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PRODUCT DATA SHEET



# MT Series Furnaces



# Standard Muffle Furnaces

Data Sheet & Order Manual 1100°C-1300°C



- Suitable for every kind of processes like ashing, sintering, preheating, melting, oxidizing.
- User friendly operating menu in 4 line display for easy operation.
- Durable inside lining made of light insulating bricks.
- Accurate measuring and controlling the temperature using K and S Type thermocouples.
- ±1 °C control accuracy.
- Designed for minimal space requirements in the laboratory, thanks to the highly engineered insulation design.
- Dual shell housing for low outer surface temperature.
- Optional protective gas connection, door switch, second thermocouple for different adjustable purposes.
- Lift up and Sideways opening door possibilities.

Product Group	Working Temperature	Volume Options	Software Options
Standard Muffle Furnaces	1100 °C	5, 7, 10, 20, 40, 60, 100 [Liter]	B2, E4, U8, S16
	1200 °C		
	1250 °C		
	1300 °C		

## How to Choose/Order Your MagmaTherm Furnace

### STEP 1

#### Choose maximum working temperature:

First step is deciding your purpose of use. Please determine the maximum working temperature you need and go to its data sheet accordingly.

Most of the time it is a wise decision to choose a furnace which works at a higher temperature than you plan to use. Using the furnace below maximum temperature remarkably extends the lifetime of heating elements and saves you money.

### STEP 2

#### Choose volume:

While choosing ideal volume for your furnace keep in mind that your sample should be at least 25mm away from each wall.

### STEP 3

#### Choose control unit and software:

Do you need direct or stepped heating? How sophisticated programs do you want to setup? Do you want to store frequently used programs?

PID controlled software is the key element for maximising the capability of your furnace.

### STEP 4

#### Choose optional features:

There are many optional features you can add to your MagmaTherm furnaces. You can customize it according to your needs.

### STEP 5

#### Choose spare parts:

You can choose which spare parts you want with your furnace to be able to repair fast on your own.

Manuals for easy installation comes with all spare parts.

### STEP 6

#### Choose accessories:

You will most likely need gloves, tongs, crucibles and other accessories.

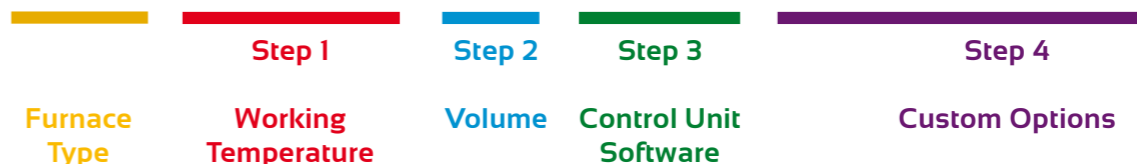
### STEP 7

#### Create your order code and fill out your order form:

Create an order amount and order code for each MagmaTherm furnace. Fill out the order form and send an email to [magma@magnatherm.com](mailto:magma@magnatherm.com) for quotation.

### Sample MagmaTherm Furnace Product/Order Code

**MT-1200-10-U16-LU-DS-PC**



# STEP 1 & STEP 2



STEP 1 Choose Your Maximum/Continuous Working Temperature							
1100°C							
STEP 2 Choose Your Volume							
	5 Liter	7 Liter	10 Liter	20 Liter	40 Liter	60 Liter	100 Liter
Inner Chamber Dimensions [mm] WxHxD	150x150x225	180x160x260	200x180x300	250x200x395	300x300x445	400x300x495	460x365x595
Product Outer Dimensions [mm] WxHxD	446x618x620	476x628x655	496x648x695	546x668x790	630x785x840	730x785x890	756x833x990
Net Weight [kg]	43	48	50	65	112	133	160
Power [W]	2.000	2.600	3.000	4.200	7.500	10.200	14.000
Max. Current [A]	9,1	11,9	13,7	2x9,6 / 1x19,1	3x11,4	3x15,5	3x21,2
Electrical Connection	1 Phase	1 Phase	1 Phase	3 or 1 Phase	3 Phase	3 Phase	3 Phase
Heating Element	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al
Thermocouple Type	K Type	K Type	K Type	K Type	K Type	K Type	K Type
Heating Element Placement	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls
Inner Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Front Face Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Door Insulation Material	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board
Housing Material	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet
Housing Coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating
Chimney	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Heating Element Protection	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube
Lockable Door Handle	Sideways	Sideways	Sideways	Sideways	Sideways	Sideways	Sideways
Gross Dimensions [mm] WxHxD	506x780x678	536x815x688	556x855x708	606x950x728	690x1000x845	790x1050x845	816x1150x893
Gross Weight [kg]	57	63	67	85	136	160	190

# STEP 1 & STEP 2



STEP 1 Choose Your Maximum/Continuous Working Temperature							
1200°C							
STEP 2 Choose Your Volume							
	5 Liter	7 Liter	10 Liter	20 Liter	40 Liter	60 Liter	100 Liter
Inner Chamber Dimensions [mm] WxHxD	150x150x225	180x160x260	200x180x300	250x200x395	300x300x445	400x300x495	460x365x595
Product Outer Dimensions [mm] WxHxD	446x618x620	476x628x655	496x648x695	546x668x790	630x785x840	730x785x890	756x833x990
Net Weight [kg]	43	48	50	65	112	133	160
Power [W]	2.000	2.600	3.000	4.200	7.500	10.200	14.000
Max. Current [A]	9,1	11,9	13,7	2x9,6 / 1x19,1	3x11,4	3x15,5	3x21,2
Electrical Connection	1 Phase	1 Phase	1 Phase	3 or 1 Phase	3 Phase	3 Phase	3 Phase
Heating Element	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al
Thermocouple Type	K Type	K Type	K Type	K Type	K Type	K Type	K Type
Heating Element Placement	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls
Inner Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Front Face Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Door Insulation Material	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board
Housing Material	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet
Housing Coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating
Chimney	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Heating Element Protection	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube	Quartz Tube
Lockable Door Handle	Sideways	Sideways	Sideways	Sideways	Sideways	Sideways	Sideways
Gross Dimensions [mm] WxHxD	506x780x678	536x815x688	556x855x708	606x950x728	690x1000x845	790x1050x845	816x1150x893
Gross Weight [kg]	57	63	67	85	136	160	190

# STEP 1 & STEP 2



STEP 1 Choose Your Maximum/Continuous Working Temperature							
<b>1250°C</b>							
STEP 2 Choose Your Volume							
	5 Liter	7 Liter	10 Liter	20 Liter	40 Liter	60 Liter	100 Liter
Inner Chamber Dimensions [mm] WxHxD	150x150x225	180x160x260	200x180x300	250x200x395	300x300x445	400x300x495	460x365x595
Product Outer Dimensions [mm] WxHxD	446x618x620	476x628x655	496x648x695	546x668x790	630x785x840	730x785x890	756x833x990
Net Weight [kg]	49	56	60	81	112	133	160
Power [W]	2.250	3.500	3.500	4.500	7.500	10.200	14.000
Max. Current [A]	10,3	16	16	2x10,3 / 1x20,6	3x11,4	3x15,5	3x21,3
Electrical Connection	1 Phase	1 Phase	1 Phase	3 or 1 Phase	3 Phase	3 Phase	3 Phase
Heating Element	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al
Thermocouple Type	K Type	K Type	K Type	K Type	K Type	K Type	K Type
Heating Element Placement	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls
Inner Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Front Face Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Door Insulation Material	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board
Housing Material	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet
Housing Coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating
Chimney	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Heating Element Protection	None	None	None	None	None	None	None
Lockable Door Handle	Sidewards	Sidewards	Sidewards	Sidewards	Sidewards	Sidewards	Sidewards
Gross Dimensions [mm] WxHxD	506x780x678	536x815x688	556x855x708	606x950x728	690x1000x845	790x1050x845	816x1150x893
Gross Weight [kg]	63	71	77	101	136	160	190

# STEP 1 & STEP 2



STEP 1 Choose Your Maximum/Continuous Working Temperature							
<b>1300°C</b>							
STEP 2 Choose Your Volume							
	5 Liter	7 Liter	10 Liter	20 Liter	40 Liter	60 Liter	100 Liter
Inner Chamber Dimensions [mm] WxHxD	150x150x225	180x160x260	200x180x300	250x200x395	300x300x445	400x300x495	460x365x595
Product Outer Dimensions [mm] WxHxD	446x618x620	476x628x655	496x648x695	546x668x790	630x785x840	730x785x890	756x833x990
Net Weight [kg]	49	56	60	81	112	133	160
Power [W]	2.250	3.500	3.500	4.500	7.500	10.200	14.000
Max. Current [A]	10,3	16	16	2x10,3 / 1x20,6	3x11,4	3x15,5	3x21,3
Electrical Connection	1 Phase	1 Phase	1 Phase	3 or 1 Phase	3 Phase	3 Phase	3 Phase
Heating Element	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al	Fe-Cr-Al
Thermocouple Type	S Type	S Type	S Type	S Type	S Type	S Type	S Type
Heating Element Placement	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls	Embedded into brick walls
Inner Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Front Face Insulation Material	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick	Insulating Fire Brick
Door Insulation Material	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board	Ceramic Fibre Board
Housing Material	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet	Steel Sheet
Housing Coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating	Epoxy powder coating
Chimney	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Heating Element Protection	None	None	None	None	None	None	None
Lockable Door Handle	Sidewards	Sidewards	Sidewards	Sidewards	Sidewards	Sidewards	Sidewards
Gross Dimensions [mm] WxHxD	506x780x678	536x815x688	556x855x708	606x950x728	690x1000x845	790x1050x845	816x1150x893
Gross Weight [kg]	63	71	77	101	136	160	190

# STEP 3



## STEP 3

Choose CU Software	BASIC B2	EXTENDED E4	ULTIMATE U8	SCIENTIFIC S16
Software Based PID Control	YES	YES	YES	YES
Display	4x20 LCD	4x20 LCD	4x20 LCD	4x20 LCD
Heating Program with	2 steps	4 steps	8 steps	16 steps*
Custom Preset Program	2	4	6	5
Heating Rate °C/min.	3-20	3-20	3-20	3-20**
Date & Time	YES	YES	YES	YES
Auto Start at Certain Date	NO	YES	YES	YES
Show Remaining Waiting Time	NO	YES	YES	YES
Skip the Waiting Step	NO	YES	YES	YES
Temperature Calibration via Menu ( ±10°C )	NO	YES	YES	YES
Sound Warnings at Step Changes	YES	YES	YES	YES
Sound Warning at the End of the Program	YES	YES	YES	YES
Total Working Hour Counter	YES	YES	YES	YES
Calculator for Average Working Temperature	YES	YES	YES	YES
Instantaneous Energy Consumption Indicator	YES	YES	YES	YES
Current and Target Temperature Display	YES	YES	YES	YES
Step Indicator	YES	YES	YES	YES
Burst Heating Mode	YES	YES	YES	YES
Descriptive Error Indicator	YES	YES	YES	YES
Temperature Control Accuracy***	±1°C	±1°C	±1°C	±1°C
Measurement Accuracy	±1°C	±1°C	±1°C	±1°C
Inner Volume Temperature Homogeneity	±10°C	±10°C	±10°C	±10°C
Control Unit Overheating Sensor	YES	YES	YES	YES
Over Heating Cut Off	YES	YES	YES	YES
Open Door Sensor	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
PC Connection Kit	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
Warranty Period	2 Years	2 Years	2 Years	2 Years

\* Only 5th memory supports 16 levels \*\*Independent for each level \*\*\*Can vary at low temperatures



# STEP 4 & 5 & 6



## STEP 4 Choose Optional Features

OTL	LU	SS	GS	DS	TC2	OH	PC	PS
Over Temperature Limiter	Lift-up Door	Stainless Steel Body	Gas Supply Connection	Open Door Sensor	Second Thermocouple	Observation Hole	PC Connection	110V Power Supply
Over-temperature limiter with manual reset for thermal protection class 2 in accordance with EN 60519-2	Standard furnaces open towards left with a sideward door. Lift-up doors open fully to reach inner chamber easily.	If your laboratory has corrosive or heavy conditions and Stainless steel body will be the ideal choice.	With gas supply you can either supply more air to burn better or achieve a protective atmosphere.	Automatic cut off heating when door is open. Sound warning after 30 seconds. Enable/disable option for door sensor.	Menu accessed 3 selectable functions for TC2: 1) Average temperature calculation with first thermocouple. 2) Thermostat 3) Monitoring	Observation hole is designed for visual access while heating treatment.	PC connection kit comes with its driver and own software. Can be used as independent data logger, logging data from up to 5 thermocouples.	You can choose 110V power supply.

## STEP 5

Choose Spare Parts	Inner Module	Door Insulation	Control Card	Power Card	Display	Cooling Fan	Chimney Fan
Description	Changing inner module renews your furnace close to a brand new furnace.	With sheet metal holder vessel	Easy to replace, Pre-programmed	Easy to replace	4x20 LCD display	80x80x20 220V Fan	40x40x10 5V Fan

MagmaTherm furnaces are built for easy maintenance. Each part can be replaced by anyone who has basic repair abilities. Modular design and detailed fool proof **video tutorials** helps fast repair in case of need. You can download or watch video tutorials on [www.magmatherm.com](http://www.magmatherm.com) with your given password.

All of our products are passed through quality control. Therefore Magmatherm Furnaces have **2 year warranty period** except user related damages. For proper use and avoiding such problems it is very important to read user manual and operate your furnace under right circumstances.

## STEP 6

Choose Accessories	High Temperature Gloves	Tongs	Alumina Crucibles	Metal Crucibles	Alumina Combustion Boats	Seramic Pipes	Extra Thermocouples
Image							

# General Product Overview



Chamber Furnaces																
Product Group	Working Temperature	Volume Options [Liter]													Software Options	
		1	3	5	6	7	8	9	10	16	20	30	40	60		100
MTP	950°C		■													P, Px
	1000°C			■			■				■					
	1100°C			■			■				■					
MT	1100°C			■		■			■		■		■	■	■	B2, E4, U8, S16
	1200°C			■		■			■		■		■	■		
	1250°C			■		■			■		■		■	■		
	1300°C			■		■			■		■		■	■		
MTSIC	1400°C		■		■			■		■		■		■	E4, U8, S16	
	1500°C		■		■			■		■		■		■		
	1550°C		■		■			■		■		■		■		
MTMo	1500°C	■	■												E4, U8, S16	
	1600°C	■	■		■			■		■		■		■		
	1700°C		■		■			■		■		■		■		
	1750°C		■		■			■		■		■		■		

Volume Information				
Volume Name [Liter]	Physical Volume [Liter]	Width [mm]	Height [mm]	Depth [mm]
1	1,3	100	125	106
3 (MTP)	3,1	130	105	230
3 (MTSIC)	3	140	130	165
3 (MTMo)	3,1	115	150	175
5	5,1	150	150	225
6 (MTSIC)	6	175	160	215
6 (MTMo)	6,1	150	185	220
7	7,5	180	160	260
8	7,5	180	160	260
9 (MTSIC)	9	200	170	265
9 (MTMo)	9,3	175	205	260
10	10,8	200	180	300
16 (MTMo)	16	200	255	315
16 (MTSIC)	16	250	200	320
20	19,8	250	200	395
30 (MTMo)	30,2	250	310	390
30 (MTSIC)	29,6	300	250	395
40	40,1	300	300	445
60 (MT)	59,4	400	300	495
60 (MTMo)	60,5	320	420	450
60 (MTSIC)	59,4	400	300	495
100	99,9	460	365	595



## Worldwide Sales

MagmaTherm furnaces are used over 30 countries over the world. Your satisfaction motivates us to grow every day.

Turkey  
Holland  
Germany  
England  
France  
Italy  
Poland  
Austria  
Greece

Spain  
Portugal  
Morocco  
Algeria  
Libya  
Egypt  
Iraq  
Saudi Arabia  
UAE

Azerbaijan  
Georgia  
Kazakhstan  
Turkmenistan  
China  
Malaysia  
Thailand  
Indonesia  
South Korea

Japan  
India  
Pakistan  
Philippines  
...and growing

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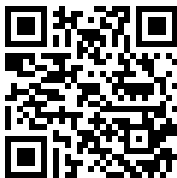


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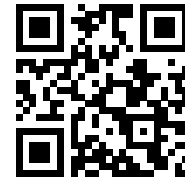
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