

Krauss Maffei

Compact. Modular.
Flexible.
The new CX



The right CX solution for every application

KraussMaffei has reworked its successful CX small machine series with clamping forces from 350 to 1600 kN and consistently taken advantage of every opportunity to increase efficiency. Customers can reduce their expenses for space, time and material, gaining important competitive advantages in the process. Optimizing the hydraulic system has made the new CX 15 percent faster, its drive uses 10 percent less electricity

and it was possible to save 20 percent of oil volume with fine filtering and gentle heating. Good sound insulation makes the CX 30 percent quieter and it is 25 percent more efficient thanks to the sprue picker, adaptation of the plasticizing unit and the new APC function. All together this yields a 100 percent added value. And additional savings are possible with other options like the BluePower Vario Drive.



Toys



Surface aesthetics



Automotive



Electronics



Medical



Veterinary



Construction



Closures

NEW: sprue picker

- Fast demolding
- Very easily accessible
- Energy-efficient

Cantilevered clamping unit

- Compact
- Additional installation area

NEW: APC**(Adaptive Process Control)**

- Zero-defect production
- Perfect component quality

**Large mold volume**

- Use of large molds
- More flexibility

NEW: screwless finisher

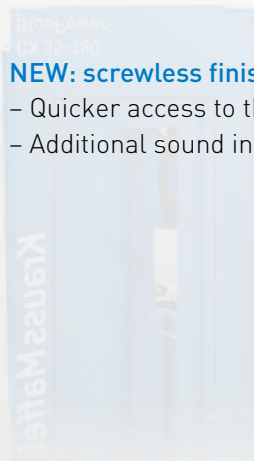
- Quicker access to the pump area
- Additional sound insulation

BluePower Vario Drive

- Energy-efficient
- Reduced noise emissions

Reduced oil volume

- Cost-saving
- Resource-saving



Design: The clamping unit—compact and cantilevered There is no better use of your space

Cantilevered clamping unit

Years of experience in machine design led to the concept of a cantilevered, yet extremely stable clamping unit. This provides additional space for collecting vessels, heat-balancing units, etc. This is why the CX is ideally suited for applications under clean room conditions.

Your benefits:

- Additional installation area below the machine
- Better use of the production floor

Compact design

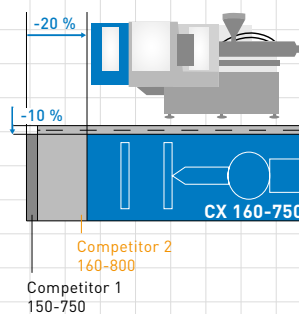
Thanks to two-platen technology developed by KraussMaffei, the CX is especially compact. 10 percent to 20 percent can be saved on space compared to the competition.

Your benefits:

- Reduced installation area and costs

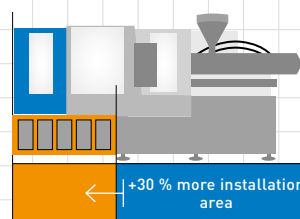


Compact, space-saving unit



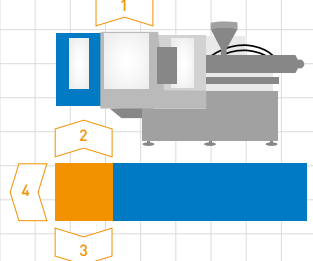
In the CX Series only the ejector is positioned on the moving clamping area. This means that the clearance can be easily extended and also that there is a maximum opening width.

Additional installation area



Structured production: The area underneath the clamping unit can be used for additional peripherals, such as up to five heat-balancing units, or for the integration of a rejection chute.

Easy accessibility



Thanks to the cantilevered clamping unit, any transport system can be used. All objects underneath the clamp are clearly visible and can be easily removed.

Optimized: Finisher and safety switch Protects hearing and increases safety



The safety of machine users is a top priority for us. Therefore, all CX machines are now equipped with a non-contact, coded safety switch. Thanks to RFID technology, this switch is completely tamper-proof and integrated directly into the MC6 control system. The user can now see which doors are open at a glance. In addition, service and commissioning have also been improved as light signals clearly display faults.

Your benefits:

- Maximum safety for the user
- Optimized service
- Optimized commissioning
- Wear-free

The new maintenance concept for the CX allows quick and easy access to the most important hydraulic components. The finisher can be opened by way of an easy clicking principle. Sound emissions from the machine are significantly reduced due to new, improved sound insulation.

Your benefits:

- Quicker access to the pump area

Non-contact safety switch

NEW: Screwless finisher

30 %
Reduced volume



Wider platens and high mold weights No limits for your mold

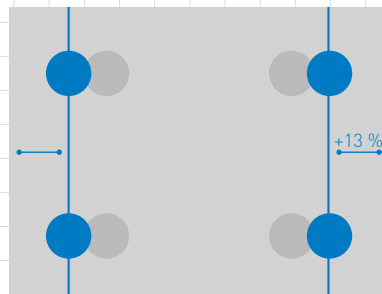
The KraussMaffei standard already provides more space for molds. Since we are not satisfied with just the standard, you have the option of choosing between different platen sizes and spacing.

To offer you more flexibility when using your mold, the platens can be enlarged by up to 13 percent and the opening width by up to 22 percent – only the installation area remains the same.

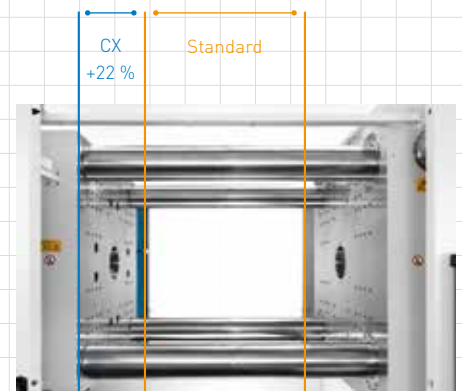
Your benefits:

- Use of larger molds
- More flexibility
- More volume in the same installation area

40 % larger mold volume



+13 percent wider platens



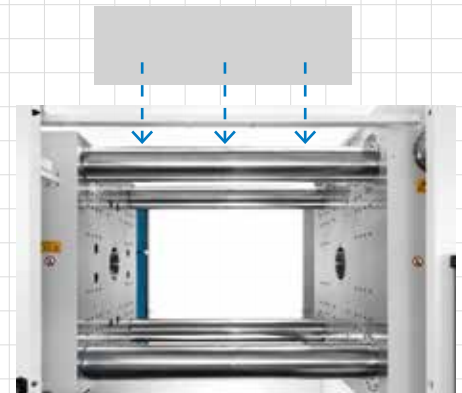
+22 percent higher opening width

High mold weights

The implemented molds are as diverse as their applications: thanks to its stable clamping design, the CX can hold molds with higher weight than the competition. The platen parallelism remains constant, even for heavy molds.

Your benefits:

- Use of heavier molds
- More flexibility
- Protects your mold



Manual or fully automatic bar-pulling Always the right solution

The trend is towards increasingly large and complex molds. KraussMaffei offers two variants for bar-pulling – depending on your preferences – so that these molds can be installed quickly on the CX.

Your benefits:

- Quick and simple mold changes
 - Allows mold changeovers, even at low shop heights
-

Bar-pulling solutions for the CX Series

Solution for few mold changes:

- Manual hydraulic bar-pulling device with manually unscrewed bar screws

Solution for many mold changes:

- Hydraulic bar-pulling device with automatic interlock



Even complex molds can be installed simply by removing the bar. The mold can even be introduced laterally for low shop heights.



Plasticizing systems are the heart of a machine and the core competence of KraussMaffei. They are distinguished in particular by their excellent shot weight consistency. This allows you to minimize your reject rate and produce the best quality products.

New: APC (Adaptive Process Control)

The injection unit – a masterpiece Minimum reject rates – maximum profits

Maximum shot weight consistency

On the proven in-line injection units with a rotary piston design, the force is directly transferred centrally via the injection rotary pistons to the screw. This results in the highest shot weight consistencies and the best reproducibility. The regulation is always high-resolution, even at low pressures.

Your benefits:

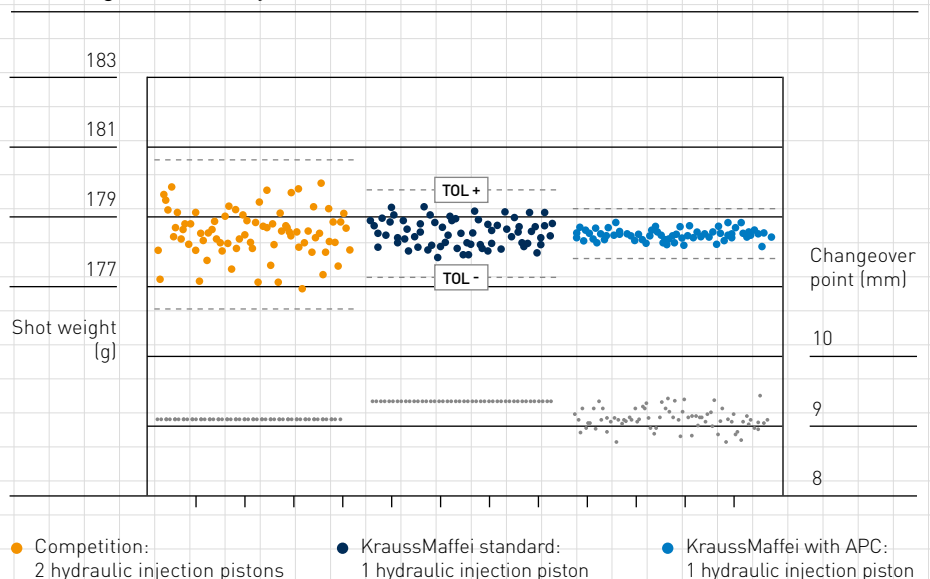
- The best production quality
- Long service life

Different levels of pellet quality, temperature fluctuations and residual moisture impede sensitive processes and have an effect on the shot weight consistency. Thanks to an innovative approach to the adaptive process control system (APC), KraussMaffei has now developed a machine function that will automatically respond to fluctuations as early as the injection process. This allows you to maximize component quality to increase your profits.

Your benefits:

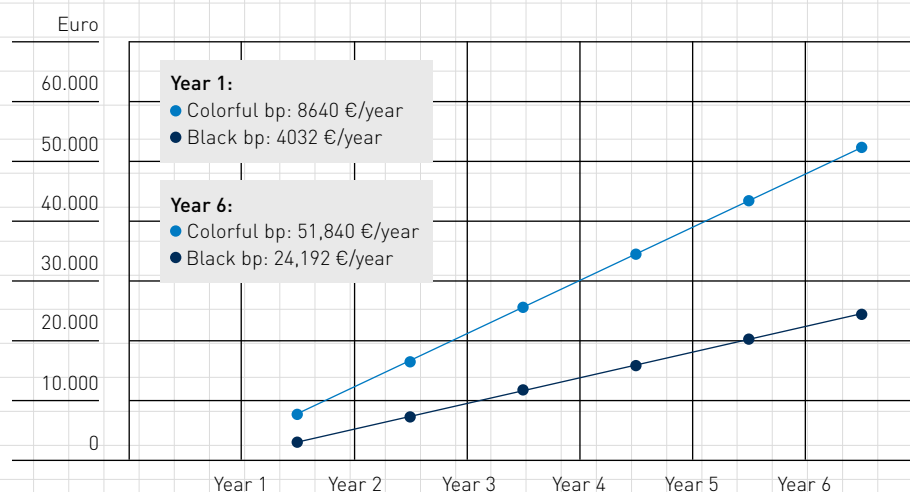
- Use of recycle through automatic readjustment
- Zero-defect production despite batch fluctuation
- Quicker start-up after standstills

Shot weight consistency: the best results with KraussMaffei



The high-performance screw Saves on multiple counts: material, time, energy and money!

**Sample calculation for 10 percent savings:
30 s cycle, 200 g shot weight, 6000 production hours/year**



Thanks to excellent melt homogeneity, the batch portion (bp) has been reduced by 0,4 percent (Δ : 3,5 percent; 3,1 percent) compared to standard screws.

Due to the significantly improved homogenization performance, savings are possible in the expensive masterbatch portion in particular. In addition, the scrap rates have been minimized and longer service lives enabled thanks to gentle material processing.

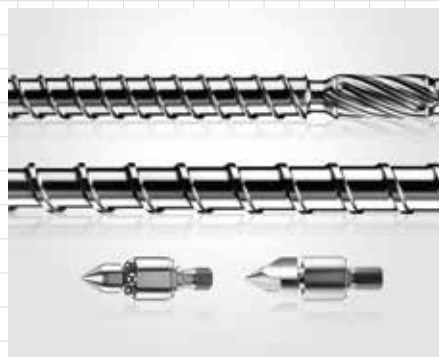
Your benefits:

- Reduction of color masterbatch costs, for example
- Uniform color distribution in the component
- Up to 20 percent shorter color change times

The screw is armored so it can meet your high standards. Materials difficult to process (such as glass fiber) thus have significantly less influence on the service life of the screw.

Your benefits:

- 50 percent lower replacement costs
- Use of the most advanced materials
- Easy color change



The optional, industry-leading HPS screw (high-performance screw), together with the non-return valve from KraussMaffei, ensures the best results. The screw enables a high throughput and guarantees a uniform material, thanks to an excellent mixture. Therefore, the average required working energy is lower. This allows you to save on multiple counts: material, time, energy and money!

Up to 30 % batch savings

Double the service life

Plasticizing unit adapter From large to small

Flexibility is everything in modern manufacturing. The optional plasticizing unit adapter provides more flexibility in machine assignment and enables the use of smaller shot weights.

High flexibility

All screw diameters can be used with the adapter unit via two plasticizing units. The adapter fits perfectly on smaller units, guaranteeing the optimum shot weights.

Your benefits:

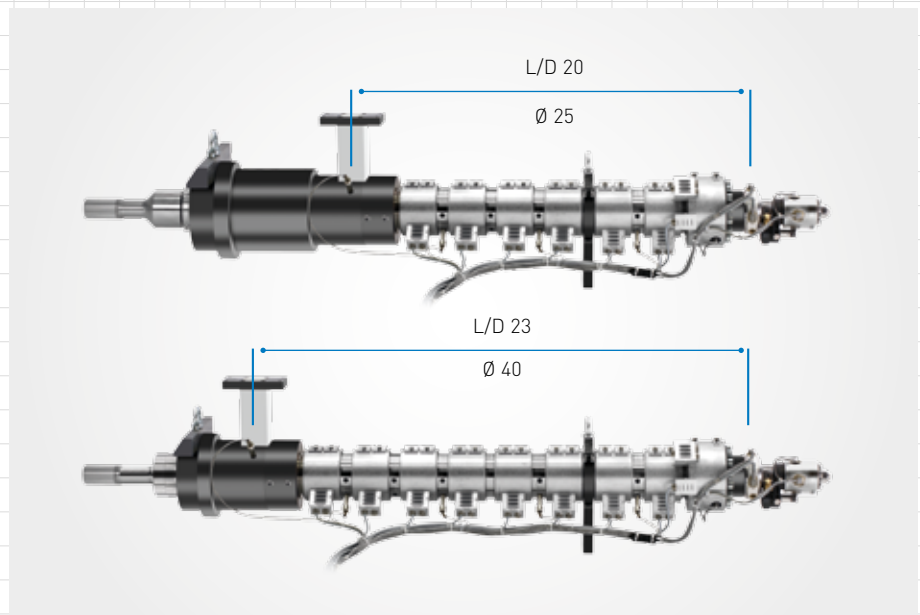
- High flexibility in injection molding production
- Increase in production efficiency

Simple installation

Even when using the adapter, neither the length nor the installation position are changed; no alterations are necessary. Therefore, disassembling the machine to its original state is simple.

Your benefits:

- Service-friendly
- Very easy readjustment
- Prevents need for lengthy alterations



A smaller plasticizing unit can be enlarged easily by attaching an adapter.

Electric water manifold Monitored molded part cooling

Automatic monitoring

The important parameters for cooling and heat-balancing are automatically monitored. Delivery pressure and temperature are recorded centrally. For each individual mold circuit, the flowrate and the return flow temperature are also measured and displayed on the control system. When deviations exist, the machine generates an error message. This can help prevent quality deviations – an important step in zero-defect production!

Your benefits:

- Less downtime due to high process stability
- Easy, central operation
- Documentation option

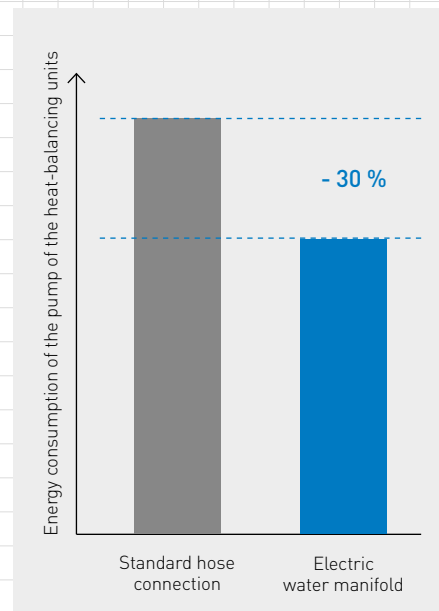
Due to significantly larger cross-sections of the water distributor hose connection, pressure loss and potential energy loss are greatly reduced.

Your benefits:

- Improved cooling effect
- Efficient production



Lower energy consumption on heat-balancing units due to significantly larger hose connection cross-sections.



Up to 30 percent lower energy consumption by the pump of the heat-balancing units thanks to the use of new water manifolds.

The quick, targeted cooling of finished parts is a critical factor in efficient manufacturing. KraussMaffei is now using electric water manifolds integrated into the MC6 control system to improve this aspect even more.

30 % less energy

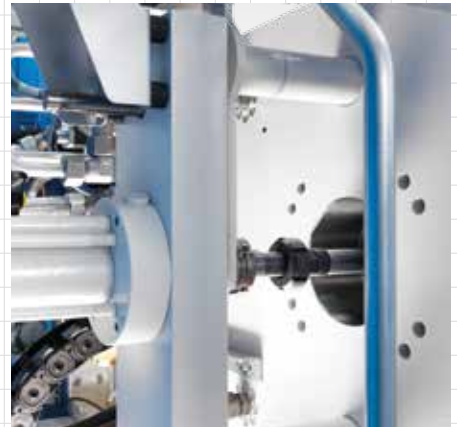
Large ejector area Easier access, more flexible setup

Optimum accessibility

The ejector area of the new CX is particularly easy for the user to access. This simplifies all work in this area, such as the coupling of mold ejectors. In addition, the large doors enable easy entry.

Your benefits:

- Ergonomic and pleasant work
 - Simplified setup saves time
-



NEW: Flexible ejector coupling

The new ejector coupling has a threaded adapter set for securing the mold ejector bolts with different female threads. The connection is free of play and permits an axis offset compensation. The union nut can be connected quickly to the ejector part, which greatly simplifies changeovers.

Your benefits:

- Quick and simple tooling up
 - The seizing of the ejector can be prevented
-



The adapter set is available in three common sizes

Extensive interfaces

New freedom during mold changes



The right connection for every mold:
a wide range of options offers maximum flexibility

KraussMaffei offers a large, optional selection of clearly structured interfaces, which are right next to the mold and easy to access. In addition to the standardized options, customer-specific interfaces can also be implemented (such as a special water hose connection). This means that your machine is well equipped for all mold variants.

Your benefits:

- Quick, convenient setup
 - Excellent accessibility
 - Maximum flexibility during configuration
 - Easy readjustment
-

**Extensive
interface options**



Cost-effective bayonet lock greatly simplifies mold installation

Without screwing or calibrating – installing molds has never been this easy, because with the simple, mechanical clamping system, the user can just let the mold click into place. It doesn't get any faster or more cost-effective than this.

Your benefits:

- Quick installation saves work time
-

**Optional:
quick-locking fastener**

The new drive concept More performance, lower power consumption

NEW: improved efficiency

The drive system of the CX Series has been completely overhauled. The new clamping block, loss-optimized valve technology and improved switching concepts reduce energy consumption and increase performance.

Active storage management

The storage management function is available under "Accumulator." Upon activation, the optimum operating pressure for the accumulator is determined and energy is saved. On applications that do not require the accumulator, it is actively switched off and additional loading is not necessary.



An outstanding option BluePower Vario Drive

You can significantly reduce the energy consumption of your KraussMaffei machine with the optional BluePower Vario Drive with frequency converter – all while generating lower noise emissions! All drive systems on the new CX Series have been completely reworked with the addition of the variable-speed

asynchronous motor (Vario Drive). This resulted in substantially improved efficiency and reduced idling capacity.

Your benefits:

- Low energy consumption
 - Low noise emissions
-

The intelligent control system always specifies the most energy-efficient operating point. The system constantly optimizes itself based on new information. This results in greatly reduced energy consumption.

Your benefits:

- Lower coolant consumption
 - 10-30 percent less energy per application
-

Combining natural resource conservation with cost-effectiveness optimization is a primary focus in the development of new machines.

KraussMaffei has reduced the long-term oil volume thanks to a fine filtering and the conservation of oil during pre-heating. You will benefit from this low investment in the areas of initial filling and oil changes.

Your benefits:

- Minimized costs
 - Lower maintenance costs
-

Optional: BluePower Vario Drive

More energy-efficient

Reduced oil volume



The new SPX10 servomotor-controlled sprue picker

Easy integration and pioneering drive systems

Stable design

With the new SPX10 servomotor-controlled sprue picker, KraussMaffei expands upon diverse automation options and significantly increases user-friendliness compared to pneumatic solutions. Its compact design and stability enable the safe and reliable removal of payloads up to 1000 g. The servo drive ensures highly dynamic demolding and precise repeatability, thus conserving energy and resources.

Your benefits:

- Safe removal of sprues up to 1000 g
- Long run times

Quick demolding

Thanks to the freely configurable waiting position of the gripper, for example just above the mold, the removal time is significantly reduced. Quick machine cycles can be implemented easily.

Your benefits:

- Quick removal time of just 0.75 seconds

Saves up to 99 % compressed air

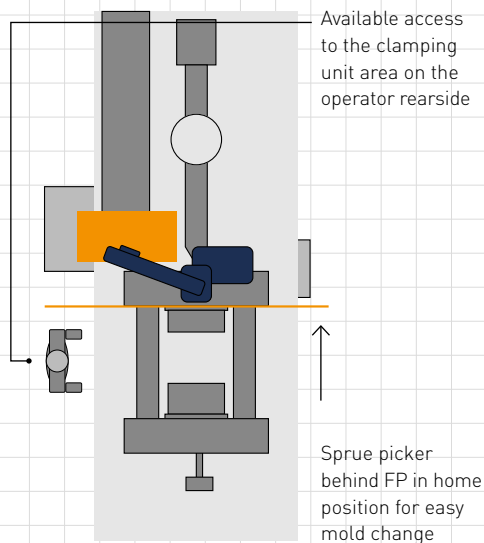
In manufacturing, even air costs money. Pneumatic axes need compressed air to put them in motion and sometimes lose air due to leaks in lines. The energy-efficient servo drive is driven almost completely electrically, and saves up to 99 percent or more of expensive compressed air.

Your benefits:

- Requires less than 1 percent of compressed air compared to a pneumatic drive
- 85 percent power savings



The telescoping stroke also permits use at low shop heights. The large remove stroke offers maximum flexibility.



Everything in the protective housing: in the home position, the sprues can be transported away via the chute.

Machine and sprue picker, located in the same protective housing, form a complete system. This complete system is the most space-saving solution on the market. Handling and accessibility are very easy and user-friendly. Since the chute is located behind the solid platen, the user can access the clamping unit at any time. The sprue chute with nozzle safety gate is integrated on the operator rearside. There is also no need to hassle with moving the picker during the mold change. Simply bring it into the home position.

Your benefits:

- Fast changeover and easy mold change save time
- Flexibility during component assembly

Very easily accessible



It is very easy to integrate the sprue picker into the MC6 control system because only one data record must be read out. With the MC6 control system, you can centrally control and operate all additional automation solutions. The WizardX programming wizard integrates new applications almost entirely by itself.

Your benefits:

- Quicker setup and operation
- Clear layout
- Prevention of operating errors

All-in-one control system

Automation in existing machine housing Your space is limited. Our ideas for saving space are unlimited.

KraussMaffei is blazing new paths with its linear robot. Due to discharge via the clamping unit and the integration of the conveyor belt into the machine housing, no additional protective housing is necessary. This saves space and costs!

Space-saving

Unlike standard solutions in which robots carry the parts away laterally, robots with the new CX move to the clamping unit in a lengthwise direction and place the parts into the protective housing. All peripherals are integrated into the machine in a small area.

Your benefits:

- Efficient use of your installation area
- Four CX cells fit on the surface of three standard systems



Lower costs/clear layout

Uniform component quality is the crucial factor in production. Since the parts are no longer discharged on the operator rear side, the user has a clear view of the parts at all times – without needing to leave the operator side.

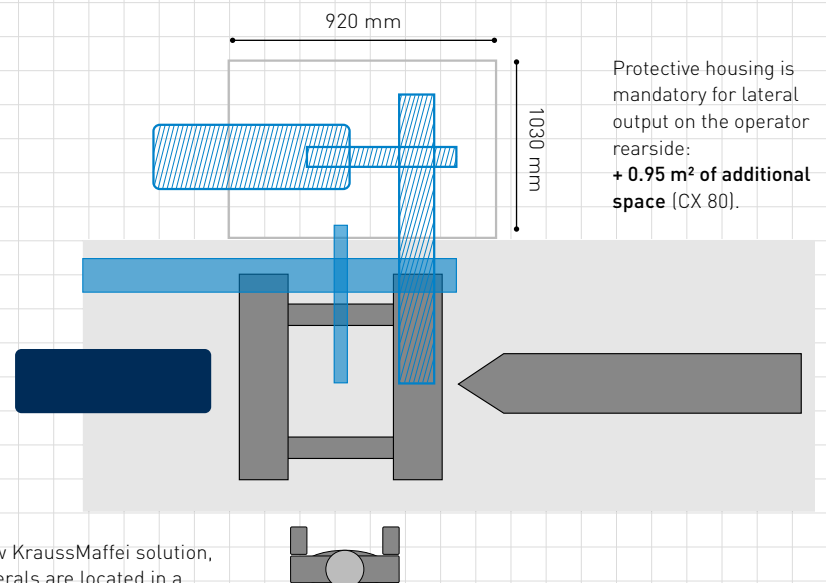
Your benefits:

- Simplified quality control
- Quicker reaction options

With this new solution, you will save on both the protective housing costs and costs related to space.

Your benefits:

- No additional protective housing
- Less installation area



Usability is our top priority

The intuitive MC6 control system with SplitScreen technology and Eco function



Clear display with the process designer: new processes can be added or deleted easily by marking the individual steps, and are checked for plausibility.

Based on the motto "get where you need to go as quickly as possible," the MC6 offers a clear overall concept with individually configurable favorites bars. In order to ensure easy use, the control unit only shows the buttons that can be selected in a given operating status of the machine.

SplitScreen technology is one of the special highlights of the MC6: Thanks to the split-screen display, you can see the most important production processes simultaneously. In parallel with the actual value cycles, you can control, for example, the injection process.

Destination reached with just two clicks

SplitScreen technology:
Highly reliable



Do you get the most energy-efficient machine setting? Always! Simply press the Eco button



WizardX programming assistant
Easy to recognize by the "magic wand symbol"

Easy programming

At KraussMaffei, automation and injection molding machines are not viewed separately, but as one uniform solution. Therefore, you will benefit from an easy setup, programming and operation, so you can concentrate on what is most important: production!

The dialog-based programming wizard in the MC6 control system allows even beginners to create basic processes in the shortest possible time.

WizardX programming assistant

Your benefits:

- Quick access
- Quick production start

15 % faster

10 % less energy

30 % quieter

20 % less oil

25 % more efficient

= 100 % ADDED VALUE

cx.kraussmaffe.com

