



ATMOS

PELLET BOILERS

2022

Since 1935



Meets **ECODESIGN** regulations





Production and sale of DOKOGEN gasification units



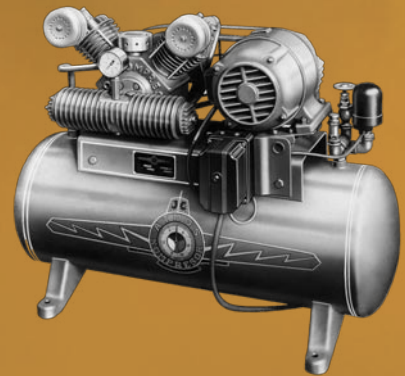
Skoda SUPERB with DOKOGEN gas generator, 1943



ARO 240 with DOKOGEN gas generator, 1985



ATMOS Air compressors, 1945



ATMOS PV2 compressor, 1950



Museum 2021 / boilers – compressors – motors

TRADITION AND EXPERIENCE 1935 – 2022



Three generations
of the Cankar family



Since 1935

ATMOS is a Family run company, established in **Bohemia in 1935** by **Jaroslav Cankar senior**.

At first, the company focused on producing gasification units for cars and ships under the **DOKOGEN** trademark. They used the same principle as is today used in modern **ATMOS** wood boilers.

In 1942, the company started the development and production of **ATMOS** compressors that were exported throughout the world until nationalisation. After nationalisation, **ATMOS** continued the production of wood boilers, gasification units and compressors.

In 1980, the company presented its first gasification boilers that ran on log and wood waste at the **Pragoterm** exhibition.

In 1985 development was focused on gas generators for car and ship engines and also the development of wood gasification boilers.

ATMOS was re-established in 1991 by **Jaroslav Cankar junior** who started producing boilers with his father. This was enabled by changes in the political system in the Czech Republic. Through intensive development of new products, production expansion, investment in and implementation of modern technologies **ATMOS** has become one of the biggest manufactures of gasification boilers in Europe. By the start of 2022, the company has developed over 140 types of hot water boilers with 15 pending patents. One of the first boilers was the **EKONOMIK** boiler developed in 1962.

Currently, three generations of the **Cankar family** are working to supply the European market with quality boilers that are environment friendly and energy saving.

The boilers are exported to 49 countries and we currently produce 132 different types of boilers. In total, our head quarters cover an area of 75 000 m², which includes 32 000 m² for production.



EKONOMIK Boiler, 1968



EKONOMIK Boiler,
1970



EKONOMIK Boiler, 1985



HIGH QUALITY MANUFACTURING

ACTUAL PRODUCTION PROGRAM

- wood gasification boilers
15 kW – 150 kW
- coal gasification boilers
15 kW – 50 kW
- coal briquette gasification boilers
18 – 45 kW
- pellet boilers
5 kW – 80 kW
- combination boilers
15 kW – 35 kW
wood – pellets
- pellet burners A 25, A 45, A 85
from 5 to 80 kW

ATMOS – always have confidence...



Training centre and museum – ATMOS 2



AND RELIABLE PRODUCTS



Production areal – ATMOS 2





PELLET BOILERS – MODELS

SPECIAL PELLET BOILERS WITH NEW CONSTRUCTION

ADVANTAGES:

- compact boiler for small boiler rooms
- all in one – boiler with pellet silo, burner and conveyor
- connects to pneumatic pellet conveying system
- easily cleaned from the front of the boiler
- large ceramic burning chamber
- high efficiency
- Ecodesign compliant





D 10 PX ■ D 15 PX ■ D 20 PX ■ D 25 PX

USAGE

ATMOS D 10 PX, D 15 PX, D 20 PX and D 25 PX hotwater boilers are designed to conveniently heat family homes, holiday homes and other buildings with pellets. Their compact size allows them to be installed in small boiler rooms.

The boilers can be fueled with high quality wood pellets 6 to 8 mm in diameter. **The boiler is not intended for burning wood, sawdust or small wood waste.**





HOT WATER BOILERS ■ PX

D 10 PX, D 15 PX, D 20 PX and D 25 PX boilers come as a complete set with a builtin conveyor, pellet reservoir with a volume of 65, 175 or 215 l and an ATMOS A25 pellet burner. They are designed to allow the electronically controlled burning of pellets with automatic fuel ignition. The pellet burner is incorporated into the front part of the boiler in the door of the lower combustion chamber. This chamber is also a receptacle for the ash.

The boiler body is made of a weldment of 3 – 5 mm thick steel sheets. It consists of the combustion chamber with shaped ceramic bricks to ensure the most efficient operation.

In the back part of the boiler there is a tube exchanger with segmental decelerators, which allow basic cleaning without disassembly. The boiler body is insulated from the outside with mineral felt located under the sheet metal covers of the outer boiler jacket.





The pellets are transported from the fuel reservoir located on the top to the burner by a screw conveyor. The Fuel supply is fully automatic.

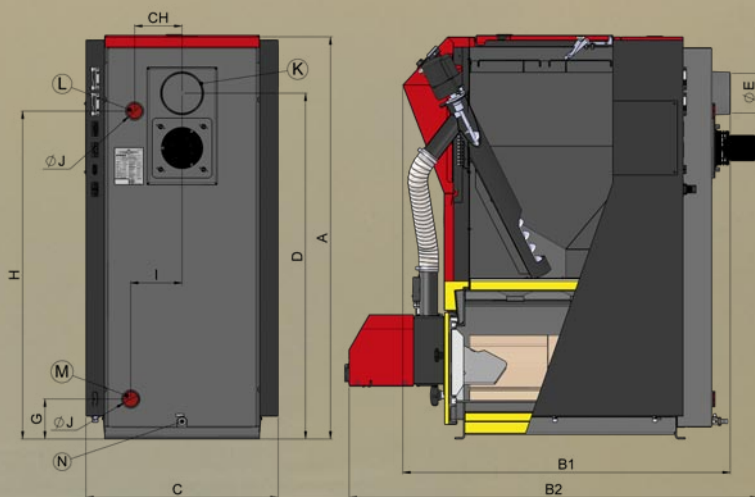
On the front part of the boiler there is a panel with the main switch, the switch for the pellet burner (L2), an operation (control) thermostat, a safety thermostat, a thermometer and a 6.3 A fuse.

The boiler is not equipped with a cooling loop as thanks to the small quantity of fuel in the burner there is no risk of the boiler overheating in case of a power supply failure. DxxPX boilers are equipped with an exhaust fan.

For heating you can use high quality wood pellets, 6 to 8 mm in diameter and 5 – 25 mm in length. **The ideal pellets are those made from soft wood without bark. These are called white pellets.**







DIMENS.	D 10 PX	D 15 PX	D 20 PX	D 25 PX
A	1221	1411	1411	1411
B1	995	1147	1147	1345
B2	1150	1447	1447	1647
C	594	674	674	674
D	1012	1213	1213	1213
E	128 (130)	150 (152)	150 (152)	150 (152)
G	140	140	140	140
H	950	1150	1150	1150
CH	166	166	166	166
I	180	180	180	180
J	6/4"	6/4"	6/4"	6/4"

TYPE ATMOS PX		D 10 PX	D 15 PX	D 20 PX	D 25 PX
POWER OUTPUT	kW	3 – 10	4,5 – 15	4,5 – 20	4,5 – 24
BOILER WEIGHT	kg	287	345	345	418
SPECIFIED FUEL		HIGH QUALITY WOOD PELLETS OF 6 – 8 mm DIAMETER, LENGTH 10 – 25 mm, CALORIC POWER 15 – 18 MJ/kg			
VOLUME OF INNER PELLET HOPPER	l	65	175	175	215
ELECTRIC CONNECTION	V/Hz	230/50	230/50	230/50	230/50
EFFICIENCY	%	91,6	92,7	91,5	91,8
CLASS OF BOILER UNDER EN 303-5		5	5	5	5
ECODESIGN EU 2015/1189 COMPLIANT		●	●	●	●
ENERGY EFFICIENCY CLASS		A+	A+	A+	A+

Boiler D10PX is not equipped with exhaust ventilator.



PELLET BOILERS –

ADVANTAGES OF ATMOS BOILERS

Our special new boilers combine new construction methods with many advantages

- big burning chamber
- tube heat exchanger
- big ash bin
- allows automatic ash cleaning
- allows air pressure ash cleaning of burner
- quick and easy cleaning
- small dimensions and light weight – simple installation
- high efficiency – over 90 %
- environmentally conscious
- burner can be installed from both sides
- the Atmos A25 pellet burner is fitted to these boilers

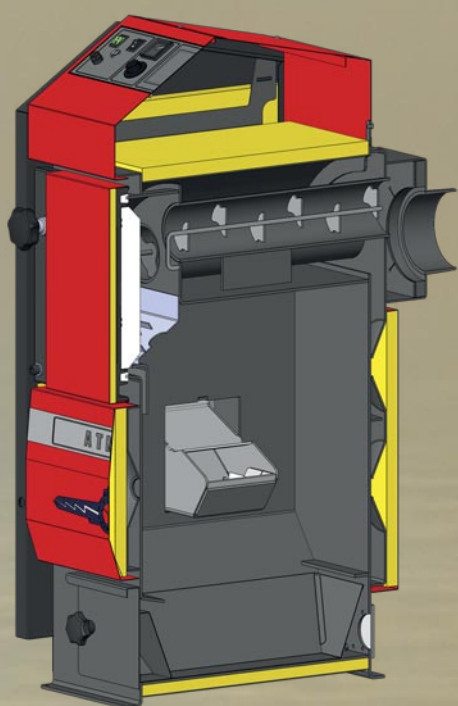




D 14 P ■ D 21 P ■ D 25 P MODELS

These boilers are designed as a single welded body with a large burning chamber. The burner is fitted to the left or right side along with the pellet conveyor. There is a large ash pan in the bottom part of the boiler. The inner top parts of the burning chamber are made of tube heat exchangers with tabulators. The rear part of the boiler contains the flue way channel with connection to the chimney. The top panel contains all the controls and allows customers to install electronic regulation.

The **ATMOS A25** pellet burner has a lot in common with natural gas or oil heating systems. However, pellet burning produces a certain quantity of ash that must be removed from the burner and boiler after use to avoid impairing the efficiency or affecting the functionality of the burner.





BOILERS WITH BOILER CIRCUIT INSTALLATION AND BURNER

DxxP Compact Boilers are delivered with professional stainless steel piping installation (1 boiler circuit with thermoregulating valve 70 °C and 1 heating circuit with 3 way mixing valve without servoactuator). The set includes the ATMOS A25 pellet burner. The customer only buys the recommended pellet silo and

conveyor. With more complex heating systems it is possible to upgrade to up to 2 or 3 heating circuits by buying special manifolds and the necessary pump sets. The ESBE Company has made special pump sets for ATMOS for this purpose with a stronger pump and bigger armature dimensions.



NEW



ATMOS A25 pellet burners are supplied with automatic fuel ignition as standard. The operation of the burner, external conveyor and fuel bin are fully automatic during are controlled by an electronic control unit with the use of a flame sensor (photocell). In the burner body the fuel and combustion air are supplied in a way designed to ensure maximum efficiency and be environmentally friendly.

Only high quality pellets of 6 to 8 mm in diameter and 5 to 25 mm in length should be used. **Pellets made from soft wood without bark, called white pellets, are the best.**

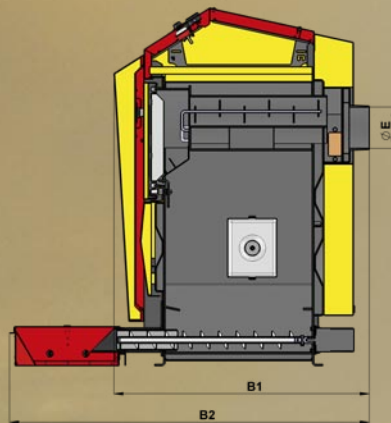
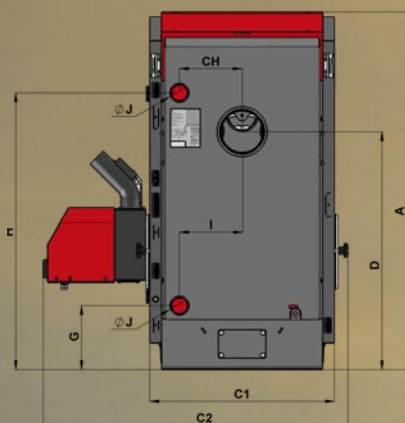
Ash is normally removed from the burner through the door once every 7 to 30 days as necessary. It is recommended that the inner parts of the burner are thoroughly cleaned once a year; for this operation the burner should be removed from the boiler. The most efficient way to clean the combustion chamber (pot) of the burner is to use a special vacuum cleaner or poker.



Boiler with pneumatic conveyor



Boiler D 21 P
with pellet set AZPD 300
and burner A 25



	D 14 P	D 21 P	D 25 P
A	1207	1207	1207
B	850	850	948
B1	860	860	960
B2	1211	1211	1311
C	620	620	620
C1	630	630	630
C2	1021	1021	1021
D	801	801	801
E	150 (152)	150 (152)	150 (152)
G	215	215	215
H	934	934	934
CH	211	211	211
I	211	211	211
J	6/4"	6/4"	6/4"

TYPE ATMOS DP		D 14 P	D 21 P	D 25 P
POWER OUTPUT FOR PELLETS	kW	4 – 14	4 – 19,5	7 – 24
WEIGHT OF BOILER	kg	225	226	248
SPECIFIED DRAFT OF CHIMNEY	Pa	16	18	22
SPECIFIED (PREFERRED) FUEL	HIGH QUALITY WOO PELLETS OF 6 – 8 mm DIAMETER, LENGTH 10 – 25 mm, CALORIC POWER 15 – 18 MJ/kg			
VOLUME OF WATER	l	56	56	62
TYPE OF PELLET BURNER		ATMOS A25	ATMOS A25	ATMOS A25
SIZE OF EXTERNAL PELLET SILO	l	240, 250, 300, 400, 500, 1000 litres		
VOLUME OF ASH BIN IN BOILER	l	11	11	16
CONTENT OF EXTERNAL ASH BIN FOR AUTOMATIC ASH CLEANING	l	28, 68	28, 68	28, 68
ELECTRIC CONNECTION	V/Hz	230/50	230/50	230/50
ELECTRIC INPUT BY START	W	522	522	522
ELECTRIC INPUT BY OPERATION	W	42	42	42
EFFICIENCY	%	90,3	90,3	90,2
CLASS OF BOILER UNDER EN 303-5		5	5	5
ECODESIGN EU 2015/1189 COMPLIANT		●	●	●
ENERGY EFFICIENCY CLASS		A+	A+	A+

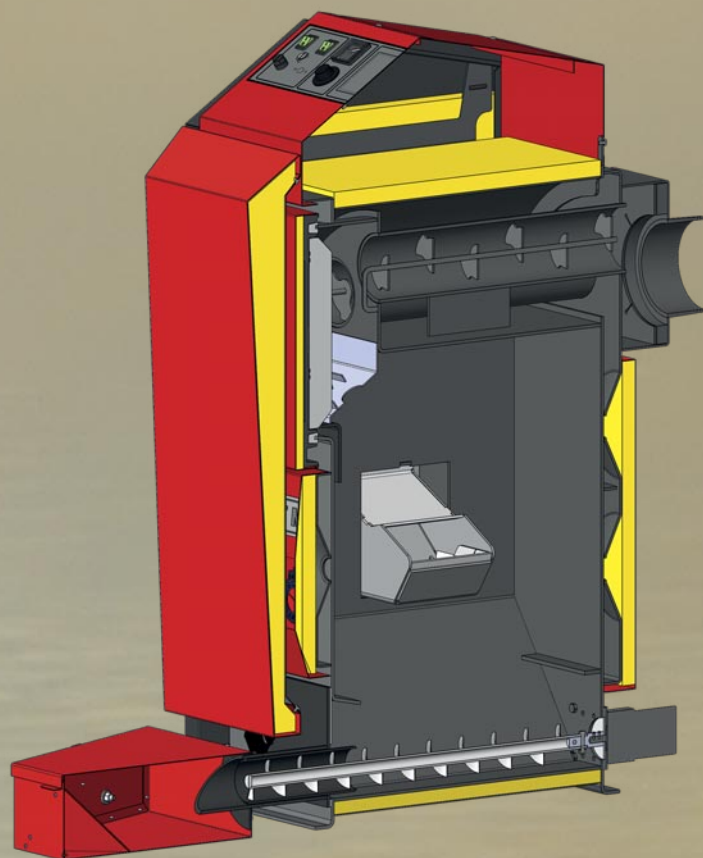


AUTOMATIC ASH CLEANING

As an accessory for every pellet boiler you can buy an automatic ash cleaner, which removes the ash from the boiler and puts it in an external ash pan. The automatic ash cleaner does not need any special supervision and increases the efficiency of the boiler.

The boiler is cleaned automatically by the auger conveyor with gearbox. It cleans the ash space in the boiler at regular intervals. It is important to carefully choose the capacity of the ash pan based on ash content and the fuel used.

All three volumes of ash bin (28, 68 and 135 litres) can be used with any boiler.





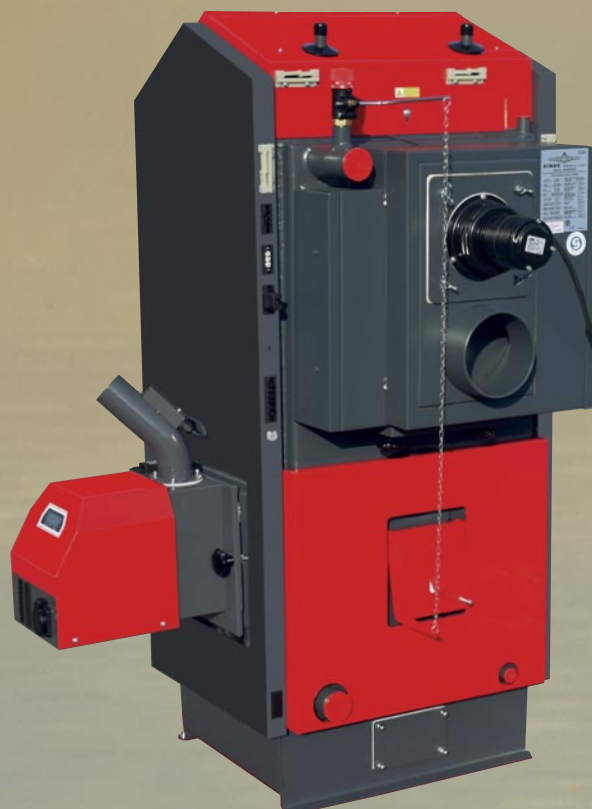
HOT WATER BOILERS

ATMOS ■ D 20 P ■ D 30 P ■ D 40 P

ATMOS D 20 P, D 30 P, D 40 P and D 50 P hot water pellet boilers are designed for convenient heating in residential houses.

A pellet burner with a conveyor is fitted to the left or right side of the boiler. The boiler drum is manufactured as a welded structure of 3 – 6 mm thick steel sheets. The burning

chamber has a cast iron grill in the lower section to allow you to easily clean the chamber with an ash bin underneath. Above the door of the D 20 P, D 30 P, D 40 P and D 50 P boilers there is a tube heat exchanger fitted with brush air turbulators and in the rear part of boiler you can find the suction ventilator. These all allow clear and perfect ash cleaning.

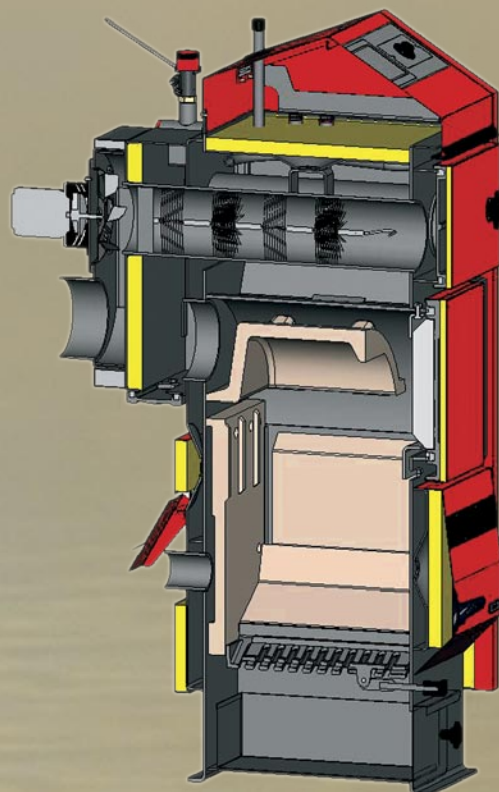




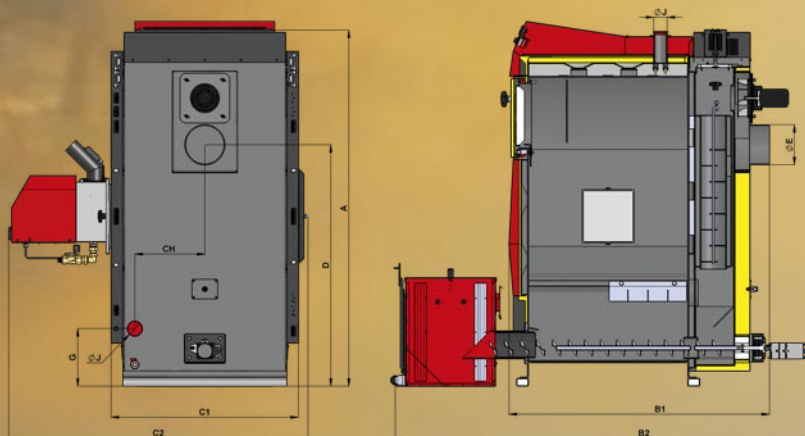
■ D 50 P ■ D 85 P

The burning chamber is **fitted with a shaped heat proof fixture for optimal operation** at high efficiency and for easy cleaning.

At the top of boiler you can find a control panel which regulates and controls the boiler and heating system.



*Boilers D 20 P, D 30 P, D 40 P, D 50 P
with suction fan, output 6,5 – 45 kW*

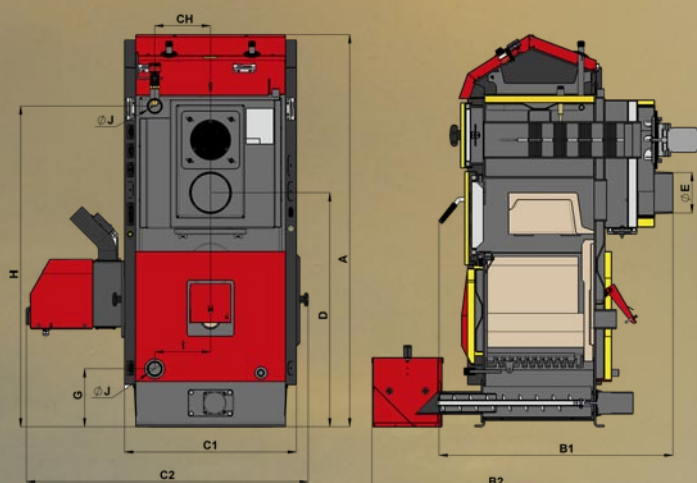


ATMOS D 85 P

The **D 85 P Boiler** is delivered with all the necessary components as standard, including:

- automatic ash cleaning for the boiler
- pneumatic ash cleaning for the burning pot and the boiler's rear flue channel with a tube heat exchanger
- large external ash pan (160 l)

NEW



ATMOS D 20 P – D 50 P

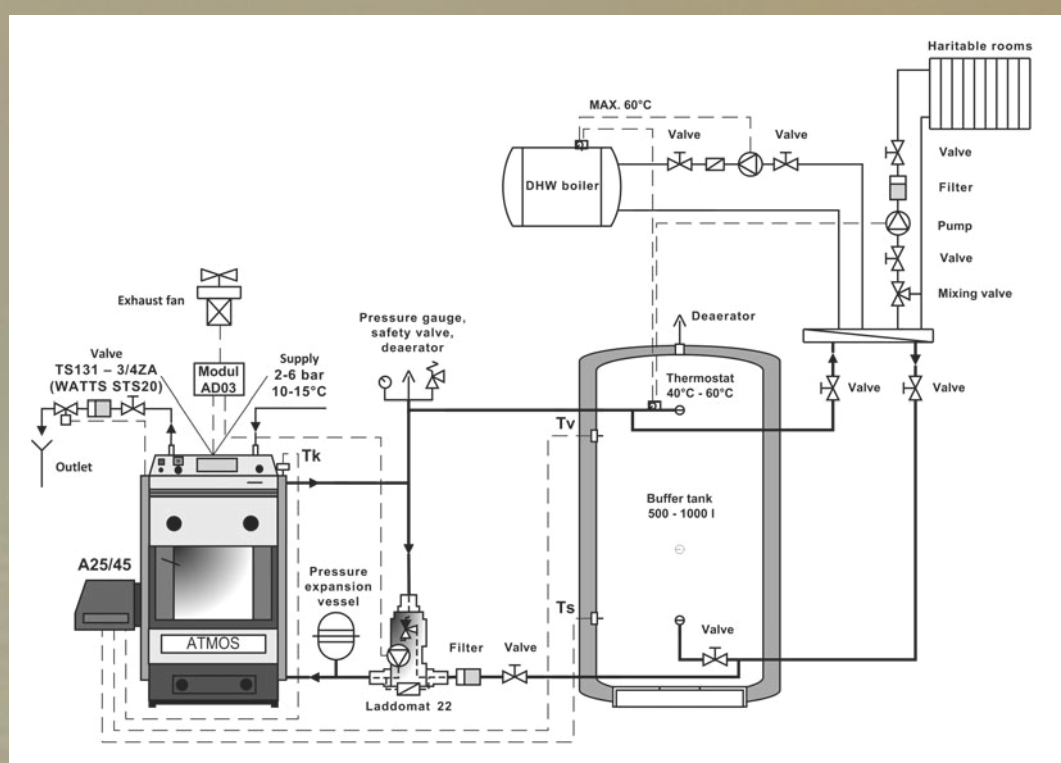
DIMENS.	D 20 P	D 30 P	D 40 P	D 50 P	D 85 P
A	1405	1405	1405	1405	1663
B	754	954	954	1154	1410
B1	845	1045	1045	1245	1303
B2	1184	1384	1384	1584	2085
C	622	622	622	622	684
C1	630	630	630	630	1014
C2	1021	1021	1021	1021	1589
D	848	848	848	848	1078
E	150 (152)	150 (152)	150 (152)	150 (152)	180
G	211	211	211	211	211
H	1163	1163	1163	1163	438
CH	202	202	202	202	202
J	6/4"	6/4"	6/4"	6/4"	2"

TYPE ATMOS DP		D 20 P	D 30 P	D 40 P	D 50 P	D 85 P
POWER OUTPUT FOR PELLETS	kW	6,5 – 22	8,9 – 29,8	8.9 – 40	13,5 – 45	24 – 80
WEIGHT OF BOILER	kg	315	386	386	455	695
SPECIFIC DRAFT OF CHIMNEY	Pa	15	21	21	22	25
SPECIFIC (PREFERRED) FUEL HIGH QUALITY WOOD PELLETS OF 6 – 8 mm DIAMETER, LENGTH 10 – 25 mm, CALORIC POWER 15 – 18 MJ/kg						
VOLUME OF BURNING HOPPER	dm³	70	105	105	140	180
VOLUME OF WATER	l	82	91	91	117	185
TYPE OF PELLET BURNER		ATMOS A 25	ATMOS A 45			ATMOS A 85
SIZE OF EXTERNAL PELLET SILO		240, 250, 300, 400, 500, 1000 litres				
ELECTRIC CONNECTION	V/Hz	230/50				
ELECTRIC INPUT BY START	W	572	530	530	530	635
ELECTRIC INPUT BY OPERATION	W	92	97	97	97	142
EFFICIENCY	%	91,1	92,4	91,0	91,1	91,2
CLASS OF BOILER UNDER EN 303-5		5	5	5	5	5
ECODESIGN EU 2015/1189 COMPLIANT		●	●	●	●	●
ENERGY EFFICIENCY CLASS		A+	A+	A+	A+	A+



NEW

ATMOS D 85 P



PELLET BURNERS

ATMOS A25/A45/A85



SPECIFIC FUEL

Quality wood pellets (white) of 6–8 mm diameter and 5–25 mm length with nominal heat energy 16–19 MJ/kg.

BURNER DISPLAY

Shows current status of burner and setting of burner parameters.

CONTROLLING THE BURNER

The burner is controlled by an AC07X (AC07) unit which controls the external pellet conveyor, two electric heating spirals and fan based on the requirement of the boilers and heating system. The function is controlled by boiler operating thermostat, safety thermostat, speed fan sensor of the burner, photocell which controls the flame. The function of the burner is shown on the electronic regulation display.

FUEL IGNITION

Is fully automatic using two electric heating spirals.

BASIC FUNCTION OF THE BURNER

It allows extra function of 2 outputs to control other applications.

The burner allows the connection of 4 extra thermal sensors TS, TV, TK and TSV.

TS – bottom sensor – accumulation tank

TV – bottom sensor – accumulation tank

TK – boiler temp. sensor

TSV – waste gas temp. sensor

BASIC FUNCTION OF THE BURNERS

- burner control based on two temperatures in the buffer tank
- exhaust ventilator controlled through burner reserve output
- pump controlled by the boiler circuit from burner
- solar heating system pump control
- automatic start of pellet burner after wood burns down in DCxxSP boilers
- control of pellet air pressure pneumatic cleaning

FUEL SUPPLY

The fuel is supplied by a screw conveyor and controlled from the burner's electronic unit.

- For the **A25 burner** you can use the shaft-less 1,5 m long DA 1500 conveyor, the 2 m long DA 2000 conveyor, the 2,5 m long DC 2500 conveyor, the 3 m long DA 3000 conveyor or the 4 m long DA 4000. Their diameters are all 75 mm.
- For the **A45 and A85 burners** you can use conveyors with middle shaft DRA 50 (1,7 m, 2,5 m, 4 m or 5 m long). Their diameters are all 80 mm.



PNEUMATIC CLEANING THE BURNER ATMOS A25/A45/A85

- This cleaning equipment is used to clean the burner's burning pot when using lower quality wood pellets which form cakes. This is caused by pellets with greater amounts of bark and dirt.
- The equipment does not work with plant pellets, grains, other biological waste pressed into pellets.
- The equipment together with the pellet burner ensures the fully automatic removal of clumps of ash from the burning pot either at regular intervals, or directly after the burner burns out. The pneumatic cleaning device is delivered with the A85 burner as standard.
- **Pneumatic cleaning is very fast, effective and reliable – it allows you to burn lower quality pellets.**





PNEUMATIC PELLET CONVEYOR

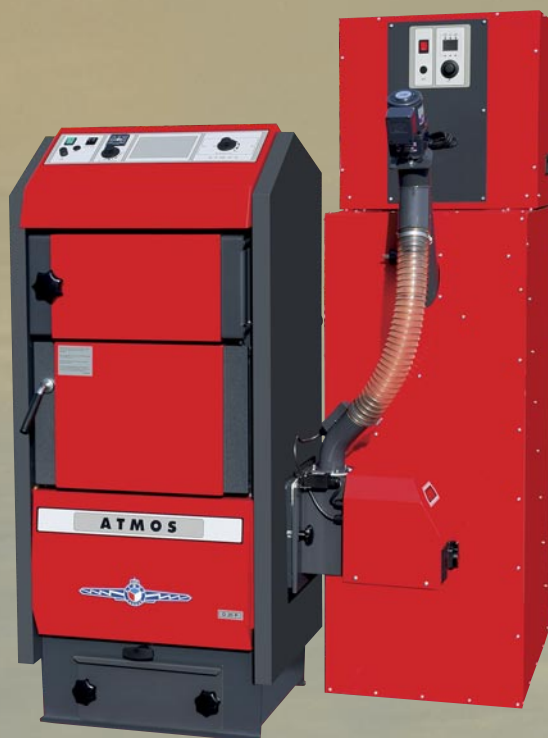
APS 250, APS 500, APS 250 S

The APS 250, APS 500, APS 250 S pneumatic pellet feeders are designed as a compact device used to comfortably supply pellets to the boiler from a large tank placed outside the boiler room.

The tank is located within empty storage areas inside or outside the heated building. Tanks are usually textile silos that are easy and fast to install.

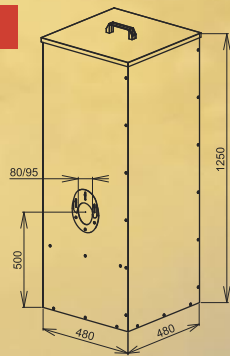
The compact pneumatic pellet feeder **ATMOS APS 250, 500** has a buffer tank which is designed for boilers with an output range of **5 to 80 kW**.

- Maximum transport height 5 m
- Maximum transport distance 16 m



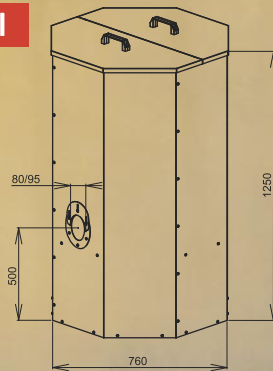
PELLETS SILOS

250 l



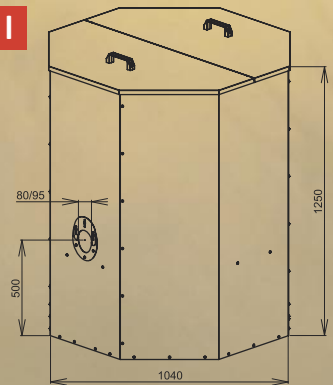
The **smallest** silo is suitable for all boilers designed for smaller boiler rooms where larger silos cannot be used. It contains 163 kg of pellets which means approximately 730 kWh (10 bags).

500 l



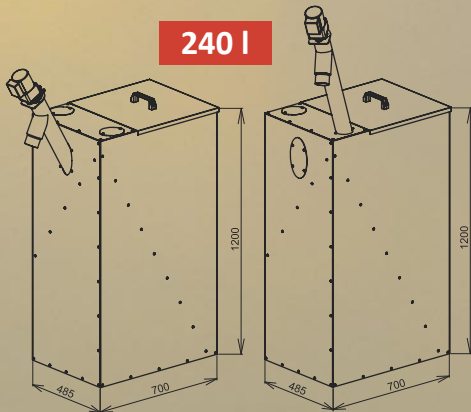
The **middle sized** silo is suitable for all boilers designed for smaller boiler rooms where larger silos cannot be used. It contains 325 kg of pellets which means approximately 1463 kWh (21 bags).

1000 l



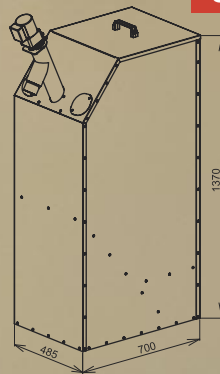
The **biggest** silo contains 650 kg of pellets which means approximately 2925 kWh (43 bags).

240 l



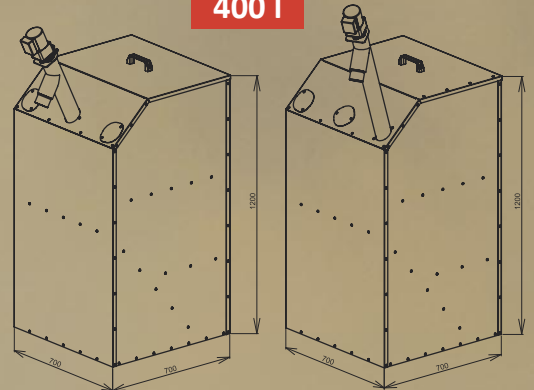
AZPD/AZPU 240 – a set of 240 l silos with DRA25 conveyors – 1,3/1,7 m which is suitable for small boiler rooms. It can be placed beside the boiler to fit into smaller spaces. The 240 litre silo contains 156 kg of pellets which provides about 700 kWh (10 bags).

300 l



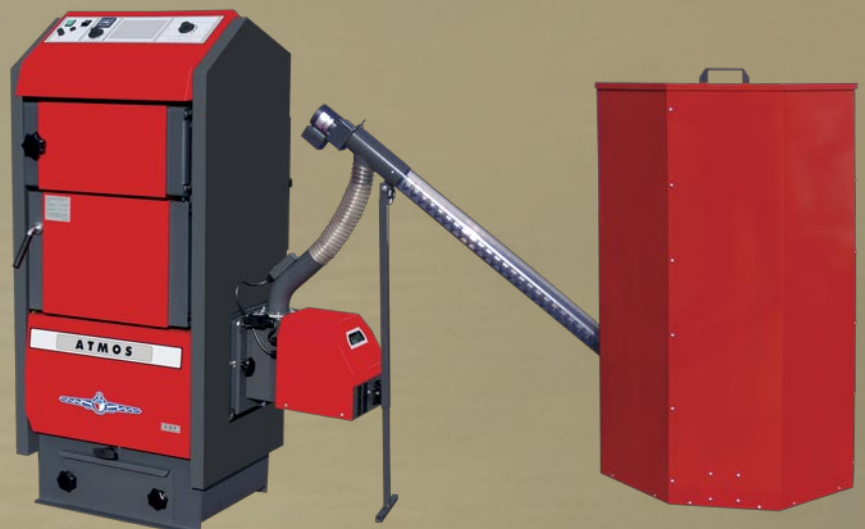
AZPD 300 – a set of 300l silos with DRA25 conveyors – 1,3 m which is suitable for small boiler rooms. It can be placed beside the boiler to fit into smaller spaces. The 300 litre silo contains 195 kg of pellets which provides about 880 kWh (13 bags).

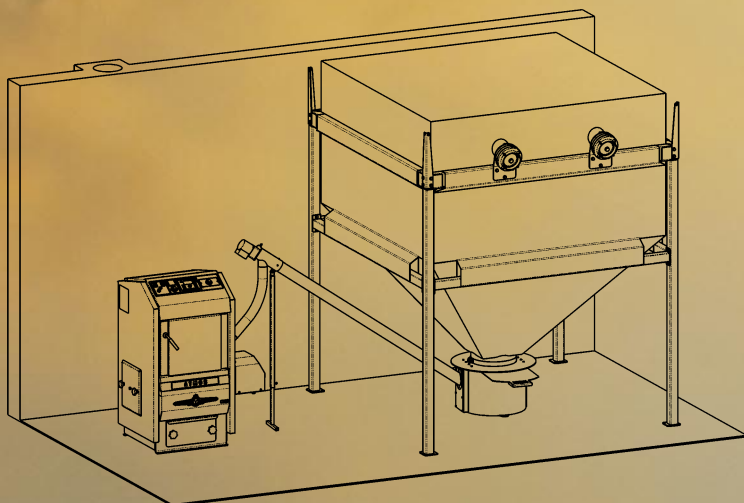
400 l



AZPD/AZPU 400 – a set of 400l silos with DRA25 conveyors – 1,3 m which is suitable for small boiler rooms. It can be placed beside the boiler to fit into smaller spaces. The 400 litre silo contains 260 kg of pellets which provides about 1170 kWh (17 bags).

All pellet silos allow you to instal a pneumatic pellet conveying system





TEXTILE PELLET SILOS

model	volume (m ³)	content (t)	dimensions (mm)
ATZ 5	4,4 - 5,5	2,9 - 3,6	1960 x 1960 x 2 320
ATZ 6	5,3 - 6,5	3,5 - 4,2	1960 x 2360 x 2 320
ATZ 7	6,3 - 7,9	4,1 - 5,1	2360 x 2360 x 2 320



ATMOS TEXTILE PELLET SILOS

The silos are manufactured in three basic sizes and have a maximum usable volume of 4,5, 5,5 and 6,7 m³. The silo type or frequency of refilling in the heating season is simple to calculate according to the basic rule: 1 kW of the needed output of the heat source = 0.5 m³ (325 kg) of pellets / year.



ATMOS



The best choice for pellets...



ATMOS

MANUFACTURED BY:

JAROSLAV CANKAŘ A SYN ATMOS

Velenského 487

CZ 294 21 Bělá pod Bezdězem

Czech Republic

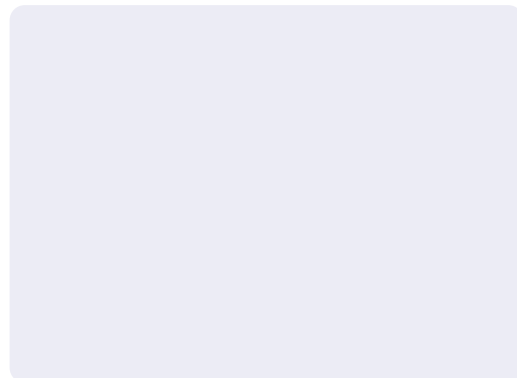
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03/22 ENG

Technical changes to boiler dimensions and design during the year are possible.