



Our Fusing
Furnaces

For glass art applications, Nabertherm offers fusing furnaces in various sizes and designs. All are handcrafted to the highest standard using first class materials at our factory in Lilienthal and proudly carry the “Made in Germany” label. The high quality of the furnace itself is evident, but you really notice this when you are holding the finished product in your hand. Their impressive design, combined with an intuitive color touch screen controller, make Nabertherm fusing furnaces the ideal partner in your studio. We are well aware of how important every firing is for you, so we developed the free MyNabertherm app. This allows you to monitor your firings on mobile devices and track firing progress at all times.

The following equipment applies to all fusing furnaces in this chapter:



Exclusive use of insulation materials without categorization according to EC Regulation No 1272/2008 (CLP). This explicitly means that alumino silicate wool, also known as “refractory ceramic fiber” (RCF), which is classified and possibly carcinogenic, is not used.



Freeware NTEdit for convenient program input via Excel™ for Windows™ on the PC



Optimized insulation construction for a perfect balance between the best possible energy consumption and short cycle times



NTLog Basic for Nabertherm controller: recording of firing data with USB-flash drive



Controller can be switched to “Solar Mode” to take advantage of electricity from PV systems with and without battery



Freeware NTGraph for evaluation and documentation of firings using Excel™ for Windows™ on the PC



Defined application within the constraints of the operating instructions

“Our fusing furnaces are reliable companions for your creativity.”



Detailed Overview



Large handles



Closable opening for ventilation



Closely arranged roof heating elements protected in quartz glass tubes



Removable controller with touch operation (see page 58)



Level table surface with rugged refractory insulation



Mobile monitoring with the MyNabertherm app



Adjustable, large quick-release fasteners



Gas pressure springs



Rugged base on castors with shelf



Ergonomic charging height of 860 mm



Heating switches off when the lid is opened



Solid state relays ensure low-noise heater operation



Appealing, dual-shell stainless steel housing

Additional Equipment



Observation window in air inlets to observe the glass



Automatic and manual exhaust air opening in the roof for faster cooling. Operating lever on the right-hand side of the furnace (above the switchgear).



Additional tables to extend the furnace system for GFM models; interchangeable table system to utilize residual heat and reduce cycle times by changing tables while the furnace is still warm



Fusing Furnaces with fixed table

Additional
equipment
see page 43

Nabertherm fusing furnaces in the GF 75 – GF 1425 product line were developed for professional use to meet the highest standards. The heating elements, arranged close together and protected in quartz glass tubes, guarantee a remarkably high level of temperature uniformity across the entire surface of the table – perfect for fusing or bending glass.

All models have an appealing, dual-shell stainless steel housing. The level table surface is made from sturdy, durable refractory bricks. The hood opening is supported with gas struts that makes for effortless work. The electric rating of the furnace heating has been optimized to heat up the glass quickly.

Standard equipment

- Heating elements protected in quartz glass tubes
- Controller integrated on the right-hand side of the furnace to save space

Controller

- Controller with touch operation C540 (10 programs with each 20 segments), controls description, see page 58

Our fusing furnaces combine precision and aesthetics. Experience how our technology enriches your artistic vision!



Fusing furnace GF 75



Fusing furnace GF 240



Heating elements in the roof arranged closely next to each other are protected in quartz glass tubes



Controller with touch operation C540 (10 programs with each 20 segments)



Rugged base on castors with surface for glass and tools

Model	Tmax °C	Inner dimensions in mm			Floor space in m ²	Outer dimensions ⁴ in mm			Connected load kW	Electrical connection*	Weight in kg
		w	d	h		W	D	H ³			
GF 75	900	620	620	310	0.38	1070	950	1370	3.6	1-phase	180
GF 75 R	950	620	620	310	0.38	1070	950	1370	5.5	3-phase ¹	180
GF 190 LE	950	1010	620	400	0.62	1460	950	1460	6.0	1-phase ²	210
GF 190	950	1010	620	400	0.62	1460	950	1460	6.4	3-phase ¹	210
GF 240	950	1010	810	400	0.81	1460	1140	1460	11.0	3-phase	275
GF 380	950	1210	1100	400	1.33	1660	1460	1460	15.0	3-phase	450
GF 420	950	1660	950	400	1.57	2110	1310	1460	18.0	3-phase	500
GF 520	950	1210	1160	400	1.40	1660	1520	1460	15.0	3-phase	550
GF 600	950	2010	1010	400	2.03	2460	1370	1460	22.0	3-phase	600
GF 920	950	2110	1160	400	2.44	2560	1520	1460	26.0	3-phase	850
GF 1050	950	2310	1210	400	2.79	2760	1570	1460	32.0	3-phase	1050
GF 1425	950	2510	1510	400	3.79	2960	1870	1460	32.0	3-phase	1250

¹Heating only between two phases

²Fuse if connected to 230 V = 32 A

³Including base

⁴External dimensions vary when furnace is equipped with additional equipment. Dimensions on request

*Please see page 62 for more information about supply voltage

Fusing Furnaces with movable table

Fusing furnaces in the GFM product line were developed especially to complement the proven quality benefits of the GF product line with an option to load the table outside the furnace. The table runs on swivel castors and allows maximum flexibility and mobility.

The scope of delivery includes a flat table, ideal for fusing work, while more tables can be added if required. The innovative interchangeable table system is especially economic in production processes. While material is fired on one table in the furnace, the other can already be prepared outside the furnace. Instead of flat tables, you can also use different tables with different heights. This opens up many options if, for example, the furnace is to be used for higher components. Our fusing furnaces in the GFM product line

combine technology and flexibility. They offer a tailored solution for your individual requirements.

Standard equipment

- Heated hood with fixed frame
- Movable table

Controller

- Controller with touch operation C540 (10 programs with each 20 segments), controls description, see page 58

Experience how our technology can take your production to a new level!



Additional
equipment
see page 43

GFM 1425 fusing furnace with motorized hood opening



Craftsmanship
for Happiness.



Heating elements in the roof arranged closely next to each other are protected in quartz glass tubes



Controller with touch operation C540 (10 programs with each 20 segments)



Movable table on swivel castors

Model	Tmax °C	Inner dimensions in mm			Floor space m ²	Outer dimensions ¹ in mm			Connected load kW	Electrical connection*	Weight in kg
		w	d	h		W	D	H			
GFM 420	950	1660	950	400	1.57	2230	1390	1460	18	3-phase	630
GFM 520	950	1210	1160	400	1.40	1780	1600	1460	15	3-phase	670
GFM 600	950	2010	1010	400	2.03	2580	1450	1460	22	3-phase	730
GFM 920	950	2110	1160	400	2.44	2680	1600	1460	26	3-phase	980
GFM 1050	950	2310	1210	400	2.79	2880	1650	1460	32	3-phase	1190
GFM 1425	950	2510	1510	400	3.79	3080	1950	1460	32	3-phase	1390

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request

*Please see page 62 for more information about supply voltage

Top Loaders as Fusing Furnaces

Choose the ideal companion for your fusing work – our top loaders as fusing furnaces. With robust refractory insulation and protected heating in the lid, our fusing furnaces in the F 75 – F 220 range with additional side heating provide optimum support.

Standard equipment

- Refractory insulation ensures clean firing results
- Lid with adjustable quick-release lock and padlock
- Adjustable lid suspension
- Durable lid seal (brick on brick)
- Lid interlock safety switch
- Heating elements in the roof, with fusing furnaces F 75 – F 220 also all around the sides
- Solid state relays ensure low noise heater operation

- Powerful gas struts support lid opening
- Top loader F 30 as tabletop model without castors
- F 220 with two-zone control (lid and side) as standard

Controller

- Controller with touch operation C540 (10 programs with each 20 segments) or P570 (50 programs with each 40 segments) for F 220; controls description, see page 58

A reliable companion whose performance will delight you!

“I entrust my art to my Nabertherm fusing furnace.”

David Perry
davidperryglassceramics.uk

Additional
equipment
see page 43



Fusing furnace F 30



Sturdy lid design with two lid brackets



Interior with bottom side ring heating on fusing furnaces F 75 – F 220



Sturdy professional-grade castors on fusing furnaces F 75 – F 220

Model	Tmax °C	Inner dimensions in mm			Floor space in m ²	Outer dimensions ¹ in mm			Connected load kW	Electrical connection*	Weight in kg
		w	d	h		W	D	H			
F 30	950	Ø 410		230	0.13	640	770	585	2.0	1-phase	55
F 75 L	950	750	520	230	0.33	945	930	690	3.6	1-phase	95
F 75	950	750	520	230	0.33	945	930	690	5.5	3-phase	95
F 110	950	930	590	230	0.47	1130	1000	690	7.5	3-phase	110
F 220	950	930	590	460	0.47	1130	1000	920	15.0	3-phase	150

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request

*Please see page 62 for more information about supply voltage


Glass Beads Cooling Furnace

A high-quality furnace is indispensable for the creative design of glass beads. The MF 5 model is the ideal companion for cooling glass beads or glass jewelry.

The door has a slit for glass beads which can be closed with the supplied plug if the furnace is to be used for other applications. With a maximum temperature of 950 °C, the furnace becomes a versatile helper – also ideal for small fusing and enameling jobs, decorations and to pre-heat frits and other materials.

Standard equipment

- Tabletop model
- Furnace top heating, protected in quartz glass tubes
- Multi-layer insulation
- Housing made from structured stainless steel

 Experience Glass Working in a New Light.

- Solid state relays ensure low noise heater operation
- Easy to fill with glass beads

Controller

- Controller with touch operation C540 (10 programs with each 20 segments), controls description see page 58

Experience the world of glass working with a Nabertherm furnace that not only offers technology but also creates passion and inspiration!



Glass beads



Glass beads



Top loader HO 70/R

Model	Tmax °C	Inner dimensions in mm			Volume in l	Outer dimensions in mm			Connected load kW	Electrical connection*	Weight in kg
		w	d	h		W	D	H			
MF 5	950	220	240	100	5	485	370	320	1.6	1-phase	15

*Please see page 62 for more information about supply voltage

Installation and Exhaust Air System

Installation

When the kiln is being installed, it is important that there is a safety gap of 0.5 m between the kiln and flammable materials on all sides and 1.0 m to the ceiling. If the ceiling is lower, heat-resistant insulation must be installed. If non-flammable materials are used for insulation the minimum distance between the kiln may be reduced to 0.20 m at the sides. The kiln must be placed on a non-flammable surface (fire safety class A DIN 4102 – Example: concrete, tiles, glass, aluminum or steel). The floor must be level so that the kiln can stand upright. Kiln and switchgear are not designed to be used outdoors.



Exhaust air system

When ceramics are fired, depending on the quality of the clay and/or glaze, they can emit gases and vapors that are harmful to health. Therefore, exhaust gases must be directed outdoors in a suitable manner. We recommend the connection of an extraction pipe to the kiln to remove the exhaust gases.

An 80 mm diameter zinc-plated steel pipe or stainless steel pipe is suitable for this purpose (up to model N 300/H). The pipe must be installed constantly rising. Sufficient room ventilation is necessary to ensure that fresh air is mixed with the exhaust gases.

A maximum exhaust gas temperature of approx. 200 °C can be assumed for the piping system. There is a risk of burning at the bypass connection and the piping. The wall duct must be made from heatproof material. We recommend that a local ventilation company dimensions the exhaust gas piping.

For models Top .. it should be noted that the exhaust air pipe must be fitted to the bypass connection starting with a rising bend so that the cover can be opened freely.

