

# ***THINK BIG***

**High Quality in Low Pressure**



KURTZ CASTING SOLUTIONS

# THINK BIG

## High Quality Solutions

Smart technologies that demonstrably achieve enormous productivity increases – in process-reliable, perfect quality. Kurtz Casting Solutions stand for high-quality mechanical engineering and comprehensive process know-how from over 40 years of experience. From the initial consultation to project planning and commissioning, we support

you all the way to the finished complete solution including 24/7 service. As a group that found its origins in 1779 with an old iron hammer, we maintain production sites in North America, Asia as well as Europe and have sales and service offices on all continents. With Kurtz Ersa you make the right choice for your cast part production!

### Portfolio Kurtz Casting Solutions

- Low pressure casting machines
- Trimming presses
- Gravity casting machines
- Turnkey solutions
- Automation solutions
- Service

User Reports –  
don't miss them!



*User reports from  
the world of light  
metal casting*



**OUR PURPOSE**

We optimize  
production processes  
of our customers.  
Global. Ahead.  
Sustainable.



Living technology since 1779:  
The iron hammer in Hasloch, which is operated  
with water power and is still functional today,  
is the root of the Kurtz Ersa corporation.

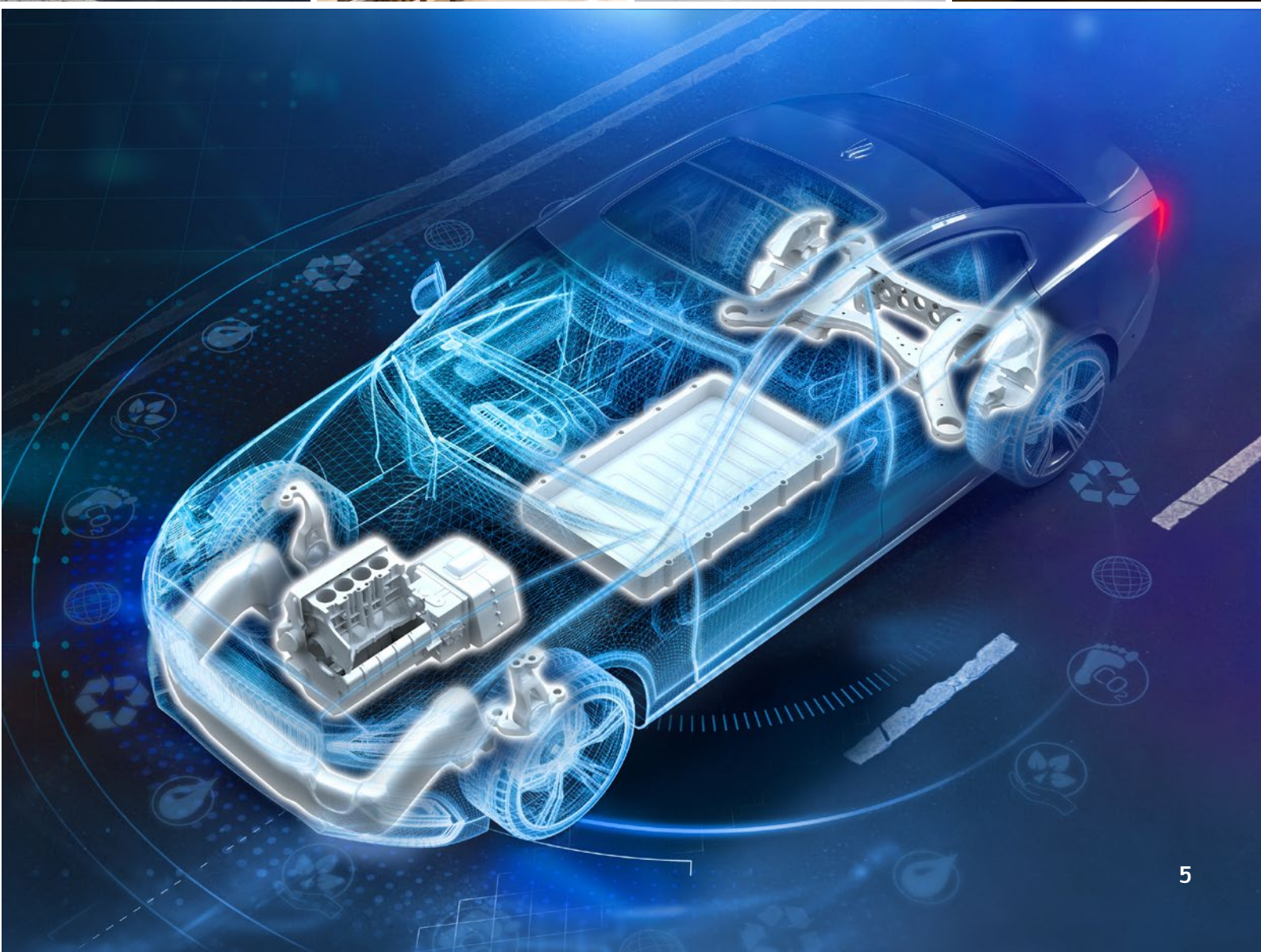
# APPLICATION AREAS IN AUTOMOTIVE AND INDUSTRY

With a view to lightweight construction, numerous chassis and structural parts are made of aluminum. Hardly surprising, since aluminum is the most used lightweight metal with outstanding mechanical properties and weight-specific high energy absorption capacity. Aluminum low pressure die casting is used in safety-relevant parts, such as chassis or engine parts, and for pressure-tight components with the highest load requirements in

vacuum, hydraulic and high-voltage technology.

The range of applications produced by Kurtz extends from rapid prototyping to series casting and special solutions. Designs with or without sand cores – keyword hollow cast – are possible. The machines are equipped with precisely guided core train according to the casting.





# THINK BIG

## High Quality Turnkey Solutions

Optimize processes, reduce costs: Kurtz Erska can look back on a number of successfully implemented turnkey projects. Turnkey casting lines from Kurtz range from casting and process development to the steps of mold making, on-site installation of the machine, mold run-in and training.

In intensive cooperation with our customers, we develop optimal overall system concepts and ensure a fast ROI.

With our modular systems, you are ideally equipped to sustainably optimize your productivity with individual automation solutions: whether low-cost or high-tech, maximum flexibility for frequent product changes or tailored to your specific tasks. THINK BIG! There are no limits to your turnkey project!

### Kurtz Turnkey Solutions

- General contractor
- Process optimization
- Automated casting cells
- Low pressure casting systems
- Furnace logistics
- Robot-controlled cells for coring, trimming, and fettling of aluminum castings
- Melting technology and melt preparation

Video you  
should not miss:



*Kurtz  
turnkey solution*



Turnkey foundry for the production of engine blocks at BMW Brilliance Automotive in China



Casting line with furnace shuttle in the basement for the production of wheel carriers, structural parts as well as complete axle beams cast hollow



Casting line with platform, holding and degassing station for the production of structural parts

# THINK BIG

## High Quality in Low Pressure

Low pressure die casting (LPDC) is predestined for implementing extremely high quality requirements. The process is ideal when highly stressed components with a particularly fine microstructure, very good mechanical properties, and degrees of freedom in design are required. By applying minimal pressure to the furnace, the molten aluminum is filled into the mold via the riser tube. The controlled, uniform pressure increase slowly fills the mold cavity and prevents the formation of oxide skins, the formation of cold runs and the risk of air inclusions.

With Kurtz low pressure technology, the casting of big castings can be easily implemented. Kurtz Casting Solutions build casting machines with large clamping surfaces, which are nevertheless compactly built and have a reduced overall height. The latter offers the advantage of being easily placed in existing halls – keyword brownfield.

With Kurtz low pressure casting machines, it's THINK BIG! Cast large parts or multiple cavities with our Kurtz equipment and achieve top results with Kurtz low pressure permanent mold die casting and casting in lost molds (sand, ceramic, plaster).

More  
information:



*Overview of all  
machine types*



*Furnace exchange  
systems, pressure  
control & die cooling*





## LOW PRESSURE CASTING MACHINES

### with furnace shuttle system

- High clamping force of 38 t with high opening force of 56 t
- Die weight 18 t
- Maximum availability from peak-time furnace exchange
- Reduction in down time
- Highest melt quality
- Reduction of scrap
- Optimum insulation – energy/cost savings
- Efficient and energetically advantageous mold cooling
- Energy-efficient cooling with up to 128 cooling circuits
- High OEE



## LOW PRESSURE CASTING MACHINES

### for BIG casting

- High clamping force of 54 t with high opening force of 100 t
- Die weight 24 t
- Large clamping area
- Large clearance between the columns
- Innovative vacuum system for venting + core gas extraction
- Multiple riser system
- Powerful, low-noise hydraulics
- Energy-efficient due to speed-controlled motor-pump drives
- Intelligent machine control
- Easy maintenance



## LOW PRESSURE CASTING MACHINES

### with fixed closing unit and furnace exchange system

- Closing unit with 4 solid guiding bars and 2 mold closing cylinders
- Electrically resistance-heated furnace with thyristor-controlled output
- Furnace exchange system
- Mobile furnace for quick riser change, and easy furnace maintenance
- Pre-pressure control for automatic compensation of the amount of metal extracted

**Also available as a powerful 2-in-1 solution for permanent mold and lost forms incl. core packages.**

# LOST FORMS CASTING

## Low pressure casting machines for sand molds

Kurtz sand casting systems offer a wide range of applications – from chemically bonded sand molds to constructions with green sand molding systems to plaster molds for parts with high demands on contour accuracy. Fine structures of 1 mm wall thickness are possible in investment

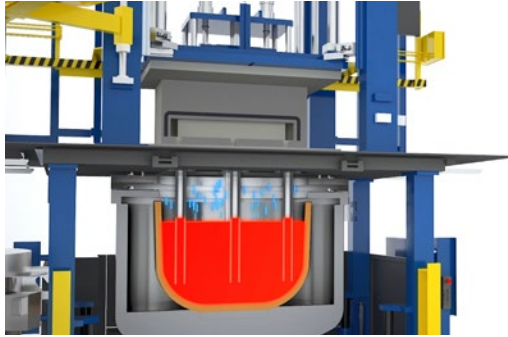
casting in ceramic molds. The parts are as varied as the molds. From small parts weighing only a few kilos to housings with cast weights of 260 kg and more – from high-tech prototype single parts to large series applications.



From rapid prototyping to series applications: With precise pressure control, Kurtz sand casting systems ensure optimally controlled mold filling

# ADVANTAGES LPDC

- Controlled mold filling
- Feeding during solidification
- Metal in an enclosed container
- Controlled solidification
- Automated process



# YOUR BENEFITS

- Clean materials
- Better mechanical properties
- Reduced energy costs
- Minimum throughput times
- Reduced operating errors



# HIGHLIGHTS

- Even large parts can be cast multiple
- Best casting quality
- Maximum efficiency
- Furnace capacity 4,000 kg
- Quick mold change < 30 min
- Full cooling flexibility with 128 cooling circuits

Videos you  
should not  
miss:



*Kurtz LPDC  
customer solution*



*Kurtz  
LPDC technology*

# THINK BIG

## High Quality in Trimming

Burrs have to be removed prior to the next processing stage of the casting. Kurtz provides highly profitable automated trimming solutions for this purpose. Kurtz trimming presses can be adapted to customers' individual requirements with a comprehensive range of accessories such as rams, clamp-down

and removal devices, blow out and spraying units, cutting impact damping and robot control. The larger working table holds all sizes of trimming tools, even those large enough to trim body-work components.



Videos you should  
not miss:



Kurtz  
trimming press



Kurtz trimming  
technology



Kurtz GIGA  
trimming press



## KURTZ COLUMN TRIMMING PRESSES

- Ideal solution for tall parts and parts with large volume
- Loading and removal possibilities from four sides
- Robust, strongly dimensioned guiding columns
- Quick and easy trimming tool change
- Ideal flash removal due to large, open channels in the base plate
- Machine concept offers space saving installation possibilities/layout as a cell solution



## KURTZ TRIMMING PRESSES

### with sliding-tilting table

- Sliding function via hydraulic cylinder
- Hydraulic swivel drive tilts up to 180°
- Tilt angle freely programmable
- Speed profile freely programmable
- Recipe management to store machine and process data
- Extremely fast trimming press

**GIGA press for GIGA high pressure casting**

# THINK BIG

## High Quality in Gravity Casting

Kurtz has been producing tiltable casting machines and gravity casting machines for decades, both as individual

machines and as casting cells for complete turnkey solutions.



Video you should  
not miss:

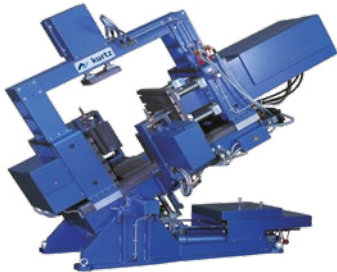


Kurtz  
gravity casting cell



## KURTZ GRAVITY CASTING MACHINES

- Robust construction
- Logical modular system
- Hydraulics with pressure and flow rate controlled pumps
- Smooth, easy change-over
- Freely programmable control system



## KURTZ TILTABLE CASTING MACHINES

- Low-turbulence mold filling
- Optimum fill speed with freely programmable tilting speed
- Clear reduction in cycle material
- Modular design provides for flexible arrangement of core pulls

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*Kurtz Casting  
Solutions on YouTube*

 **kurtz ersa**