



**KIEFEL
MEDICAL**



A Member of Brückner Group

MACHINERY AND
DEVICES FOR USE IN THE
MEDICAL INDUSTRY

1955

Founding of the company

8.500

Machines and generators operating on all continents

600 MILLION

Blood bags produced every year on Kiefel machines

300 MILLION

Ostomy bags produced every year on Kiefel machines

5 BILLION

IV-bags produced every year on Kiefel machines

300 MILLION

Catheters produced every year on Kiefel machines

100 MILLION

Blood filters produced every year on Kiefel machines

40

Representatives worldwide

The right solution for every medical bag and speciality application



- Infusion- and CAPD bag machines



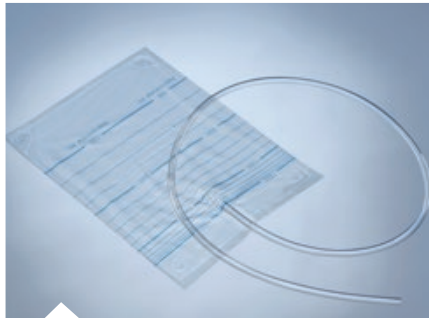
- Filling machines



- Blood bag machines



- Blood filter machines



- Urine-bag machines



- Ostomy pouch machines

As well as solutions for

- Automation, assembly and packaging
- Drainage bags
- Biomedical bags
- Beverage bags



Kiefel machinery and devices for the medical and pharmaceutical sector

We move in a highly sensitive area with our production equipment for the medical and pharmaceutical industry. Kiefel is fully aware of this responsibility. This is why our teams operate with precision, reliability and efficiency – just like our customers.

This sector demands absolutely top performance, in terms of both people and technology. The machines and accessories supplied by Kiefel for the manufacture of speciality bags are the guarantee for high-quality products.

Whether for PVC or non-PVC – our customers appreciate the innovative design, tailor made solutions as well as standard machinery, and extraordinary finishing precision of our production equipment.

We can also support in the product development or provide the qualification of our machines with documents and services as per customers requirements, from e.g. simple inspection certificates to complete IQ/OQ realization.



The Kiefel approach

A large store of know-how accumulated over 50 years and billions of medical products produced on our machines every year, let us develop innovative solutions. This is what allows us to support our partners best in their efforts to meet the current and future needs of the market in an optimum way.

Our customers all benefit from the Kiefel high quality standards, the extraordinary operating reliability and long life-time of our systems. The scope can also include a full record of all quality relevant parameters and 100% traceability for all relevant technical production data.

As a supplier of both, advanced technology and proven machine concepts, as well as having the competence and experience in Radio Frequency (RF) and Thermo-Contact (TC) welding technology since over 50 years, Kiefel provides the perfect solutions for the cost-effective manufacturing of high-quality products for the medical and pharmaceutical sector.

The superior level of efficiency and extraordinary reliability of our systems, as well as our innovative approach and flexibility create further added value for our customers – Driving your Performance.

The full range

From standardized devices to customized machinery



Your requirements set our solution. Whether small output capacities or large quantities, complex and new article designs or established products, fully-automated or semi-automatic production – Kiefel has the right solution for any need.

From our standard shuttle- and rotary tables as well as table top filling units, via the compact pouch making machines, to high output bag making lines and Form Fill Seal solutions, to bespoke machinery for our customers – Kiefel is the partner on your side.

Our goal is to consistently create even more added value and advantages for our customers. For this we continuously develop breakthrough technologies and sustainable solutions and integrate them into existing and new devices.





Infusion- and CAPD-Bag Machines

Kiefel machines are successfully used worldwide in the manufacture and filling of infusion bags for standard solutions, nutrition, oncology, as well as for CAPD products, whether as mono- or multi-chamber bags.

Our success is based on the use of proven concepts, patented technologies and customer-specific designs. Monitoring and testing equipment is deployed accordingly in order to fulfill our customers' demands for highest quality standards.

Cost, physical requirements, ecological aspects – many are the factors that play an important role where selection of the right film material is concerned. Whatever your final decision in this respect might be, Kiefel is the high-tech supplier to choose to manufacture infusion and CAPD products. Accordingly, we have the right welding technology suiting your material requirements.

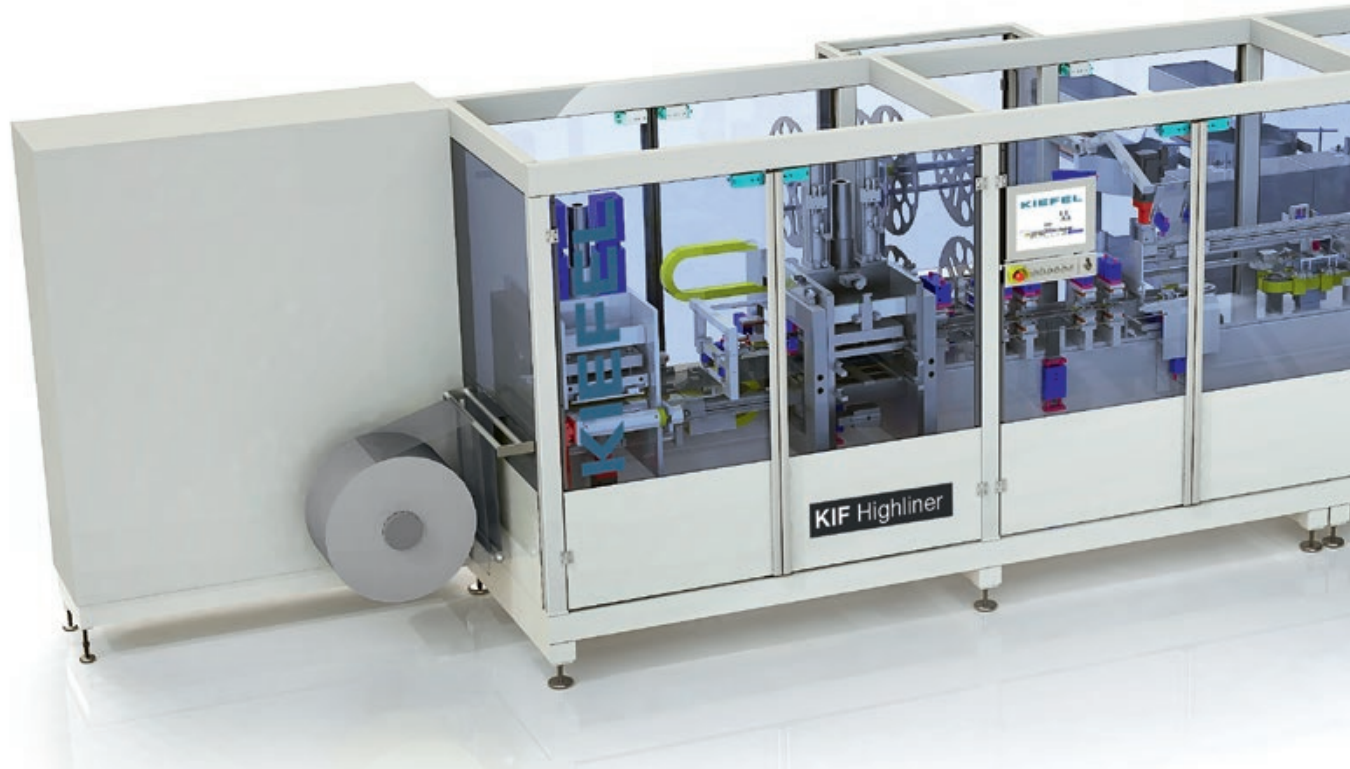


Highlights

- Particle limiting technology and film edge adjustment
- Automatic or manual component feed
- Servomotor technology
- Barcode-based tool detection
- Splice detection
- Intelligent control system: vision system for auto-correct technology and part management
- Process monitoring
- Diagnosis system
- Innovative crossfield-welding technology *
- Film preforming process **
- Tube preheating process **
- Cooling station **
- Various printing techniques (hot stamp, laser, thermo transfer, flexo printing)

* for RF welding technology, ** for TC welding technology

FFS – Form Fill Seal



Kiefel's expertise is perfectly combined in Form Fill Seal solutions, where bag making, bag filling and sealing is fully integrated within one unit. Whether tubes or hard ports, mono- or multi-chamber bags –

subject to the selected material we unite TC- or RF-welding with high precision filling technology. Our FFS machines stand out due to their compact design, highest output and lowest leakage.

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- Innovative crossfield-welding technology *
- Film preforming process **
- Tube preheating process **
- Cooling station **
- Various printing techniques (hot stamp, laser, thermo transfer, flexo printing)
- Headspace control
- Control of residual oxygen
- CIP/SIP

** for RF welding technology, ** for TC welding technology*





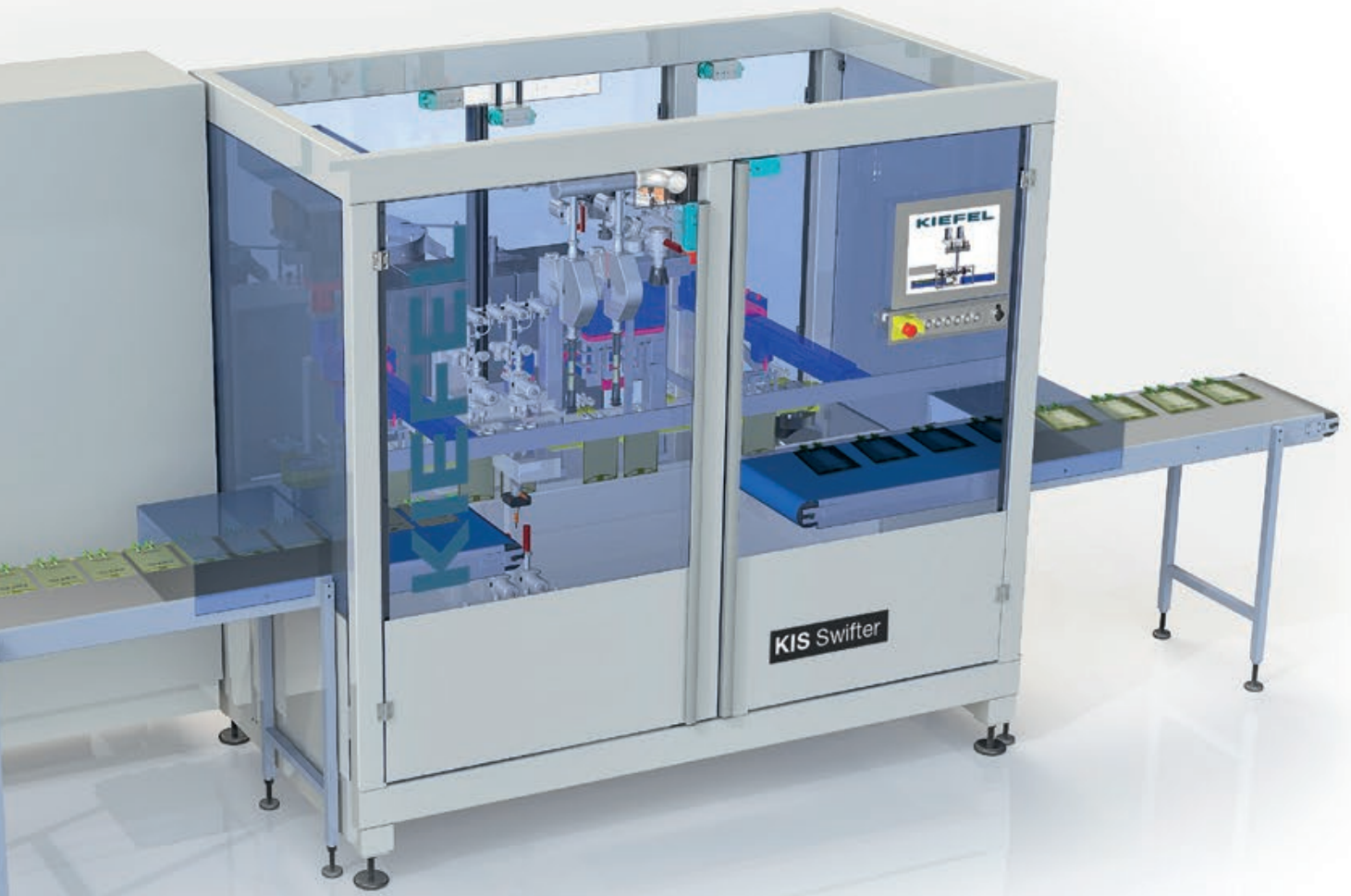
Filling Machines

Kiefel filling and sealing units are equipped with high quality mass flow-meters and can also be operated as stand-alone devices, whether as fully automated unit, or table top filling module. They stand out due to their compact design, high reliability and efficiency, and high-precision filling technology.

The compact table top filling module KMS is based on a high degree of standardization, which leads to short delivery times and low investment costs. Accordingly, the table top filling unit is also ideal for short production runs.

Highlights

- Semi or fully automatic filling
- Automatic or manual component feed
- Headspace control
- Drop control
- Control of residual oxygen
- Automatic cap sealing
- Automatic CIP/SIP
- Further options available



Blood-Bag Machines

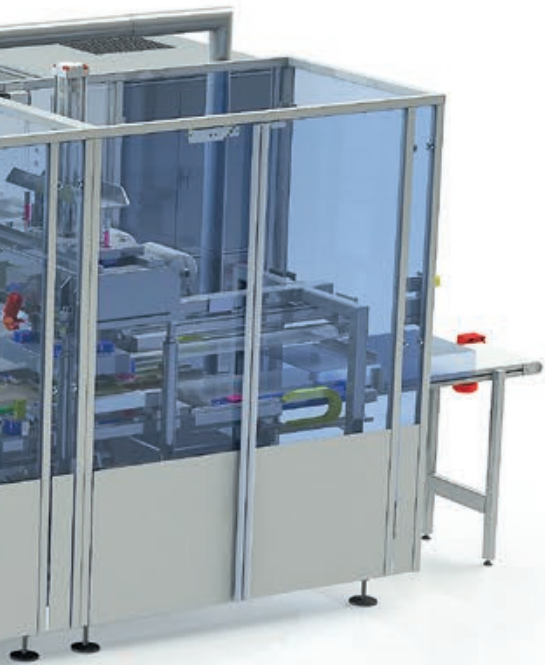


Special attention is paid to fulfilling and monitoring the highest quality criteria when producing blood bags. Kiefel is the market leader in the design and construction of machines used to manufacture blood bags – our machines are in use worldwide in the production of these sensitive articles.

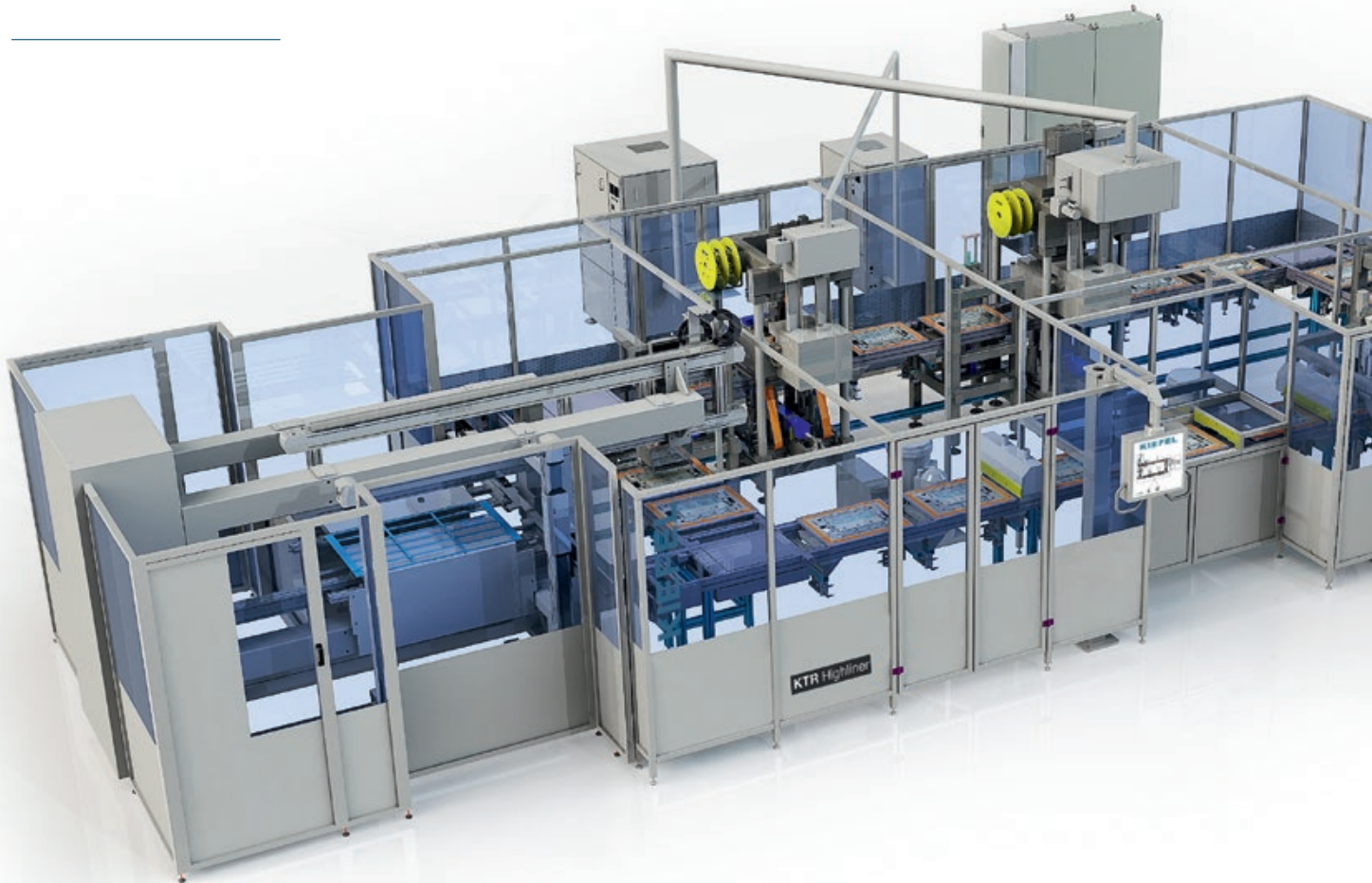
Decades of experience and expertise leaves us well-placed to tackle any challenges that our customers in the sector might set us. Kiefel's innovative solutions provide customers the right level of automation to meet their needs, and thus optimize their efficiency.

Highlights

- Particle limiting technology and film edge adjustment
- Automatic or manual component feed
- Servomotor technology
- Barcode based tool detection
- Splice detection
- Intelligent control system: vision system for auto-correct technology and bad part management
- Process-monitoring
- Diagnosis system
- Various printing techniques (hot stamp, laser, thermo transfer, flexo printing)
- Innovative crossfield-welding technology



Blood-Filter Machines



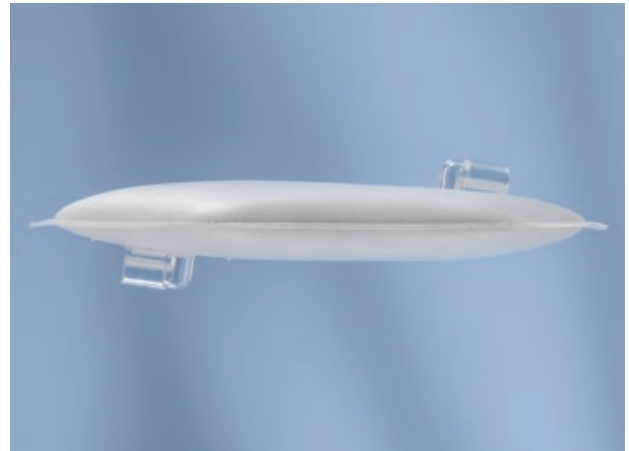
Kiefel offers, with this innovative machine concept, an optimized way to meet the needs of the global market. In close cooperation with our customers we develop state-of-the-art inline machines, designed for the manufacture of blood filters.

Thanks to our many years of experience in the medical industry and the area of welding technology, as well as by applying the latest techniques and developments in this field, blood filters can be tightly weld-sealed in an integrated process.

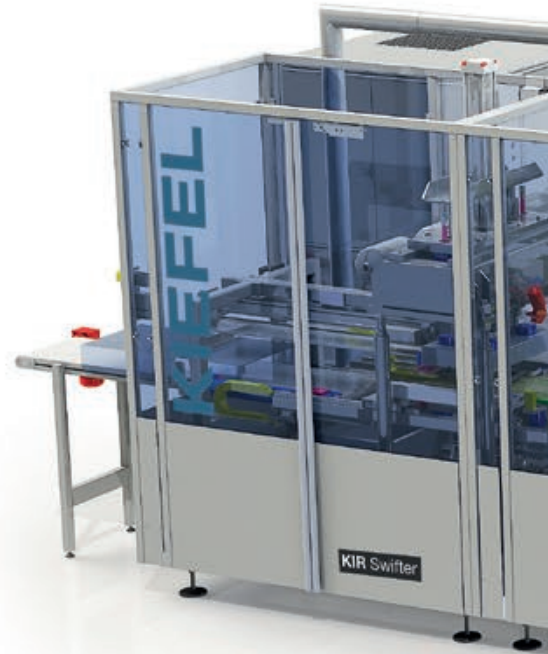


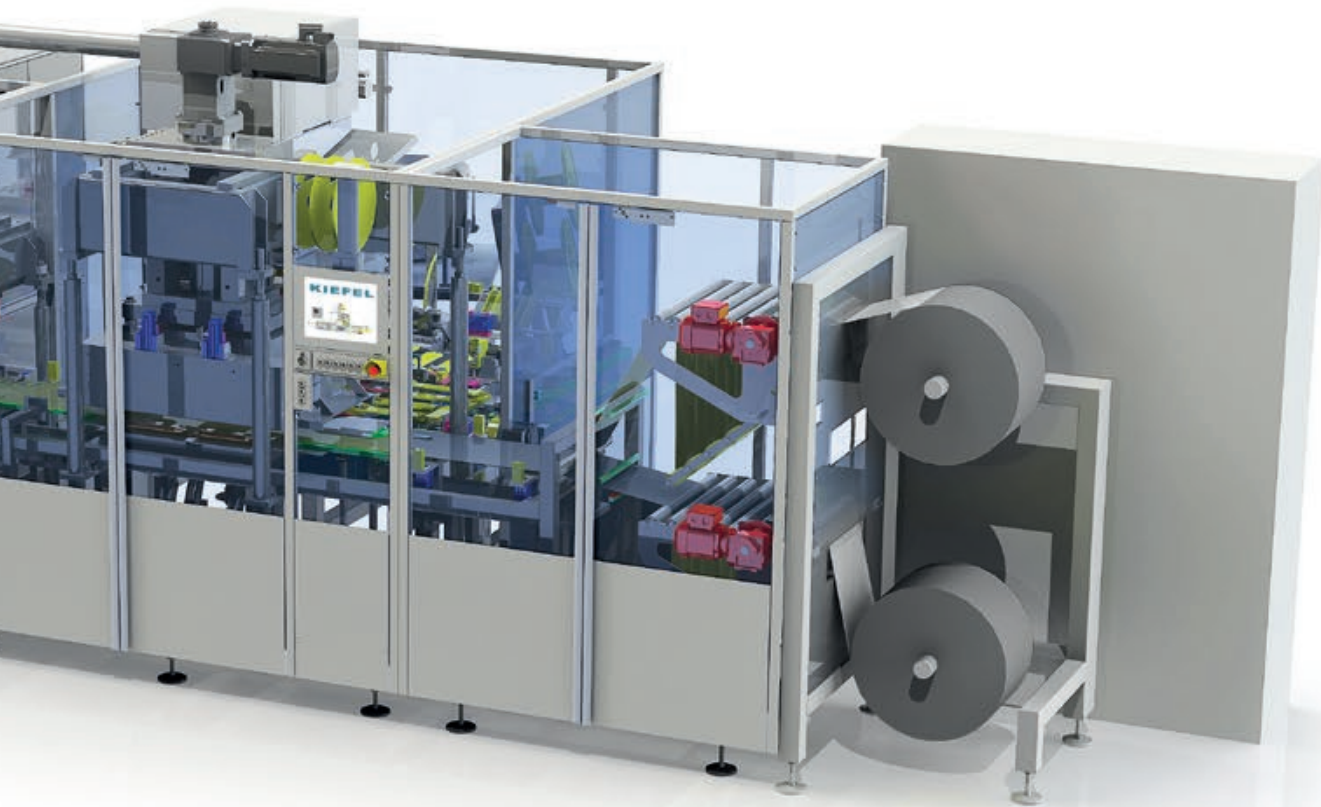
Highlights

- Automatic or manual component feed
- Product labelling
- Weld thickness measurement
- Intelligent control system: vision system for auto-correct technology and bad part management
- Process-monitoring
- Diagnosis system
- Separation device
- Fast product change over and easy tool change



Urine-Bag Machines





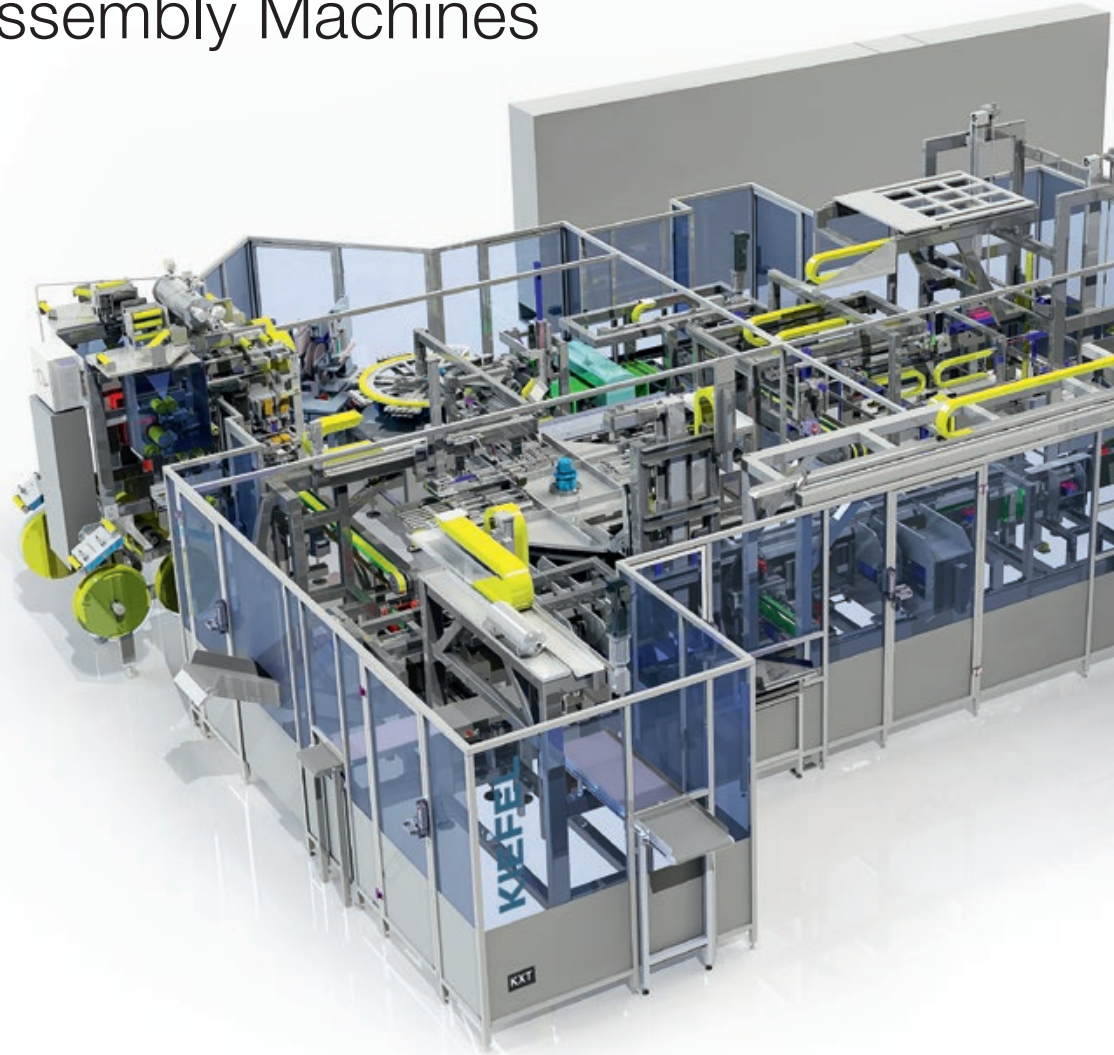
Paying attention to the material in use, Kiefel specialists will either recommend TC- or RF-technology for the manufacture of urine-bags. Depending on the needs of the customer, different types of components

and valves can be welded in between the material layers. The finished bags are either stacked or put into a box to be ready for transport.

Highlights

- Film edge adjustment
- Automatic or manual component feed
- Servomotor technology
- Barcode-based tool detection
- Splice detection
- Intelligent control system: vision system for auto-correct technology and bad part management
- Process monitoring
- Diagnosis system
- Various printing techniques (hot stamp, laser, thermo transfer, flexo printing)

Catheter Assembly Machines



Kiefel's solution allows the production of complex final products that require various component feeding systems and simultaneous packaging of special catheters and insachets.

All functions of the machine are controlled and monitored, which ensures a high production rate and the highest possible product quality.

Highlights

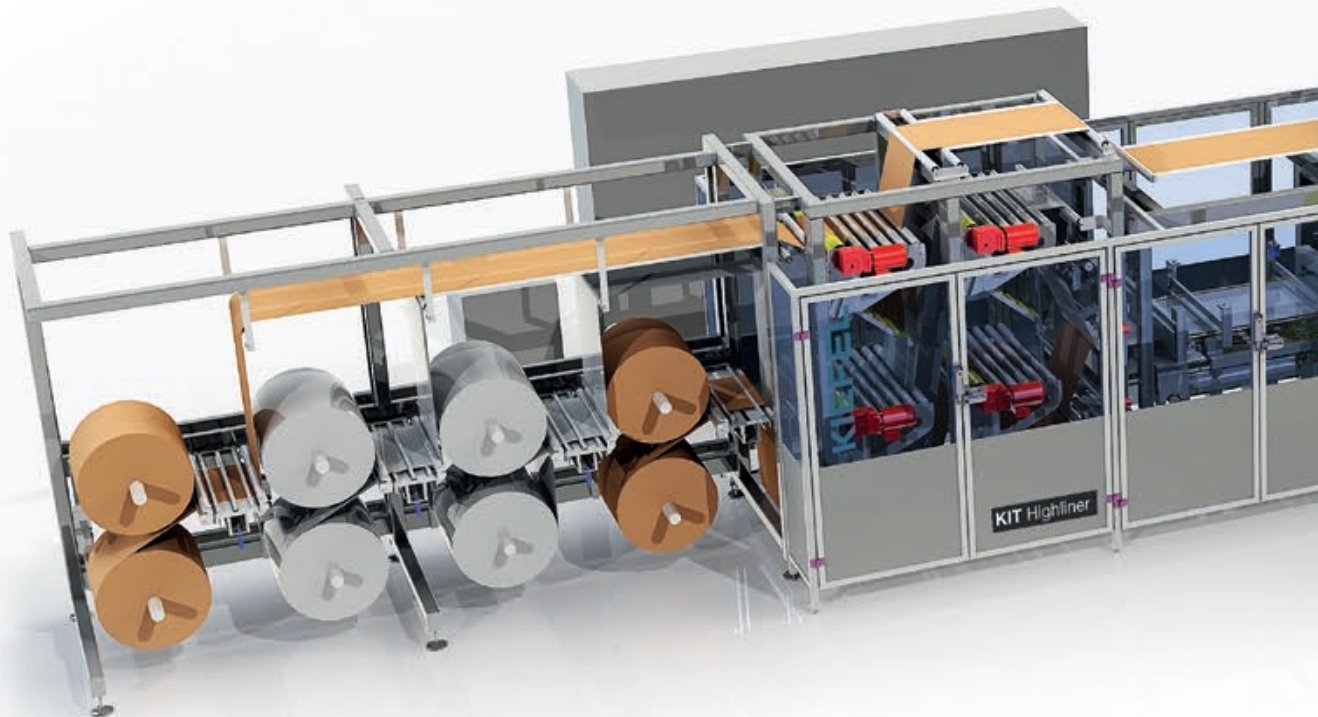
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Ostomy-Pouch Machines

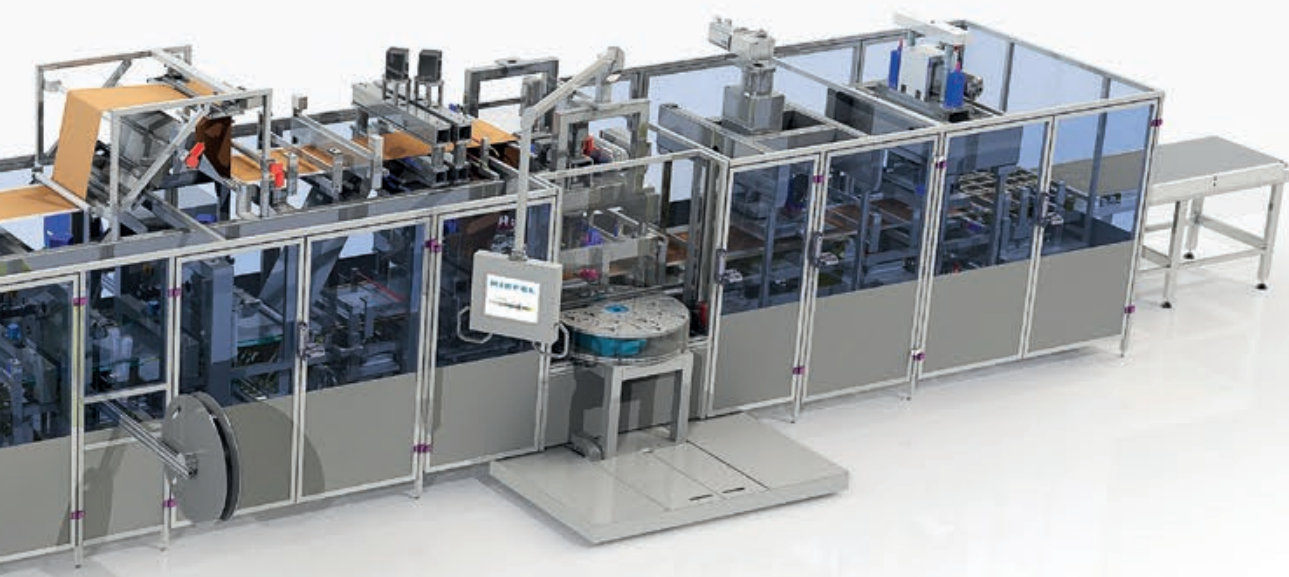
Colostomy- and urostomy-pouches are nowadays made of extremely thin materials. In order to ensure maximum reliability and product quality, their production requires constant monitoring of the welding parameters.

Kiefel's range of machines, which runs from semi-automatic lines with manual feeding of components to fully automatic variants, are designed to provide customers an optimized solution for their particular needs. The modular design of these units also allows systems upgrading in later stages.



Highlights

- Particle limiting technology and film edge adjustment
- Wide product-range (e.g. open/closed pouches)
- 2 – 4 layer materials
- Fast product change and easy tool changing
- User-friendly machine control system and display
- Process monitoring
- Diagnosis system
- Intelligent control system: vision system for auto-correct technology and bad part management



Innovation & Technology Center



MEDICAL
Innovation &
Technology

The Kiefel Innovation & Technology Center offers ideal conditions if new material should be tested, individual products and production ideas to be developed, or new applications are needed for a more beneficiary production method.

Kiefel is your partner to assist – e.g. for risk evaluations or printing tests. Furthermore,

smaller production capacities could be produced e.g. to carry out market acceptance studies or internal tests.

Furthermore, in our Innovation & Technology Center we continuously improve processes and techniques guaranteeing the leadership in innovation.



After Sales Service

The aim of the Kiefel customer service is to ensure that the very best practices apply throughout the service life of your Kiefel equipment. Our full commitment in this respect makes itself plain in the maximum availability and low depreciation of your machines.

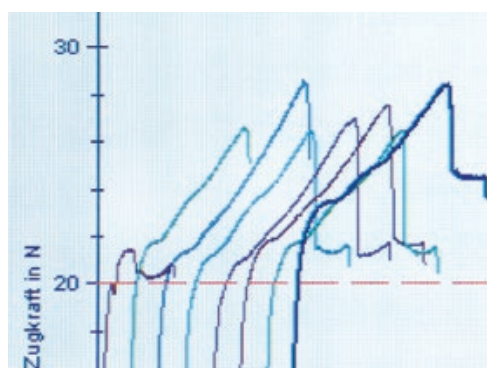
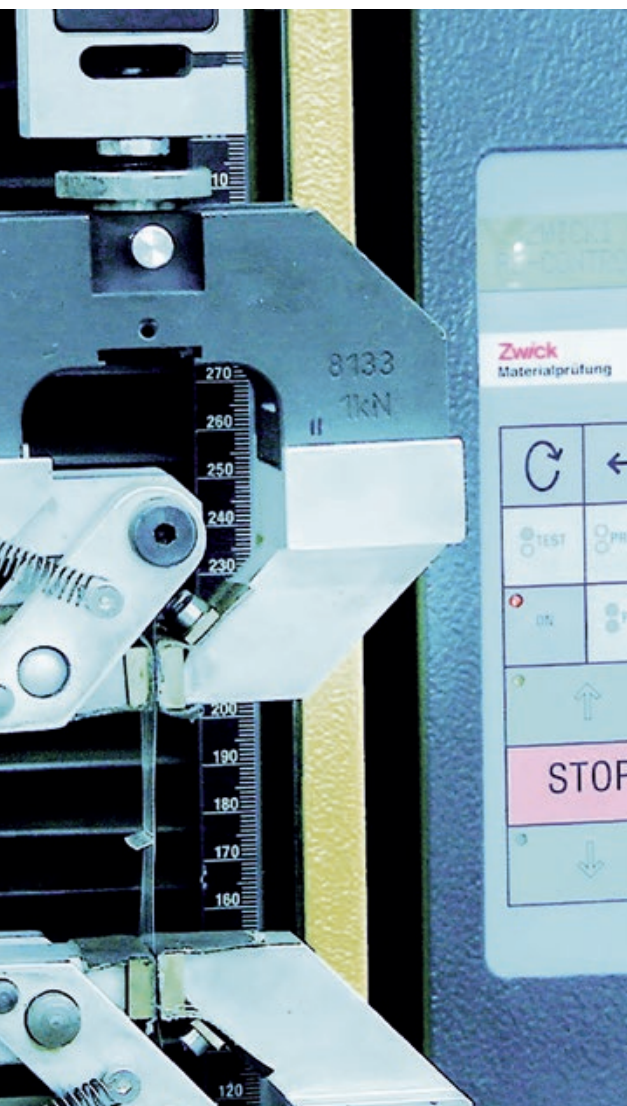
You can always count on us

- A global network of 50 qualified service techs
- 24h online portal for parts and manuals
- 24/7 on-call duty of a service expert

To ensure maximum performance

- Smooth initial startup of your system
- Production- and process support
- Training to the very latest technical standards
- Retrofits and upgrades

Our expert employees are at your disposal.
The Kiefel team at your service.



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The Kiefel GmbH is a world leader when it comes to the design and manufacture of machines used to process plastic film materials. The company offers core expertise in the fields of forming and joining technologies. As a supplier to reputable manufacturers in various sectors, Kiefel GmbH services customers in the automotive, medical technology, refrigerator and packaging industries. The headquarters of Kiefel GmbH is in Freilassing/Germany. The company also runs its own network of sales and service centers in the United States, France, the Netherlands, Russia, China, Brazil, Indonesia and India, and is represented by sales partners in more than 60 countries worldwide. Kiefel also owns the automotive specialist Kiefel Automotive s.r.o. based in the Czech Republic, the Dutch thermoforming toolmaker Kiefel Packaging B.V., and the Austrian Kiefel Packaging GmbH, supplier of tools and automation solutions. Kiefel GmbH is a member of the Brückner Group, a worldwide leading supplier of plastics machinery.