

POWERFUL. USER-FRIENDLY. VALUE PROVEN.

EXPERIENCE OUR GX SERIES INJECTION
MOLDING MACHINES



KraussMaffei
Pioneering Plastics

POWERFUL. USER-FRIENDLY. VALUE PROVEN. MACHINES IN THE GX SERIES

Use to your advantage the first-class hydromechanical two-platen design of the GX Series in conjunction with the single-piston injection system. Thanks to the modular design, the compact two-platen clamping unit can be individually configured with all available injection units. You can also benefit from one-of-a-kind and intelligent product innovations: the GearX locking mechanism and the GuideX guide shoe with clamping sizes of up to 14,500 kN.

Highlights of the GX Series at a glance:

Powerful thanks to:

- Very short dry cycle time (2.3 seconds *)
- High precision with maximum dynamic performance
- Minimum energy consumption

User-friendly thanks to:

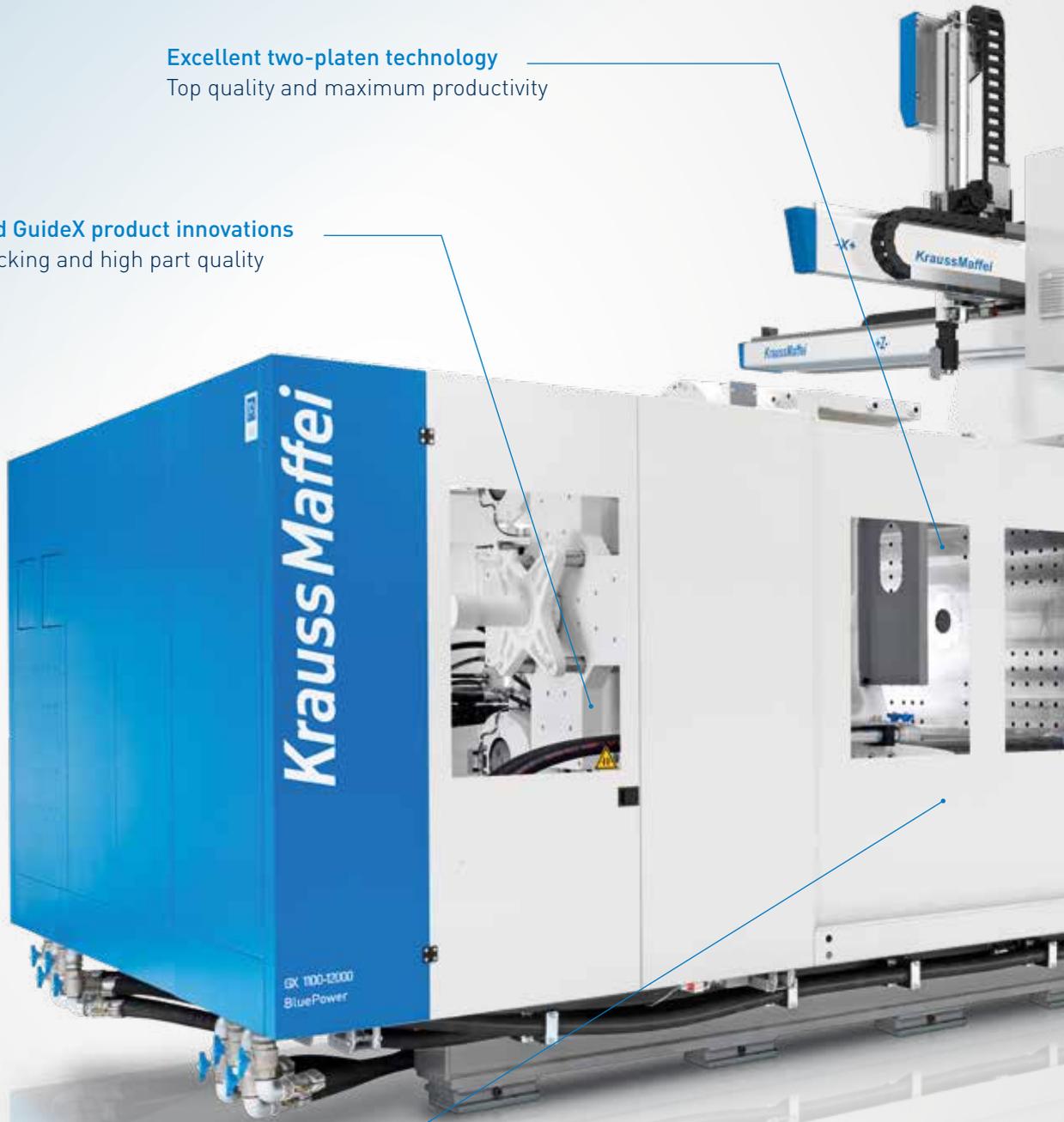
- Outstanding accessibility
- Fast mold set-up
- Intelligent, user-friendly control system

Value proven thanks to:

- Robust clamping and injection unit
- Low maintenance costs
- Simple retrofitting

Excellent two-platen technology
Top quality and maximum productivity

GearX and GuideX product innovations
for fast locking and high part quality



Optimum accessibility
Short set-up times,
easy maintenance



Ideal interaction between automation and machine

Proven, cost-effective overall concept

MC6 control system

Simple and clear operation with
SplitScreen and Eco function

Flexibility through modularity

Clamp, injector and drive unit
can be individually combined

**Powerful injection unit with
proven plasticizing system**

Maximum reproducibility and
high melt quality



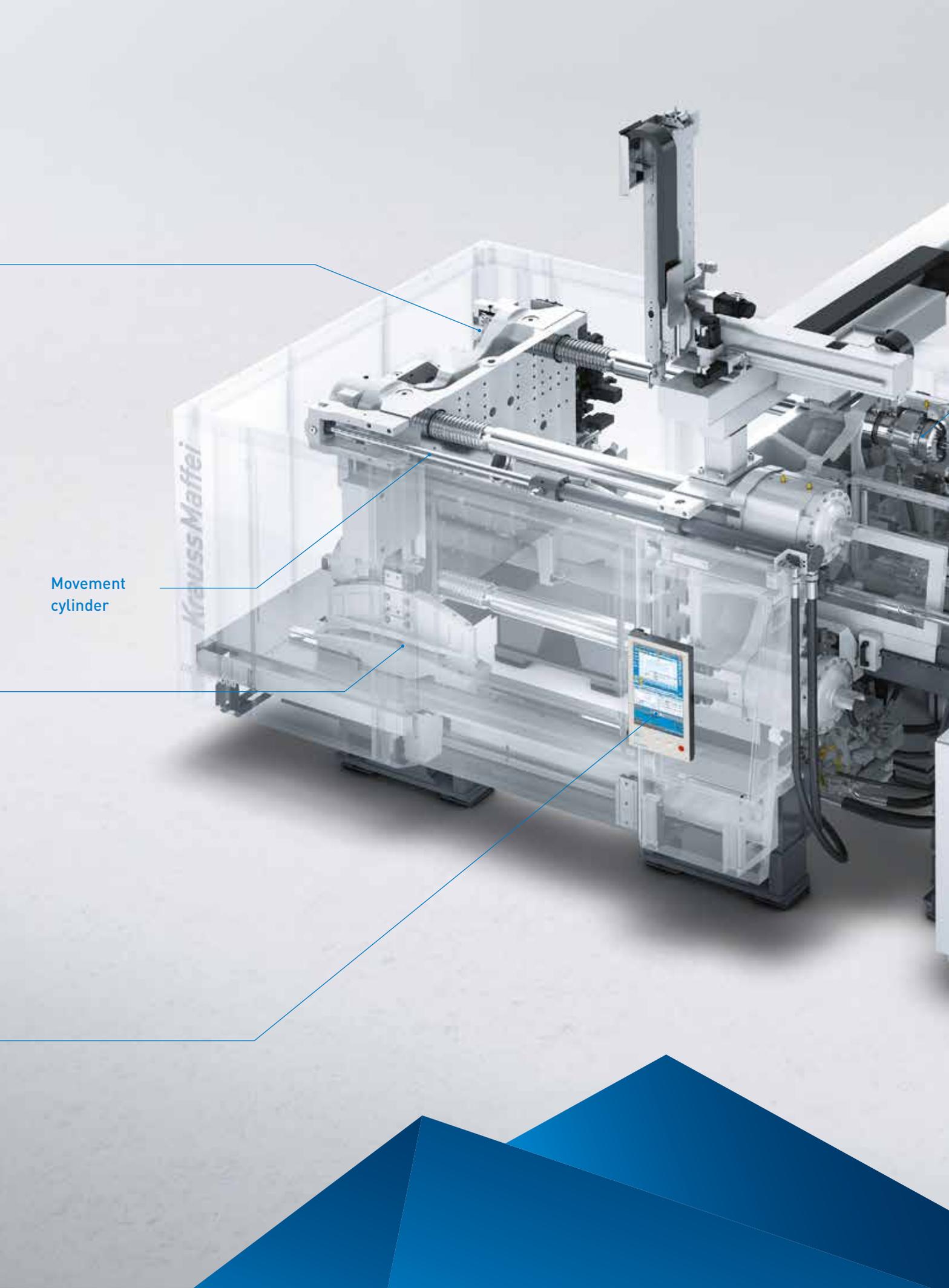
GearX locking device



GuideX guide shoe
with linear guides

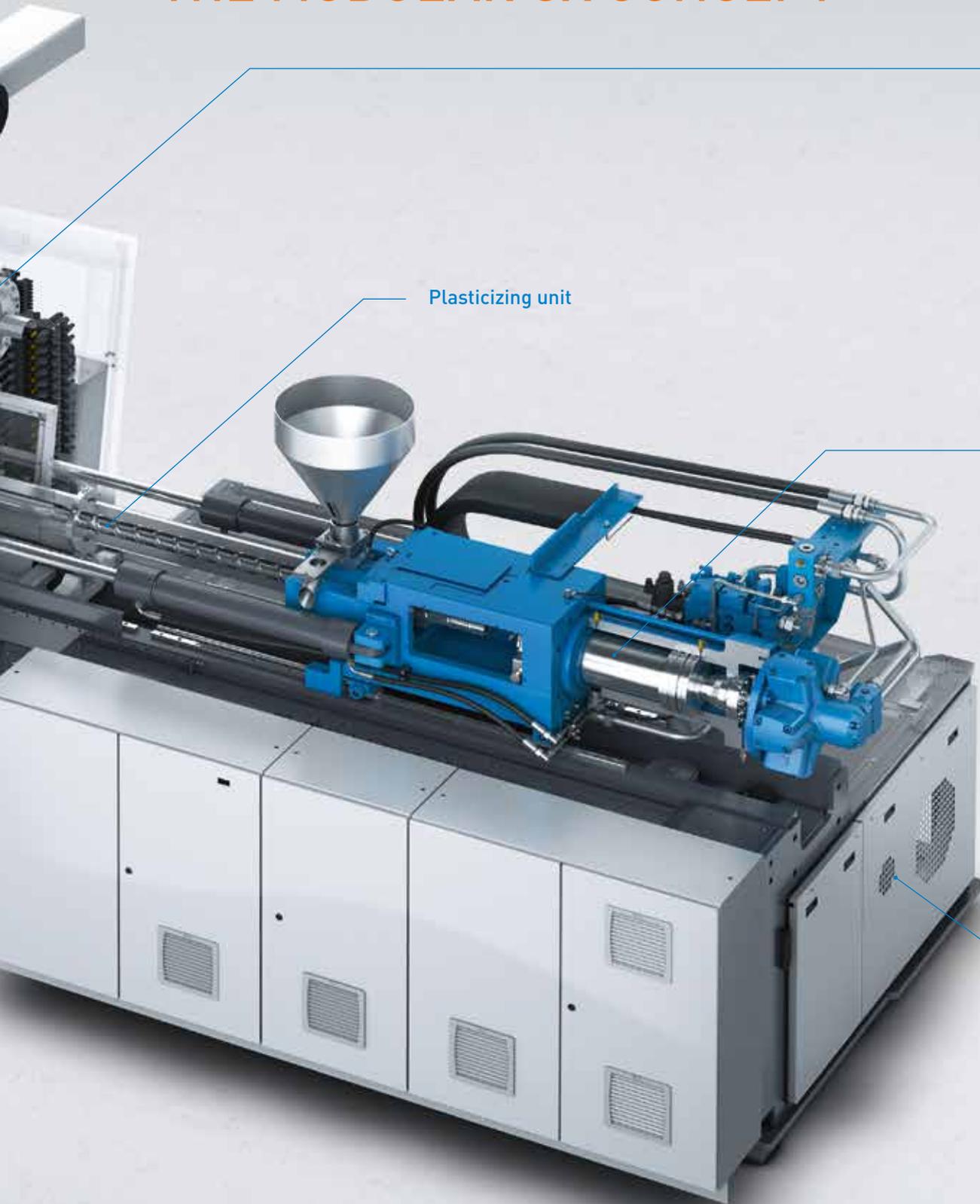


MC6 control system



Movement
cylinder

AT A GLANCE THE MODULAR GX CONCEPT



Plasticizing unit

Pressure pads



In-line injection unit



Power pack and pump area



EXCELLENT TWO-PLATEN TECHNOLOGY

THE POWERFUL GUIDEX AND GEARX TEAM ENSURES FAST LOCKING AND EXCELLENT PART QUALITY

The hydromechanical two-platen clamping unit in the GX machine sets new standards in terms of quality and productivity. With the ingenious GuideX guide shoe, forces are ideally absorbed and the service life of the molds is increased. The innovative GearX locking device functions immediately and reliably.

GuideX guide shoe – the intelligent machine element for absolute platen parallelism with high force absorption.

As an intelligent fixed bearing joint with an optimized FEM design, the GuideX guide shoe is a genuine highlight in the GX Series. Its stable design is the basis for the machine's outstanding platen parallelism.

Thanks to the innovative technology, the greatly reduced forces are transmitted to the linear guides. This keeps the guides protected over the long term and maintains

their precise ease of movement. The movements are optimal in terms of energy usage and the sensitive mold area protection can achieve its full effect.

Fast locking thanks to GearX

GearX locks the machine within the shortest possible time. The locking element is positively engaged in the tiebar notches via a short flux of force inside the unit. The enclosed locking unit is located behind the moving mold fixing platen and is permanently protected. Thanks to the optimized and no-frills design, accessibility to the ejector area remains habitually spacious and clear.

Depending on the need, customer-specific ejector hole patterns, ejector plates, unscrewing units or rotary distributors can be placed flexibly behind the moving platen.



The GuideX guide shoe absorbs forces and protects the guides. This ensures that the linear guide maintains its ease of movement and precision over the long term.



The GearX locking device is quick and reliable.



Together with GearX and GuideX, the hydromechanical two-platen clamping unit ensures maximum part quality and productivity.

Clamping force - quick and energy-efficient with the "BluePower" optimized clamping block

The clamping force is built up through four pressure pads behind the permanent mold fixing platen. The refined contact surfaces and seals in the pressure pads are specially designed for high permanent operation as a result of their material pairing. One of the impressive features of the new energy-efficient clamping block is its speed in building up and reducing clamping force.



Long service life of the seals thanks to refined contact surfaces.

Stable, permanently precise mold platens guarantee the highest possible part quality

Excellent stiffness is ensured through the cast-optimized mold fixing platens with a rib structure. The rigid central node, the diagonal ribs and the large distances between the tiebars permit the installation of small, medium-sized and large molds. Thanks to the coherent overall concept of the GX clamping unit comprising platens, a clamping bed and GuideX, all occurring forces are ideally distributed. Your molds are therefore permanently protected.



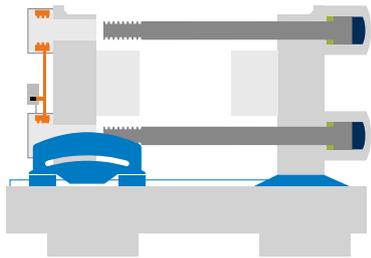
Cast-optimized platens are the basis for maximum part quality

YOUR BENEFITS:

- Short dry cycle time (2.3 seconds*)
- Space-saving clamping unit
- Maximum part quality
- Minimum energy consumption
- Excellent accessibility
- Service-friendliness

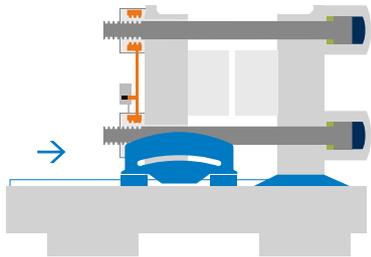
EXCELLENT TWO-PLATEN TECHNOLOGY

FUNCTIONAL DESCRIPTION OF GUIDEX AND GEARX



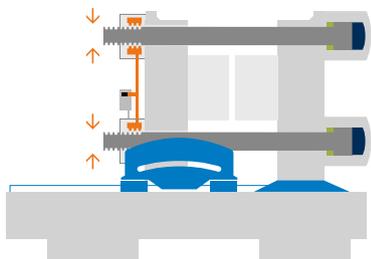
Open clamping unit

Thanks to the intelligent GuideX guide shoe, absolute platen parallelism is attained even with extremely heavy molds.



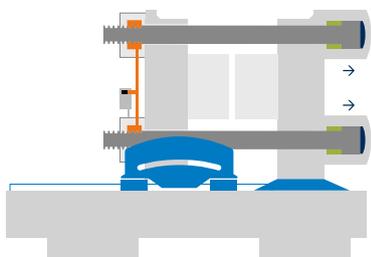
Clamping movement

In conjunction with the linear guides, GuideX produces almost friction-less mold movements. The roller guide impresses through its precision and ease of movement.



Locking

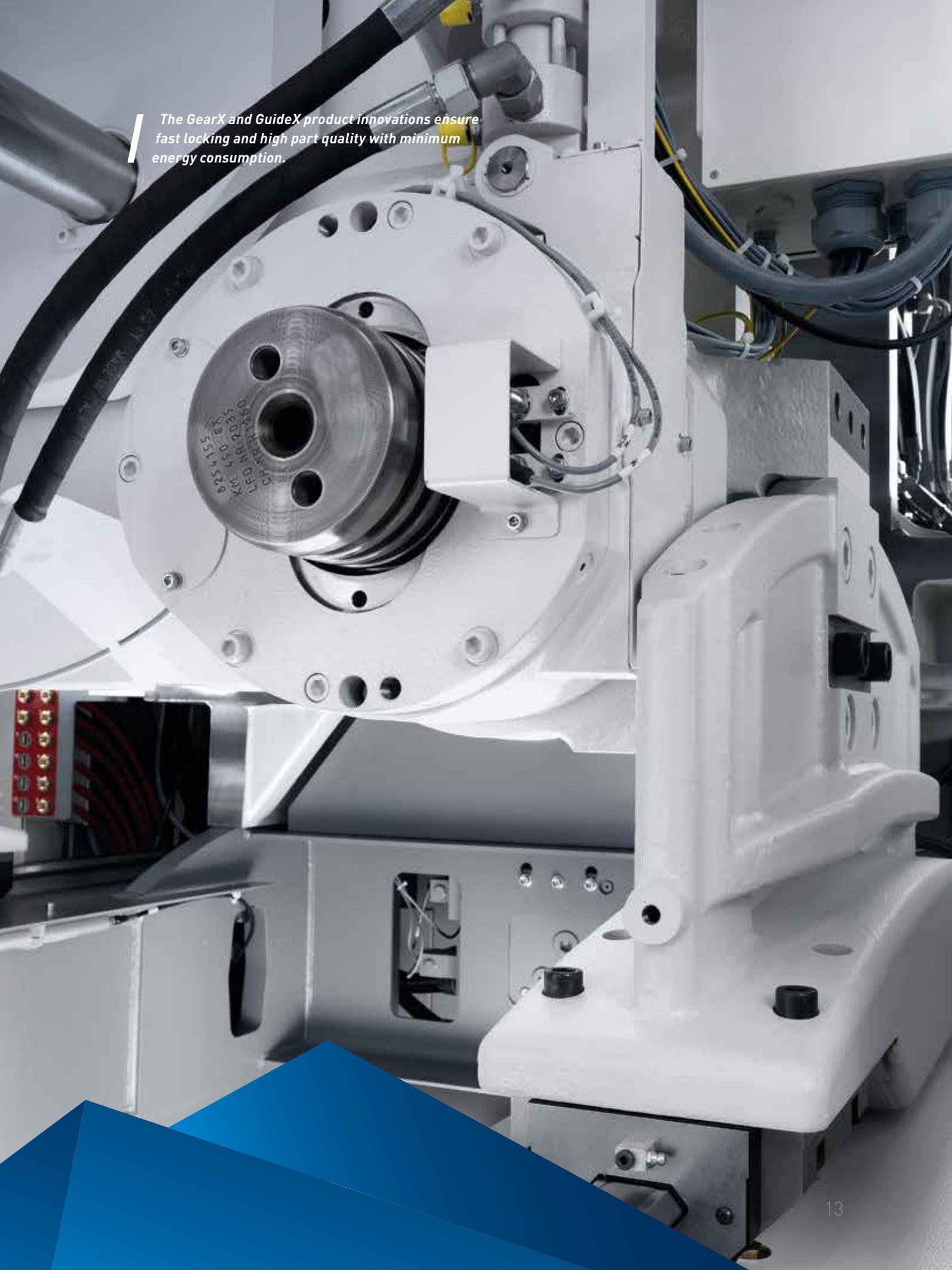
Thanks to GearX, the machine is locked quickly and reliably. When they interact with one another, the new GuideX and GearX technologies produce an extremely energy-efficient clamping principle, precise mold movements and quick dry cycle times.

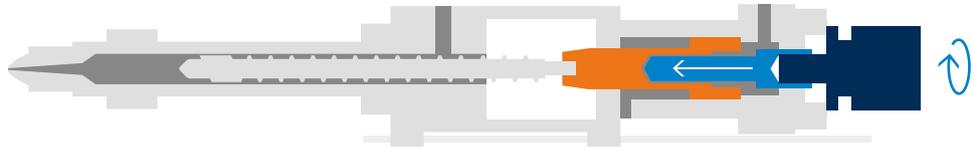


Build-up of clamping force

The clamping force is built up quickly with exact reproducibility through the pressure pads. The intelligent design of GuideX protects the linear guide against overloading and guarantees its long service life.

The GearX and GuideX product innovations ensure fast locking and high part quality with minimum energy consumption.



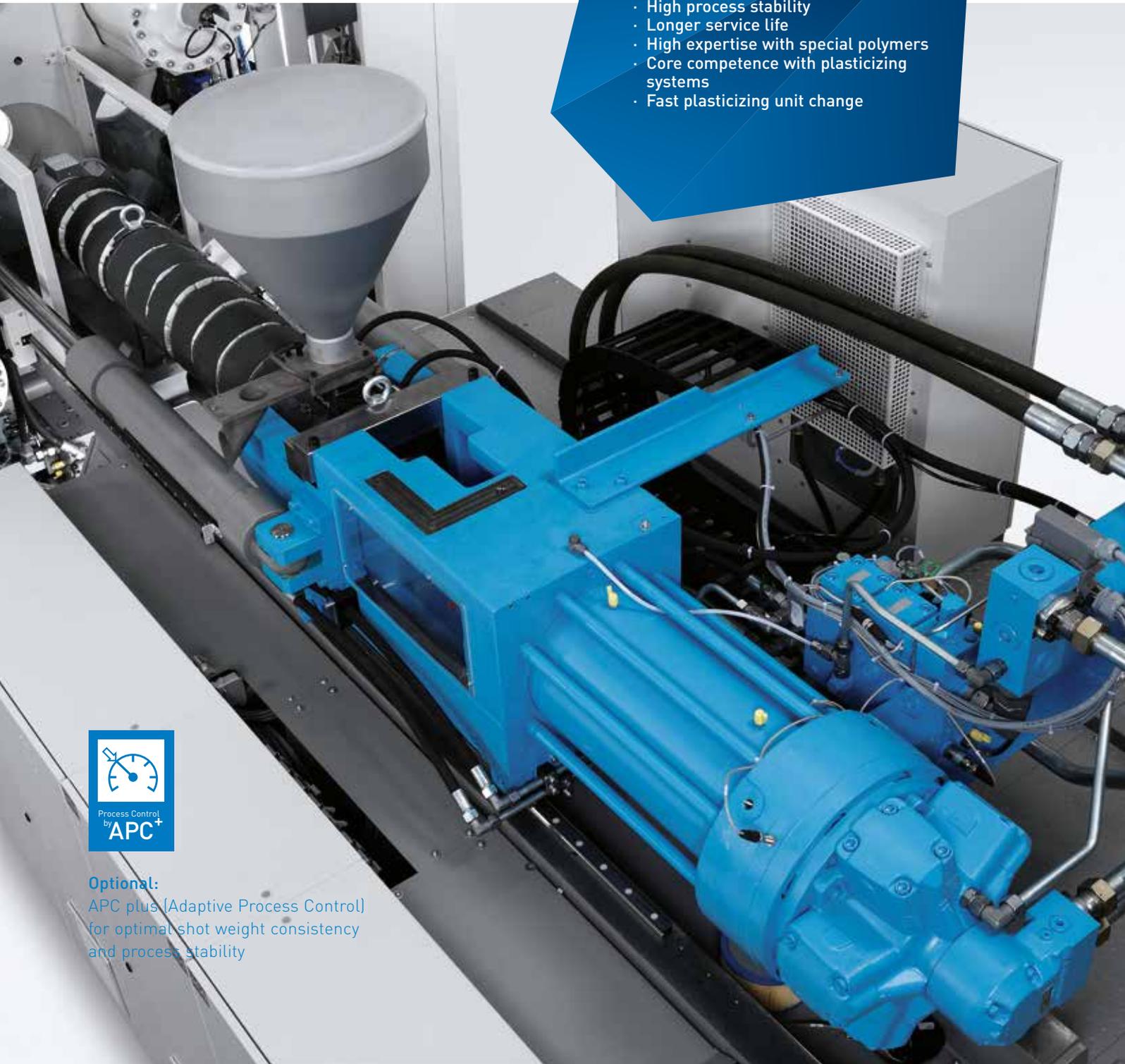


Linear force transmission ensures maximum shot weight consistency.

**The injection unit is the core of our machines.
It guarantees maximum precision and
process stability.**

YOUR BENEFITS:

- Outstanding shot weight consistency
- High process stability
- Longer service life
- High expertise with special polymers
- Core competence with plasticizing systems
- Fast plasticizing unit change



Optional:
APC plus (Adaptive Process Control)
for optimal shot weight consistency
and process stability

POWERFUL INJECTION UNIT WITH PROVEN PLASTICIZING SYSTEM FOR MAXIMUM REPRODUCIBILITY AND HIGH MELT QUALITY

Maximum shot weight consistency with optimum reproducibility

Profit from unlimited precision – the proven in-line injection unit with its rotary piston design transmits the force centrally via the injection piston to the screw. This direct path ensures absolute precision and maximum reproducibility. Injection regulation of pressure and speed is a standard feature of the GX and guarantees you maximum process reliability.

High throughput with outstanding melt quality

Our plasticizing systems are characterized by their excellent melt quality and cover a wide range of applications for different plastics. The GX plasticizing system can be exchanged with other KraussMaffei series. Our many years of experience and technology expertise in coordinating complex processes during plasticizing ensure high melt specifications with corresponding throughputs and optimum melt quality. The right choice of plasticizing system leads to improved quality of your products and higher value retention.

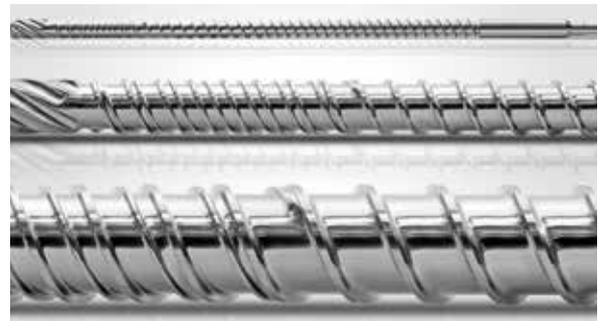
The right screw for every plastic

In order to provide an ideal solution for the processing demands with different polymers, we have developed material- and processing-specific plasticizing systems. In addition to outstanding melt quality and high throughputs, high-tech plastics mostly require additional wear resistance against adhesion, abrasion and corrosion in order to extend their service life. Depending on the part

requirement, special plasticizing systems containing specific screws, check valves and cylinder fittings are available to you. Extract from our wide range of plasticizing solutions for processing:

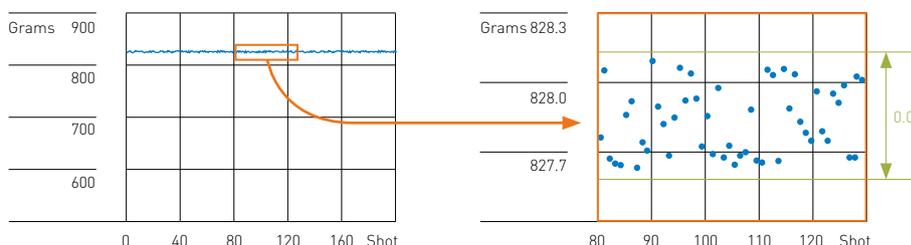
- PC and PMMA materials,
- Short- and long-fiber-reinforced plastics,
- Blends,
- Thermosets and silicones

With our core competence, i.e. plasticizing, there are practically no limits to your material-specific requirements.



As a plasticizing specialist, our product range contains the right screw for you for every material

Shot weight consistency



Shot weight consistency of 0.042% based on the example of a box lid with a shot weight of 828 g (PP) and a cycle time of 39 seconds.

USABILITY IS OUR TOP PRIORITY

THE NEW MC6 CONTROL SYSTEM WITH SPLITSCREEN TECHNOLOGY AND ECO FUNCTION

The new MC6 control system meets all of your usability needs.

Whether you are working with a KraussMaffei control system for the first time or you are accustomed to its MC5 predecessor – MC6 technology is so intuitively accessible that you will work better and more efficiently than ever before.

Everything in sight - thanks to the new SplitScreen technology

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.

Clarity thanks to the ProcessDesigner tool

The integrated ProcessDesigner tool clearly presents all current processes in visual terms and enables you to modify them, depending on requirements, by means of simple drag-and-drop movements or swiping movements.

Reach your destination with just a few clicks - thanks to a drop down menu and a favorites bar

In order to make handling of the control unit as user-friendly as possible, deeper navigation levels were generally avoided with the MC6. Based on the motto "Get where you need to go as quickly as possible," this offers a clear overall concept with individually configurable favorites bars. In order to guarantee optimum use, the machine keypad only provides the keys which can be selected in regard to the operating states of the machine. A special field for system selection completes our user-friendly principle. You can therefore directly select all components of the machine up to automation and technology.

Go Eco! Energy efficiency at the push of a button

In keeping with our overall energy-efficient design, the MC6 control system has what is known as an Eco button. This allows you to configure the machine in the most energy-optimized manner at the touch of a button.

Intelligent user profiles

Thanks to standardized role profiles - from the machine operator and mold setter through to the production manager - you can assign different authorizations quickly and easily. Of course, you can also create additional hierarchy levels and assign individual rights to users. Another feature of the MC6 is the resistive dual-touch function which also allows the screen to be operated by a person wearing gloves. With the Windows 7 Embedded operating system, the MC6 is ideally equipped for today's technologies and those in future. The MC6 control system can be ordered in more than 30 languages. And best of all: Every feature is available not only with the control system, but also on the handheld pendant.



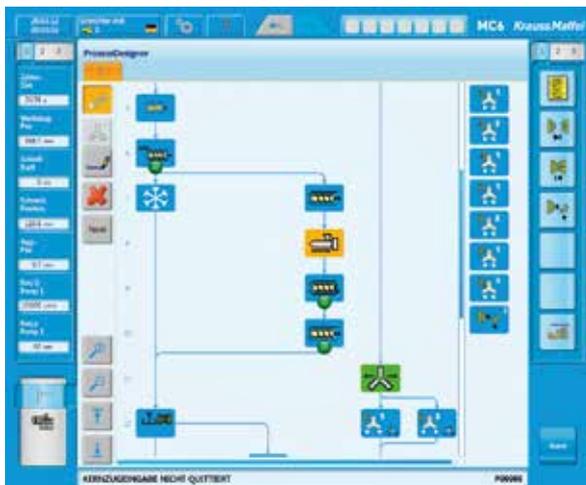
*The energetically optimum machine setting?
At all times! – Simply press the Eco button.*

YOUR BENEFITS:

- User-friendly function principle
- Simple process control thanks to SplitScreen and ProcessDesigner
- Clear structures
- Standardized user administration
- Two-way operation of automation and machine possible



With innovative features such as SplitScreen technology, the MC6 control system offers you greater convenience and usability.



The MC6 control system impresses customers with its clear overall concept. Here using ProcessDesigner as an example.



You can operate automation both from the handheld pendant and from the injection molding machine. And even converse operation of the injection molding machine from the robot's hand-operated console is easy with the MC6.



YOUR BENEFITS:

- Optimized set-up times
- Outstanding accessibility
- Easy maintenance
- Easy-to-see ejector area
- Chute in machine longitudinal direction for freely falling parts

Easy access to the pump area according to the quick click principle

The new maintenance concept of the GX allows quick and easy access to the most important hydraulic components. The standardized housing elements can be easily removed thanks to the quick click system. Nearly all the housing modules can be interchanged with one another.

OPTIMAL ACCESSIBILITY FOR FAST SET-UP AND EASY MAINTENANCE

User-friendliness in a new dimension

The machines in the GX Series feature easy access to the shut-off, ejector and nozzle area, as well as to the switching cabinets and the pump area. Thanks to this accessible concept, you always work in an extremely convenient and time-saving manner.

The new dimension of accessibility has many positive sides

Direct access to interfaces close to the mold: All cooling water connections, core puller valves, cascade control systems and the related interfaces for electric signals are arranged in fixed positions on the mold fixing platens. The interface for the hot-runner control stations is located on the operator's side. This extremely clear concept ensures clear structures and simple set-up.

Everything under control – thanks to an easy-to-install ejector area

The ejector area offers great freedom of movement, especially when coupling mold ejectors. The large doors provide easy access for set-up. The large observation windows actually allow optimum viewing during production.

Simple parts removal

The machines (4000–9000 kN) are standardized for parts transportation in the direction of the machine with a chute. Depending on the production requirements, conveyors can be integrated and make non-automated production possible.

Nozzle change and cleaning made easy

Opening the movable and transparent safety gate creates a large space through to the nozzle area. The nozzle is therefore easily accessible and can be simply replaced and cleaned.

Fast production changeover for a fast-moving market

Using our quick mold clamping systems, plasticizing units can be changed quickly and easily so that you can immediately retool for the following process. The nozzle area is clearly visible and extremely easy to access. Even with lower shot weights, we can install a smaller plasticizing unit for you using an adaptation.



All of the important interfaces for the mold can be reached easily.



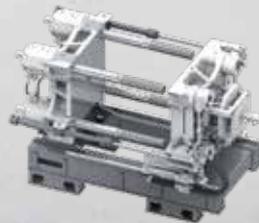
The spacious ejector area is also suitable for special ejectors or turntables.



Our quick mold clamping system creates ideal conditions for a quick product change and easy cleaning.

FLEXIBILITY THROUGH MODULARITY

THE GX MACHINE CAN BE INDIVIDUALLY COMBINED



Clamping units



Injection modules



Drive modules

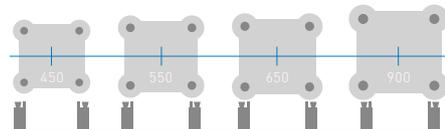
We can combine your GX machine precisely according to your requirements.

Profit from the flexibility, productivity and efficiency of our machine concept

The new modular system of the GX Series enables us to take account of your individual needs. Depending on which injection unit, clamping unit or drive unit you require, our modular machine concept enables us to precisely satisfy your requirements. Thanks to the constant height of the machine center, the modular system is compatible with all clamping/injection combinations.

YOUR BENEFITS:

- Machine combination according to the customer's requirements
- Energy-efficient drive systems (potential savings up to 50%)
- Premium-quality hydraulics



The height of the center axis remains identical in the GX (deviation \gg SP 12000) thus permitting a flexible combination of the injection and drive modules.

THE POWERPACK CONCEPT

ENERGY-EFFICIENT DRIVE UNITS FOR EVERY NEED



The PowerPack drive unit provides the option of integrating servo drives into your machine and saving a large amount of energy.

The PowerPack concept improves productivity and increases energy efficiency

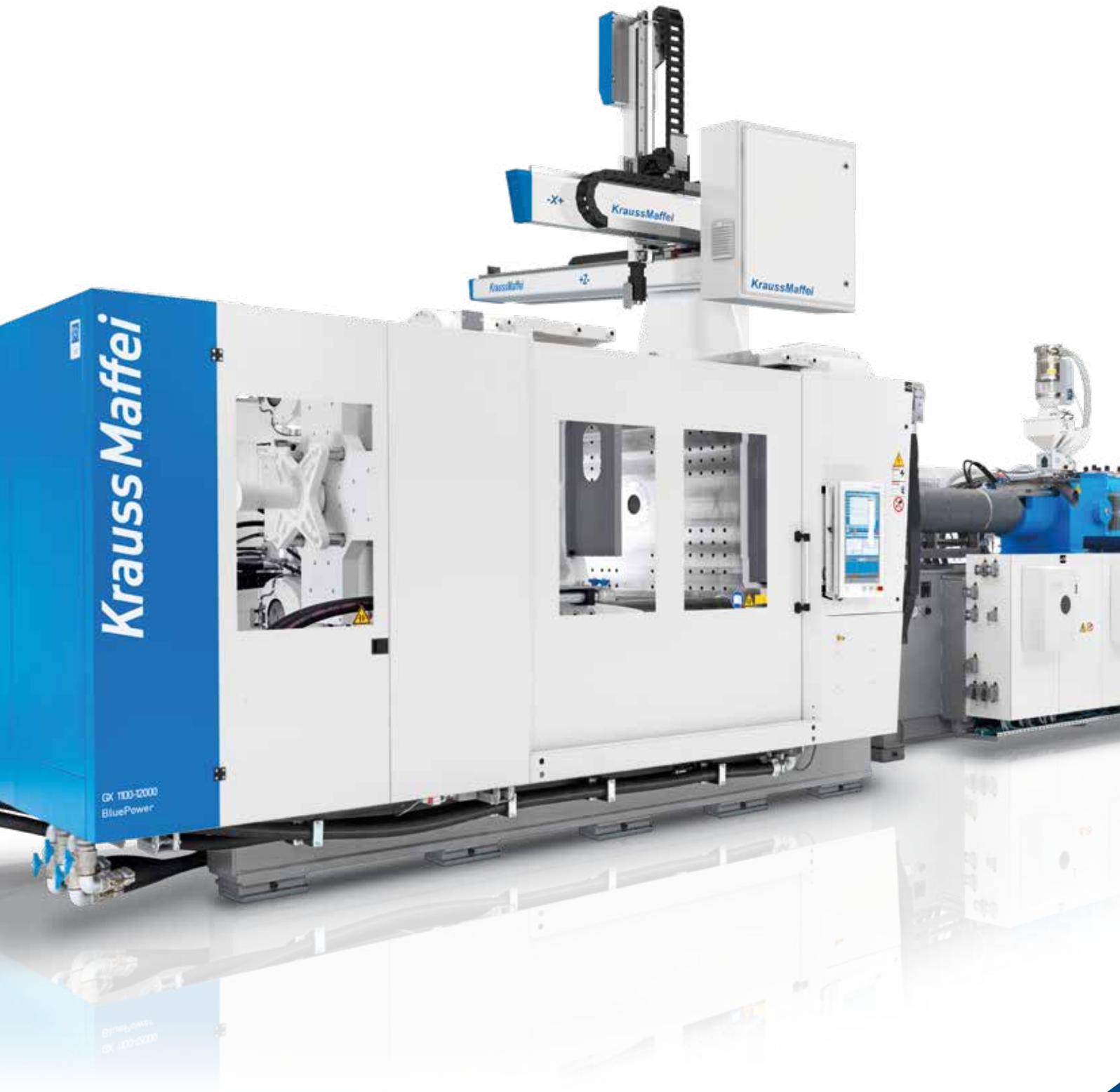
In the modular drive system of the GX Series, the latest generation of the variable delivery pumps is a standard feature. Their use improves efficiency and guarantees you maximum cost-effectiveness. The parallel movement of the ejector and core pullers increases productivity and is available as an option. The new premium quality hydraulic components were designed with the focus on higher availability and a long service life to meet the latest state of the art regarding energy efficiency.

Depending on the application and production cycle, the machines can be supplied with different PowerPack performance classes for first-class economical production.

"Blue Power" efficiency solution – "Servo Drive Technology"

Through the optional use of "Blue Power Servo Drive" Technology, energy consumption is further optimized compared with variable delivery pumps. The saving amounts to 10 and 30 percent depending on the particular application. Compared with conventional hydraulic concepts on the market, savings of up to 50 percent are actually possible. Another positive secondary effect is the lower noise level of servo drives.

*Ideal interaction between
automation and machine*



IDEAL INTERACTION BETWEEN AUTOMATION AND MACHINE PROVEN, COST-EFFECTIVE OVERALL CONCEPT

Our extensive know-how in the areas of injection molding machinery and automation is your economic advantage. Standardized elements combined with customer-specific solutions form the basis for high flexibility in production. The integrated CE-approved safety concept ensures a high safety standard and reduces the machine costs.

Maximum variability thanks to standardized automation systems

The linear robots from the LRX Series are ideally suited for simple pick & place solutions and quick removal. They also perform a very wide range of tasks in the injection molding process: Insertion, demolding, processing and much more besides. Thanks to integration in the control unit of the machine, all work steps can be very easily programmed and saved with the dataset of the injection molding machine. This automatically ensures the right combination of dataset and program - an advantage which also considerably increases machine safety.

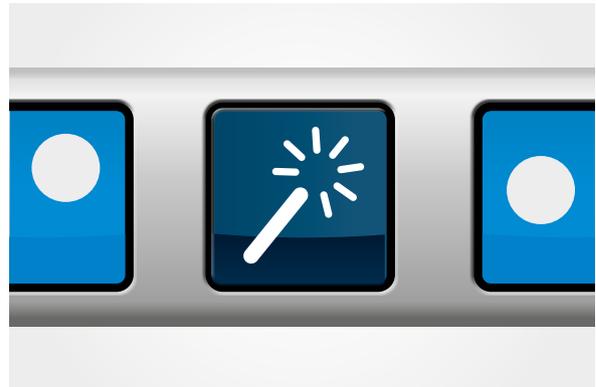
Unlimited opportunities with the KraussMaffei industrial robot

The industrial robot (IR) guarantees maximum flexibility during complex demolding and a wide range of other assembly steps or production steps. The intelligent control system concept featuring a simplified user interface and an extended expert mode is suitable for every user group and helps you reach your goal with often just two clicks.

The user interface of the handheld pendant can also be selected in the beginner mode or expert mode depending on the user authorization and hierarchy.

WizardX – Smarter programming

The dialog-based programming assistant in the MC6 control system allows even beginners to create basic demolding processes in the shortest possible time. The interactive communication between the user and control system makes manual programming superfluous and eliminates programming errors.



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

IDEAL INTERACTION BETWEEN AUTOMATION AND MACHINE COMBINATION OPTIONS



Linear robot

Machine/ clamping force in metric tons	LRX 150 (payload: 15 kg)			LRX 250 (payload: 25 kg)			LRX 350 (payload: 35 kg)			LRX 500 (payload: 50 kg)		
	X [mm]	Y [mm]	Z [mm]									
GX 400	900	1800/T	2500	900	2000/T	2500		-			-	
GX 450	900	1800/T	2500	900	2000/T	2500		-			-	
GX 451	900	1800/T	2500	900	2000/T	2500		-			-	
GX 500	900	1800/T	2500	900	2000/T	2500		-			-	
GX 550	900	1800/T	2500	900	2000/T	2500		-			-	
GX 551	900	1800/T	2500	900	2000/T	2500		-			-	
GX 600	900	1800/T	2500	900	2000/T	2500	1200	2000/T	3000		-	
GX 650	900	1800/T	2500	900	2000/T	2500	1200	2000/T	3000		-	
GX 651	900	1800/T	2500	900	2000/T	2500	1200	2000/T	3000		-	
GX 750		-		900	2000/T	3000	1200	2000/T	3000	1500	2500/T	4000
GX 900		-		900	2000/T	3000	1200	2000/T	3000	1500	2500/T	4000
GX 901		-			-		1200	2500/T	4000	1500	2500/T	4000
GX 1000		-			-		1201	2500/T	4000	1500	2500/T	4000
GX 1100		-			-		1202	2500/T	4000	1500	2500/T	4000
GX 1101		-			-		1203	2500/T	4000	1500	2500/T	4000
GX 1200		-			-		1204	2500/T	4000	1500	2500/T	4000
GX 1300		-			-		1205	2500/T	4000	1500	2500/T	4000
GX 1450		-			-		1205	2500/T	4000	1500	2500/T	4000



Industrial robot (floor)

Industrial robot (console)

Machine/ clamping force in metric tons	IR 500	IR 1200	IR 900	IR 1200	IR 1500	IR 500	IR 2100	IR 1800	IR 1500	IR 1200	IR 900
	R2500 F/K	R2500 F/K	R2700 F/K	R2900 F/K	R3100 F/K	R2500 S/K	R2900 S/K	R3100 S/K	R3300 S/K	R3500 S/K	R3700 S/K
GX 400											
GX 450											
GX 451											
GX 500											
GX 550											
GX 551											
GX 600											
GX 650											
GX 651											
GX 750											
GX 900											
GX 901											
GX 1000											
GX 1100											
GX 1101											
GX 1200											
GX 1300											
GX 1450											

Key for industrial robots: IR = Industrial robot 300 = Payload in N R2030 = Reach in mm F = Floor S = Shelf type K = KUKA

YOUR BENEFITS:

- Smarter programming and operation with WizardX
- Integrated control system with central control unit
- Machine and automation system form a visual and functional unit
- Standardized discharge and set-up options
- CE conformity
- Wide range of automation systems from pick & place to highly complex solutions

Integrative system:

The perfect symbiosis of machine and automation

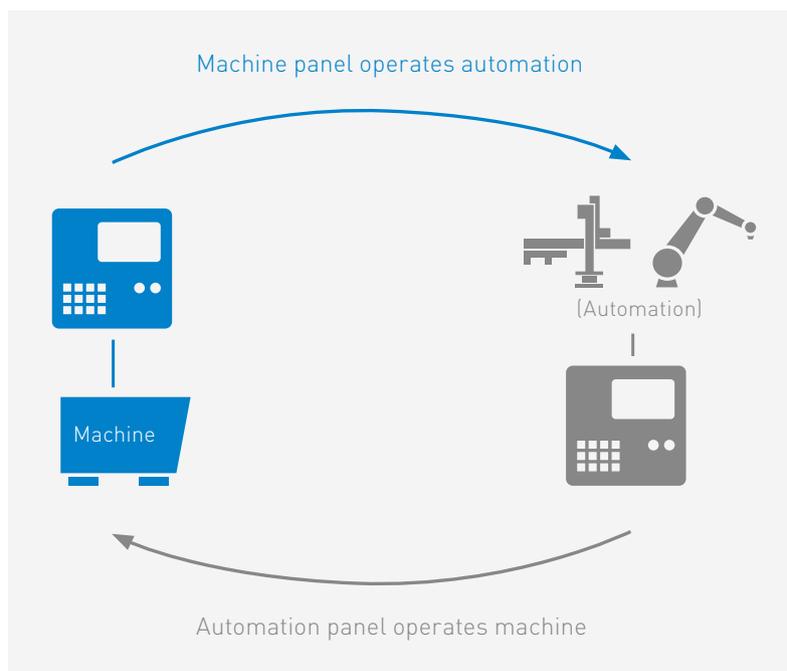
As a system partner, we supply automation technology and a machine on request as a fully integrated overall concept. The machine and handling system form a functional unit in this case. The joint control system allows both functional units to be controlled on any control panel: Automation technology and machine. The machine can be operated via the handheld pendant of the robot - and vice versa. The perfect symbiosis of a machine and automation technology is rounded off by a standard safety housing.

The control system: Intelligent and integrated

The injection molding process and automation form one unit via the integrated control system with VARAN-BUS technology. Process data are available in real time. Programming and operation are easy and do not call for any in-depth programming knowledge. To permit optimum

teaching and ergonomic programming, all LRX/LRX-S machines have a handheld pendant with a touchscreen display whose operating panel is identical to the machine's control panel.

With the integrated solution, the entire process can be controlled via a common operating panel. The machine and robot data are saved in one dataset. This also ensures maximum data security and excellent optimum operating convenience. 20 safety zones, of which 5 are dynamic, increase the efficiency of the control programs.



Work is made easier through mutual operation – the injection molding machine can be controlled by the automation handheld pendant – and vice versa.



OUR WORLDWIDE EXPERTISE IS YOUR ADVANTAGE DIGITAL & SERVICE SOLUTIONS

With your KraussMaffei machine, you have chosen a product that delivers the highest levels of productivity and reliability. In addition to our range of machinery, KraussMaffei focuses on comprehensive and future-oriented solutions, innovative business models and an innovative portfolio of digital products.

Customer service at the touch of a button

The process of digital transformation is becoming faster and easier than ever for the customer. Our Digital & Service Solutions unit makes your production chain even more flexible and efficient with future-oriented solutions. KraussMaffei thus globally provides an all-inclusive customer service package and networks machines and processes with each other. Our global support offers a sound basis for your local long-term success.

Individual challenges in mechanical engineering call for intelligent solutions

With our services portfolio, we support you throughout your machine's lifecycle with a strong focus on your specific needs. In order to satisfy your wishes, we offer you a wide range of solutions in order to ensure maximum availability and optimum productivity of your machines.

Technology³ as a unique selling proposition

KraussMaffei is the only supplier in the world with a product range comprising the most important machine technologies for plastic and rubber processing: injection molding machinery, automation, reaction process machinery and extrusion technology. KraussMaffei is represented worldwide with more than 30 subsidiaries and over 10 production plants as well as about 570 commercial and service partners. Working together with our customers and partners, we are thus in a position to offer vast and unique expertise in the industry.

You can find further information at:
www.kraussmaffei.com

KRAUSSMAFFEI – PIONEERING PLASTICS



Extensive expertise from a single supplier

KraussMaffei is one of the world's leading manufacturers of machinery and systems for producing and processing plastics and rubber. Our brand has been synonymous with cutting-edge technology for over 180 years. Our product range includes all technologies in injection molding, extrusion and reaction process machinery. KraussMaffei has a unique selling proposition in the industry as a result. By drawing on our proven innovative capacity, we can guarantee our customers sustained additional value over their entire value-adding chain through our standardized and individual product, process, digital and service solutions. The range of our products and services allows us to serve customers in

many sectors including the automotive, packaging, medical and construction industries. We also supply manufacturers of electrical and electronic products and household appliances.

At your service all over the world

KraussMaffei is represented all over the world. Subsidiaries provide you with support in the countries shown in light blue. Our sales and service partners take care of you in the regions shown in white.

You can find all contact information at
www.kraussmaffei.com

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