DOMUSA
TEKNIK

The most advanced technology
at the most reasonable price

BIOMASS BOILERS

BIOCLASS IC 150

FOR MEDIUM POWER INSTALLATIONS

- > ELECTRONIC MODULATION
- > AUTOMATIC CLEANING
- > INTEGRATED VACUUM SYSTEM
- > HIGH-CAPACITY ASH COMPRESSOR
- > AUTOMATIC COMBUSTION ADJUSTMENT
- > INTERMEDIARY HOPPER INCLUDED



ErP Compliant CLASS A+

CLASS 5 AS PER EN 303-5

Modbus
Connectivity via Modbus

BIOCLASS IC 150

PELLET BOILER FOR MEDIUM POWER INSTALLATIONS

Robust, economic and safe: the BIOCLASS iC 150 boiler is the result of decades of experience and a long and uninterrupted development process. This fully automatic boiler is capable of burning wooden pellets efficiently, obtaining very high performance (>92%) with minimum emissions. In addition, the boiler's compact design requires very little space and offers the customer a high degree of versatility and easy maintenance.

It main features are described below:

AUTOMATIC CLEANING SYSTEM OF BOTH THE BURNER AND THE HEAT EXCHANGER

DUAL IGNITION SYSTEM

FULLY EQUIPPED

AUTOMATIC CALIBRATION PERFORMED BY A LAMBDA PROBE



OPTIONAL REMOTE MANGEMENT FROM ANYWHERE, VIA A MODBUS CONNECTION

ANTI-CONDENSATION KIT INCLUDED (RETURN TEMPERATURE HEATER WITH SERVOMOTOR INCLUDED)

POWER MODULATION FROM 30% TO 100% OF FULL CAPACITY

PENUMATIC SUCTION SYSTEM FROM THE STORAGE SILO, STANDARD

VERY LOW EMISSIONS OF CONTAMINATING PARTICLES, WITHOUT REQUIRING THE INSTALLATION OF EXTERNAL FILTERS (< 20 mg/m^3 AT 10% OF O_2)

OPTIONAL ADDITION OF AUXILIARY UNITS IN CASCADE

DOMUSA TEKNIK

Our industrial firm was founded in 1976. We are dedicated to the production of home heating and air conditioning equipment that covers a wide range of solutions adapted to various types of energy, including fossil fuels (gas, diesel, electricity) and many more for renewable energies (solar, thermal, photovoltaic solar, air source and biomass).

We are a leading company in the manufacture and sales of floor-mounted boilers in Spain, with over 12 years of expertise in the production of pellet boilers and one of the pioneer companies in Spain in the design and manufacture of these types of solutions.

In addition to holding quality certification ISO9001, environmental certification ISO14001 and occupational safety certification OSHAS18001, in 2020 our company was recognised for its excellency in management with the "A Oro" award from the Euskalit foundation for quality.

ISO 9001
Quality management systems

ISO 14001
Environmental management systems

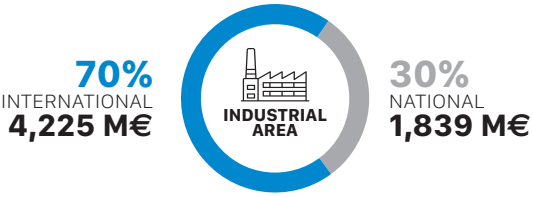
45001
Occupational health and safety management systems

We are members of the **MONDRAGON Corporation**, the largest industrial group in the Basque Country, the tenth largest in Spain and a worldwide reference for cooperative companies.

MONDRAGON is formed by 264 entities and employs 81,507 people distributed in the following areas:

Finance | Industrial area | Distribution | Knowledge

11,608 M€ TOTAL SALES | **96** COOPERATIVES | **141** SUBSIDIARIES



INTERNATIONAL PRESENCE

14,455 PEOPLE

SALES IN OVER **150** COUNTRIES

141 PRODUCTION IMPLEMENTATIONS

70% INTERNATIONAL SALES



BIOMASS

THE RENEWABLE ENERGY THAT GENERATES LOCAL EMPLOYMENT

Biomass is a 100% renewable product, drawn from waste produced by the forestry and agricultural industries.

Wood granulate (pellets) and other types of granulate, such as olive stones, have become the ideal solution for obtaining significant savings in energy consumption for buildings (compared to using fossil fuels like diesel, gas and even electricity), while contributing to the generation of local employment for the production and management of the raw materials required to generate this type of energy. Our country is rich in forests and agricultural land; using this wealth to enhance its industry is an ideal solution to achieve greater energy independence and to generate stable employment for the future.

Another important factor to bear in mind is raw material price stability over time, in contrast to fossil fuels such as diesel and electricity. The price of wooden or olive stone pellets has remained practically stable over the last 10 years and the country's capacity to generate these raw materials allows for an optimistic outlook that this stability will continue in the future.



BIOCLASS IC 150

This pellet boiler generates a thermal power output of 150 kW and is supplied fully equipped to cover the heating needs of tertiary buildings or buildings with centralised heating and hot water installations.

These types of solutions reduce greenhouse gas emissions, thereby complying with regulations governing minimum renewable energy requirements in new installations or renovations.



01 OPTIMAL COMBUSTION CONTROLLED BY LAMBDA PROBE

Continuous control of the pressure and the quality of combustion gases by a Lambda probe enables automatic calibration of required fuel while adapting to fuel quality and installation conditions.

Thus, the boiler always works at the required power and optimal combustion levels.



Lambda probe

02 AUTOMATIC CONTINUOUS CLEANING SYSTEM

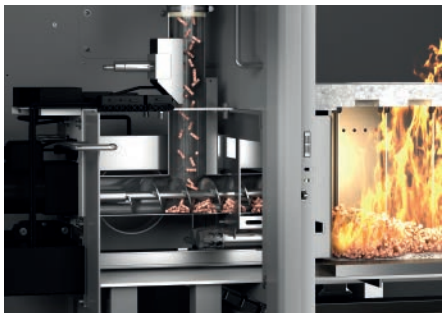
This boiler features fully automatic cleaning of both the flue gas heat transfer system (by a series of cams operated by a motor) and the burner (via a mobile base).

Automatic cleaning is performed without having to shut down the boiler, so boiler service is not interrupted at any time, unless necessary to adjust the temperature or check the installation.





03 TRIPLE FLAME RETURN SAFETY SYSTEM



The triple safety system ensures reliable insulation between the silo and the pellet burner, guaranteeing maximum safety against flame return.

A temperature probe located at the pellet intake stops operation of the screw conveyor motors. The boiler also features a capacitive sensor that shuts off pellet feeding in the event of accumulation at the entrance to the burner, as well as an extinguishable connection if high temperatures are detected in the pellet intake to the burner.

04 ACTIVE SUCTION SYSTEM EVEN WITH THE FLAME LIT

The design of the suction system's cyclone bowl ensures that it can continue operating even while the burner is on. Moreover, the suction system is configured to prevent a vacuum in the pellet tank, thereby avoiding the need for actuators and rotary valves and increasing boiler simplicity and robustness.

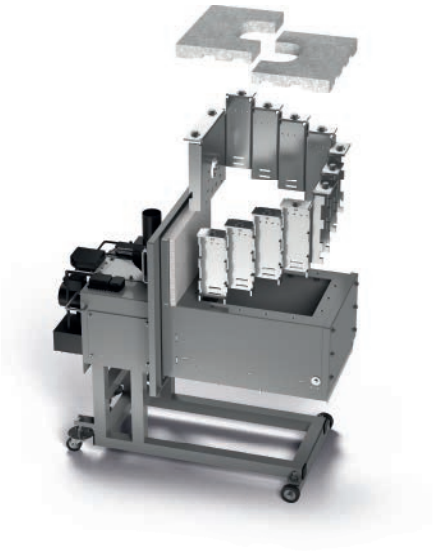
05 HIGH-CAPACITY ASH BOX



The pellet combustion system of the Bioclass IC 150 generates small amounts of ash and is equipped with a high-capacity ash compressor so the ash box only has to be emptied between one and three times a year.

The large ash box is integrated and connected to the boiler and capable of collecting the ash of up to 7 tons of pellets.

06 MODULAR COMBUSTION CHAMBER FOR LOW BURNER MAINTENANCE



The segmented combustion chamber reduces maintenance costs, since both preventive and corrective maintenance can be performed locally.

07 DUAL IGNITION SYSTEM

The dual ignition system is a smart system that sends an alert if a resistor has reached the end of its useful life and allows the boiler to continue operating until it is replaced. This system also reduces the number of resistor start-ups, which significantly prolongs their operation. This combination of less operating time and resistor failure prediction is an extremely reliable solution.

08 COIL-LESS OVERHEATING PROTECTION SYSTEM

Lower thermal inertia due to the large capacity of the primary circuit and absence of high-mass refractory components avoids the need for coil cooling. This reduces consumption of unnecessary water and facilitates installation of the hydraulics.



SUCTION SYSTEMS

We offer a wide range of accessories to provide the suction system that best adapts to your needs. The pellet silo does not have to be located next to the boiler as these systems can operate at distances of up to 25 metres in length and 6 metres in height.

LOADING SYSTEM WITH 3-METRE FEED SCREW CONVEYOR

The silo emptying system is modular and can therefore be adapted to the space available.

Extensions of 0.5 and 1 metres are provided to adjust its length to the dimensions of the silo.



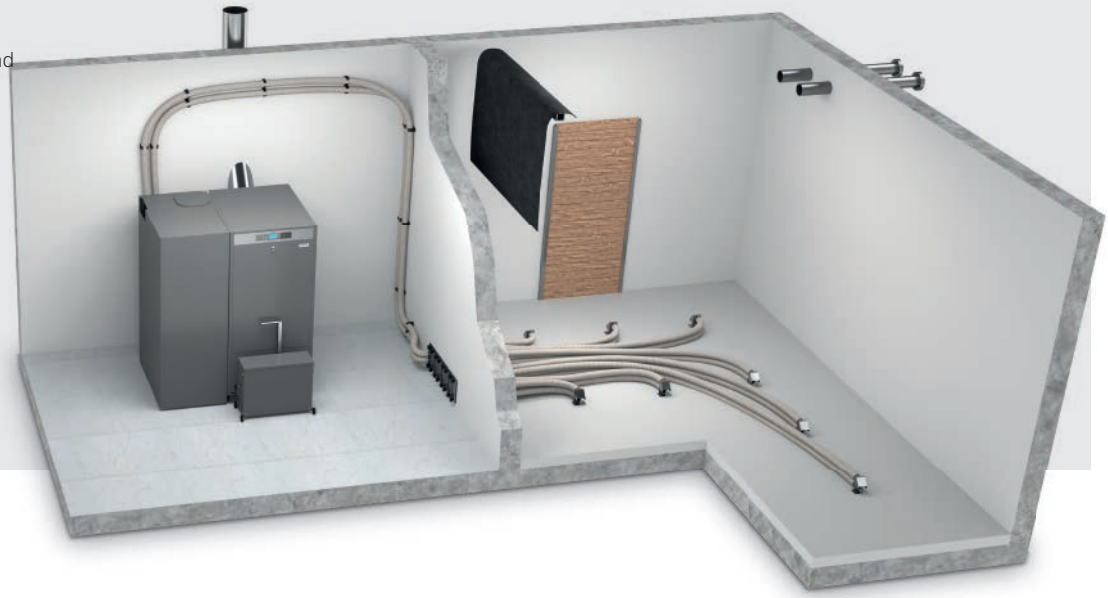
LOADING SYSTEM EQUIPPED WITH 4 NOZZLES AND AUTOMATIC SELECTOR

This suction system features 4 nozzles and an automatic selector, making it extremely flexible so it can take full advantage of the space available. The automatic selector does not require maintenance, for maximum convenience.



LOADING SYSTEM EQUIPPED WITH 8 NOZZLES AND MANUAL CHANGER

This suction system features 8 nozzles and a manual selector for maximum convenience; the nozzles can be placed wherever they are needed and adapted to any silo shape.

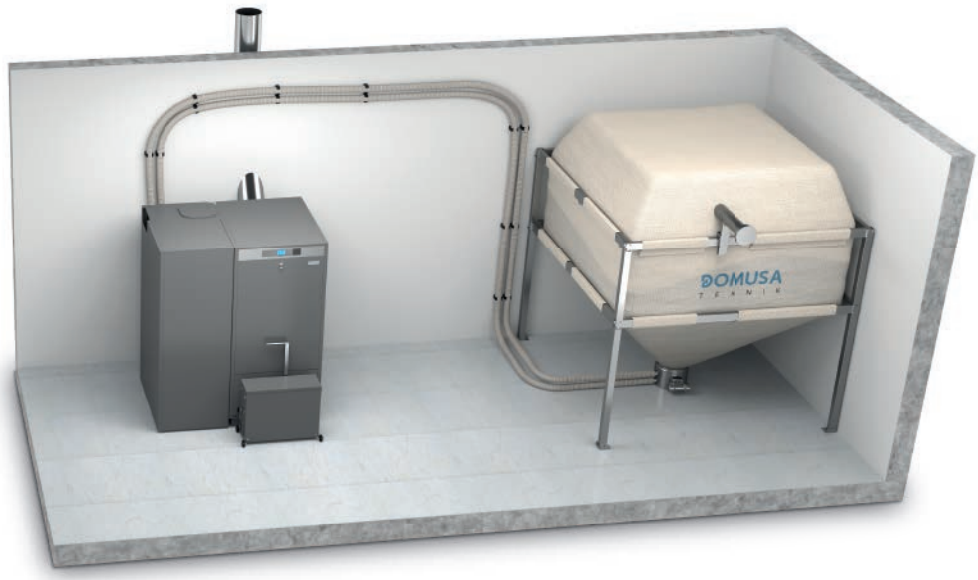


LOADING SYSTEM WITH FABRIC SILO

A wide range of fabric silos of various capacities and sizes are available.

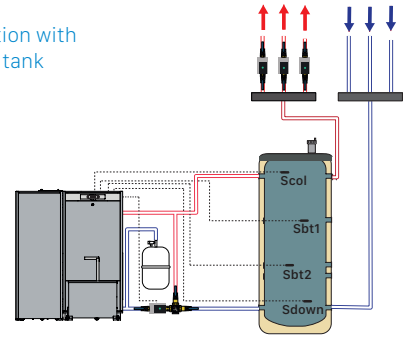
The range of Domusa Teknik fabric silos are designed for easy installation and minimum maintenance.

An optional vibrator kit can be provided with fabric silos to enhance optimal silo emptying.

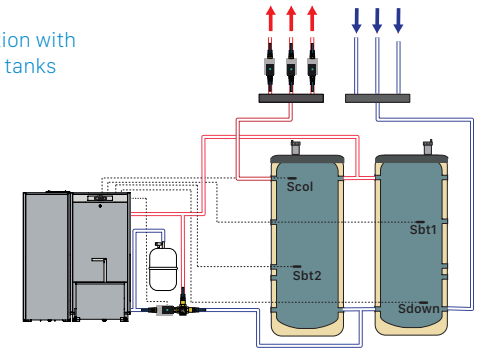


INSTALLATION DIAGRAMS

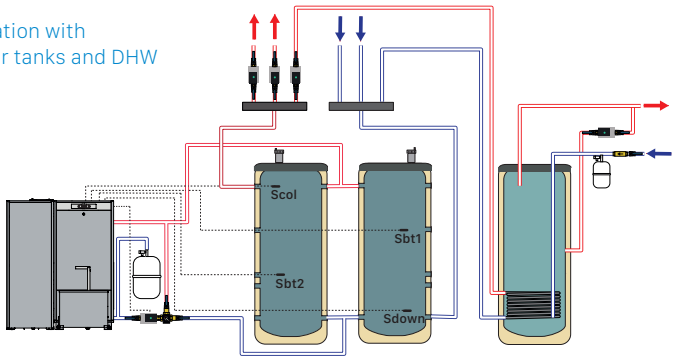
Installation with
1 buffer tank



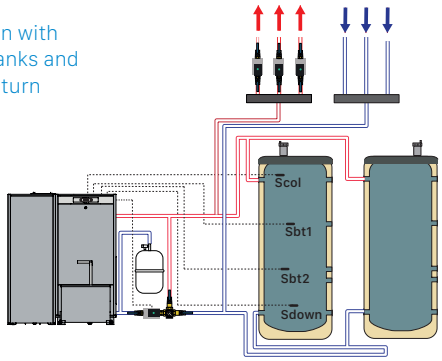
Installation with
2 buffer tanks



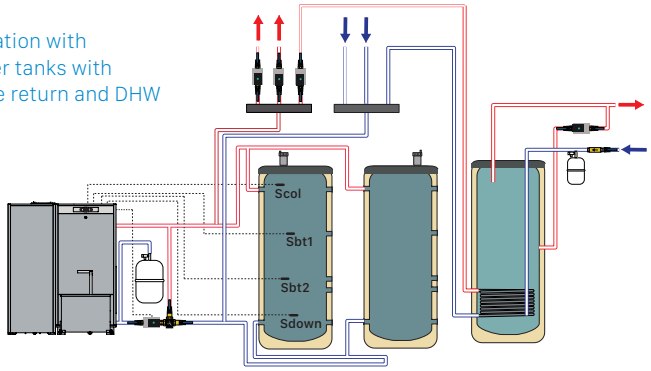
Installation with
2 buffer tanks and DHW



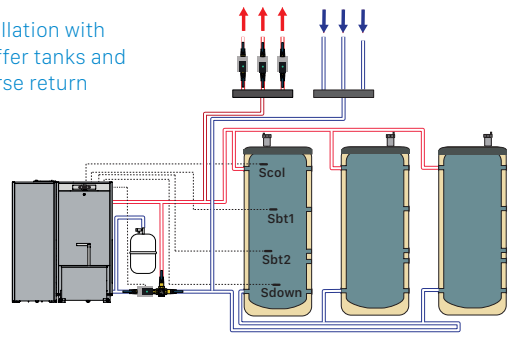
Installation with
2 buffer tanks and
reverse return



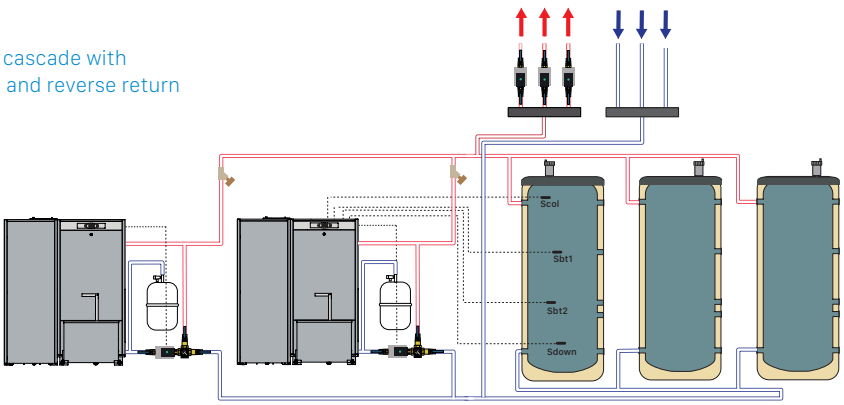
Installation with
2 buffer tanks with
reverse return and DHW



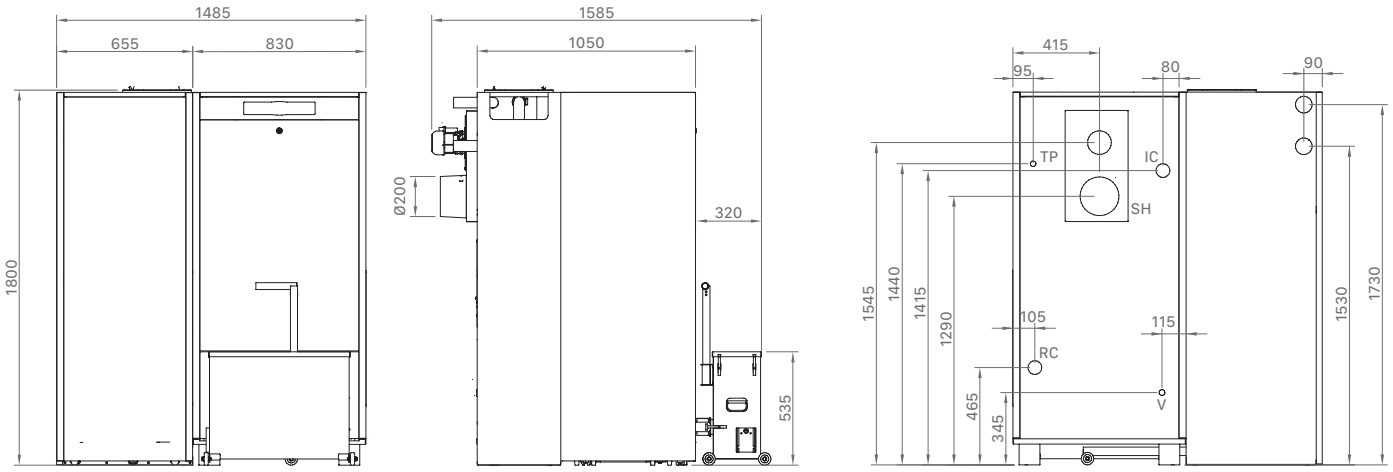
Installation with
3 buffer tanks and
reverse return



Installation in cascade with
3 buffer tanks and reverse return



DIMENSIONS



IC: Hot water intake 2" F
RC: Hot water return 2" F
SH: Fume exhaust
V: Drain connection 3/4" F
TP: Boiler bleed connection 1/2" F

EQUIPMENT



BIOCLASS IC 150 EQUIPMENT
1. Burner (removable)
2. Automatic pellet loading system
3. Ash box
4. Automatic flue gas cleaning system
5. Hopper
6. Water pressure sensor
7. Air pressure sensor

MODEL		**BIOCLASS IC 150**
Rated heat output (P_n)	kW	145
Maximum heating capacity	% (PCI)	92.1
Minimum output power (P_p)	kW	43.4
Minimum heating capacity	% (PCI)	94.1
Classification (as per EN 303-5)		Class 5
Maximum operating pressure	bar	3
Max. operating temperature	ºC	80
Max. safety temperature	ºC	100
Water volume capacity	litres	202
Minimum chimney draft	mbar	0.10
Maximum chimney draft	mbar	0.20
Electric power		230 V~, 50 Hz, 10A
Fume exhaust diameter	mm	200
Minimum return temperature	ºC	45ºC
Weight (net)	Kg	607

SPECIFICATIONS

MODEL	HEAT OUTPUT kW	RATED HEAT OUTPUT %	PARTIAL LOAD POWER kW	PARTIAL LOAD OUTPUT %	WATER VOLUME IN BOILER L	ENERGY EFFICIENCY CLASS
BIOCLASS IC 150	145	92.1	43.4	94.1	202	A+

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CERTIFICATION ISO 9001 | ISO 14001 | ISO 45001

HUMANITY AT WORK | MONDRAGON

000EXC0035 October 2021