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## ARITERM IS A FINNISH MANUFACTURER OF HEATING SYSTEMS

Our main products are central heating boilers used for heat production and service water heating, bio burner equipment and bio heating system solutions. Our wide range features several modern heating solutions for private homes, larger living spaces and industrial properties.

ARITERM is actively taking part in the development of the heating industry and works in close contact with various organisations and officials in the field. We also use a certified ISO 9001 quality system to ensure that the quality of our products is verified at every stage of production. Further to this we use a certified environmental system that follows the ISO 14001 standard.

All Ariterm Oy boilers are manufactured according to the H or H1 module of the Pressure Equipment Directive (PED). To prove this all the boilers have a CE 0424 stamp which has been granted by Inspecra Tarkastus Oy.



# HAKEJET BIO BURNER | 40 - 400 KW

HakeJet is designed primarily for burning wood chip. Its open, half-circle burning head is constructed from cast iron, which makes the fire grate very durable and long-lasting. Due to the ceramic burning chamber, the temperature of the flame can be raised sufficiently high and the burning will be clean.



HakeJet has separate fans for primary and secondary air.

## Especially for Wood Chip Burning

HakeJet is excellent for farms, woodland estates and other places with good wood chip availability. The use of wood chip is significantly helpful in efficient forestry. Also, wood chip is an environment friendly and renewable energy source. It can be obtained either from wood chip producers in the vicinity or by chipping one's own wood reserves.

HakeJet is compatible with Arimax bio boilers and feeding systems. Recommended maximum moisture level for wood chip is 40 %.

The burner can be equipped with a hot-air blower operated automatic ignition.

The HakeJet burner is inserted almost all the way into the fire chamber of the boiler, which saves space in the boiler room. This may be essential when renewing the heating system in existing buildings.



HakeJet 40 burning head with one combustion air fan

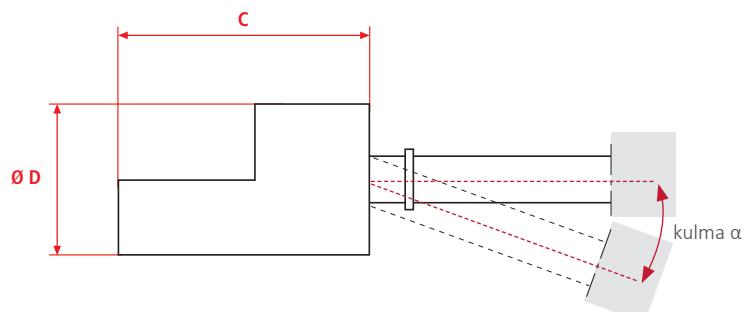


HakeJet from behind

### Main measurements of the HakeJet burner

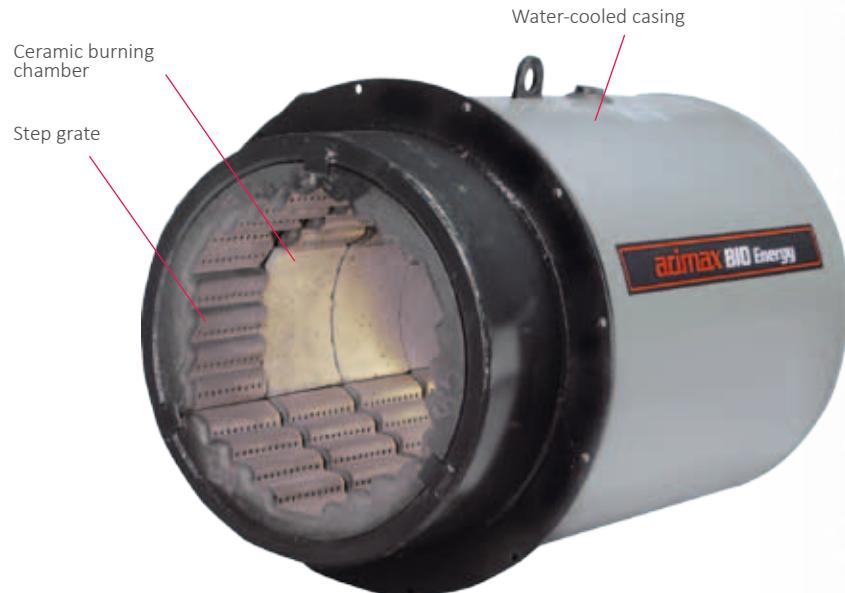
HakeJet	40 kW	60 kW	80 kW	120 kW	150 kW	200 kW	250 kW	300 kW	400 kW
mitta C (mm)	358	515	605	705	825	905	980	1080	1225
halkaisija D (mm)	220	330	370	410	450	500	550	600	690
paino (kg)	25	67	88	103	125	169	208	260	300

HakeJet bio burners are compatible with Arimax bio boilers. Adapter flanges for rectangular burner openings are available from the factory.



In developing the water-cooled burning head of the BioJet burner, Aritem has utilised the best information and practical knowledge available from researchers and users. BioJet is meant primarily for wood pellet, but briquette and wood chip are also suitable.

BioJet has been tested at VTT (Technical Research Centre of Finland) and it is below the strictest current emission limits (EN303-5): Coefficient of efficiency 90 %, CO (carbon monoxide) 150 mg/Nm<sup>3</sup>, particles 30 mg/Nm<sup>3</sup>, hydrocarbon compounds OGC 1 mg/Nm<sup>3</sup>.



### ■ Features fo the BioJet

The cast iron grate of the BioJet is durable and long-lasting. The water-cooling in the casing keeps the temperature constant between heating and rest periods. The ceramic fire chamber raises the burning temperature of the flame up to 1100 degrees. Separate fans for primary and secondary air enable an optimally accurate air distribution, which in turn makes the air coefficient low (less than 1,4) and causes all combustion gases to burn up cleanly with minimal emissions.

A new, segmented cast iron grate system can handle changes in temperature even better than before, thus lengthening the life expectancy of the burner / grate.

The equipment will also function well with a partial load. The usable power range is 20 - 100 %. For example, with an Arimax Bio 300 kW boiler, fuelled with pellets, the coefficient of efficiency was 90 % at nominal power and 85 % at partial power.

Only the BioJet 700, 1000 and 1500 meant fo pellet use are equipped with three combustion air fans.

The burner can be equipped with an automatic ignition.

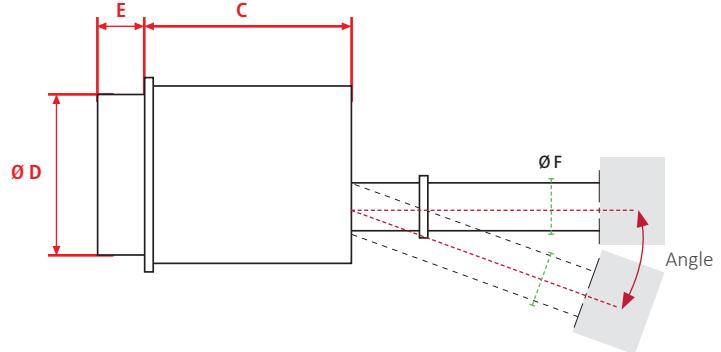


BioJet in use

Main measurements of the BioJet Burner (4 bar)												
BioJet	60 kW	80 kW	120 kW	150 kW	200 kW	250 kW	300 kW	400 kW	500 kW	700 kW	1000 kW	1500 kW (6 bar)
Measure C (mm)	330	410	520	630	710	790	885	1035	1265	1265	1535	1570
Measure E (mm)	175	175	190	190	190	190	190	190	190	185	185	185
Diameter D (mm)	335	375	415	460	510	560	630	710	710	852	852	1005
Weight (kg)	84	106	143	201	280	330	420	519	605	780	920	1400
$\emptyset F_{max}$ (mm)	159	159	159	159	159	159	159	194	194	194	114(194)	114(194)
Angle °	15	15	15	20	20	20	20	20	20	20	0(20)	0(20)

BioJet-biopolttimet ovat yhteensovivia Arimax-biokattiloiden kanssa. Tehtaalta on saatavissa sovitelaippoja suorakaiteen muotoisiin poltinaukkoihin.

Main measurements of the BioJet Burner (10/20 bar)		
BioJet	1 000 kW	1 500 kW
	(10/20 bar)	(10/20 bar)
Measure C (mm)	1635	1670
Measure E (mm)	185	185
Diameter D (mm)	852	1005
Weight (kg)	1180/1400	1600/1900
$\emptyset F_{max}$ (mm)	194	194
Angle °	20	20



## Dual burner solutions

Burner power can be doubled by installing two burners in the same boiler. This also enables to halve burner power in, for example, summer use. These solutions enable pellet heating with BioJet up to 2x1,5 MW.



Dual burner solution with BioJet burners.

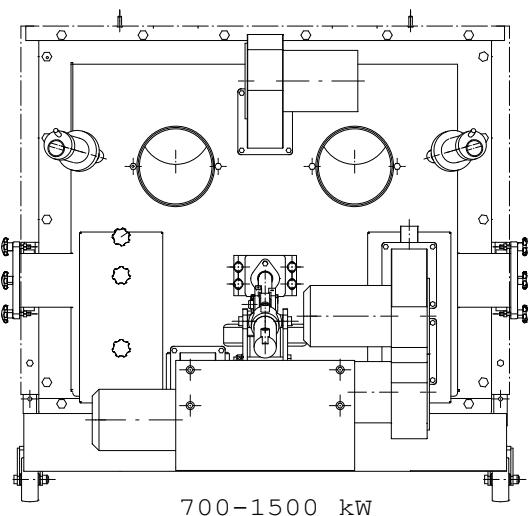
### ■ Flexible fuel use

Ariterm's MultiJet bio burner is designed to utilise several different kinds of bio fuels. **The burner is able to use wood chip of varying quality, wood and various field fuels.**

The grate of the MultiJet is fully mobile and this enables the fuel to mix efficiently on its surface. The grate's mobility improves moving the ash from the burning head to the ash compartment. This is useful especially when using fuel that produces a lot of ash. The grate runs by durable spindle motor or, in the case of larger burners (500-1500 kW), hydraulics. The fuel is fed using a two-screwed feeding system that is essential to the structural fire safety of the equipment.

The burner is equipped with two (<200 kW) or four combustion air fans. The fans are directed from the control centre which ensures that the mixing ratio of air and fuel remains optimal at all power levels. The burners with higher power capacities (200-1500 kW) it is possible to direct different combustion air levels for the front and back of the grate depending on the power it is run at. This results in a clean burn and high efficiency at all times. It also means that the boiler will remain cleaner. The structure and materials of the burner have been designed to take into account the demanding conditions the bio burner faces at all times.

MultiJet 40-500 kW is equipped with one burner screw. The bigger MJ700-1500 is equipped with two parallel burner screws which enables more even fuel distribution onto the broad grate. Burners with two burner screws require, depending on the fuel and location of the fuel storage, a separate dividing screw for fuel transfer from the silo/storage screw to both burner screws.



The burner is controlled using the Arimatic control centre (p. 19-20)

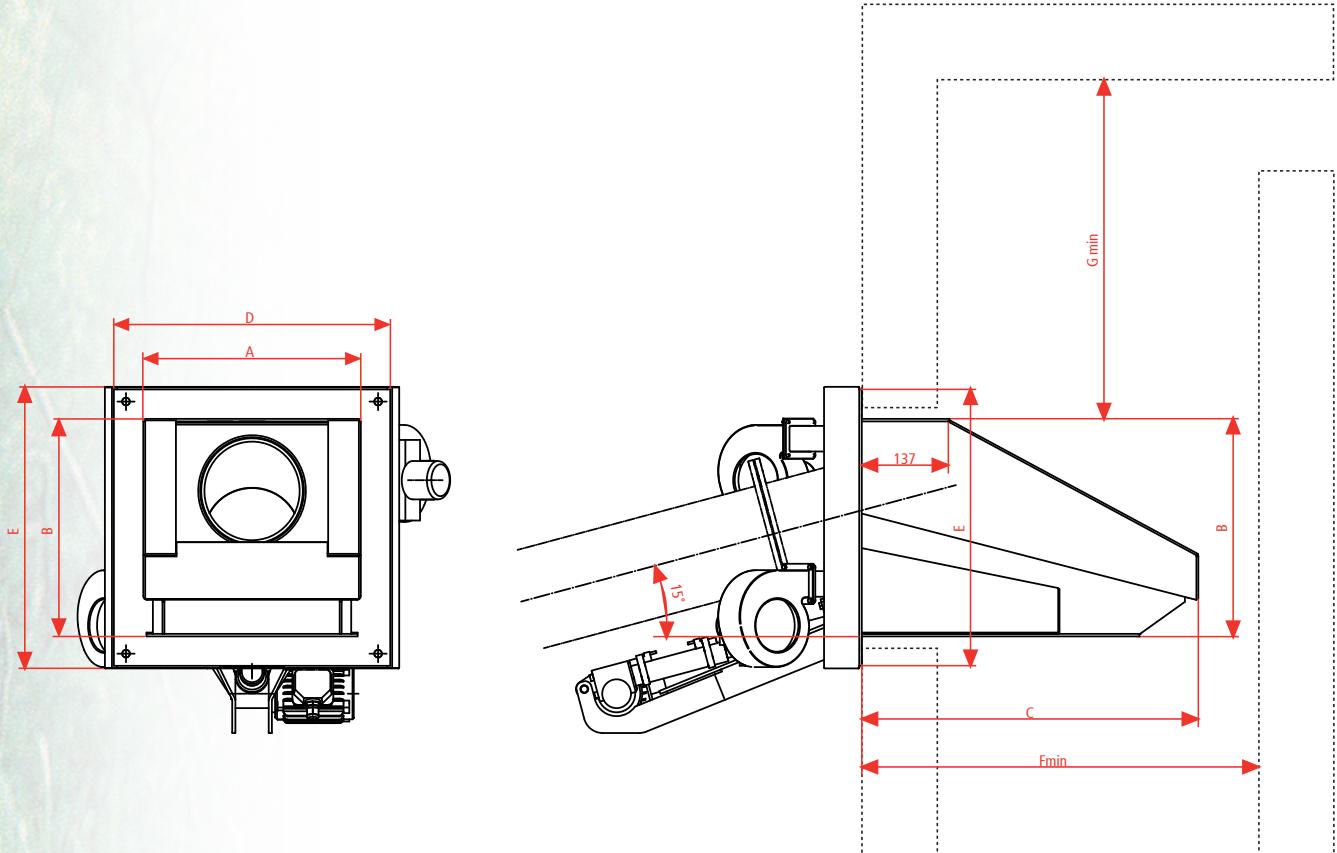
MultiJet 40 - 150 kW = AM151

MultiJet 200 - 500 kW = AM500/AM1001

MultiJet 700 - 1500 kW = AM1001, more information available from the factory!

### Main measurements of the MultiJet burner

Main measurements of the MultiJet burner								
Poltin kW	A	B	C	D	E	F min	G min	Weight kg
40	240	240	441	322	322	465	350	54
60	340	340	526	432	432	555	400	84
80	380	380	623	482	482	650	500	110
120	420	380	623	522	522	650	600	120
150	440	440	738	562	562	770	650	140
200	500	640	1034	592	732	1050	750	390
250	570	640	1034	662	732	1050	850	440
300	640	640	1034	732	732	1050	950	490
400	710	685	1226	802	777	1240	1050	650
500	850	685	1226	942	777	1240	1200	800
700 H	920	768	1412	1012	860	1430	1400	1130
1000 H	1110	925	1737	1266	1085	1750	1700	1430
1500 H	1410	1094	2032	1566	1255	2060	2000	1720





*For a sustainable future.*

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ISO 14001

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