

— PELLETECH

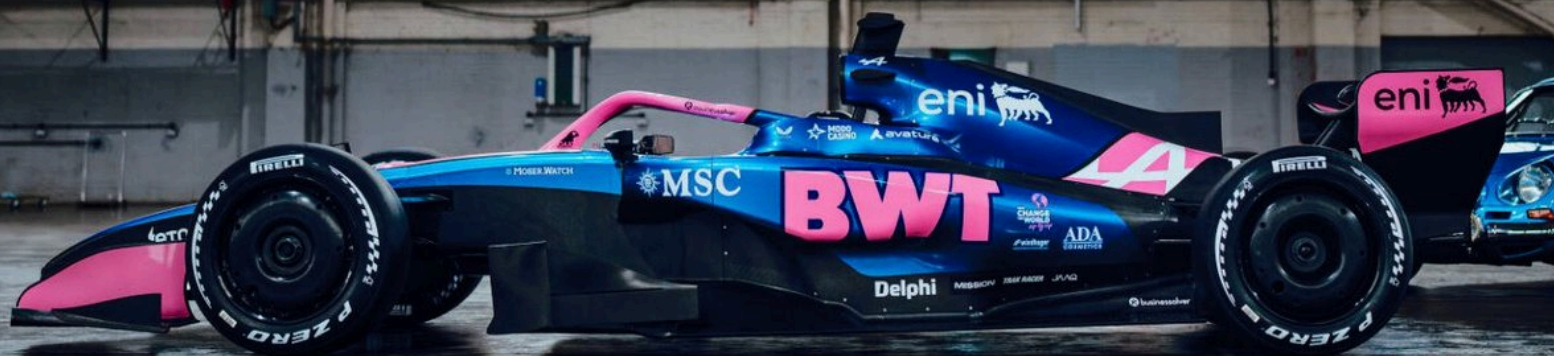
IDRO

The water-based industrial boiler for high outputs
and many fuels.



200 kW – 8.8 MW

OUTPUT RANGE



BWT ALPINE

NEW OWNERSHIP

PelleTech is now part of BWT.

PelleTech, maker of Multiauto, IDRO, AERO and BU, has been acquired by BWT, Best Water Technology. Biotherm Heat AB is PelleTech's general agent in Scandinavia.

1990

BWT founded

6,500+

employees

120+

countries

13

factories

PelleTech®

PART OF



— INDUSTRIAL HEATING

Heat that must never stop.

When a process, a greenhouse or a hotel depends on heat, the boiler has to run – around the clock, all year round. IDRO is built for exactly that.

**OUTPUT**

200 kW–
8.8 MW

OPERATION

Fully automatic,
around
the clock

FUELS

Pellets, wood chips, residues – and
bio-oil as backup – in the same boiler
body. No extra oil boiler needed.

CASCADE

Up to four
boilers together

200_{kW} – 8.8_{MW}

Output range. Nine sizes from 200 kW to 2.2 MW – with four boilers in cascade, up to 8.8 MW. Every plant is engineered for its specific task.



- Pellets
- Wood chips
- Bark
- Logging residues
- Sawdust
- Waste wood
- Energy crops
- Residues

— PELLETECH IDRO

Built for
industrial duty.

A fully automatic, water-based industrial boiler for pellets, wood chips, residues and bio-oil – for small and large industry alike.

MANUFACTURER

PelleTech, part of BWT →

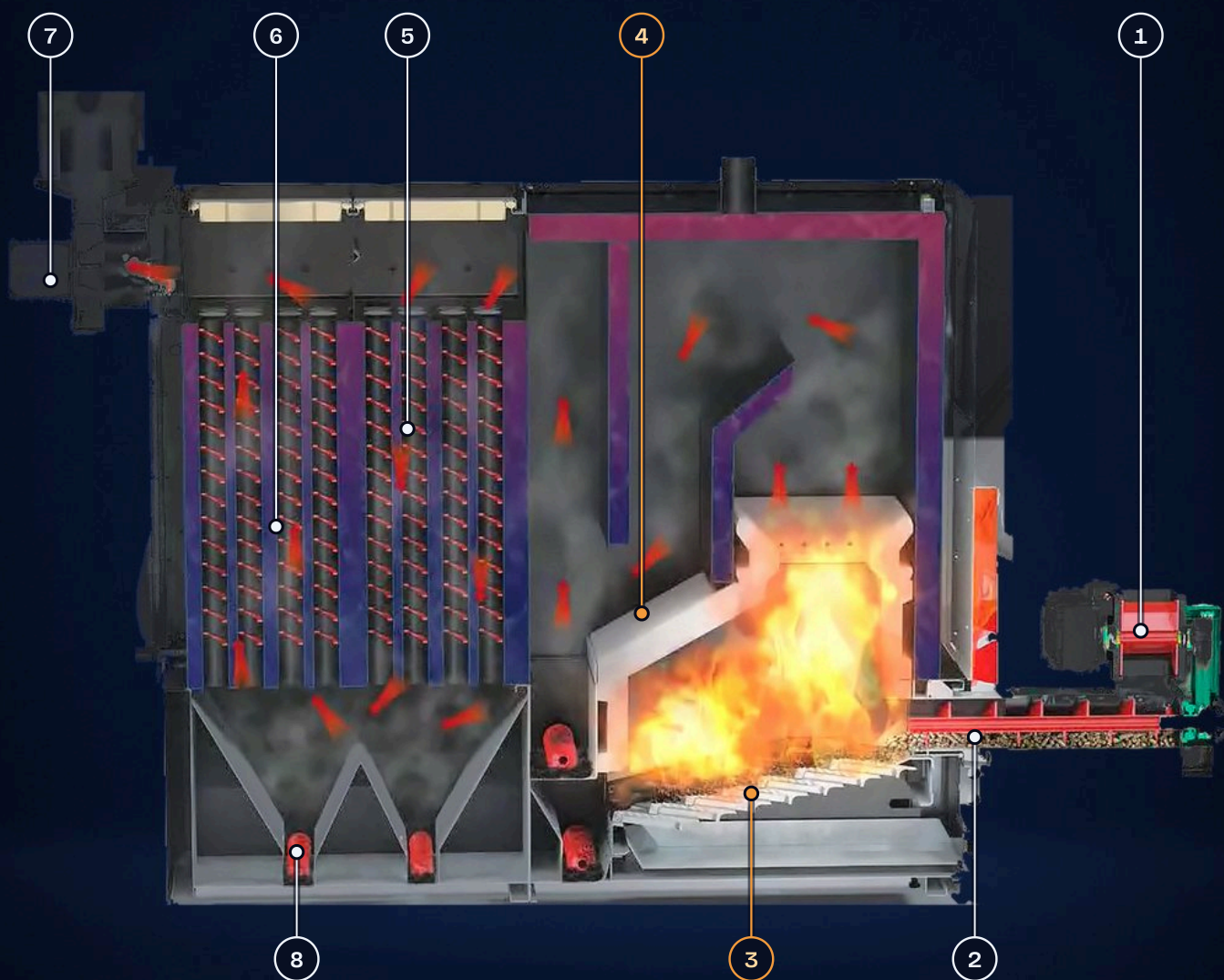
GENERAL AGENT IN SCANDINAVIA

Biotherm Heat AB →

— HOW IDRO WORKS

How fuel becomes heat.

CUTAWAY · IMAGE: PELLETECH



① Rotary valve

Fuel in. Protects against burn-back and shears off long sticks.

② Stoker screw

Feeds the fuel onto the grate.

③ Stepped grate

Moving. The fuel dries, burns out and turns to ash.

④ Firebox

Ceramic-lined and water-cooled.

⑤ Convection

Vertical tubes. The flue gases give up their heat to the water.

⑥ Turbulators

Keep the tubes clean and make the gases swirl.

⑦ Flue gas fan

Frequency-controlled. The lambda sensor measures the oxygen content.

⑧ Ash screws

Carry the ash out of the firebox and convection section.

EXPLODED VIEW, FRONT

Part by part.

The casing, door, ash boxes and feed system of the IDRO 500 – plus the firebox and stepped grate, which sit inside the boiler.



① Flue gas fan

Frequency-controlled, for the right draught through the boiler.

② Touchscreen

On the front: temperature, output, fuel and oxygen content.

③ Firebox door

Sensors and ceramics are accessed through simple hatches.

④ Ash boxes

100 and 84 litres, for the firebox and convection section.

⑤ Firebox

Ceramic-lined and water-cooled.

⑥ Stepped grate

Moving. Slides out on a rail for servicing.

⑦ Rotary valve

Protects against burn-back and shears off long sticks.

⑧ Stoker screw

Feeds the fuel in. Energy-efficient motor and gearbox.

— COMBUSTION

A grate that is never still.

IDRO burns its fuel on a moving stepped grate made of high-chromium cast iron. The grate bars move back and forth, and slightly up and down. They break up the fuel bed and carry the fuel forward until only ash remains. That is why IDRO also handles wetter and lower-quality fuels – with no risk of sintering.



01 · DRYING ZONE

The fuel dries where it enters the grate.

02 · COMBUSTION ZONES

The bed is kept moving and burns out zone by zone.

03 · ASH

Drops into the ash screw and is removed automatically.

A moving stepped grate costs a little more than a fixed grate. In return, the fuel keeps moving throughout combustion and burns out completely – whichever fuel you choose. A moving stepped grate with this two-dimensional technology is unique to PelleTech.

CONVECTION

The heat stays in the water.

In the vertical convection section, moving turbulators make the flue gases swirl and press outwards against the tube walls. The heat passes into the boiler water – and the tubes are cleaned continuously.

FLUE GAS TUBES IN AN IDRO 500

Each with moving turbulators.



132

64–132_{pcs}

FLUE GAS TUBES, Ø 70 MM
132 in 350–500 kW models.

12.5–25.4_{m²}

HEAT EXCHANGER SURFACE
200–500 kW.

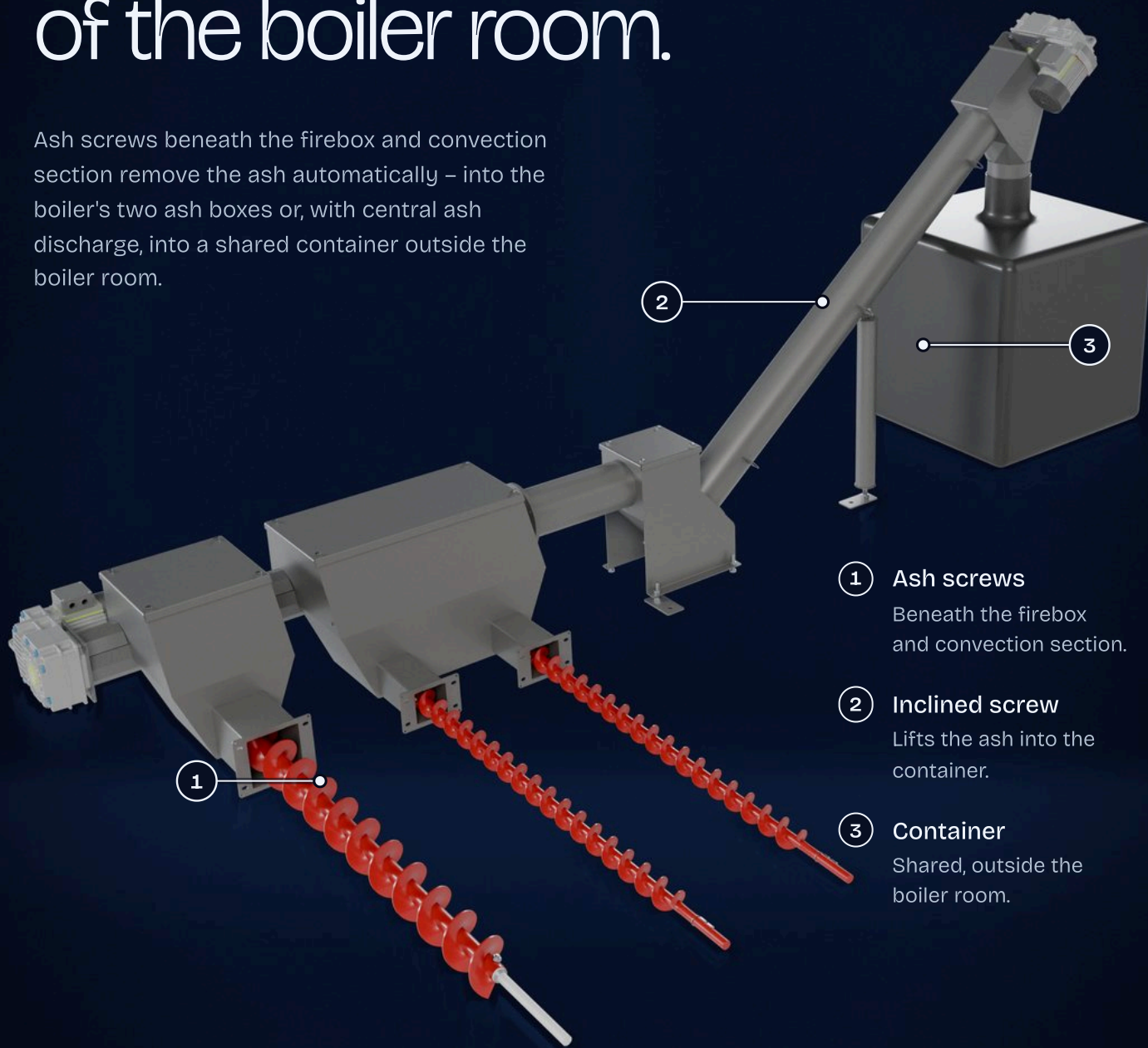
94.6%

EFFICIENCY, UP TO
According to PelleTech.

ASH HANDLING

All the way out of the boiler room.

Ash screws beneath the firebox and convection section remove the ash automatically – into the boiler's two ash boxes or, with central ash discharge, into a shared container outside the boiler room.



- ① **Ash screws**
Beneath the firebox and convection section.
- ② **Inclined screw**
Lifts the ash into the container.
- ③ **Container**
Shared, outside the boiler room.

CENTRAL ASH DISCHARGE, OPTIONAL · CAD

100+84 litres

TWO ASH BOXES
Firebox and convection section.

2×0.37 kW

CENTRAL ASH DISCHARGE
Optional, into a container.

Alarm

WHEN A BOX NEEDS EMPTYING
The boiler lets you know.

— THE REST OF THE BOILER

More features.

From ignition
to flue gases.



① Grate

High-chromium cast iron.
Pulls out of the boiler in
under 15 minutes.



② Cyclone, optional

Separates dust from the
flue gases, with a container
below.

0.37 kW

③ Energy-efficient feed

The stoker screw's gearbox
and motor draw 0.37 kW.



④ Hot-air igniter

Fast ignition at 1,600 W.
Replaceable ignition
elements.



⑤ Lambda sensor

Measures the oxygen
content and adjusts
combustion.

E-filter

⑥ Electrostatic filter

Optional. Built into the boiler
beneath the convection
section – no external filter
unit. Lower cost and more
compact.

From the boiler room to your phone.

The touchscreen sits on the boiler. With the app or via Modbus, you can monitor and control IDRO remotely – and alarms reach you directly.



4

BOILERS IN CASCADE

Four IDRO 500 boilers deliver up to 2 MW – four of the largest boilers, at 2.2 MW each, up to 8.8 MW. The cascade control starts and stops the boilers as demand requires, spreads the operating hours evenly between them and manages the accumulator tanks. An internet connection for alarms and information is available as an option.

— PEACE OF MIND, AROUND THE CLOCK

Safe, around the clock.

Safety is built in – from the rotary valve that shuts out burn-back to the flue gas fan that keeps the draught right. And the boiler tells you itself when it needs servicing.

ROTARY VALVE

A barrier against burn-back

NEGATIVE PRESSURE

A sensor controls the flue gas fan

COMBUSTION

Adjusts itself when the fuel changes

BIO THERM

Alarms and remote monitoring

— FUELS

The fuel that's close at hand.

IDRO burns dry and moist fuels, even lower-quality ones, in one and the same boiler. Pellets and wood chips are the most common – but you are never tied to one fuel.

MOST COMMON

Pellets

Various standards, including pellets made from residues.

MOST COMMON

Wood chips and wood fuels

All tree species with bark, sawdust, logging residues and waste wood.

FROM INDUSTRY

Residues

Wet and dry, from sawmills, furniture, chipboard and pallets.

FROM CULTIVATION

Crops

Energy crops and crop residues.

FROM FARMING

Agricultural residues

Dried residues, such as shredded straw.

AS BACKUP

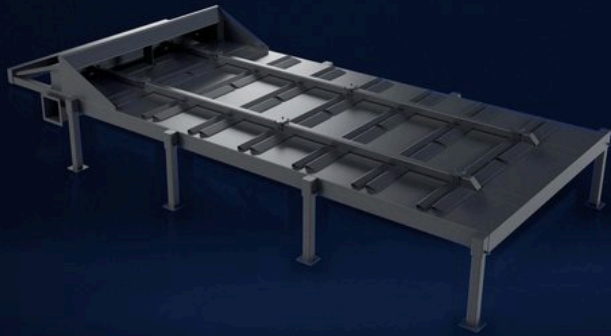
Bio-oil

In the same boiler body. No extra oil boiler needed.



FUEL STORES AND FEED

The store is built to suit the site.



01 UP TO

Scraper-floor store

500 m³

Hydraulic scrapers move the fuel forward.



03 UP TO

Spring agitator

180 m³

05 COMPLEMENT WITH

Mobile shredder

Every storage solution can also be complemented with our mobile shredder, which turns your residues into a potent fuel. A smart logistics solution on site, where all material is taken care of.

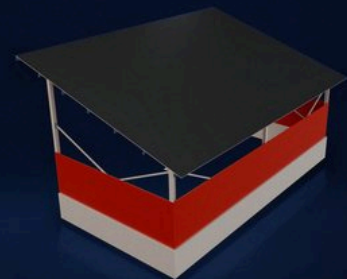
Each store is designed around your conditions and wishes – the site, the fuel and how you want to fill it. IDRO's storage options are decided together with you, based on your conditions on site.



02 GALVANISED STEEL

Silo

11–185 m³



04 SIZED TO SUIT

Carport

The wood chips stay dry under cover.





PELLETECH IDRO 500 · CAD

— IN OPERATION

Built for long operating periods.

The grate and convection section are cleaned automatically, and the ash is removed on its own. When servicing is needed, it is quick.

GRATE

Accessible both through the firebox door and by pulling the whole burner out onto the floor on the supplied rail.

BURNER

Removed for maintenance in around 10 minutes – an easy, comfortable service position instead of having to crawl into the boiler.

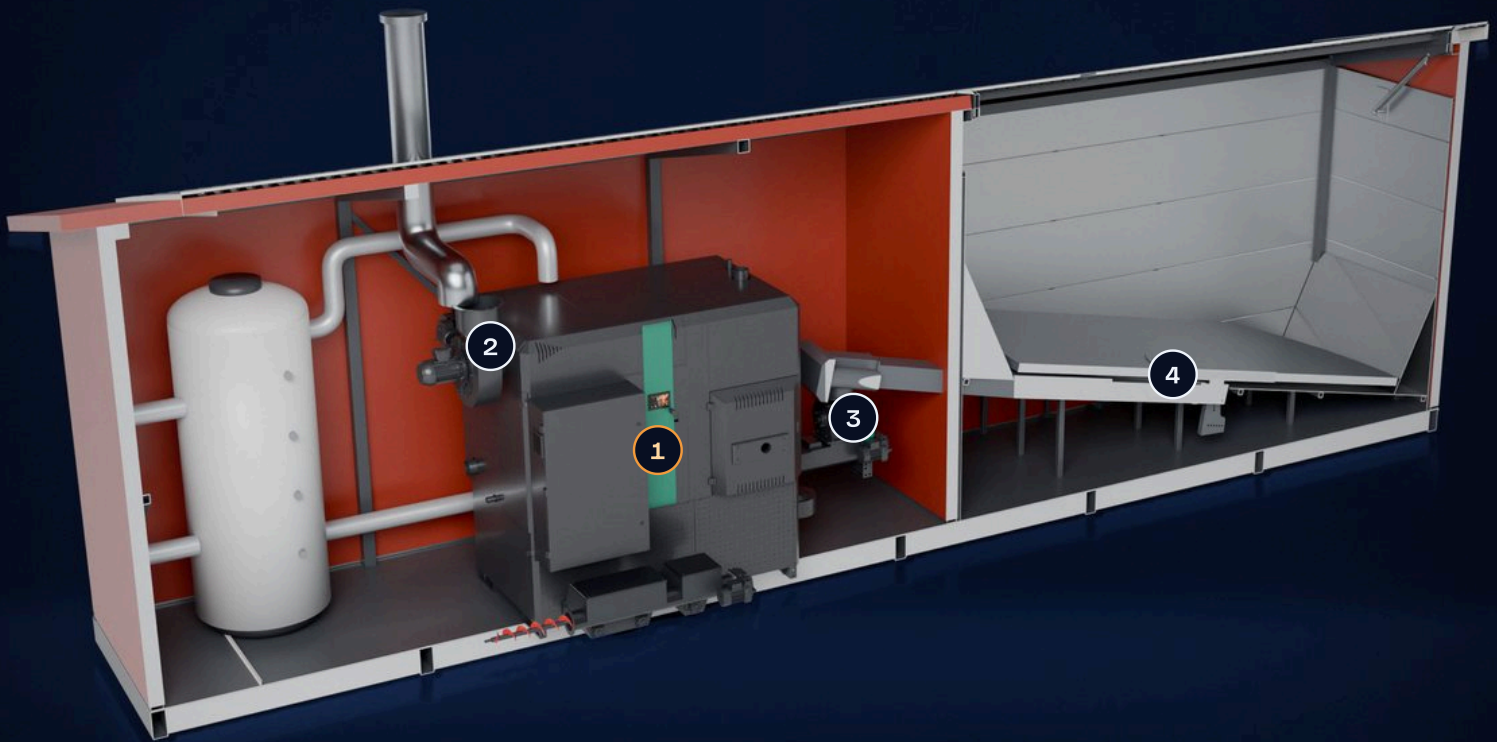
SENSORS

Accessed through simple hatches.

DELIVERY OPTIONS

The boiler room, ready-built.

IDRO can readily be supplied as a heating plant with a built-in fuel store, in a container, or on a platform that slides into an existing boiler room.



HEATING PLANT WITH IDRO 400 · CAD

1 Boiler

The same boiler and store can burn all types of biofuel.

2 Flue gas fan

Frequency-controlled.

3 Feed system

Fuel in via the rotary valve.

4 Fuel store

In the same building as the boiler.

IN AN EXISTING BOILER ROOM

Platform

Slides in ready-built, keeping on-site work to a minimum.

RELOCATABLE

Container

Boiler and fuel in one container or in two.

WITH BUILT-IN STORE

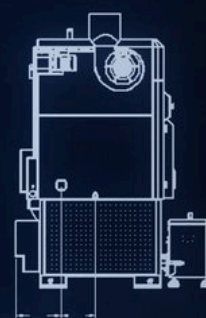
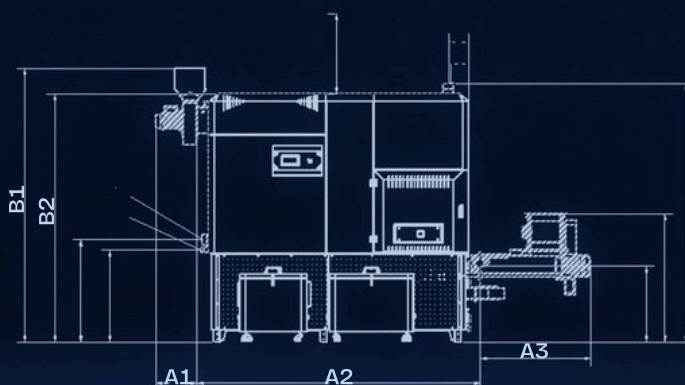
Heating plant

Fixed or mobile, tailored to your needs.

MODELS AND DIMENSIONS

Nine sizes.

200–500 kW in seven sizes, plus larger boilers of 1,150 and 2,200 kW. Every plant is engineered for its specific task.



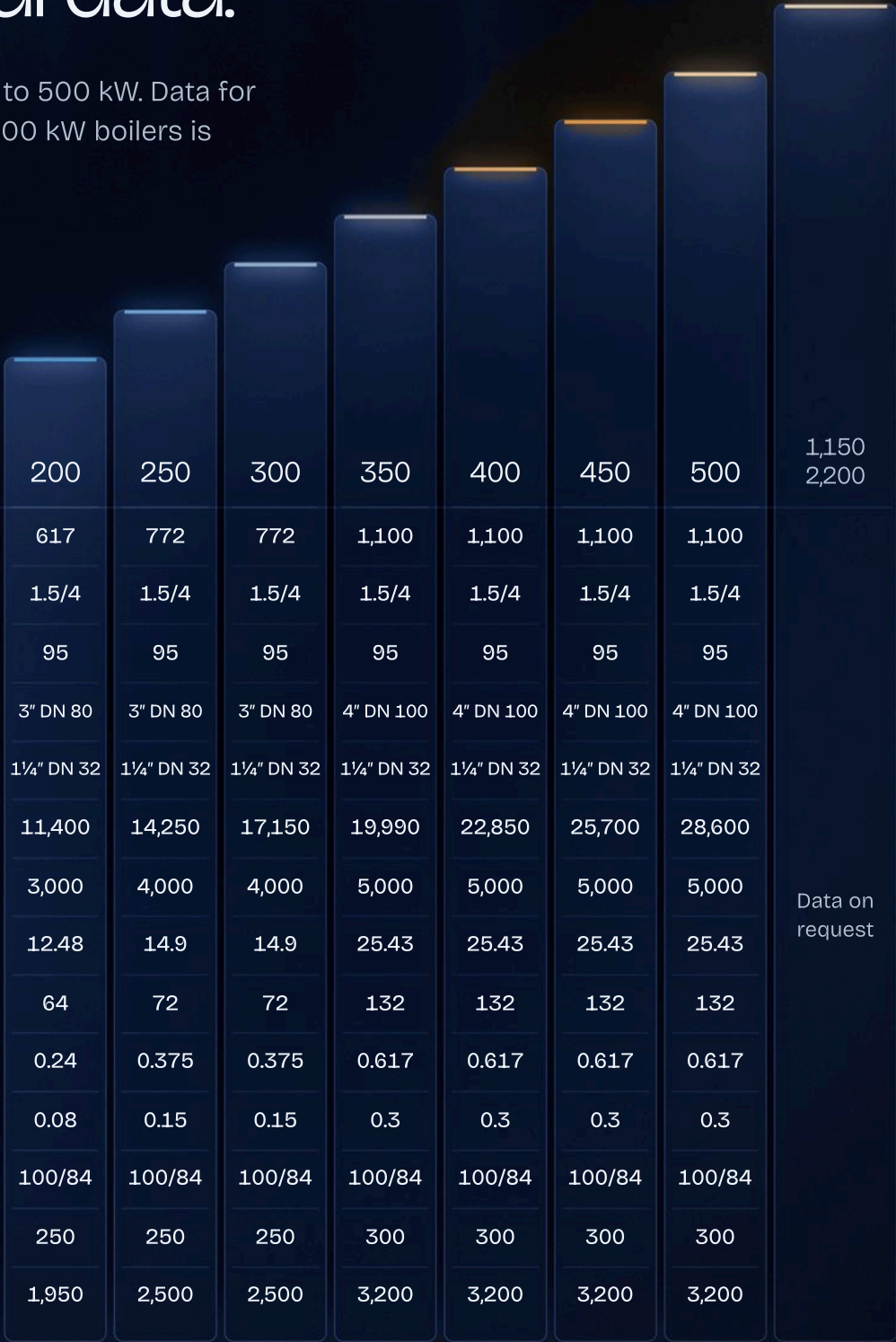
		FRONT VIEW							FLUE GAS SIDE	
OUTPUT IN kW		200	250	300	350	400	450	500	1,150	2,200
A2	Boiler length mm	2,090	2,295	2,295	2,604	2,604	2,604	2,604	Data on request	
A1	Flue gas side mm	332	332	332	462	462	462	462		
A3	Chip feeder mm	896	896	896	896	896	896	896		
A13	Boiler depth mm	1,214	1,299	1,299	1,491	1,491	1,491	1,491		
A14	With ash boxes mm	1,515	1,600	1,600	1,793	1,793	1,793	1,793		
B1	Overall height mm	2,101	2,216	2,216	2,414	2,414	2,414	2,414		
B2	Boiler height mm	1,899	2,011	2,011	2,145	2,145	2,145	2,145		

Dimensions apply to 200–500 kW with chip feeder. A13 and A14 are the depths in the top-view drawing. Dimensions for 1,150 and 2,200 kW are available on request.

— BY SIZE

Technical data.

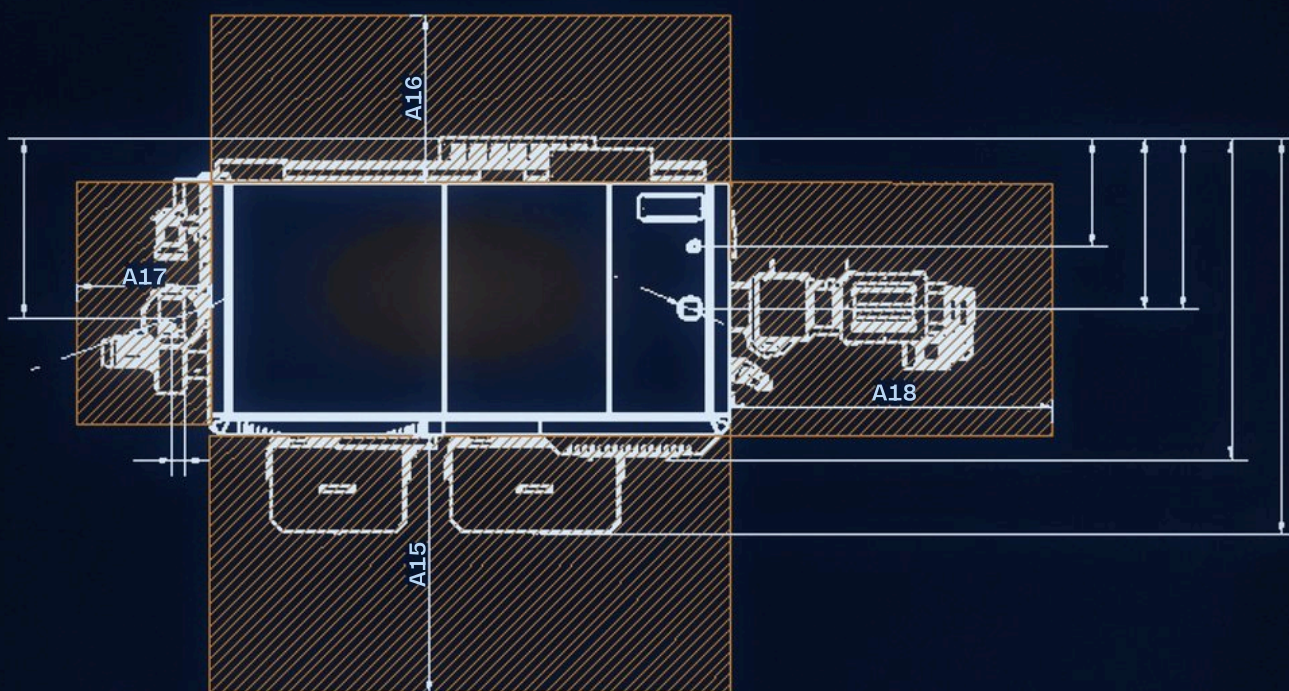
Seven sizes from 200 to 500 kW. Data for the larger 1,150 and 2,200 kW boilers is available on request.



OUTPUT IN kW	200	250	300	350	400	450	500	1,150 2,200
Boiler water volume litres	617	772	772	1,100	1,100	1,100	1,100	Data on request
Pressure, min/max bar	1.5/4	1.5/4	1.5/4	1.5/4	1.5/4	1.5/4	1.5/4	
Max. operating temp. °C	95	95	95	95	95	95	95	
Flow and return	3" DN 80	3" DN 80	3" DN 80	4" DN 100	4" DN 100	4" DN 100	4" DN 100	
Filling and draining	1¼" DN 32	1¼" DN 32	1¼" DN 32	1¼" DN 32	1¼" DN 32	1¼" DN 32	1¼" DN 32	
Minimum flow, Δt 15 K kg/h	11,400	14,250	17,150	19,990	22,850	25,700	28,600	
Accumulator tank, min. litres	3,000	4,000	4,000	5,000	5,000	5,000	5,000	
Heat exchanger surface m²	12.48	14.9	14.9	25.43	25.43	25.43	25.43	
Flue gas tubes, Ø 70 pcs	64	72	72	132	132	132	132	
Grate combustion area m²	0.24	0.375	0.375	0.617	0.617	0.617	0.617	
Firebox volume m³	0.08	0.15	0.15	0.3	0.3	0.3	0.3	
Ash boxes, fire / conv. litres	100/84	100/84	100/84	100/84	100/84	100/84	100/84	
Flue pipe, Ø mm	250	250	250	300	300	300	300	
Boiler weight kg	1,950	2,500	2,500	3,200	3,200	3,200	3,200	

Data according to PelleTech's technical specification, subject to change. Final data for your plant is provided at the design stage.

Planned from the first drawing.



TOP VIEW, 200-500 kW · DASHED: CLEARANCES AROUND THE BOILER · PELLETECH

MINIMUM CLEARANCES, 200-500 kW

A15	Front, ash boxes	1,000–1,250 mm
A16	Rear	700 mm
A17	Flue gas side	600–800 mm
A18	Feeder side	1,300 mm
B8	Above	650–700 mm

Ø 250–300 mm

FLUE PIPE

3,000–5,000 litres

ACCUMULATOR TANK,
MIN.

1,950–3,200 kg

BOILER WEIGHT

400 V · 20 A

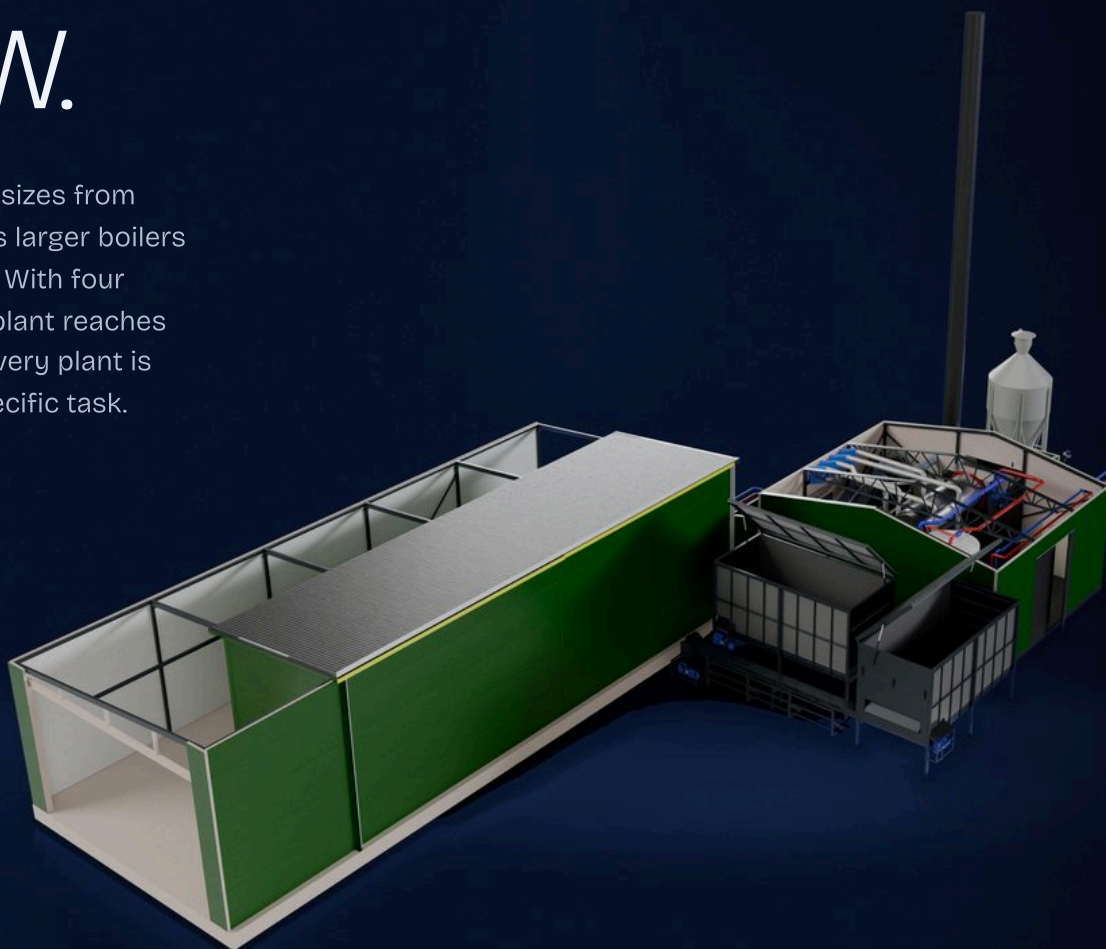
POWER SUPPLY

Biotherm designs and engineers the boiler room in 3D (IRONCAD) and handles installation, commissioning and fine-tuning.

LARGER PLANTS

Up to 8.8 MW.

IDRO comes in seven sizes from 200 to 500 kW and as larger boilers of 1,150 and 2,200 kW. With four boilers in cascade, a plant reaches up to 8.8 MW – and every plant is engineered for its specific task.



EXAMPLE OF A LARGER PLANT · CAD

SEVEN SIZES

LARGER BOILERS

CASCADE



4

BOILERS IN CASCADE

Four IDRO 500 boilers deliver up to 2 MW – four of the largest boilers, at 2.2 MW each, up to 8.8 MW.

1

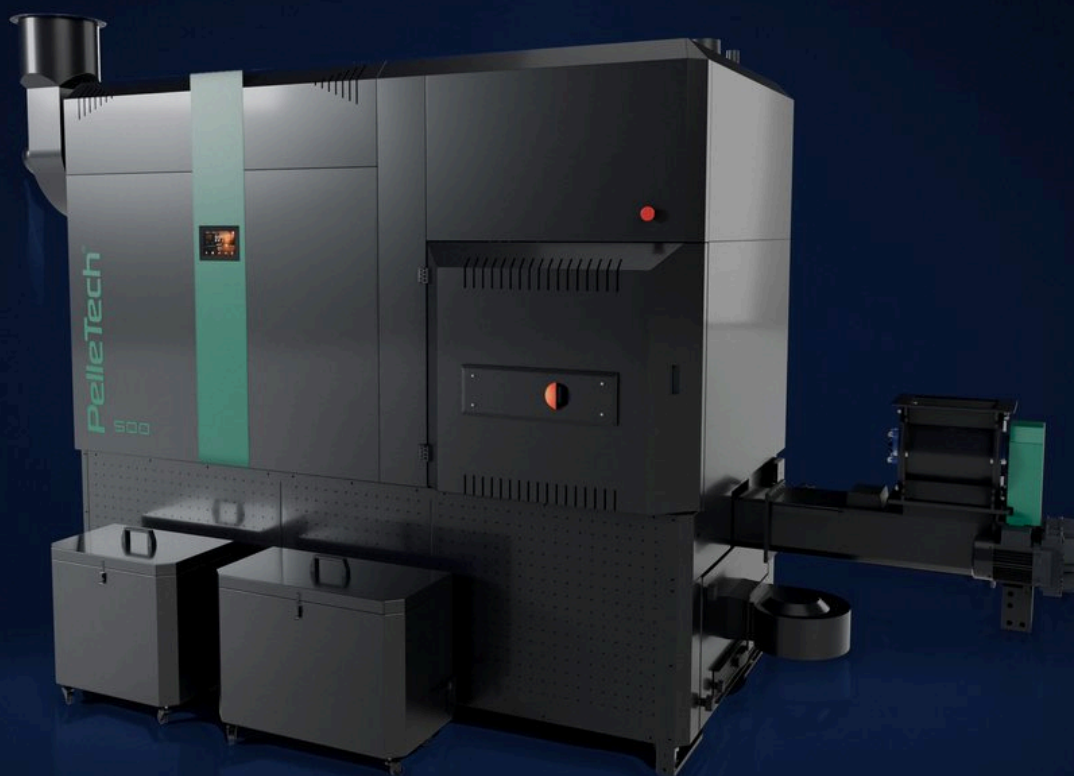
CONTACT ALL THE WAY

From heat-load calculation to service.

3D

ENGINEERING

Biotherm draws up the whole plant.



APPLICATIONS

Where the bar is high.

IDRO is used where the heat must not falter – and where the fuel should be affordable and, ideally, close at hand.

INDUSTRY

Fully automatic heating, ideally with your own residues as fuel.

GREENHOUSES

Many are switching from gas, oil or electricity to wood chips and pellets.

DRYING

Grain and other drying processes in agriculture and industry.

**HOTELS AND
CONFERENCES**

Where the heat supply must never fail.

— SUSTAINABLE HEATING

Heat from the forest.

Wood chips from the forest, sawdust from the sawmill and industry's own residues: the fuel is renewable and often close at hand. Combustion produces low emissions and little dust.

RENEWABLE

Fuel from forests and residues

CIRCULAR

Residues become heat on site

FUEL COST

Approx.
SEK 0.30/kWh, fuel
only

EMISSIONS

Low, thanks to an
optimised firebox

— SUSTAINABLE HEATING SINCE 1976

One contact. All the way.

A family business in its fourth generation, with offices in Västerås and Luleå. We calculate your heating – and stay with you once it is up and running.



Assessment

With a free heat-load calculation.

Engineering

Drawings in 3D.

Manufacturing

Alongside PelleTech's solutions, we also manufacture a range of fuel stores in-house.

Installation

Commissioning and fine-tuning.

Training

In operation and maintenance.

Service

Alarms and remote monitoring.

FREE HEAT-LOAD CALCULATION

Let's calculate your heating.

We start with a needs analysis and a free heat-load calculation. Then we take responsibility for the entire plant, from fuel store to delivered heat.

PHONE

+46 (0)921-578 00

EMAIL

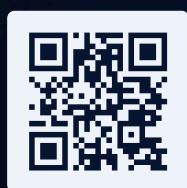
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