

CUSTOMIZED, INNOVATIVE AND EFFICIENT.

DISCOVER OUR SOLUTIONS FOR WHITE
APPLIANCE AND INSULATION.

KraussMaffei

Pioneering Plastics



CUSTOMIZED PROCESSING SOLUTIONS FOR YOU



Refrigerator cabinet



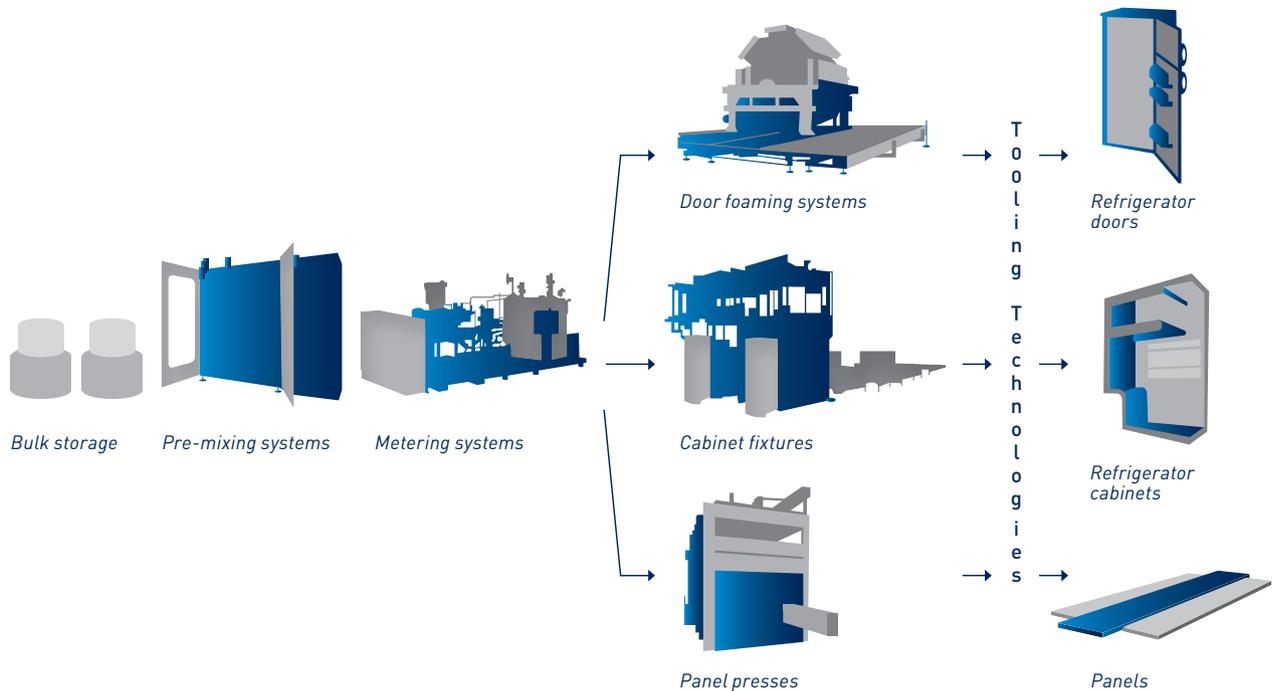
Refrigerator doors



Panels

Within the worldwide KraussMaffei network KraussMaffei Italiana acts as the competence center for White Appliances and Insulation technology. As the specialist in these markets, we focus on cutting-edge solutions and installations for the production of PUR rigid foams for insulating purposes.

Overview of our expertise in White Appliance and Insulation



INNOVATIVE, EFFICIENT SOLUTIONS FOR WHITE APPLIANCE AND INSULATION

Our expertise and technologies in the White Appliance and Insulation sector are your advantage. In order to ensure customer satisfaction, we stand for proven engineering capability and dedicated customer support. In our product portfolio, you will find a wide range of cabinet foaming plants, door foaming plants, commercial refrigerators and display cabinets, as well as cabinet and door foaming molds.

Here are the highlights of our expertise in White Appliance and Insulation at a glance:

Innovative thanks to

- Extensive PUR knowhow along the whole production chain
- Wide-ranging product portfolio of plants, foaming molds and commercial solutions
- Latest technologies

Efficient thanks to

- Dedicated customer support
- Tailor made, cost effective solutions
- High process stability

FASCINATING TECHNOLOGY TOUR APPLICATIONS IN THE WHITE APPLIANCE AND INSULATION SECTOR



Boilers/
water heaters

Panels for containers,
reefer trucks and cold rooms





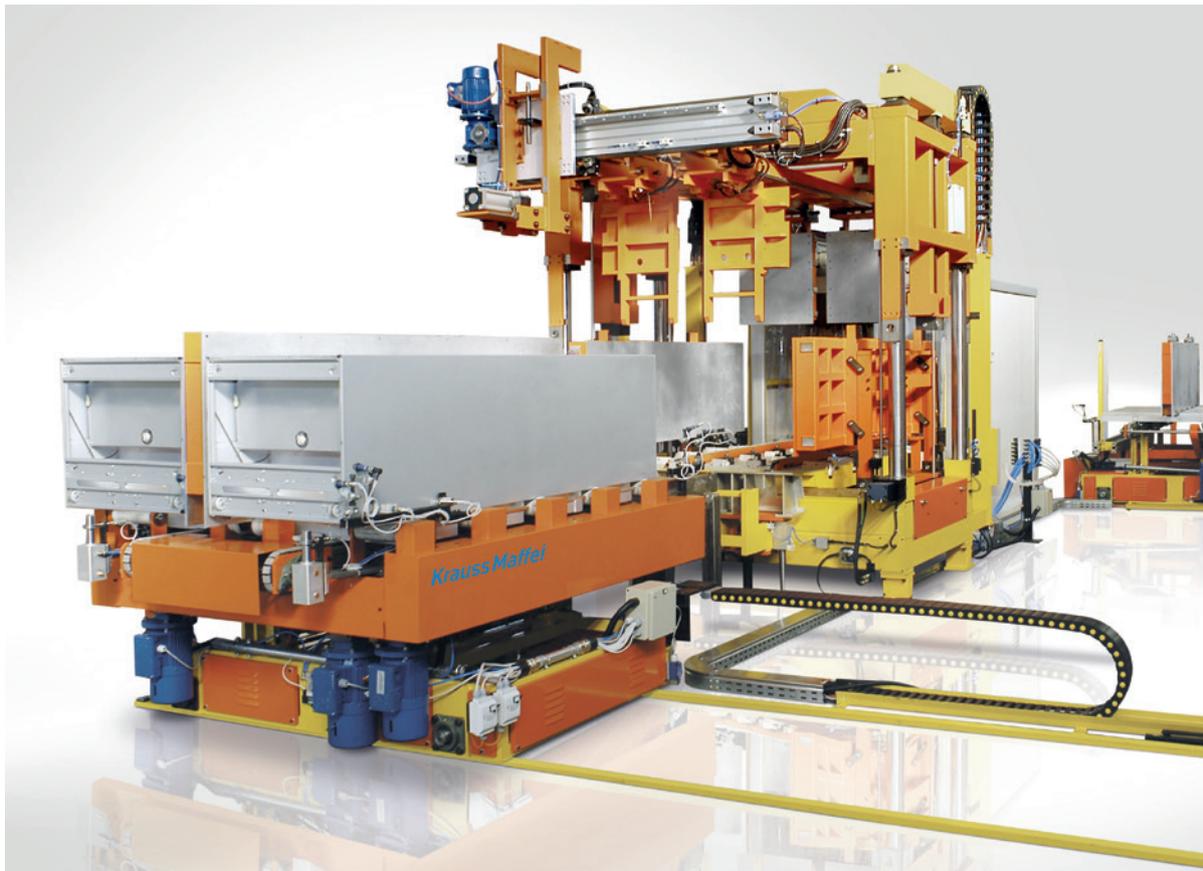
Commercial Refrigerators



Domestic Refrigerators

Cabinet Foaming Plants

High-quality equipment results in better processing systems



Cabinet foaming plant capable of simultaneously foaming two cabinets in one fixture.

Our network of highly qualified employees and established subsuppliers has extensive day-to-day experience in the development of PUR processing plants for White Appliance and Insulation technologies. We are your partner along the whole production chain – we plan, build and install PUR equipment and plants.

Plant design and construction play a key role in the production of PUR processing solutions for White Appliance applications. KraussMaffei Italiana has extensive expertise in precision-engineered PUR processing installations designed to meet specific product requirements and exceed customer expectations.

During the planning stages of the project, our engineers place emphasis on optimizing processing sequences, use of available space and automation, as well as the design of high-quality processing equipment. KraussMaffei will plan, build, and install your foam molding plant to meet your production requirements. We utilize the latest 3D design techniques and exercise great care in managing your project.

Whether you are foaming cabinets with the door facing up or down, or if you are using single or multiple injection points, KraussMaffei can provide you with a customized solution to meet all of your processing requirements. Foaming plants can include:



YOUR BENEFITS:

- Extensive PUR knowhow along the whole production chain
- Clear understanding of customer wishes and needs
- Latest technologies

RotoCore cabinet foaming technology with zero-time mold change capability.

- Cabinet handling and conveyor systems
- Pre-heat ovens
- Foaming fixtures and mobile plants
- Molds and molds storage
- Metering and mixing head technologies
- Bulk storage and pre-mixing systems

KraussMaffei is a turnkey supplier. Our cabinet foaming plants include cabinet handling systems, pre-heating ovens, foaming fixtures, molds, and mold storage systems



Stationary foaming fixture

Door Foaming Plants

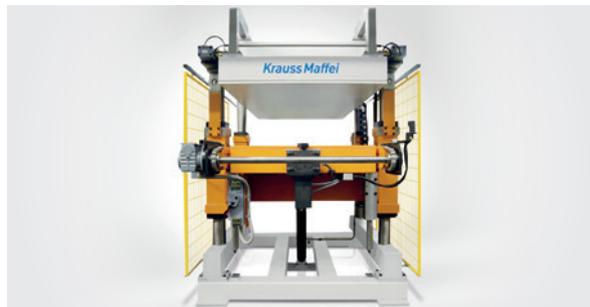
Minimizing floor space requirements, maximizing production output

KraussMaffei's RotoStar door foaming plant is one of the most frequently used processing solutions to foam doors throughout the world.

The design principle behind the rotating RotoStar minimizes floor space requirements. These highly automated plants consist of 4 to 8 molds fixed on a frame which rotates around a horizontal axis. The hydraulically and electrically driven RotoStar ensures fast, accurate, and reliable movements. The automated mixing head manipulator is capable of facilitating open-mold pouring, as well as closed-mold injections. The foam-filled doors can be manually or automatically unloaded. The proven design of the RotoStar system provides an extra level of confidence for rigid PUR foam processors.



8-station drum technology for closed-mold foaming of doors.



Stationary door press: closed-mold pouring of refrigerator doors.



Drum unit equipped with two robotically manipulated mixing heads to enable quick filling of doors for increased productivity.

YOUR BENEFITS:

- Minimal floor space requirements
- Maximum output
- Highly automated plants
- Fast and extremely precise movements
- Absolute process stability



Benefit from minimal floor space requirements and the maximum output of our cabinet foaming plants.



**Raise your performance
with our turnkey solutions**

All-inclusive solutions for turnkey plants

The key to extraordinary performance

You want to raise your performance decisively?
We are your competent partner when it comes
to all-inclusive solutions for turnkey plants.

Our turnkey plants for the production of commercial refrigerators and display cases consist of:

- Pre-assembly bays
- Mold handling systems to transport the preassembled cabinet into the foaming fixture
- Shuttling foaming fixtures and molds to contain the pressures generated during PUR foaming
- Cabinet unloading equipment to move the product to the final assembly area

We can provide customized foaming fixtures with either a triangular or rectangular design, with the option to shuttle the molds in and out of the foaming fixture.

The fixtures can be driven either electrically or hydraulically, with parallel sidewall movements, to ensure the product meets minimum-tolerance flatness requirements. Temperature-controlled sidewalls help the PUR to react and distribute throughout the long, wide cabinets.

YOUR BENEFITS:

- Tailor made solutions
- Extraordinary performance
- All inclusive packages



Rectangular fixture for the production of commercial refrigerators.



Triangular fixture for the production of commercial refrigerators.

Mixing and metering machines for PUR processing The versatile RimStar series

KraussMaffei's RimStar is a family of mixing and metering systems for polyurethane processing. The RimStar family has the right solution for almost every PUR application.

RimStar machines perform brilliantly in every production situation. The major advantages are: short, rheologically optimized supply lines between machine components result in lower pressure losses, more precise temperature control and optimized control technology. The benefits for processors are more stable processes and improved product quality. Modular engineering and flexibility when it comes to configuration mean that these machines can be adapted to satisfy customer-specific requirements. Other features of the RimStar family are operator and service-friendliness and excellent accessibility. We offer equipment with a broad range of blowing agents (e.g. Cyclopentane, Isobutane, HFO and Argon).

YOUR BENEFITS:

- Stable process and higher product quality
- Short line lengths for lower pressure losses
- Compact design
- More precise temperature control
- Optimized control technology
- Customer specific solutions



The RimStar series of mixing and metering machines has the optimal solution for all types of PUR applications.

Special mixing heads for White Appliances and processing rigid foam

KraussMaffei high-pressure mixing heads are the perfect answer to your production challenges. They promise a high return on investment, peak reliability and lower costs, and are optimized for specific production processes. Particularly for the White Appliance industry we have engineered two specific types. In addition we offer vario nozzles for the mixing heads.

Mixing heads for White Appliances

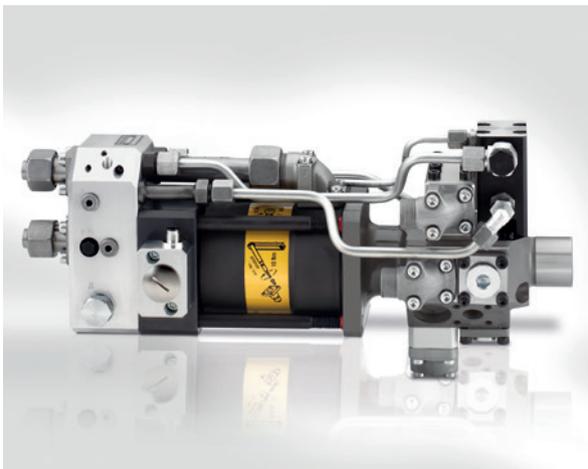
With our combination of best-practice processes and mold technologies, KraussMaffei mixing heads operating on the 'B' principle are considered the first choice for foaming out refrigerator appliances (especially for refrigerator doors). For thermal insulation of refrigerator doors, a high-performance PUR insulating layer is applied in an open pour technique.

PUR rigid foam: high output and long discharge tube for cabinet insulation

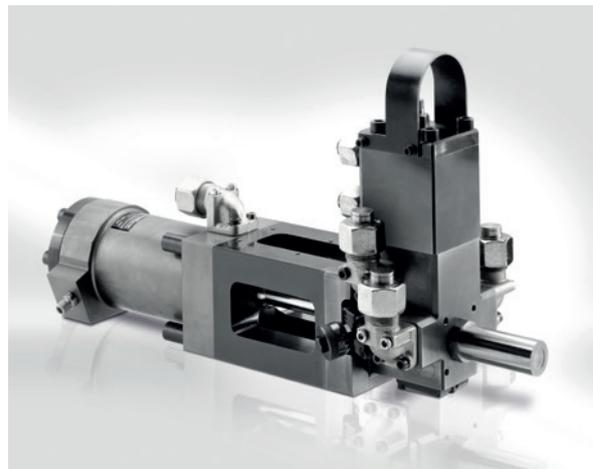
KraussMaffei developed the ULP-2KVV-G-I mixing head to meet the special challenges of applying rigid insulating foam to refrigerator cabinets.

YOUR BENEFITS:

- Absolutely laminar and splash-free pour
- Good PUR distribution in the open mold
- Extremely uniform and void-free foam structure
- Complete foam filling free of voids and thermal bridges
- High output
- Stable and reliable process with PUR components kept separate from hydraulic systems
- Optional nitrogen purging can be integrated



Mixing head MKE-3B



MK – ULP-2KVV-G-I



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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