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Buhler Die Casting says “Welcome to PRODUCTIVITY”

Buhler supplied its first the casting machine exactly 80 years ago. Today, Buhler is at the cutting edge of die casting technology in terms of quality, performance, and process expertise.

From the very first day, our goal has always been to deliver know-how, top products, outstanding service, and innovative ideas and actions. Then as now, our customers’ needs have been our top priority.

Buhler is a traditional and solid company. Our high flexibility, rapid responses to customer requirements, and value-generating services make us successful together with our customers.

We systematically perfect our expertise in our Technology Centers. As a result, you will always find us at the forefront in the fields of

- aluminum and magnesium die casting
- squeeze casting (turbulence-free, low-velocity die cavity filling)
- vacuum applications
- structural components
- engine block manufacture

We offer our customers targeted training in every aspect concerning the die casting process – which is the basis for smooth production.

Producing more accept components per time unit on the basis of new processes helps customers maintain their success in the marketplace!

The completely integrated “Buhler Cell”

The heart of any die casting cell is the die casting machine. A **dat@net** control system merges the die casting machine and the peripheral devices into a manufacturing cell under unified control.

The dat@net control system guarantees easy operation. Many operating parameters can be saved, ensuring complete process monitoring.

Upon request, our customer service can access cells through the Internet in order to perform remote diagnoses or provide technological support. This reduces start-up and shut-down times.

Typically, the peripheral units will be fully integrated or partially integrated through bus links. Additional units can be linked with the die casting machine through digital interfaces.

Centralized set-up and operation saves time and thereby increases the uptime of your system.

EVOLUTION – Top die casting using multifunctional technology

The tried-and-true three-plate die casting machine series for locking forces up to 42,000 kN. The name stands for flexibility and development. It handles all liquid die casting processes and creates the necessary freedom for developing new groups of components.

It guarantees reliability for perfect production, consistently high quality, and exceptional process flexibility.

Buhler EVOLUTION – the equipment for

- **structural components with minimum porosity**
- **top-precision pressure-tight components**
- **surface components meeting elevated requirements, and**
- **safety components and parts requiring documentation**

Standardization and modularization are the features characterizing the complete machine series from 2,600 kN to 42,000 kN.

CARAT – The optimized two-plate die casting machine from Buhler

The name stands for added value for the customer. It is equipped to handle all liquid die casting processes and contributes to the fine-tuning of quality and productivity.

It guarantees reliability for perfect production, consistently high quality, and exceptional process flexibility.

Buhler CARAT – the equipment for

- **structural components with minimum porosity**
- **top-precision pressure-tight components**
- **surface components meeting elevated requirements, and**
- **safety components and parts requiring documentation**

Standardization and modularization are the features characterizing the complete machine series from 10,500 kN to 44,000 kN

The heart of the die casting cell: dat@net control system

The dat@net control system is an optimized total solution package comprising logics, visualization, control and instrumentation. A state-of-the-art control system is expected to fulfill several tasks. It supports

- **efficient operations**
- **easy programming**
- **flexible tasking**
- **evaluation of the extensive diagnoses of the production process**

Its basis is hardware and software that has been tailored to the die casting process.

The operator terminal with resistive touch-panel and TFT display builds upon the proven Buhler operating philosophy.

All hardware and software elements are assembled from a modular system.

In the event of operating trouble, the extensive diagnostics of the control system allow production to resume within a short time. The integrated web technology enables our customer service to link up directly with the machine, offering the customer immediate online assistance.

In addition, the customer window provides possibilities to modify I/O signals without requiring any knowledge of a programming language. The centralized software management system in place at Buhler allows even major expansions to be made after years via the Internet.

Technology Center

Engine blocks, gearboxes, laptop casings, ... – all these die cast components have become established parts of people's everyday lives. In order to further fine-tune the die casting process on high-tonnage machines, the following equipment has been added to the Die Casting Center in Laichingen (Germany), which is operated in cooperation with the die-maker Schaufler GmbH & Co:

- **die casting machine, type Evolution B 420D**
- **special-purpose melting and holding furnace for low-temperature die casting**

In the Technology Center in Uzwil, the training customers receive reflects actual process conditions. This training includes on the one hand machine-related and on the other hand process-related courses. The objective is to raise the level of customer personnel's skills to enable more accept components to be cast per time unit.

The metallurgical laboratory allows die cast components to be examined – yet another advance in the light-alloy casting industry!

Much has been developed in collaboration with customers. This produces valuable strategic alliances and services.

Process operations

Together with the specialists from the Technology Center, feasibility studies are conducted and die layouts and designs are developed, allowing errors to be avoided at an early stage.

Appropriate calculations and die cavity filling and solidification simulations allow fast and smooth production starts at customers' foundries.

Apart from the establishment of raw cast component data and die designs, the services offered include also dimensional sample casting, in which the first die for casting a given component is checked for its dimensional tolerances.

Other important process operations include the casting of prototypes and fine-tuning for volume production.

Goal and strategic orientation of Bühler Die Casting

To date, we have focused especially on Europe and North America. Our acquisition of IdraPrince has appreciably further strengthened our position in North America. In order to provide global-scale support to our customers, which are becoming increasingly international, we will also intensify our focus on Asia in the future.

Our employees and partners

Worldwide, our Bühler Die Casting team has some 330 employees, 130 of which are based at our headquarters in Uzwil. In addition to its own production facilities in Holland, U.S., and Wuxi, China, Bühler also collaborates with the Engel company in the construction of high-tonnage machines. Engel produces die closing units for high-tonnage machines for European and Asian customers of Bühler. Machines with locking forces below 1000 metric tons and all shot units are manufactured in Uzwil.

The Bühler Group

Bühler Druckguss AG is a legally autonomous affiliate wholly owned by the Bühler Technology Group.

The Bühler Group is a partner for the supply of efficient production systems and engineering solutions in the fields of Die Casting, Food and Feed Production, and Chemical Process Engineering.

Worldwide, Bühler employs some 6,600 persons.
The Group generates annual sales averaging 1.6 billion Swiss francs.