

Indutherm Casting Machines

Mini Casting Systems



INDUTHERM
Erwärmungsanlagen GmbH



MC 16



MC 20V



MC 100V



	MC 16	MC 20V	MC 100V
Performance Max. / Electrical connection	3.5 kW 230 V, Single phase	3.5 kW 230 V, Single phase	8 kW 3x400 V, three phase
Maximum Temperature	2000 °C	2000 °C	2000 °C
Capacity			
Crucible Volume	100g Au 18ct / 110 g Steel / 200 g Pt	100g Au 18ct / 110 g Steel / 200 g Pt	450 g 18ct / 250 g Steel / 500 g Pt
for use of flasks up to	up to ø 30/50/65/80 mm x 80 mm h	up to ø 30/50/65/80 mm x 80 mm h	up to ø 80/100 mm x 120 mm h
Handling + Control			
Control Panel	by LCD display, full text read out	by LCD display, full text read out	by LCD display, full text read out
Automatic Vacuum Function	✓	✓	✓
Automatic Overpressure function	✓	✓	✓
Casting also under vacuum only	✓	✓	✓
Vacuum or Overpressure after casting	✓ -1 up to +2 bar	✓ -1 up to +3 bar	✓ -1 up to +3 bar
Vibration System	-	✓	✓
Supply: Cooling water, Inert gas argon or nitrogen	✓	✓	✓
Temperature Measurement/ Control	✓ Up to 1300 °C (Optional) Up to 1600 °C	✓ Up to 2000 °C	✓ Up to 2000 °C
Quality Management			
Interface RS 232	✓	✓	✓
GMS Modem	(Optional)	(Optional)	(Optional)



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Standard - "✓" Not Available - "-"

Indutherm MC 60V

This small high-performance casting machine is ideal for smaller production quantities and can be used for jewellery alloys such as gold, silver, copper and bronze, as well as for alloys of brass and aluminium. Thanks to the vacuum and overpressure functions and the many automatic control features, the machine provides first class castings with little work

Main benefits

- * Very simple use, short training period, very good results even by operators with less experience in casting techniques
- * 3,5 kW generator enables quick melting periods
- * Thorough mixing of metal by induction generator (low frequency tuning)
- * Melting under vacuum for reduced danger of oxidation
- * Excellent mould filling because of inert gas / overpressure, max. 2 bars
- * Excellent ratio machine size to capacity: flasks up to Ø 100 mm x 120 mm h



Specifications	MC 60V
Performance Max. / Electrical connection	3.5 kW 230 V, Single phase
Maximum Temperature	1300 °C
Capacity	
Crucible Volume	450 g 18ct / 300 g Ag 935
for use of flasks up to	up to Ø 80/100 mm x 120 mm h
Handling + Control	
Control Panel	by LCD display, full text read out
Automatic Vacuum Function	✓
Automatic Overpressure function	✓
Casting also under vacuum only	✓
Vacuum or Overpressure after casting	✓ -1 up to +3 bar
Vibration System	✓
Supply: Cooling water, Inert gas argon or nitrogen	✓
Temperature Measurement/Control	✓ Up to 1300 °C
Quality Management	
Interface RS 232	✓
GMS Modem	(Optional)



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Indutherm VC 400



The ideal machine for smaller companies producing moderate quantities, but need considerably more capacity than that offered by MC machines.

VC 400	
Performance Max. / Electrical connection	3.5 kW 230 V or 4.5 kW 3x400 V
Maximum Temperature	1400 °C
Capacity	
Crucible Volume	170 cm ³ = 2.5 kg Au 18 ct
for use of flasks up to	ø 130mm / 240 mm h
Handling + Control	
Vibration Technology	-
Pneumatic Bell Lock	-
Maximum Pressure	1.5 bar
Program	20 temperature programs
Dual Temperature Control	(Optional)
Flask and Chamber Lift	Switch
Turbo Pressure PLUS System	✓
Turbulence Reduction Software	-
Quality Management	
Interface RS 232	✓
GMS Modem	✓
Accessories	
Sintering Kit (for diffusion bonding)	(Optional)



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Indutherm VC 440

The VC 440 is designed to be robust and easy to use. Major functions are controlled by automatic system. All relevant parts are water cooled.

VC 440	
Performance Max. / Electrical connection	3.5 kW 230 V or 4.5 kW 3x400 V
Maximum Temperature	1400 °C
Capacity	
Crucible Volume	170 cm ³ = 2.5 kg Au 18 ct
for use of flasks up to	ø 130 mm / 240 mm h
Handling + Control	
Vibration Technology	-
Pneumatic Bell Lock	✓
Maximum Pressure	1.5 bar
Program	20 temperature programs
Dual Temperature Control	✓
Flask and Chamber Lift	Button powered
Turbo Pressure PLUS System	✓
Turbulence Reduction Software	✓
Quality Management	
Interface RS 232	✓
GMS Modem	(Optional)
Accessories	
Sintering Kit (for diffusion bonding)	(Optional)
Also available as granulating unit	540mm, if VC 440 has flask lift



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Indutherm VC 450



Performance	
Power Max. / Electrical connection	4.5 kW, 3x400 V
Maximum Temperature	1400 °C
Capacity	
Crucible Volume	170 cm ³ = 2.5 kg Au 18 ct
for use of flasks up to	ø 130 mm / 240 mm h (Optional) ø 160mm / 400 mm h
Handling + Control	
Vibration Technology	-
Pneumatic Bell Lock	✓
Maximum Pressure	1.5 Bar
Programs	20
Program Control	LCD display, full text display
Dual Temperature Control	(Optional)
Flask and Chamber Lift	✓
Turbo Pressure PLUS System	-
Turbulence Reduction Software	✓
Quality Management	
Interface RS 232	✓
Data Printer	(Optional)
GMS Modem	(Optional)
Accessories	
Sintering Kit (for diffusion bonding)	(Optional)
Granulation Tank	(Optional)

The VC 450 is equipped with a completely new generator and a program control system with LCD display.



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Indutherm VC 450 HV

Performance	
Power Max. / Electrical connection	4.5 kW, 3x400 V
Maximum Temperature	1400 °C
Capacity	
Crucible Volume	170 cm ³ = 2.5 kg Au 18 ct
for use of flasks up to	ø 130 mm / 240 mm h (Optional) ø 160mm / 400 mm h
Handling + Control	
Vibration Technology	✓
Pneumatic Bell Lock	✓
Maximum Pressure	1.5 Bar
Programs	20
Program Control	LCD display, full text display
Dual Temperature Control	(Optional)
Flask and Chamber Lift	✓
Turbo Pressure PLUS System	✓
Turbulence Reduction Software	✓
Quality Management	
Interface RS 232	✓
GMS Modem	(Optional)
Accessories	
Sintering Kit (for diffusion bonding)	(Optional)
Granulation Tank	(Optional)

The VC 450V is equipped with INDUTHERM vibration system & additional gas tank.



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Indutherm VC 480 V



Performance	
Power Max. / Electrical connection	8 kW 3x400 V
Maximum Temperature	1600 °C
Capacity	
Crucible Volume	170 cm ³ = 2.5 kg Au 18 ct
for use of flasks up to	ø 130mm / 240 mm h (Optional) ø 160mm / 400 mm h
Handling + Control	
Vibration Technology	✓
Pneumatic Bell Lock	✓ Switch
Maximum Pressure	1.5 Bar
Programs	100 temperature programs
Program Control	LCD display, full text display
Dual Temperature Control	(Optional)
Flask and Chamber Lift	✓
Variable Vacuum Flask Chamber	✓
Turbo Pressure PLUS System	✓
Turbulence Reduction Software	✓
Quality Management	
Interface RS 232	✓
GMS Modem	(Optional)
Accessories	
Sintering Kit (for diffusion bonding)	(Optional)
Granulation Tank	(Optional)

The VC 480 V comes with an 8 kW generator, an advanced program control with 100 casting programs, automatic mold and chamber lift, variable vacuum in the Flask chamber and the INDUTHERM vibration system.



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Indutherm VC 650 V

Performance	
Power Max. / Electrical connection	12 kW 3x400 V
Maximum Temperature	1700 °C
Capacity	
Crucible Volume	245 cm ³ = 3.6 kg Au 18 ct; (Optional) 386 cm ³ = 5.8 kg Au 18 ct (Optional) 700 cm ³ = 10.5 kg Au 18 ct
for use of flasks up to	ø 130mm / 240 mm h (Optional) ø 160 mm / 400 mm h
Handling + Control	
Vibration Technology	✓
Pneumatic Bell Lock	✓
Maximum Pressure	3 Bar
Programs	100
Program Control	LCD display, full text display
Dual Temperature Control	(Optional)
Flask and Chamber Lift	✓
Turbo Pressure PLUS System	✓
Turbulence Reduction Software	✓
Quality Management	
Interface RS 232	✓
GMS Modem	(Optional)
Accessories	
Sintering Kit (for diffusion bonding)	(Optional)
Granulation Tank	(Optional)

VC 650 V for high speed and casting quality with high crucible capacities, sweep mode vibration system and up to 3 bar overpressure that are essential for large productions.



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Indutherm Continuous Casting Machines



Whatever you
want to cast we
have a perfect
solution



Performance	CC 400 / VCC 400	CC 1000 / VCC 1000	CC 3000 / VCC 3000
Power Max. / Electrical connection	15 kW, 3x400 V/3x208 V	25 kW, 3x400 V	30kW, 3x400 V
Maximum Temperature	1500 °C	1500 °C	1500 °C
Capacity			
Crucible Volume	✓ 285 cm ³ = 4.2 kg Au 18 ct (Optional) 400 cm ³ = 6.0 kg Au 18 ct	✓ 1500 cm ³ = 22 kg Au 18 ct	✓ 3400 cm ³ = 51 kg Au 18 ct
Wire Production Up to	✓ ø 15 mm	✓ ø 30 mm	✓ ø 40 mm
Tube Production Up to	✓ ø 30 mm	✓ ø 40 mm	✓ ø 50 mm
Sheet Production	✓ 50 x 8 mm (Optional) 60 x 8 mm	✓ 100 x 10 mm	✓ 130 x 12 mm
Handling + Control			
100 Programs	LCD display, full text display	LCD display, full text display	LCD display, full text display
Vacuum/inert gas overpressure	(-) CC 400 / (✓) VCC 400	(-) CC 1000 / (✓) VCC 1000	(-) CC 3000 / (✓) VCC 3000
Neutral inert gas atmosphere	✓	✓	✓
Optical die temperature measurement	✓	✓	✓
Die cooler with protective gas flushing	✓	✓	✓
Secondary Cooler	✓	✓	✓
End bar sensor	✓	✓	✓
Quality Management			
Interface RS 232	✓	✓	✓
Data Printer	✓	✓	✓
GMS Modem	✓	✓	✓
Accessories			
Quatro drawing unit	(Optional)	(Optional)	(Optional)
Center alignment	(Optional)	(Optional)	(Optional)
Sintering kit	(Optional)	-	-
Granulation Tank	(Optional)	(Optional)	(Optional)
Bending unit	(Optional)	(Optional)	(Optional)
Simultaneous casting of several wires	-	(Optional)	(Optional)
Coiling equipment	-	(Optional)	(Optional)

Standard - "✓" Not Available - "-"



Indutherm Induction Melting Units

MU 200

Flexible melting furnaces designed to melt gold and silver alloys and as well as aluminum, bronze, brass a.s.o. Due to the strong induction generator (15 kW) and the low induction frequency the stirring effect of the metal is excellent. The V or VV versions include one or two additional extra large capacity vacuum chambers. The short distance between melting and pouring leads to high quality cast even with filigree parts.



Performance	MU 200
Power Max. / Electrical connection	3.5 kW 230 V or 6 kW 3x400 V
Maximum Temperature	1300 °C or 1500 °C
Capacity	
Crucible Volume	155 cm ³ = 2.0 kg Au 18 ct
for use of flasks up to	up to ø 160 mm
Handling + Control	
Temperature measurement by thermocouple	✓
Temperature Control	✓
Temperature Programs	20
Quality Management	
RS232, Ethernet, USB Interface Diagnostic System	✓
GSM Modem for Remote Service	(Optional)



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Indutherm MU 400

Performance	MU 400 (MUV/ MUVV 400)
Power Max. / Electrical connection	10 kW, 3x400 V
Maximum Temperature	1500 °C
Capacity	
Crucible Volume	MU/MUV/MUVV 400 : 400 cm ³ = 5.0 kg Au 18 ct
for use of flasks up to	up to ø 160 mm / 400 mm h (MUV/MUVV)
Handling + Control	
Temperature measurement by thermocouple	✓
Temperature Control	✓
Temperature Programs	20
Quality Management	
Interface RS232	✓
GSM Modem	(Optional)



Standard - "✓" Not Available - "-"

Indutherm MU 700 - 1200

Performance	MU 700 - 1200 (MUV/ MUVV 700 - 1200)
Power Max. / Electrical connection	12 - 15 kW, 3x400 V
Maximum Temperature	1500 °C
	MU 700: 12 kW MU 900: 15 kW MU 1200: 15 kW
Capacity	
Crucible Volume	MU/MUV/MUVV 700 : 700 cm ³ = 9 kg Au 18 ct MU/MUV/MUVV 900 : 900 cm ³ = 13 kg Au 18 ct MU/MUV/MUVV 1200 : 1200 cm ³ = 18 kg Au 18 ct
for use of flasks up to	up to ø 160 mm / 400 mm h (MUV/MUVV)
Handling + Control	
Temperature measurement by thermocouple	✓
Temperature Control	✓
Temperature Programs	20
Quality Management	
Interface RS232	✓
GSM Modem	(Optional)



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Indutherm Tilting Furnaces



4 Tilting Furnaces for melting and casting large quantities into ingots or shell moulds

These machines are designed...

- * for melting large quantities, for example in the recycling sector
- * for casting large parts into shell-casting moulds

Indutherm TF series – tried and tested in foundries, refineries and precious metal merchants across the world:

Our tilting furnaces are mainly used in two areas:

- * for melting down large quantities of metal such as antique gold or manufacturing residues like casting waste, scrap or swarf. 30 kW output and low-frequency tuning means fast melting – even for large volumes – and excellent through-mixing.
- * for casting large, heavy components e.g. after slip casting



TF 2000/4000



TF 6000/12000

Performance	TF 2000/4000	TF 6000/12000
Power Max. / Electrical connection	25 - 30 kW 3x400 V	40 - 60 kW 3 x 400 V
Maximum Temperature	1500 °C	1500 °C
	TF 2000 : 25 kW TF 4000 : 30 kW	TF 6000 : 40 kW TF 12000 : 40 kW / 60 kW
Capacity		
Crucible Volume	TF 2000 : 2000 cm ³ = 30 kg Au 18 ct TF 4000 : 4000 cm ³ = 60 kg Au 18 ct	TF 6000 : 6000 cm ³ = 90 kg Au 18 ct TF 12000 : 12000 cm ³ = 180 kg Au 18 ct
Handling + Control		
Tilting	By lever	Motor driven (remote control)
Temperature Control	By LCD display, full text readout	By LCD display, full text readout
Temperature Programs	20	100
Quality Management		
Interface RS 232, Ethernet, USB Interface, Diagnostic System	✓	✓
GMS Modem for Remote Service	(Optional)	✓



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Indutherm Granulating Machines

The Granulating Machines GU 500, GU 1000, GU 3000 and GU 12000

These machines are developed especially for granulating of metal bullions into proper grains. They are used with a separate removable granulation tank (no tank integrated) and are available with crucible sizes from 170 cm³ up to 12000 cm³.



GU 500



GU 3000



GU 12000

	GU 500	GU 1000	GU 3000	GU 12000
Crucible Volume (cm ³)	245 - 368	1500	3400	12000
Volume (kg Au 18 ct)	3.6 - 5.7	22.0	51.0	180.0
Volume (kg Ag)	2.4 - 3.8	14.0	34.0	120.0
Volume (kg Cu)	2.1 - 3.3	12.0	30.0	105.0
Generator (kW 400 V)	10	25	30	40



Pull out handle for easy removal of the tank insert



Pour off the residual water



then pour off the granules



Indutherm Accessories



INDUTHERM
Erwärmungsanlagen GmbH



Graphite crucible
& stopper rod for
VC400/440/450/480V



Graphite crucible for casting
VC200/300/500/650V



Ceramic crucible for
MC50,60



Crucible bottom insulation
MU200



Crucible bottom insulation
VC400/450/480V



Crucible bottom insulation
VC600/650



Crucible bottom insulation
TF1200



Crucible cover fibre with
handle, TF1200



Crucible shield for 78mm
crucible, VC500/600, CC400



Crucible shield 108
VC600



Crucible shield
diam=110mm



Crucible shield TF1200
up to 1300°C



Crucible shield for
VC400-VC480V



Crucible shield ring
TF1200



Filling cone
VC400-VC480V



Sealing rod ceramic
1400C



Crucible safety cover for
MC50/60/100V, VTC100V



Sinter metal filter for VC -
Brass



Vacuum filter inlet 1/2"
White



Vacuum filter for
MC series



Die insulation for crucible
110mm



Thermocouple type N for
MC60, MC100V upto 1300°C



Thermocouple type N for
VC650 upto 1300°C



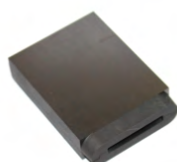
Thermocouple S type
MU200



Thermocouple type K for
wall measurement



Crucible tong



Die for sheet 5x40mm



Die for sheet 12mm



Air Filter GB-202 Pressure
sensor



Pressure sensor for VC
series



Sensor position cylinder



Air filter vacuum pump



Pressure regulator



Flask gasket graphite
169/110mm



Flask gasket red silicon