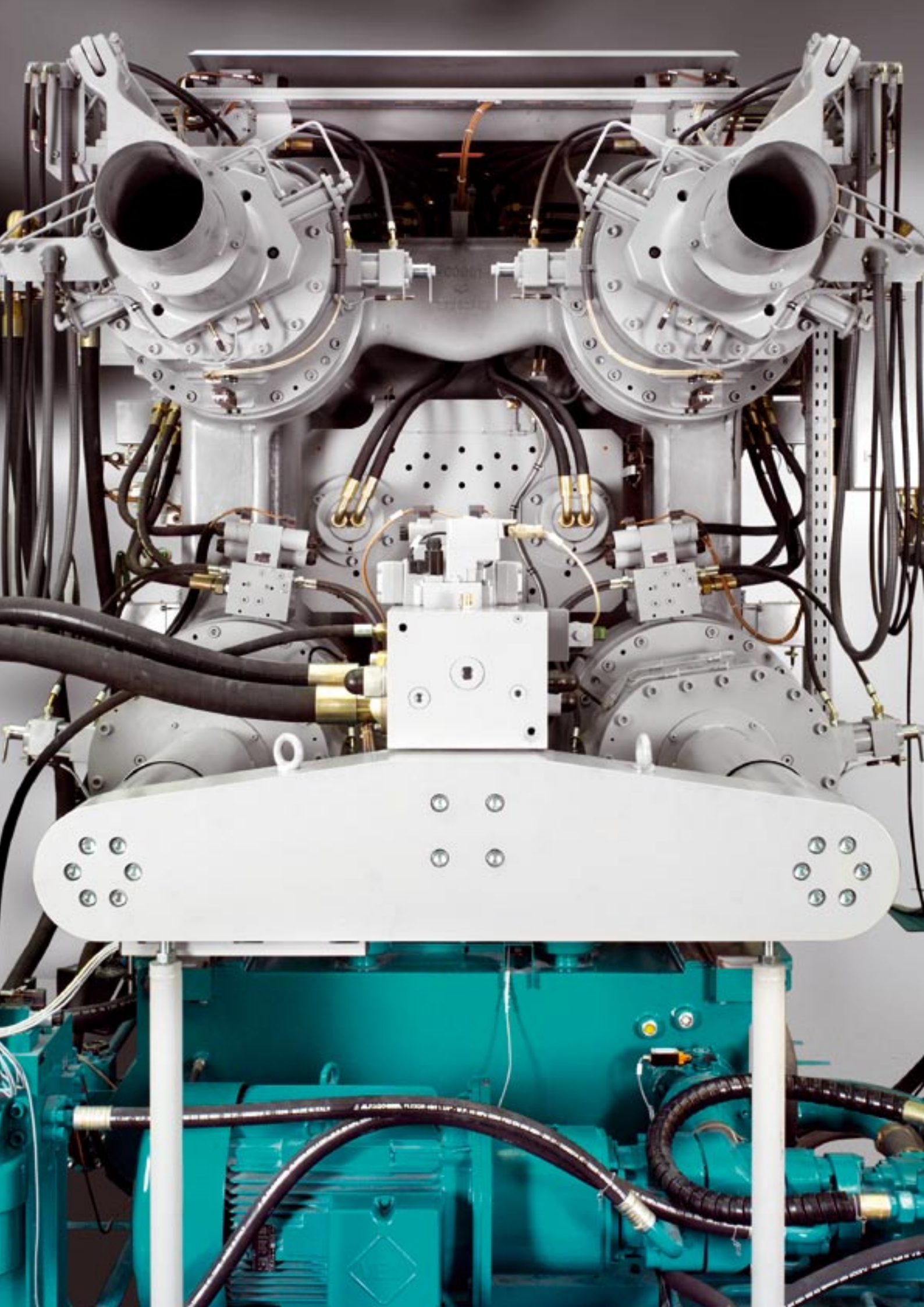


Welcome to
productivity.

Machines and equipment.

EVOLUTION &
CARAT.





The Evolution and Carat – A step into the future.
Welcome to productivity – High productivity means improved competitiveness.



High productivity in the die casting industry means lower component production costs and improved competitiveness – a must in today's competitive global environment.

In response to your need for cost-optimized productivity, we have developed the new Evolution and Carat machine series for you. Carefully thought-out production system designs, optimized casting processes, and value-adding services: Buhler Die Casting – synonymous for cutting-edge technology, quality, and performance. You can rely on us!

Welcome to productivity – with Buhler!

Evolution and Carat – The modular future. Welcome to productivity – By combining die closing and shot units, we can meet your production requirements.

Customize your machines to suit your specific requirements. You can combine every die closing unit with three different shot units.

They give consideration to future needs and continue the outstanding concept of their predecessors.

Combine the die closing unit with the:

“Lean” shot unit

for casting components with a low shot weight and large surface area,

“Compact” shot unit

for casting standard components,

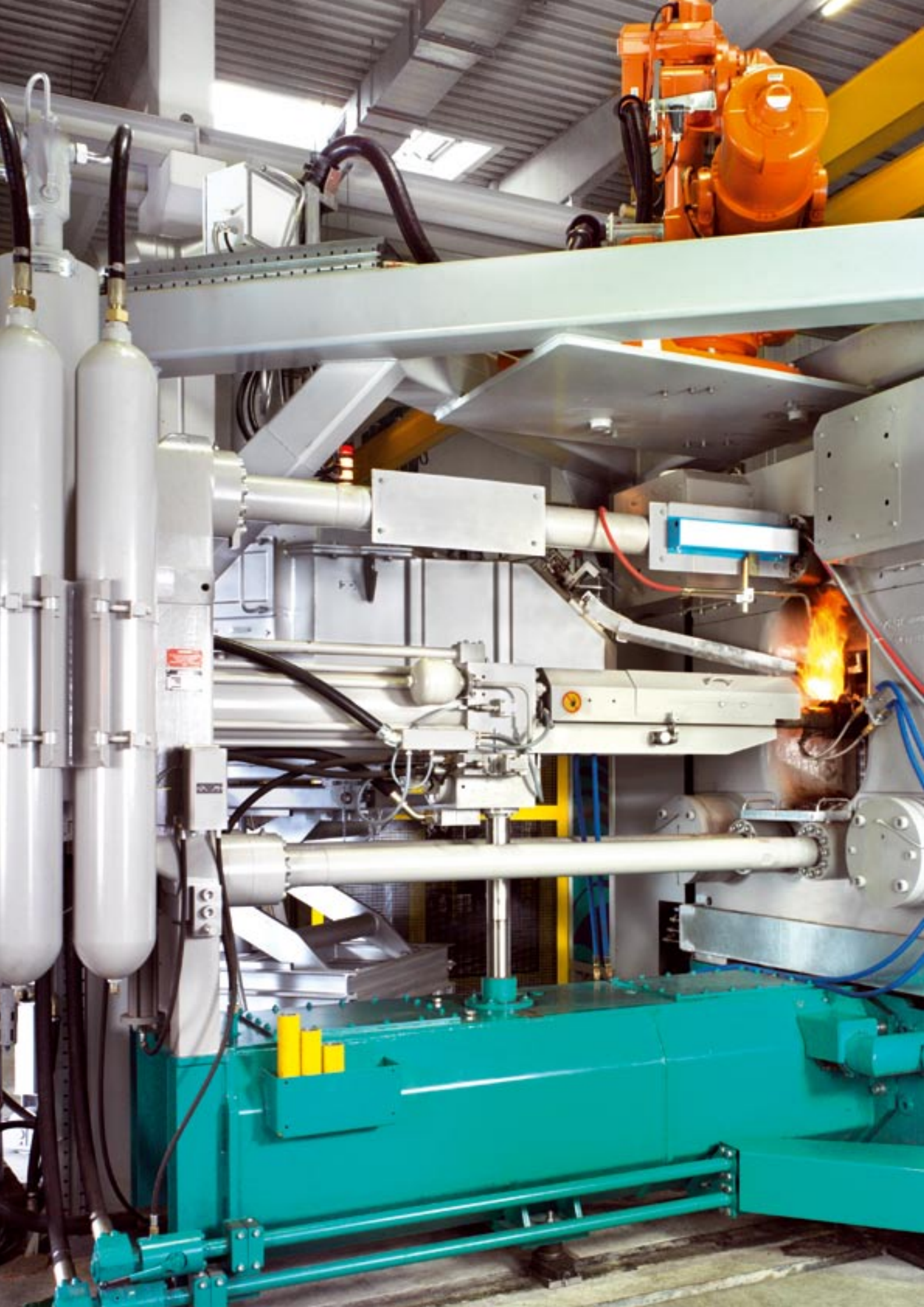
“Extended” shot unit

for casting components with a high shot weight and small surface area.

The machines in the locking force range up to 9000 kN will continue to be supplied with the proven three-platen concept.

For locking forces from 10000 kN to 44000 kN, we now offer you the new two-platen Carat machine series.





Evolution – The small machine for the future.

Welcome to productivity – High uptime and proven process technology.

Machine series

in seven sizes ranging from 2600 to 9000 kN locking force.

Easy, low-cost installation

Since the machine is supplied as a fully assembled unit, all that has to be done is to connect the energy and link the interfaces with the peripheral equipment.

A large number of additional options

that you can choose from to suit your individual production needs.

Pump assembly as variable-displacement pump set

Graduated pump sizes on one shaft control the requirement and minimize electrical power consumption.

Guarded tie bar threads

in all operating conditions and also during die changes. This prevents wear by spray residues or tinsel in the thread zones and increases the service life of the nuts and tie bars.

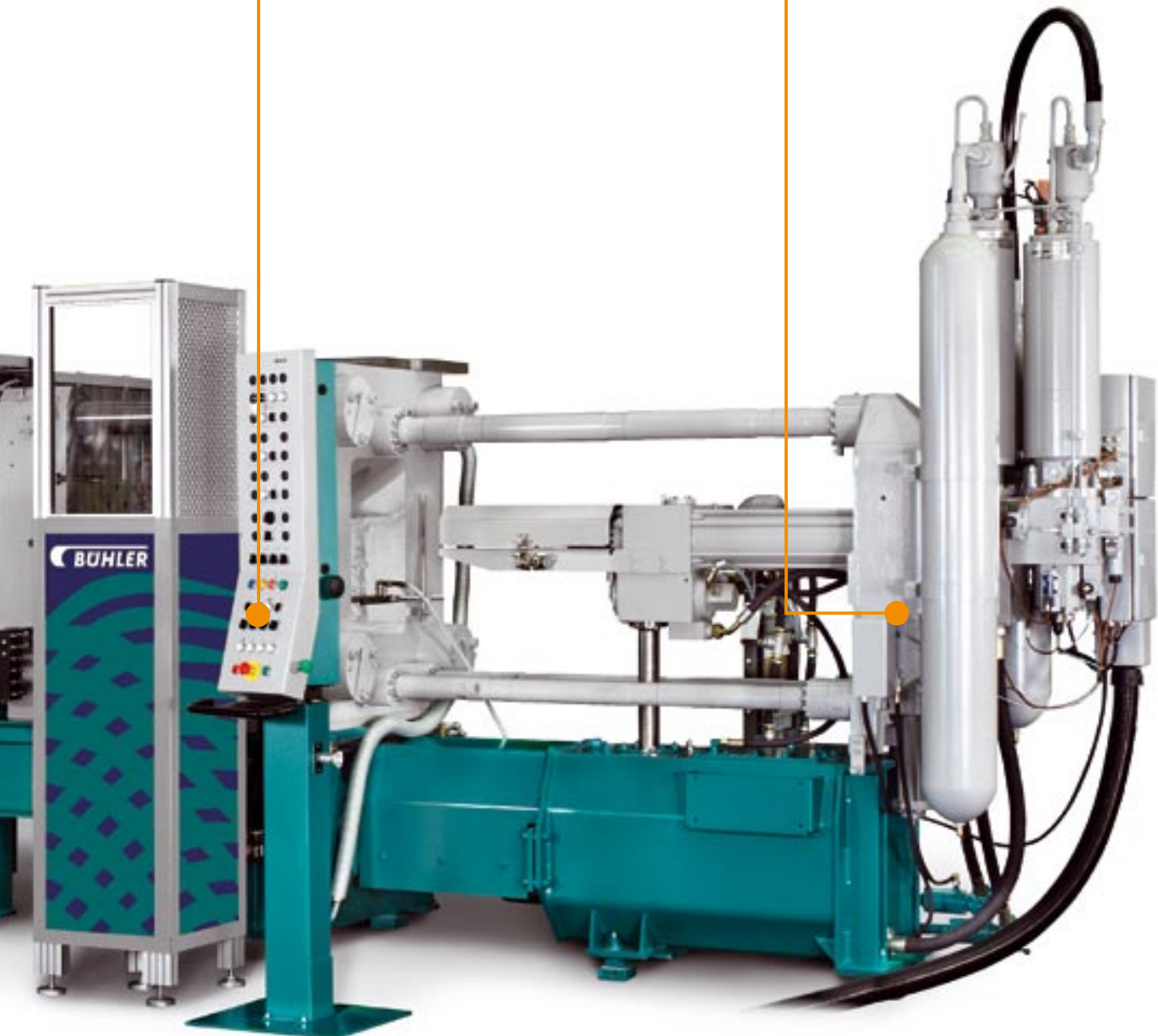


No operator retraining required

because operation of the dat@net control system of the machine is based on the same philosophy as that of the predecessor machines and assists the user with integrated operating aids.

The shot unit

can be selected in three versions – lean, compact, extended – to suit your specific needs. Consideration is given to future trends in terms of plunger stroke and shot weight.



Carat – The Buhler two-platen machine.

Welcome to productivity – High efficiency with cutting-edge technology.

Machine series

graduated in thirteen sizes with locking forces ranging from 10,500 to 44,000 kN.

Lower space requirement thanks to shorter overall length

An old machine can be replaced by a higher-tonnage machine in a given space.

Few moving parts

few lubrication points, low wear and therefore low maintenance costs.

Compensation of non-parallel dies

means higher dimensional accuracy of cast components and therefore reduced scrap rates.

Less flash

thanks to the higher rigidity of the die closing system and of the moving die mounting platen. This reduces downtimes caused by die maintenance, increases the die service life, cuts the cost of trimming components, and reduces the scrap rate.

A large number of additional options

that you can choose from to suit your specific production needs.

Pump assembly as gear pump set

three graduated pump sizes on one shaft control the requirement and minimize electrical power consumption.

No operator retraining required

because operation of the dat@net control system of the machine is based on the same philosophy as that of the predecessor machines and guides the user with integrated operating aids.

Uniform locking force distribution

The clamping cylinders reduce the creation of flash. This cuts down-times caused by die maintenance and diminishes the cost of trimming components.



Customized locking force selection

adjusted to the component being cast and the die size increases the service life of the die and of the die closing system.

Sliding tracks and adjustable solid sliding pads

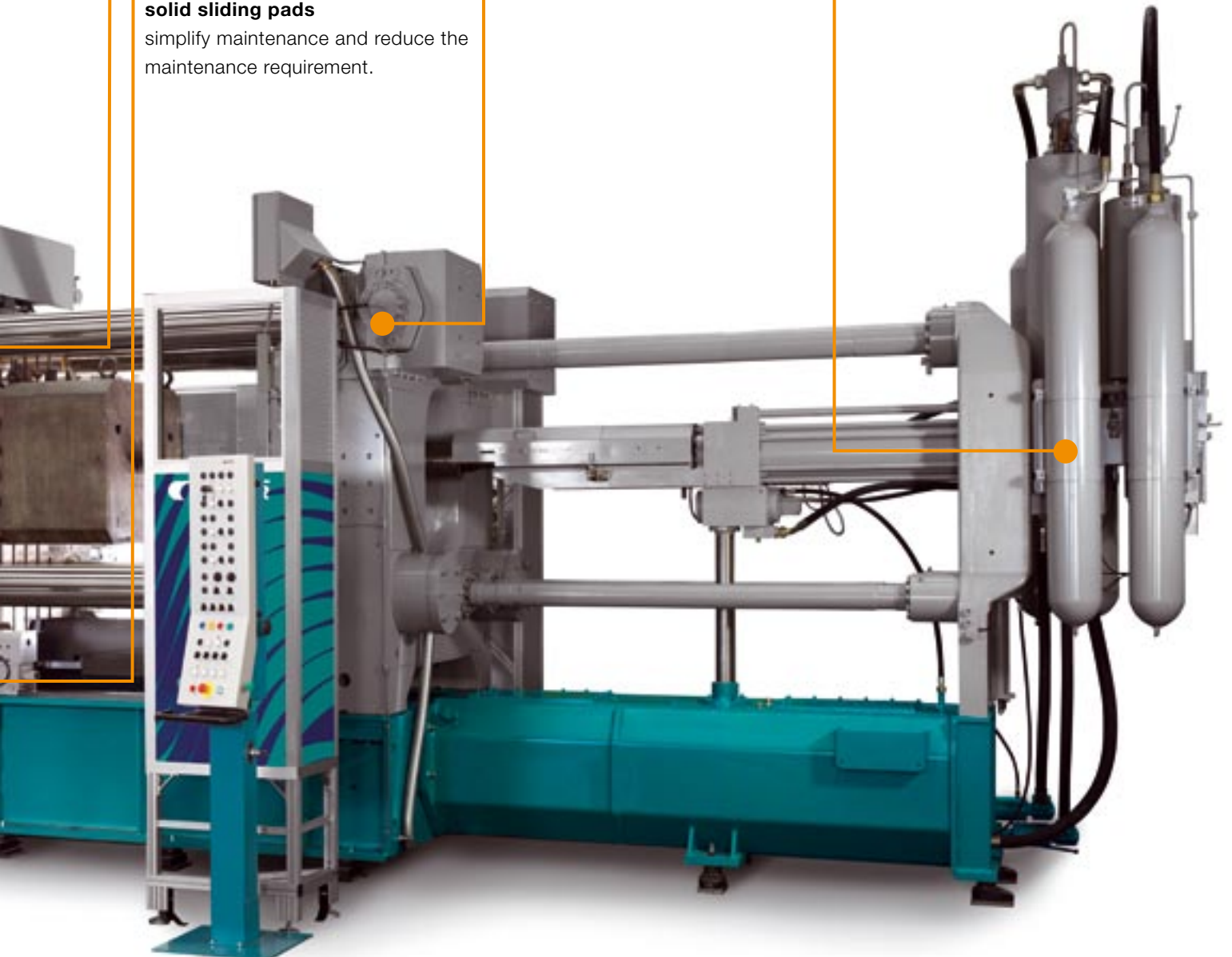
simplify maintenance and reduce the maintenance requirement.

Guarded tie bar threads and grooves

in all operating conditions, also during die changes. This prevents wear by spray residues or tinsel in the thread and groove zones and increases the service life of the nuts, locking mechanisms, and tie bars. This means higher uptime.

Shot unit

can be selected from among three versions – lean, compact, extended – to suit your specific production needs. Consideration is given to future trends in terms of plunger stroke and shot weight.





dat@net – The heart of the casting cell.

Welcome to productivity – Real-time control and high process transparency.

The dat@net control system with all the benefits of our real-time-controlled machines offers a total solution in terms of control and instrumentation, visualization, and logics.

Top process flexibility

thanks shot curve design as required.

Process monitoring

with trend graphics helps increase casting consistency. It shows changes at an early stage which require process parameter modification or maintenance.

Data management

allows retracing of production data. These data are saved and transferred via Ethernet links to a master process data system.

Programming assistant

simplifies shot curve and core programming.

Diagnostics and remote maintenance

via Internet by our customer service centers.

Cycle time reductions

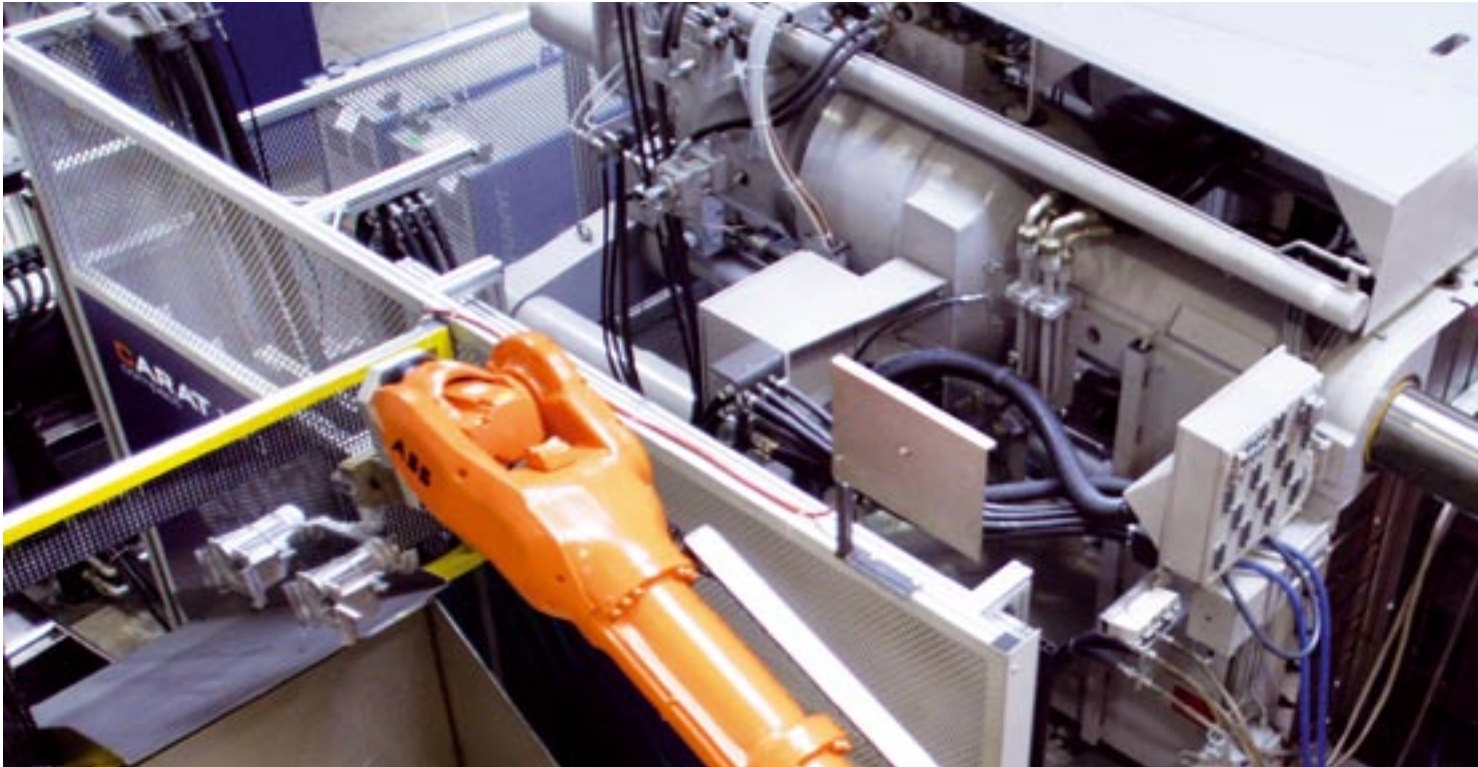
through concurrent motions of peripheral equipment and process operations.

The cycle time diagram

shows the potential for fine tuning.

Casting cells – The integrated future.

Welcome to productivity – With Buhler peripheral equipment.

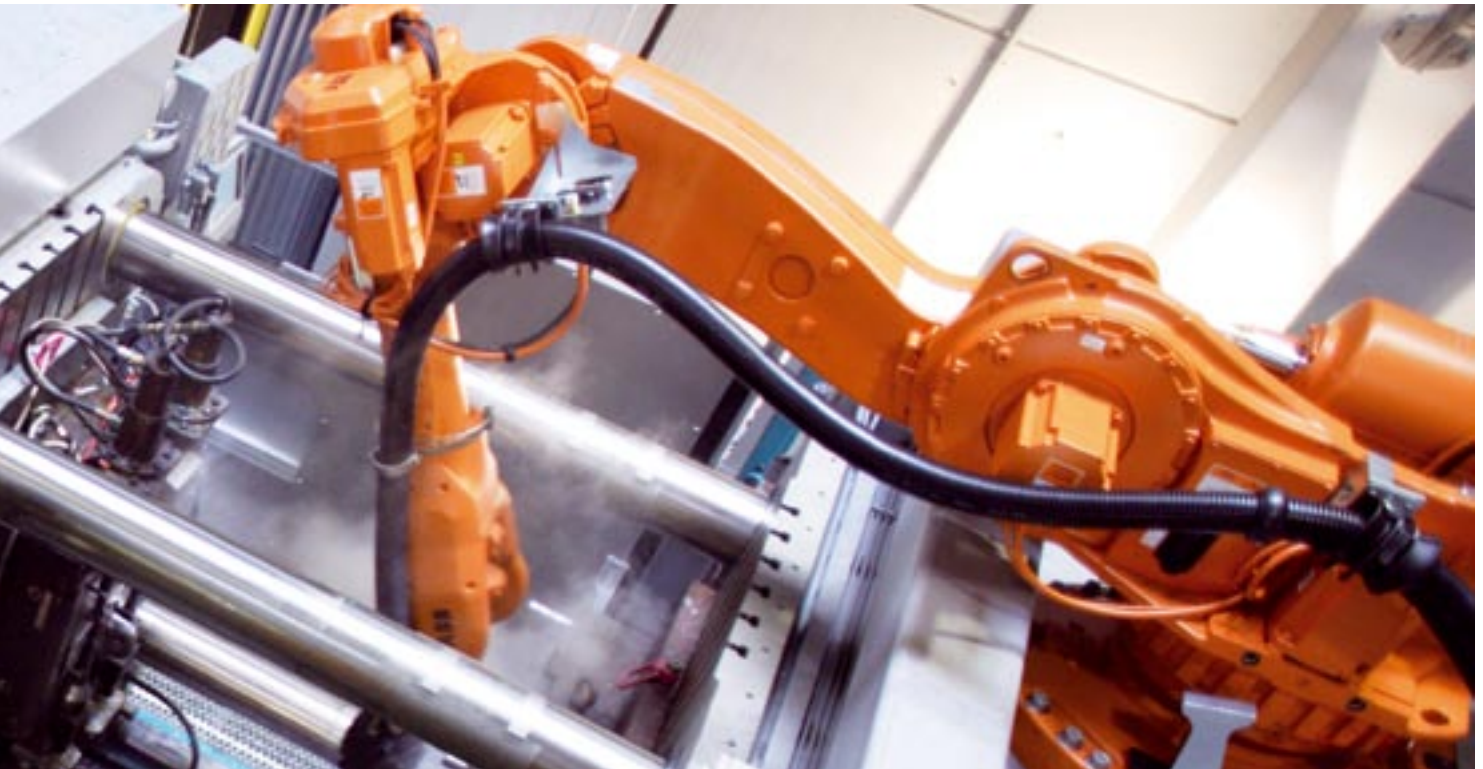


High productivity requires casting cells with carefully matched die casting machines and peripheral equipment.

The heart is the die casting machine. An integrated cell with the control system as master facilitates production changes and increases capacity utilization. It simplifies the saving of die programs and component-specific data. This guarantees retracing of production data, which is becoming increasingly significant due to product liability.

Convenient operation during production starts allows complete loading of all die programs and set-up data from the machine control system. The data can be read in directly from compact flash memories or be retrieved from master systems.

Diagnostics programs and remote access by our customer service through the Internet simplify problem-solving and substantially reduce the related costs.



Buhler offers you the following integrated peripheral equipment.

BuhlLadle:

A ladling unit in two sizes with very high metal ladling accuracy for shot weights ranging from 5 to 23 kg.

BuhlSpray radial:

A die spray unit in two sizes for classic die casting using machines with locking forces up to 14 000 kN.

BuhlSpray linear:

Dual-axis unit in various sizes for the entire locking force range of the Evolution and Carat series with up to 8 spray and blow circuits.

BuhlEx:

An extraction unit in two sizes for long production runs and suitable for machine sizes up to 14 000 kN locking force.

BuhlRob:

Partially integrated by bus link and based on the proven ABB Foundry plus robot systems.

BuhlTemp:

An integrated die heating and cooling system with up to 28 pressurized-water temperature control circuits that can be separately controlled.

BuhlMark:

An integrated component marking unit for retracing cast components and their production data.

Many peripheral units from different manufacturers can be applied together with the die casting machine through digital interfaces. Please ask for detailed sales literature on our integrated peripheral equipment.

Centralized casting cell set-up and operation cuts the time requirement and increases the system uptime.

The gate to higher profitability.

Welcome to productivity – New processes and services.

Aluminum or magnesium die casting is the most economic process for casting light alloys. In order to further raise the efficiency of the die casting process, we continuously develop new processes and services.

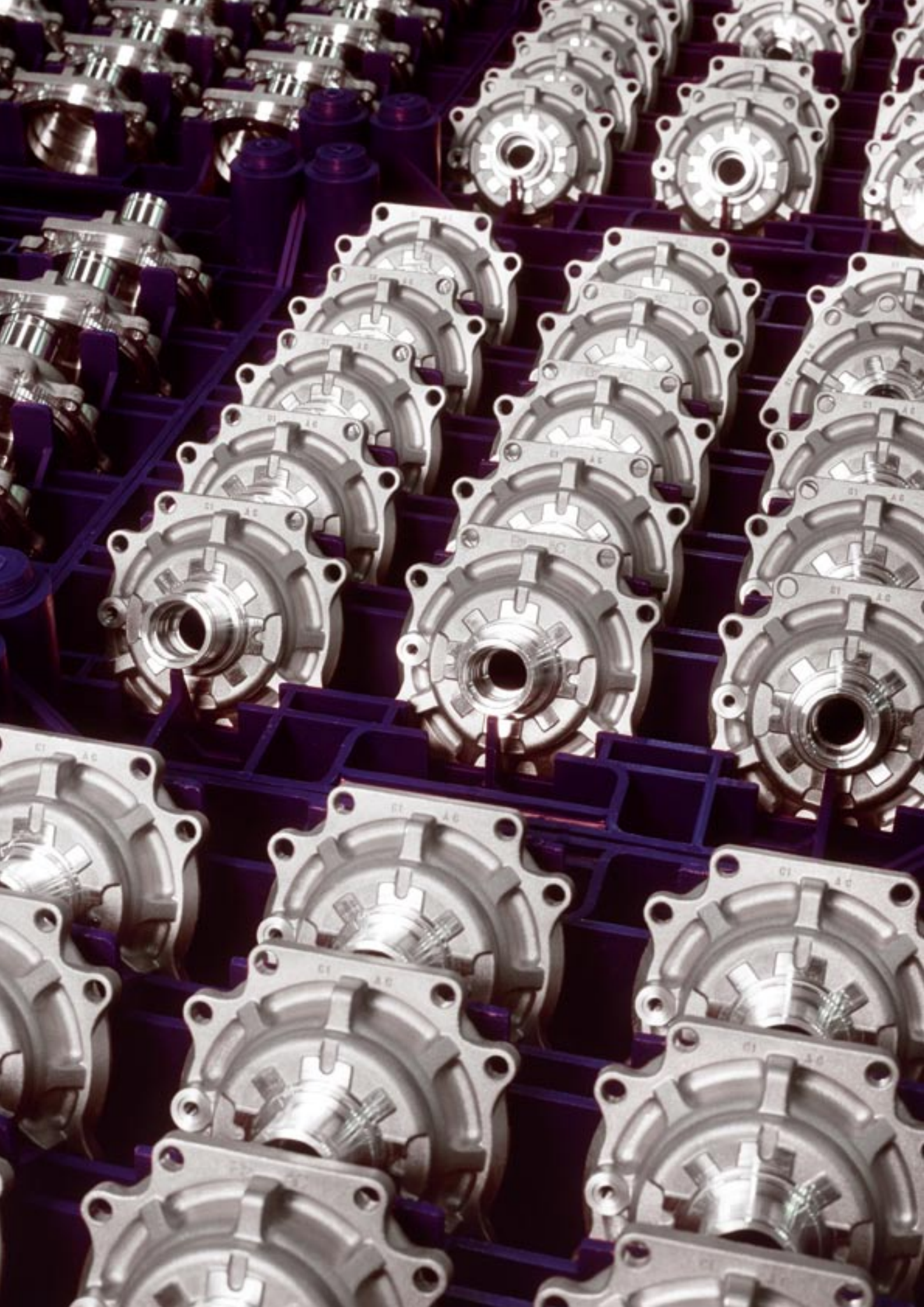
In addition to designing and constructing die casting machines and systems, we also concern ourselves with the fine-tuning of processes, die technology, and casting simulations. Our goals are to reduce cycle times, increase the service life of dies, raise the capacity utilization rate, and enhance the quality of cast components. This improves the efficiency of foundry operations.

Ductile die casting for making structural components satisfying the special ductility and weldability requirements is made possible by our **Structural process**.

Our patented **SPEEDiall process** allows you to shorten your cycle time. The dosing time of a primary process time is shifted to a secondary process time.

In **Low Temperature Casting (LTC)**, excess heat is gradually extracted from the melt between the dosing unit and the shot sleeve. This reduces the creation of flash, shortens the die spray and cycle times, and increases the service life of the die.

With our **maintenance and preventive maintenance** services, we can support you in maintaining the value of your production systems.



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