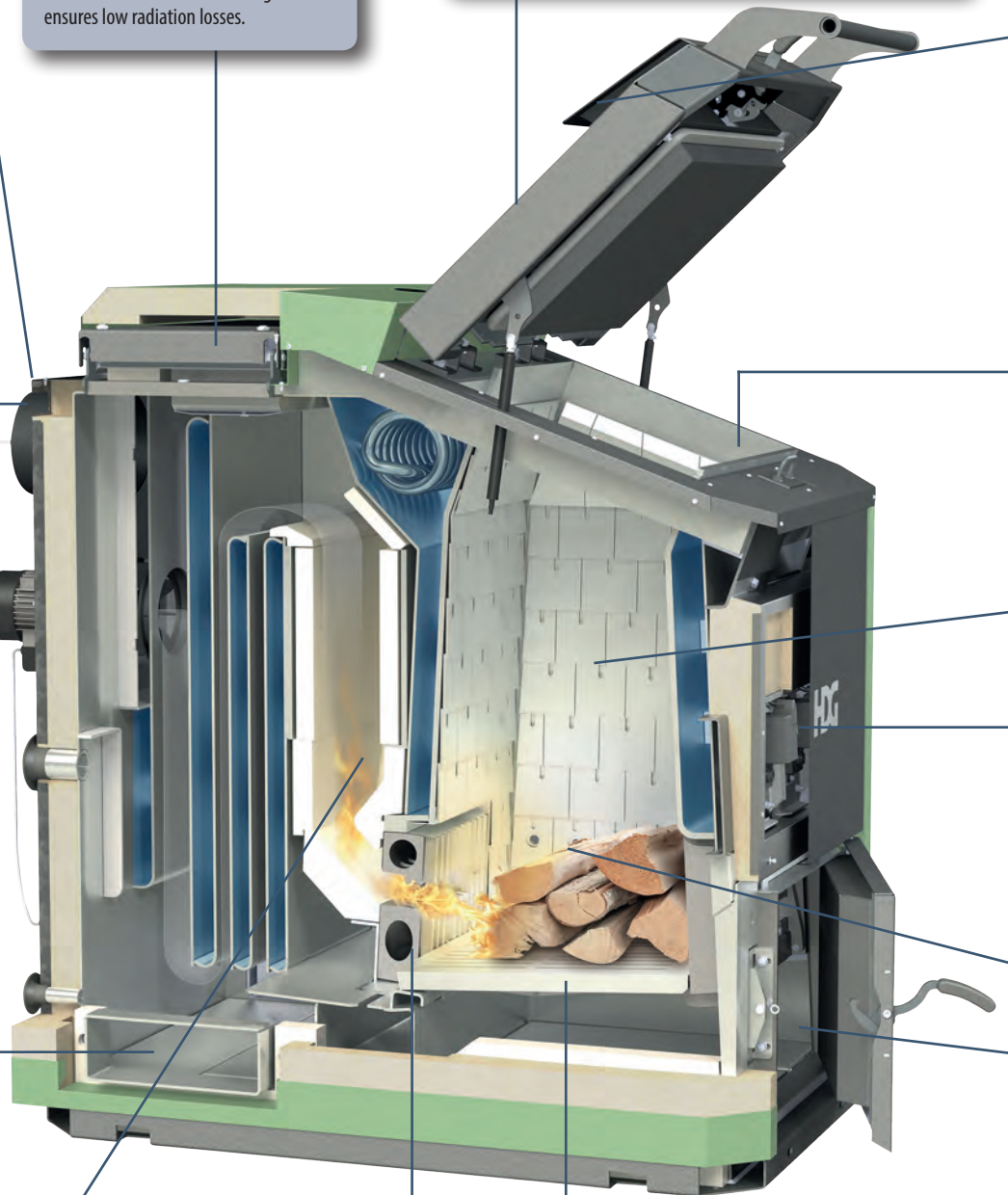
The **flue gas fan** assists generation of the necessary flue draught and provides the required depression in the fuel chamber. This makes heating up as well as cleaning a clean and speedy affair. The high-quality fan has a shaft cooling mechanism and is protected against overheating by a controller.

The **flue ash door** allows the ash created to be removed from the left or right. The ash doors are optimally insulated and easy to remove with two star grips.

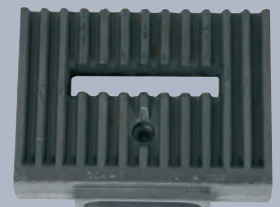
The combustion gases generated in the fuel chamber are burned off in the modular, hot **jointed combustion chamber** with the addition of secondary air. The combustion chamber principle with individual "bone bricks" which was specially developed for the HDG Euro compensates tensions within the combustion chamber and guarantees a long service life.

The well-insulated **cleaning lid** with a stainless steel flap in the combustion chamber area can be mounted in different ways and can be folded up to the side. The jointed combustion chamber below and the heat exchangers with large surfaces can thereby be easily accessed. The insulated cladding lid ensures low radiation losses.

The pneumatically supported **fuel chamber door** with an insulated stainless steel cartridge allows the boiler to be filled easily and ergonomically with log wood or waste wood. The special safety catch and lock means this fuel chamber door provides the highest safety levels. The pretensioned stainless steel cartridge with fibreglass caulking strip around the circumference means the fuel chamber door seals the large fuel chamber tightly.



The 30 kg, grey cast iron **burner nozzle** pre-heats the secondary air. This also protects the burner nozzle from overheating – a guarantee for a long life expectancy. The special ribbed construction can draw off the combustion gases created in the fuel chamber at any time. This makes the HDG Euro suitable for a wide variety of wood fuels. The special construction of the secondary air outlet ensures optimum turbulence of the combustion gases and thereby does the "preparatory work" for optimum combustion.





HDG Euro functional principle

Gasifying wood boiler with bottom lateral burning

The **HDG Control** forms the core of combustion control for the HDG Euro. It controls all electronic processes required for heat generation and optimum combustion. In addition, the HDG Control features an integrated heating and system controller with connection options for accumulator management and system-dependent heating circuit controllers.



The HDG Euro is optionally available with a special, welded, fire-resistant cladding in the fuel chamber for permanent heating of wood chips, pressed wood briquettes and carpentry waste in fuel classes 6 and 7 (according to 1. BImSchV for wood working and processing companies). On this variant, the

fuel chamber width is reduced to approx 54 cm, the necessary raising of the grid reduces the fuel chamber capacity to approx 200 l

The conical **fuel chamber** in the HDG Euro has a capacity of 220 l and is manufactured as standard from 10 mm quality sheet steel. The wood goes through four different temperature zones in the fuel chamber. In the upper section, the firewood is "preheated". The water bound in the firewood is evaporated at temperatures around 100°C. For non-polluting combustion, the firewood must be sufficiently split and contain less than 20% water content (25% wood moisture). Wood is composed of approximately 85 percent volatile components by weight, which account for about 70% of the heating energy. At temperatures up to approx. 600°C, the firewood is degassed with the addition of primary air. The primary air enters the boiler via a total of twelve primary air openings that can be found in the lower area of the fuel chamber. The gases released in the first step are ultimately burned out with the addition of secondary air in the downstream hot combustion chamber.

The fan control unit with the attached actuators for the **primary and secondary air** ensures the air quantity is regulated precisely during the entire burning cycle. After the burning cycle the actuators are closed automatically in order to reduce boiler cooling. If the boiler is not heated for more than seven days, the protective program ensures that the boiler is "aired" with opened actuators.



The **HDG automatic ignition system** is optionally available for the HDG Euro. This makes wood heating more convenient, because the fuel chamber contents are ignited as required and automatically.

Under the solid combustion grid, there is the large **ash compartment** for combustion residue. The ash can be easily drawn forward into the supplied ash pan. The insulated ash door has a fibreglass caulking strip around the circumference and can be adjusted at any time via the door handle.

The bottom of the fuel chamber is formed by the high-quality **combustion grid** made from grey cast iron. The approx. 42 kg grate with solid struts and a conical shape that expands downwards is split in three parts which can be removed individually. The cleaning flap in front is also manufactured from solid grey cast iron and is fitted with four adjustable air slides. The adjustable grate lifting rails allow the grid to be set variably for different combustion materials.





Boiler type	Unit	HDG Euro 30	HDG Euro 40	HDG Euro 50
Performance data (measured according to DIN EN 303-5)				
Nominal thermal power	kW	30	40	48
Minimum thermal power	kW	–	30	30
Boiler efficiency at nominal thermal power ¹⁾	%	92.6	92.3	92.0
Required auxiliary energy at nominal thermal power ¹⁾	W	94	125	157
Electrical power supply: Voltage/frequency	V/Hz	230/50	230/50	230/50
Electrical power supply: Back-up fuse	A	10	10	10
General boiler data				
Boiler class		5	5	5
Maximum permissible operating pressure	bar	3	3	3
Maximum supply temperature ²⁾	°C	95	95	95
Minimum return temperature	°C	60	60	60
Water capacity	l	178	178	178
Fuel chamber capacity (without scale liner)	l	220	220	220
Fuel chamber width (without scale liner)	mm	560	560	560
Weight	kg	979	979	979
Dimensioning data for flue calculation (DIN EN 13384-1)				
Flue gas temperature (Tw) at nominal thermal power	°C	140	160	180
Flue gas temperature (Tw) at lowest thermal power	°C	140	140	140
Flue gas mass flow at nominal load ¹⁾	kg/s	0.0160	0.0220	0.0260
Flue gas mass flow at lowest thermal power ¹⁾	kg/s	0.0160	0.0160	0.0160
CO ₂ content at nominal thermal power ¹⁾	%	16.4	16.7	16.9
CO ₂ content at lowest thermal power ¹⁾	%	16.4	16.4	16.4
Required flue draught (Pw)	Pa	13	14	15
Diameter of flue pipe connection	mm	180	180	180
Height to centre of flue gas connecting pipe	mm	1106	1106	1106
Water-side connections				
Flow and return connections (socket)	DN	32, int. thread	32, int. thread	32, int. thread
Safety heat exchanger connections (socket)	DN	20, int. thread	20, int. thread	20, int. thread
Drain connection (socket)	DN	15, int. thread	15, int. thread	15, int. thread
Recommended minimum pipe dimensions	DN	32	32	32
Water-side resistance at nominal thermal power, 10K ¹⁾	Pa	2400	2400	2400
Water-side resistance at nominal thermal power, 20K ¹⁾	Pa	640	640	640
Other information				
Burning time per fuel filling according to fuel recommendations (Beech) approx.	h	up to 7	up to 6	up to 5
Burning time per fuel filling according to fuel recommendations (Spruce) approx.	h	up to 6	up to 5	up to 4
Sound pressure level	dB(A)	< 70	< 70	< 70
Min. Air inlet cross section ³⁾	cm ²	150	150	150
Label Boiler		A+	A+	A+
Label Boiler + Controller		A++	A++	A++

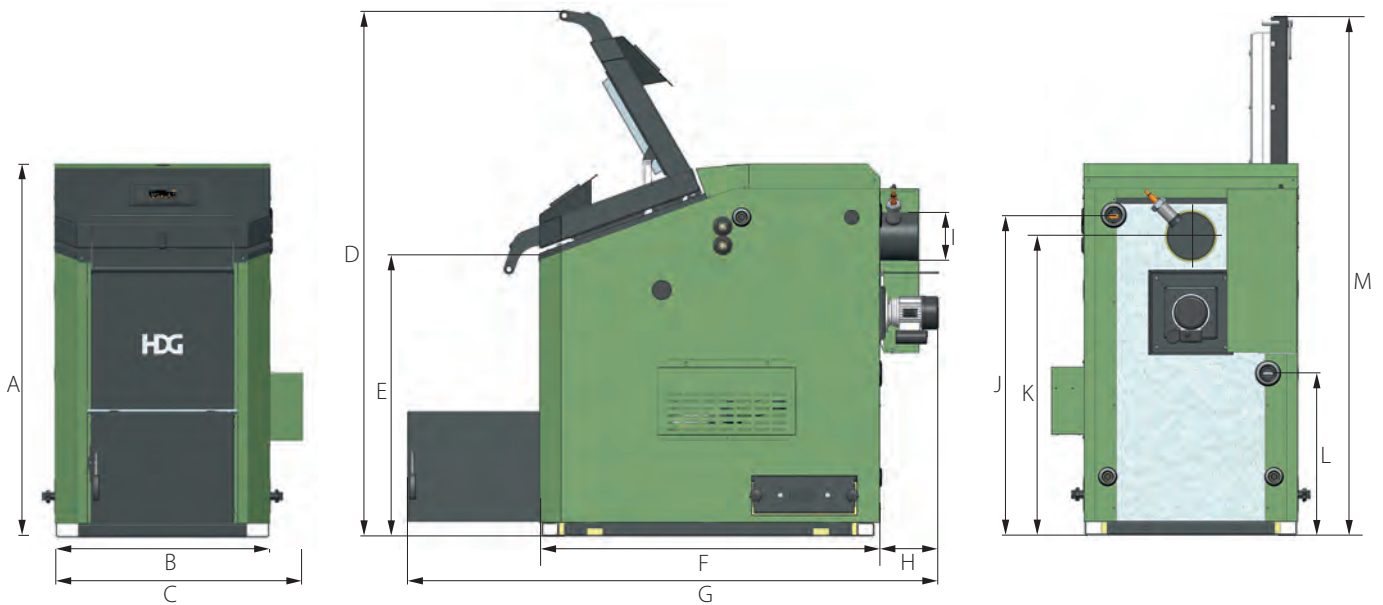
¹⁾ Figures as per type-approval test to DIN EN 303-5 by TÜV-Süd

²⁾ Maximum operating temperatures of up to 110 °C can also briefly occur.

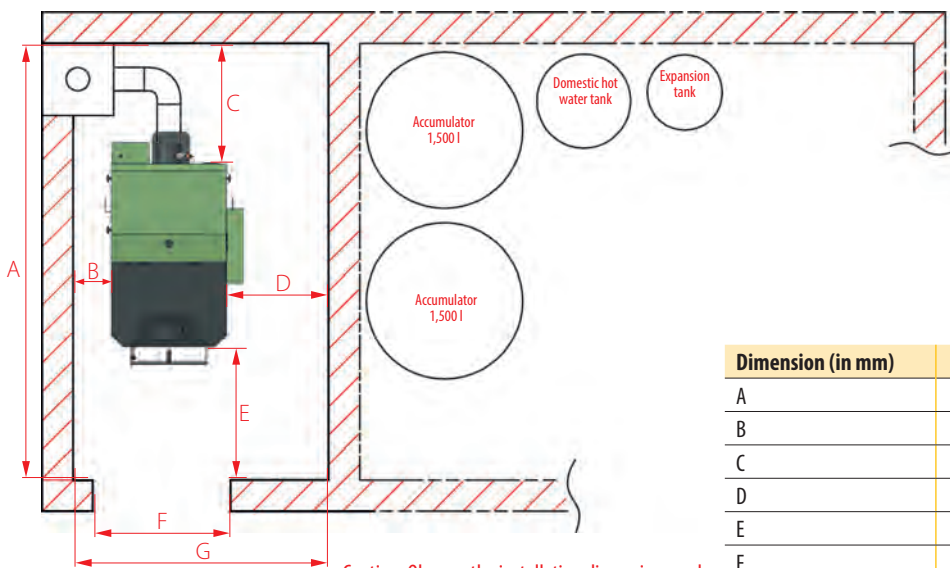
³⁾ Observe country-specific guidelines



HDG Euro Technical drawings, minimum clearances



Dimension (in mm)	Description	HDG Euro 30/40/50
A	Boiler height	1370
B	Width of boiler without HDG automatic ignition system	785
C	Width of boiler with HDG automatic ignition system	895
D	Height with open fuel chamber door	1990
E	Fuel chamber edge height	1110
F	Length of boiler without attachments and flue pipe connection	1260
G	Total length with open ash removal door including flue gas fan	1960
H	Flue gas fan overhang	220
I	Diameter of flue pipe connection	180
J	Height at middle of supply connection	1180
K	Height to centre of flue gas connecting pipe	1110
L	Height at middle of return connection	600
M	Height with open cleaning shaft lid	1920
	min. insertion dimensions (without cladding an add-on parts)	1395 x 785 x 1370



Minimum ceiling height: 2.00 m
Recommended ceiling height: 2.30 m

Caution: Observe the installation dimensions and the tilting height of the accumulator.

Dimension (in mm)	HDG Euro 30/40/50
A	At least 2600
B	at least 200 (or 800)
C	At least 750
D	800 (or 200*)
E	At least 600
F	At least 800
G	At least 1800

*does not apply in connection with HDG automatic ignition system