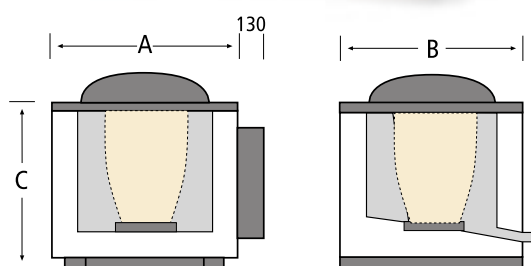


# Melting and Holding of Non-Ferrous Metals

Bale-out Furnaces and Tilting Furnaces



THERM  CONCEPT



## Electrically heated Bale-out Furnaces

T max 1100 °C, 1200 °C and 1300 °C

- Rugged casing construction
- Compact construction > Easy access to metal bath
- Friendly working conditions due to excellent thermal insulation
- Low energy consumption, low operating costs (approx. 0.4 kWh/kg aluminium)
- High-quality heating elements wound on ceramic tubes > Free heat radiation onto crucible, low energy consumption, longer service life of heating elements
- Uniform heating of melt and crucible due to heating from 4 sides, superb metal quality, good crucible life
- Heat-resistant cast-iron ring on removable refractory concrete cover protects crucible against mechanical damage and allows easy access for crucible change
- Emergency outlet drain
- Cable harness between control panel and furnace protected by flexible metal conduit, providing optimum protection against mechanical damage
- Low maintenance costs

Furnaces also supplied for holding only (with lower power ratings).

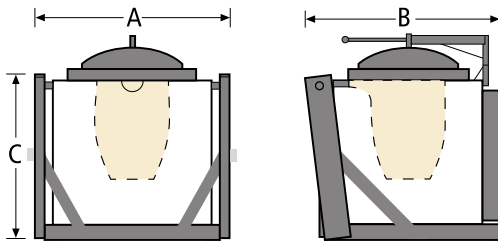
### Technical data

Model	Crucible	Melting rate* [kg/h Al at 700 °C]	Melting rate* [kg/h Cu at 1000 °C]	Power [kW]	T max [°C]	Outside dimensions			Voltage [V]	Weight [kg]
						A [mm]	B [mm]	C [mm]		
TA 30/11	A 70	35	-	18	1100	860	860	810	400 3/N	500
TA 50/11	A 150	45	-	21	1100	860	860	870	400 3/N	570
TA 100/11	A 300	60	-	27	1100	1010	1010	910	400 3/N	710
TA 200/11	BU 200	130	-	53	1100	1160	1160	950	400 3/N	810
TA 300/11	BU 300	140	-	63	1100	1210	1210	1050	400 3/N	1070
TA 350/11	BU 350	160	-	68	1100	1210	1210	1270	400 3/N	1120
TA 500/11	BU 500	170	-	72	1100	1390	1390	1270	400 3/N	1300
TA 600/11	BU 600	210	-	82	1100	1390	1390	1420	400 3/N	1420
TA 800/11	BU 800	260	-	102	1100	1430	1430	1490	400 3/N	2300
TK 70/12	A 70	35	50	18	1200	860	860	810	400 3/N	720
TK 150/12	A 150	45	65	21	1200	860	860	870	400 3/N	790
TK 300/12	A 300	60	85	27	1200	1010	1010	910	400 3/N	920
TK 500/12	BU 200	130	195	53	1200	1160	1160	950	400 3/N	1150
TK 70/13	A 70	35	50	18	1300	860	860	810	400 3/N	720
TK 150/13	A 150	45	65	21	1300	860	860	870	400 3/N	790
TK 300/13	A 300	60	85	27	1300	1010	1010	910	400 3/N	920
TK 500/13	BU 200	130	195	53	1300	1160	1160	950	400 3/N	1150

## Electrically heated Tilting Furnaces

T max 1200 °C and 1300 °C

- Rugged casing construction
- Safe, reliable pouring using 2 hydraulic cylinders with end bearing dampers on tilting frame
- Precision dosing at every tilting angle
- Friendly working conditions due to very low outer casing temperature
- Low energy consumption, low operating costs due to excellent thermal insulation (approx. 0.4 kWh/kg aluminium)
- Very low heat loss
- High-quality heating elements wound on ceramic tubes > Free heat radiation onto the crucible, low energy consumption, longer service life of heating elements
- Uniform heating of melt and crucible due to heating from 3 sides, superb metal quality, good crucible life
- Crucible protected by cover plate made of refractory concrete
- Emergency outlet drain
- Cable harness between control panel and furnace protected by flexible metal conduit, providing optimum protection against mechanical damage
- Low maintenance costs



### Technical data

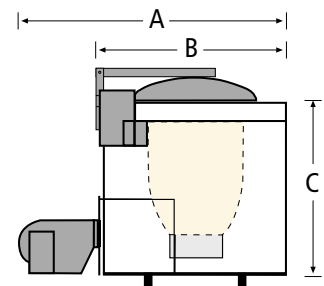
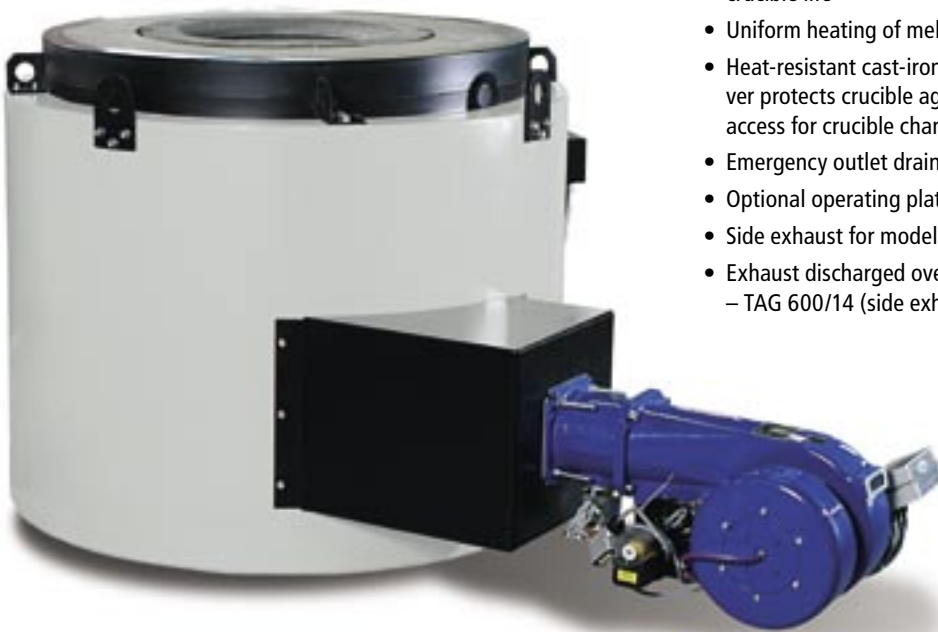
Model	Crucible	Melting rate* [kg/h Al at 700 °C]	Melting rate* [kg/h Cu at 1000 °C]	Power [kW]	T max [°C]	Outside dimensions [mm]			Voltage [V]	Weight [kg]
						A	B	C		
TA 30/12/K	A 70	32	47	18	1200	1540	1300	1160	400 3/N	950
TA 50/12/K	A 150	42	62	21	1200	1600	1400	1250	400 3/N	1200
TA 100/12/K	A 300	57	82	27	1200	1850	1550	1270	400 3/N	1600
TA 200/12/K	TP 287	125	190	53	1200	1950	1600	1400	400 3/N	1790
TA 350/12/K	TP 412	150	-	63	1200	2000	1650	1460	400 3/N	2180
TA 600/12/K	TP 587	205	-	82	1200	2150	1900	1670	400 3/N	2820
TA 800/12/K	TBN 800	255	-	102	1200	2250	2000	1670	400 3/N	3500
TK 70/13/K	A 70	32	47	18	1300	1540	1300	1160	400 3/N	980
TK 150/13/K	A 150	42	62	21	1300	1600	1400	1250	400 3/N	1300
TK 300/13/K	A 300	57	82	27	1300	1850	1550	1270	400 3/N	1650
TK 500/13/K	TP 287	125	190	53	1300	1950	1600	1400	400 3/N	1850

Other sizes on request · \* The melting rates depend on crucible conductivity and specific operating conditions. Approx. 80% is achieved under normal conditions.

## Fuel-fired Bale-out Furnaces

T max 1200 °C and 1400 °C

- Oil- or gas-fired
- Rugged furnace design
- High melting rates
- Low energy consumption of approx. 1.3 kWh / kg Al
- Very low heat loss due to excellent thermal insulation
- High-quality burner technology > Good metal quality and crucible life
- Uniform heating of melt and crucible
- Heat-resistant cast-iron ring on removable refractory concrete cover protects crucible against mechanical damage and allows easy access for crucible change
- Emergency outlet drain
- Optional operating platform
- Side exhaust for models TAG 200/12 – TAG 600/12
- Exhaust discharged over rim of crucible for models TAG 100/14 – TAG 600/14 (side exhaust available as optional extra)



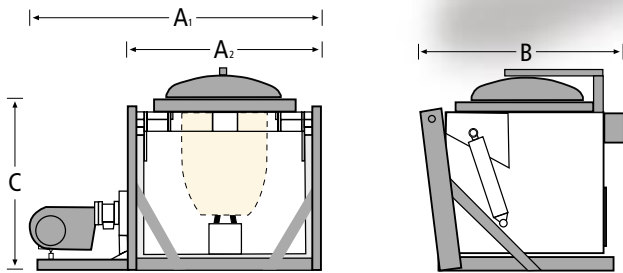
### Technical data

Model	Crucible	Capacity		Melting rate* [kg/h Al at 700 °C]	Melting rate* [kg/h Cu at 1000 °C]	Burner power [kW]	T max [°C]	Outside dimensions [mm]			Weight [kg]
		kg Al	kg Cu					A	B	C	
TAG 200/12	BU 200	200	650	140	-	180	1200	2100	1300	1100	900
TAG 250/12	BU 250	250	830	140	-	180	1200	2100	1300	1100	1000
TAG 300/12	BU 300	300	1000	150	-	210	1200	2100	1300	1300	1200
TAG 350/12	BU 350	350	1150	220	-	300	1200	2100	1300	1300	1400
TAG 500/12	BU 500	500	1650	270	-	300	1200	2250	1450	1300	1700
TAG 600/12	BU 600	600	2000	330	-	390	1200	2300	1600	1450	1900
TAG 100/14	A 100	30	100	-	90	210	1400	1900	1100	700	1000
TAG 150/14	A 150	45	150	-	100	210	1400	1950	1100	800	1250
TAG 400/14	A 400	120	400	-	300	300	1400	2100	1300	1100	1500
TAG 500/14	A 500	150	500	-	320	320	1400	2100	1300	1100	1600
TAG 600/14	A 600	180	600	-	320	320	1400	2100	1300	1300	1750

## Fuel-fired Tilting Crucible Furnaces

T max 1200 °C and 1400 °C

- Oil- or gas-fired
- Rugged furnace design
- Safe, reliable pouring using 2 hydraulic cylinders with end bearing dampers on tilting frame
- Precision dosing at every tilting angle
- High melting rate
- Low energy consumption of approx. 1.3 kWh / kg Al
- Very low heat loss due to excellent thermal insulation
- High-quality burner technology
- Uniform heating of melt and crucible > Good metal quality and crucible life
- Heat-resistant cast-iron ring on removable refractory concrete cover protects crucible against mechanical damage and allows easy access for crucible change
- Emergency outlet drain
- Optional operating platform
- Exhaust discharged over rim of crucible, side exhaust available as optional extra



### Technical data

Model	Crucible	Capacity		Melting rate* [kg/h Al at 700 °C]	Melting rate* [kg/h Cu at 1000 °C]	Burner power [kW]	T max [°C]	Outside dimensions [mm]				Weight [kg]
		kg Al	kg Cu					A1	A2	B	C	
TAG 180/12/K	TP 287	180	550	220	-	300	1200	2900	2100	1600	1350	1800
TAG 330/12/K	TP 412	330	970	240	-	300	1200	3000	2200	1700	1530	2200
TAG 370/12/K	TP 412H	370	1200	260	-	300	1200	3000	2200	1700	1630	2400
TAG 570/12/K	TP 587	570	-	400	-	390	1200	3200	2400	2100	1670	2600
TAG 750/12/K	TBN 800	750	-	420	-	450	1200	3300	2500	2250	1770	2900
TAG 1000/12/K	TBN 1100	1000	-	450	-	450	1200	3300	2500	2250	1950	3300
TKG 400/14/K	TP 723	120	400	-	330	400	1400	2800	2000	1600	1400	2300
TKG 500/14/K	TP 843	150	500	-	360	400	1400	2800	2000	1600	1400	2500
TKG 600/14/K	TP 287	180	600	-	380	400	1400	2900	2100	1600	1400	2700

Other sizes on request · \* The melting rates depend on crucible conductivity and specific operating conditions. Approx. 80% is achieved under normal conditions.





Air-circulation chamber furnace



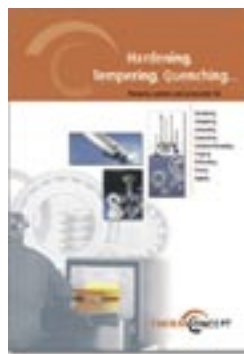
Air-circulation bogie hearth furnace



Air-circulation pit-type furnace

## Annealing, tempering, hardening, ageing Furnace systems for heat treatment

- Furnaces and systems for all heat treatment applications
- Chamber, bogie-hearth and pit-type furnaces
- Electrically heated or gas-fired
- Comprehensive range of standard furnaces and customised furnace solutions
- Normal or inert gas atmosphere
- Semi-automatic or fully automatic solution annealing and ageing plants
- Quenching baths
- Comprehensive advice on furnace applications
- Professional project execution



Ask for our brochures on heat treatment furnaces and systems.



### Fully-automatic solution annealing and ageing plant

Based on a 4-chamber continuous furnace with integrated quenching and washing facility, fully-automatic batch feeding and batch transport, professional process control with extensive documentation options.

## Temperature Control

State-of-the-art control and regulation technology is fitted as standard in THERMCONCEPT furnaces. Microprocessor controllers ensure precise temperature regulation for all processes. The program controllers are extremely user-friendly.

### Program Controller HT 40T

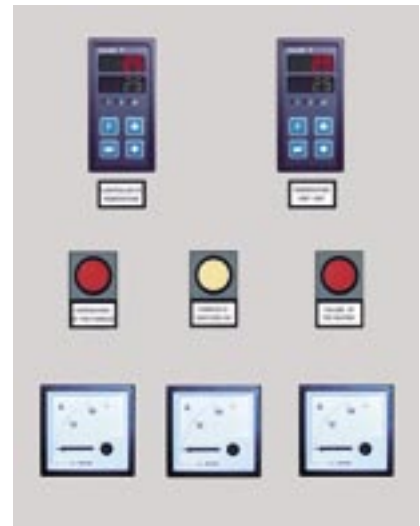
- Simple straightforward operation
- Automatic start of the furnace programmable
- Change-over from day-time to night-time temperature (lower temperature over-night) programmable using integrated 7-day clock
- Cavity thermocouple Platinum-Rhodium-Platinum Type S for long service life
- Several electronic safety devices

### Control Panel

- Power controlled by solid-state relays, high switching frequency, very precise furnace control, wear-free, noiseless, longer service life of heating elements
- Protective earth leakage breaker
- 3 ammeters
- Oversized mechanical and electronic components
- Safety controller
- Installation in separate wall mounting cabinet complete with interconnecting cable harness

### Options

- Melt temperature control
- Thyristor control
- kWh meter or working hour meter
- Visual / acoustic signals for all functions
- Special voltage
- Crucible failure alarm



All furnaces are supplied with control panel and controllers ready for operation.

## Experts in Furnaces

THERMCONCEPT is your partner for furnaces and systems for metal melting and heat treatment. We supply an extensive range of

- electrical and
- gas- or oil-fired

crucible, chamber, pit-type, bogie-hearth and salt bath furnaces for industry, for temperatures ranging from 50 °C to 1300 °C

**Ask for our special brochures.**



### Proven technology:

For the production of our furnaces only the best materials from world-renowned suppliers are used. This ensures maximum efficiency, reliable operation and a long service life.

### Cutting-edge designs:

The furnaces are planned and produced in strict accordance with economic considerations. Direct contact with users enables us to design furnaces that are practical to use. Our aim is to deliver crucial technical and financial benefits.



### Wide range of standard furnaces:

Many applications can be achieved with our extensive range of standard furnaces. The advantages are: proven, fully-developed models, excellent value for money and quick delivery times.

### Customer-specific solutions:

Of course, we also supply customised furnaces specially designed to meet your specific requirements. In close consultation with you, we create a furnace system which meets your challenging tasks both reliably and economically.

### Professional service:

With our skilled workforce we are able to provide you from the outset with a wide range of professional services relating to all furnace matters.



**THERM**  **CONCEPT**

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