

Laboratory & Industrial Ovens & Furnaces

LEADING HEAT TECHNOLOGY

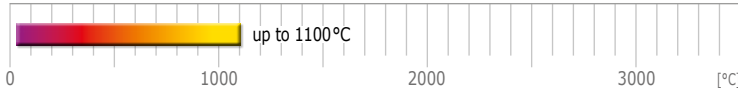




SCIENCE FOR SOLIDS

HEAT TREATMENT
ELEMENTAL ANALYSIS
MATERIALOGRAPHY &
HARDNESS TESTING
MILLING & SIEVING
PARTICLE CHARACTERIZATION

As part of the VERDER Group, the business division VERDER SCIENTIFIC sets standards in the development, manufacture and sales of laboratory and analytical equipment. The instruments are used in the areas of quality control, research and development for sample preparation and analysis of solids.



AAF – Standard Ashing Furnaces

The range of AAF ashing furnaces is designed specifically to provide optimum ashing conditions to ensure complete combustion of the sample.

The AAF 11/3 & AAF 11/7 ashing furnaces provide a continuous flow of preheated air through the chamber, and are designed to comply with ISO 1171:2010, ASTM D3174-04: 2010 and ASTM D4422.

Standard features

- 1100°C maximum operating temperature
- Carbolite Gero 301 single ramp to setpoint & process timer
- Large floor area allows for large number of samples
- Ideal for ashing foods, plastics, coal & other hydrocarbon materials
- Designed to comply with ISO 1171:2010, ASTM D3174-04: 2010 and ASTM D4422
- Wire elements are protected from chemical & mechanical damage by a hard wearing alumina based liner
- 4 sided heating (2 sides, roof & hearth)
- Air inlet & tall chimney give airflow of 4 to 5 changes per minute
- Low chamber height holds airflow close to samples for optimum combustion
- Powerful elements with graded winding compensate for heat loss due to high airflow
- Preheating of air before it enters the chamber gives excellent uniformity
- Sample tray and loading handle

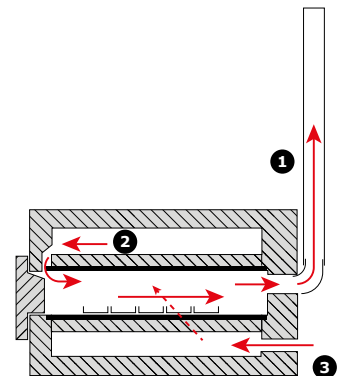


AAF 11/3 and AAF 11/7

AAF 11/3 and AAF 11/7:

Airflow

- 1) A tall 50 mm diameter chimney (AAF 11/7), or 35 mm on AAF 11/3, pulls the air through the chamber
- 2) Preheated air enters the chamber after circulating around the outside of the chamber
- 3) Air inlet

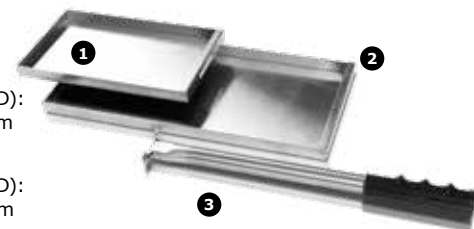


Options (specify these at time of order)

- 2 phase electrical supply for AAF 11/7
- A range of sophisticated digital controllers, multisegment programmers and data loggers with digital communication options is available (see page 100)
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)

Accessories

- 1) Tray, dimensions inside (WxD):
AAF 11/3: 133x210 mm
- 2) Tray, dimensions inside (WxD):
AAF 11/7: 163x330 mm
- 3) Loading handle



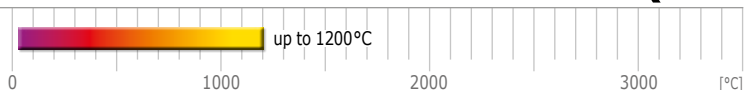
Catalytic converter option

The thermal catalytic oxidiser option is suitable for applications where the exhaust gases are the result of organic reactions. Preheated air flows around and through the AAF chamber fueling combustion of the sample. The resulting gases or fumes are carried out of the chamber into the catalytic converter. Additional fresh air is drawn into the catalytic converter over an integral heater where the catalyst causes a chemical reaction to reduce the amount of fumes and unburnt volatiles.



AAF furnace + catalytic converter

- External dimensions:
AAF 11/3: 740 x 375 x 670 mm
AAF 11/32: 1600 x 690 x 900 mm
- External dimensions with door open:
AAF 11/3: 800 x 375 x 670 mm
AAF 11/32: 1600 x 690 x 900 mm
- Catalytic converter power supply requirements:
AAF 11/3: 600 W
AAF 11/32: 2500 W



AAF – Standard Ashing Furnaces

The range of AAF ashing furnaces is designed specifically to provide optimum ashing conditions to ensure complete combustion of the sample.

For those laboratories where ashing is interspersed with other heat treatment work the AAF 12/18 provides all of the advantages of the AAF design, but with a higher maximum operating temperature of 1200 °C.

Standard features

- 1100 °C & 1200 °C maximum operating temperatures
- Carbolite Gero 301 single ramp to setpoint & process timer
- Two tier rack system doubling the sample capacity with sample trays and loading handle allows for large number of samples
- Ideal for ashing foods, plastics, coal & other hydrocarbon materials
- Preheating of air before it enters the chamber
- Protection of the elements from carbon build-up or corrosive atmosphere, using silicon carbide tiles
- 2 sided heating

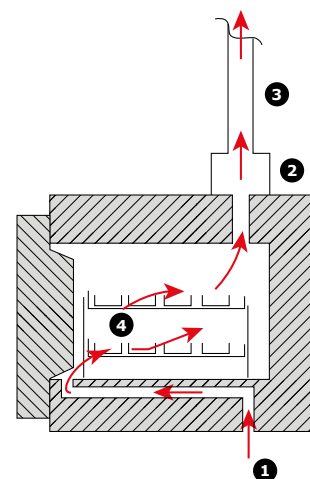


AAF 11/18

AAF 11/18, AAF 12/18,
AAF 11/32, AAF 12/32:

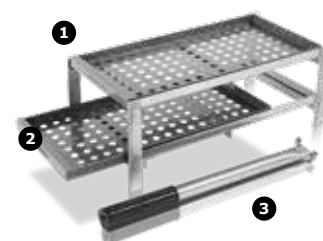
Airflow

- 1) Air inlet – air is preheated before entering the chamber
- 2) Plenum – a small amount of air flows between the heating elements and SiC side walls, to clear any fumes away from the elements. This combines with the chamber exhaust in the plenum.
- 3) Chimney
- 4) Two tier rack and trays



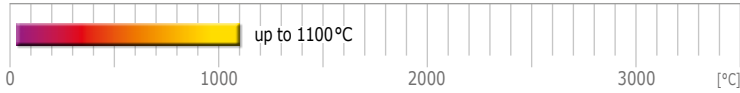
Accessories

- 1) AAF 11/18 & AAF 12/18 two tier rack system
- 2) Perforated tray, dimensions inside (WxD):
AAF ___/18: 163x330 mm
AAF ___/32: 247x387 mm
- 3) Loading handle



Options (specify these at time of order)

- A range of sophisticated digital controllers, multisegment programmers and data loggers with digital communication options is available (see page 100)
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)



AAF-BAL - Ashing Furnace with Balance

The AAF-BAL furnace incorporates an integral balance. It can be used for loss on ignition applications where weight change of the sample must be monitored during the heating process.

The AAF-BAL ashing furnace is fitted with an integral balance and can be used for loss on ignition (LOI) applications. Weight change of the sample is monitored during the heating process and this is required, for example, in the determination of organic matter content in materials such as sediment, sludge, soil and waste. Inorganic materials such as cement, lime, calcinated bauxite and refractories can also be tested.

Options (specify these at time of order)

- Advanced version for EPC3008P10 to data-log both weight and temperature. It is also necessary to select the following options: EPC3008P10 instrument (which includes Ethernet communication). Data logging is done via iTools software which must be purchased separately
- Advanced version for nanodac to data-log both weight and temperature. It is also necessary to select the following options: nanodac instrument. Data logging is done in the nanodac and can be downloaded into the 'Review Lite' software which is included with the nanodac. Data can be archived onto a USB flash drive or via Ethernet to a networked server.
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)



AAF-BAL 11/17

Standard features

- 3216CC controller with single ramp to setpoint and process timer
- Protection of the elements from carbon build-up or corrosive atmosphere, using silicon carbide tiles
- 2 sided heating
- Balance runs independently of the furnace control system
- Maximum capacity of balance is 3 kg with a resolution of 0.01 g (other capacities available)

Technical data

CGH	Max. temp. [°C]	Heat-up time [mins]	Max. continuous operating temp. [°C]	Dimensions: Usable chamber H x W x D [mm]	Dimensions: External H x W x D [mm]	Dimensions: External with door open H x W x D [mm]	Dimensions: Height to top chimney [mm]	Volume [litres]	Max. power [W]	Holding power [W]	Thermo-couple type	Weight [kg]
AAF 11/3	1100	155	1000	90 x 150 x 250	585 x 375 x 485	800 x 375 x 485	780	3	2100	1270	K	22
AAF 11/7	1100	155	1000	90 x 170 x 455	650 x 430 x 740	905 x 430 x 740	1060	7	4000	2624	K	63
AAF 11/18	1100	70	1000	235 x 196 x 400	705 x 505 x 675	990 x 505 x 675	990	18	7080	3500	K	70
AAF 11/32	1100	70	1000	250 x 280 x 450	820 x 690 x 730	1050 x 690 x 730	1200	32	9000	-	K	100
AAF 12/18	1200	70	1100	235 x 196 x 400	705 x 505 x 675	990 x 505 x 675	990	18	7080	3500	R	70
AAF 12/32	1200	95	1100	250 x 280 x 450	820 x 690 x 730	1050 x 690 x 730	1200	32	9000	-	R	100
AAF-BAL 11/17	1100	-	1000	215 x 196 x 400	705 x 505 x 675 (400 x 170 x 500)*	990 x 505 x 675 (400 x 170 x 500)*	990	17	7080	3500	K	70

i Please note:

- Holding power is measured at 500°C
- Heat up time is measured to 100°C below max, using an empty chamber

- Maximum power and heat up time based on a 240 V supply
- *Dimensions of control box



WolfLabs

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.