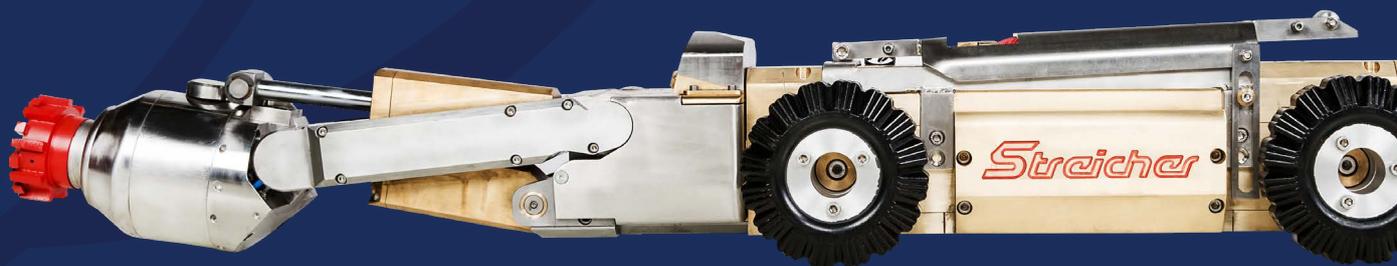
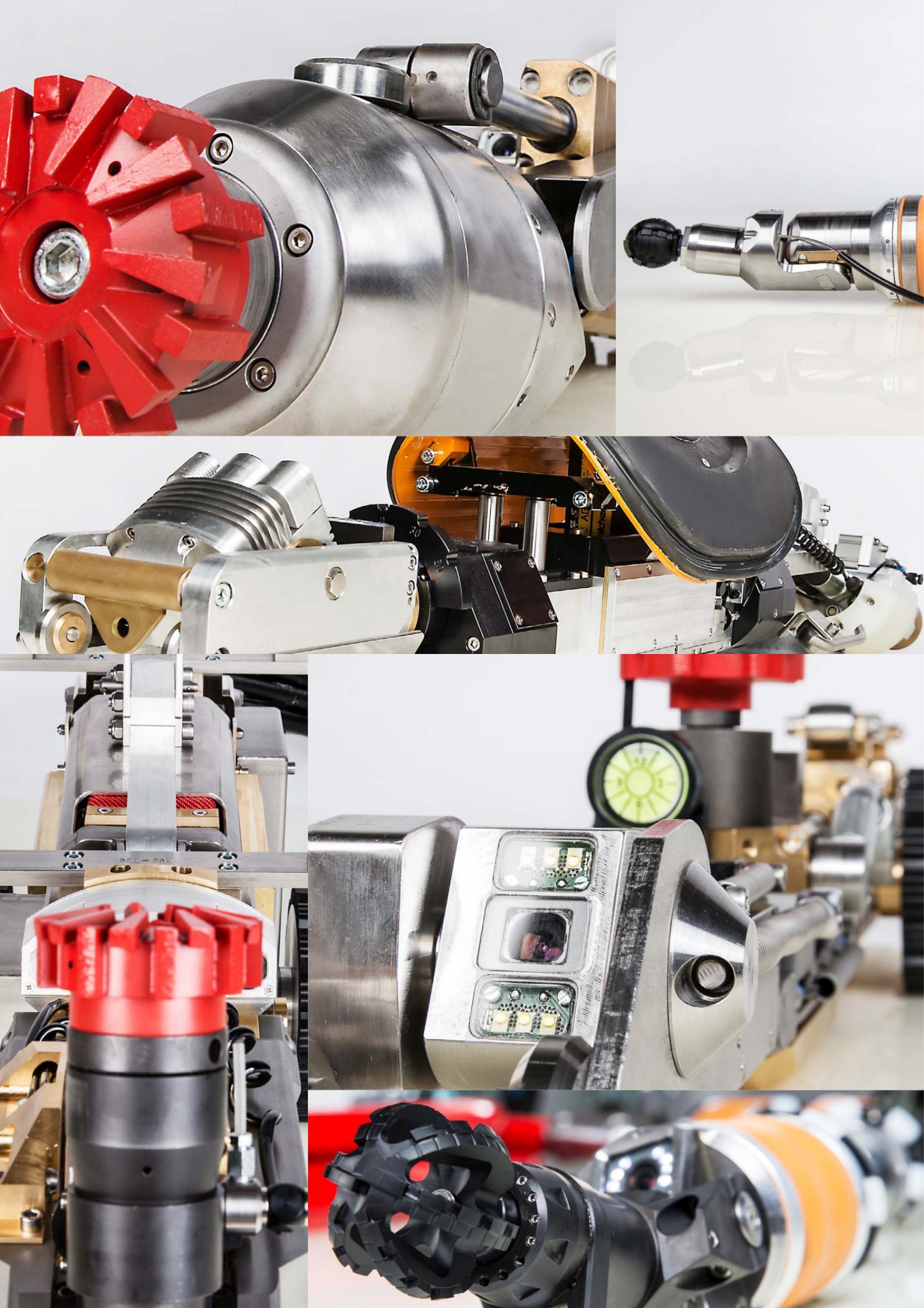


**MANUFACTURER OF  
ROBOT SYSTEMS  
FOR MORE THAN  
30 YEARS**

**PRODUCT OVERVIEW**





## Manufacturer of robot systems for more than 30 years

Due to the increasing awareness of environmental protection worldwide, the technical environment of duct system renovation comes more into focus.

The maintenance of the waste water infrastructure requires reliable, high-performance technical equipment, to be implemented all over the world in accordance with the highest quality requirements.

In this domain, innovation and dynamics are the main drivers for system providers. Due to Streicher's experience in the sector over the course of more than 30 years, we are able to meet this challenge and position ourselves in the market with advanced products and services.

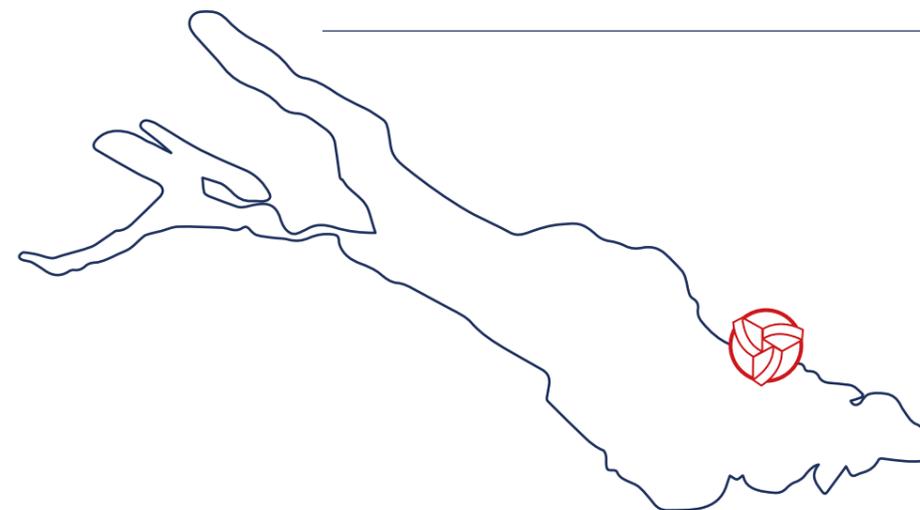
Our operator-friendly products, high availability and excellent service ensure that our comprehensive solutions are demanded for applications worldwide. All spare parts are available at any time.

On request, rental robots can also be sent directly to the construction site.

Our activities in the sectors of development, manufacturing and sale of equipment for the monitoring and renovation of all types of duct systems are certified according to **ISO 9001**.

To provide our customers with the best solutions in the future, we concentrate on continuous improvement, close customer relationships and an extensive partner network.

## Contact



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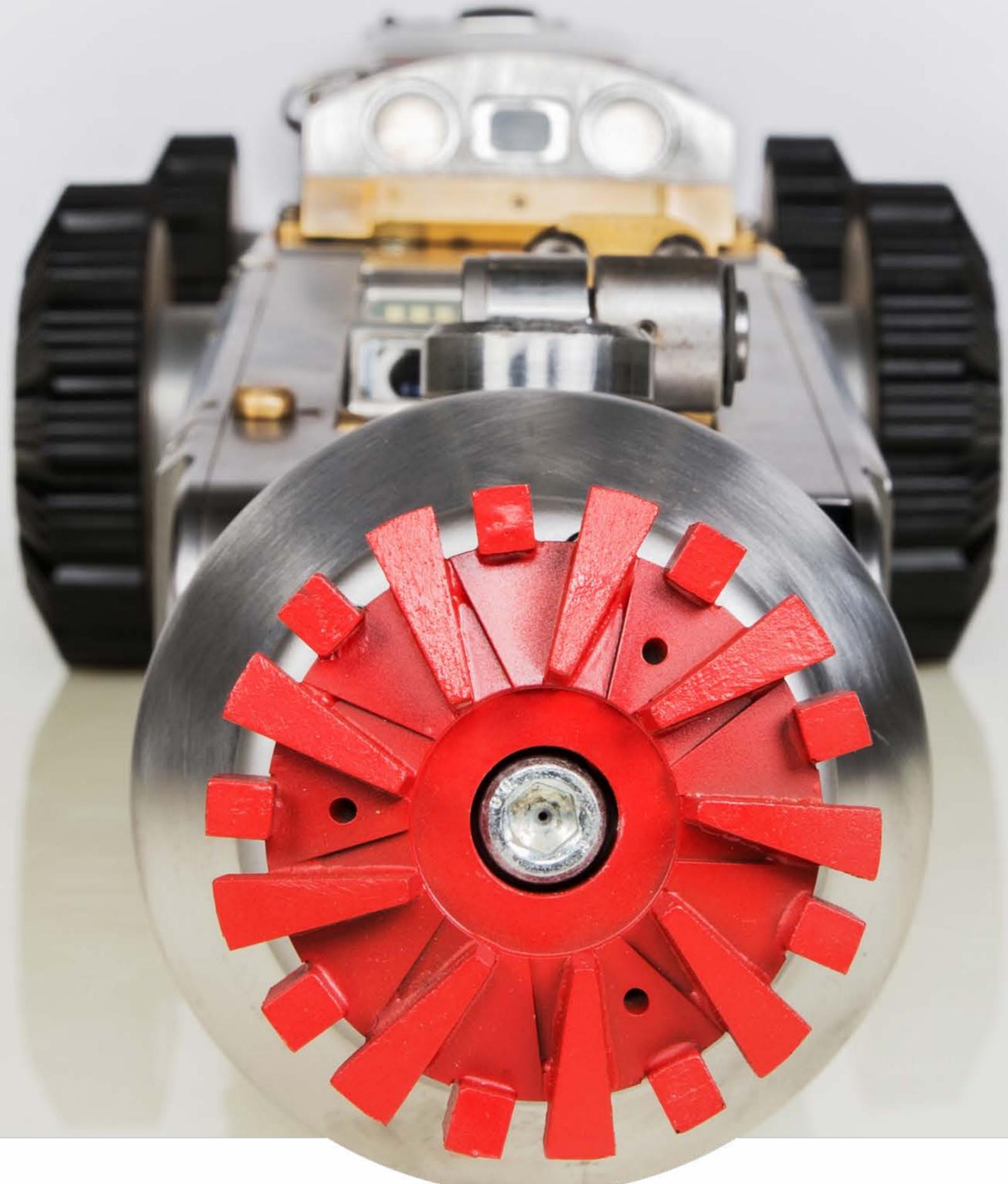
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# ELECTRIC CUTTERS

---

In the course of the development of a modern energy society and the associated wish to reduce emissions, an electrically actuated milling robot was designed.





### Electric cutter: EF200

- Self-driving robot
- Powerful and precise control of the cutting arm through a compact hydraulic system in the robot without a hydraulic pipe
- 3 axle cutting arm with extension up to 500 mm
- A swivel-mounted rigid camera with dimmable LED-lights
- Pressurised enclosure with oil-free and dried air
- Radial swivel angle of 600°
- Water cooling system for continuous operation

#### Accessories:

- Additional lighting for 250 mm pipe and larger
- Trowel unit
- Chassis
- Egg-shaped profile support
- Protective guides for supply cables
- Renovation packer connection

#### Technical data

|                        |  |
|------------------------|--|
| Pipe dimensions        | circular profile: 200-800 mm (with accessories to 1,000 mm)<br>egg-shaped profile: 250/375 – 800/1,200 |
| Weight                 | 85 kg  |
| Drive                  | electrical   |
| Cutting arm drive      | electrical / hydraulic   |
| Cutting motor drive    | electrical   |
| Cutting motor output   | 2 kW and 4 kW at 5,000 rpm   |
| Length of supply cable | 150 m  |

# HYDRAULIC CUTTER

The field proven robots HF130 and HF200 are used for milling tasks in egg-shaped and circular profile sewer systems. The robust, high-torque hydraulic motor ensures a higher cutting performance than other systems. All units are equipped with a stepless-controlled cutting arm providing a highly precise and flexible application.





### Hydraulic cutter: HF130

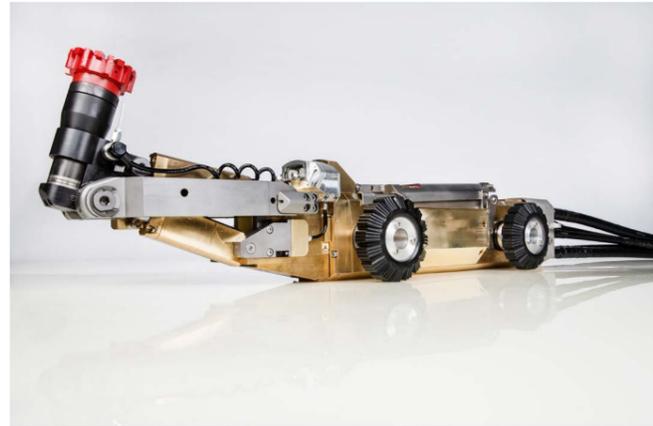
- self-driving robot
- 2 axle cutting arm with extension up to 60 mm
- Swivel-mounted color camera with power LEDs and moveable camera arm
- Pressurized enclosure with dried, oil-free air
- Radial swivel angle of 600°
- Diagnostic LEDs in robot cover

#### Optional:

- Protective guides for supply cables
- Additional weights with 27 kg and traction lever for an optimal traction and drive in the duct system
- Front head milling device

#### Technical data

|                         |                              |
|-------------------------|------------------------------|
| Pipe dimensions         | circular profile: 130-300 mm |
| Weight                  | 55 kg                        |
| Drive                   | electrical                   |
| Cutting arm drive       | hydraulic / electric         |
| Milling motor drive     | hydraulic                    |
| Milling motor output    | 2 kW at 2,500 rpm            |
| Length of supply cables | 75 m and 100 m               |



### Hydraulic cutter: HF200

- self-driving robot
- 3 axle cutting arm with extension up to 500 mm
- Swivel-mounted color camera with power LEDs
- Pressurized enclosure with dried, oil-free air
- Radial swivel angle of 600°
- Diagnostic LEDs in robot cover

#### Optional:

- Additional lighting for 250 mm pipe and larger
- Protective guides for supply cables
- Trowel unit
- Chassis
- Egg shaped profile support
- Renovation packer connection

#### Technical data

|                         |  |
|-------------------------|--|
| Pipe dimensions         | circular profile:<br>200-800 mm<br>(with accessory up to 1,000 mm)<br>egg-shaped profile:<br>250/375 – 800/1,200 |
| Weight                  | 90 kg  |
| Drive                   | electrical   |
| Cutting arm drive       | hydraulic / electric   |
| Milling motor drive     | hydraulic  |
| Milling motor output    | 2 kW at 2,500 rpm  |
| Length of supply cables | 75 m and 100 m   |

#### Accessory

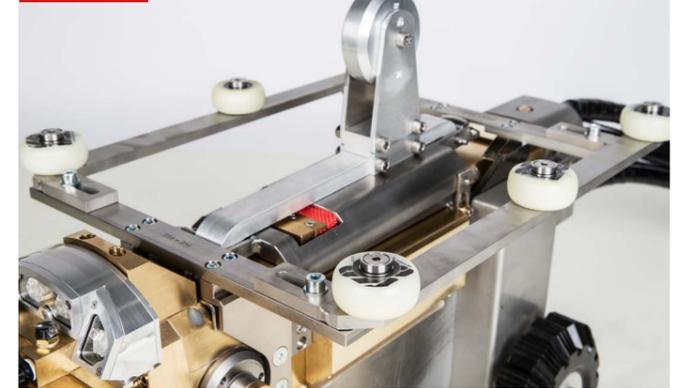


### HF200 / EF200 Chassis

Chassis are easily combined with the robot, facilitating the access to the damaged areas in duct systems with circular or egg-shaped profiles. The wheelsets are directly driven by the robot via a drive gear. The design of the chassis allows the movement of the rotating axis of the cutting arm towards the pipe center, so that milling tasks can be performed without adjustments.

- Chassis are available in the variants 600 and 1,000
- Chassis 600 for 450-600 mm pipes
- Chassis 1000 for 700-1,000 mm pipes and for egg-shaped profiles 500/750 – 800/1,200

#### Accessory



### HF200 / EF200 Egg-shaped profile support

The egg-shaped profile support completes the chassis, providing a comprehensive system that meets the highest demands with regard to precision and quality. The support ensures secure positioning of the robot during the milling tasks. The support wheels are adjusted to the various egg-shaped profiles with cross-bars and set-screws.

- Suitable for egg-shaped profiles from 250/375 – 800/1,200
- Used in combination with the chassis

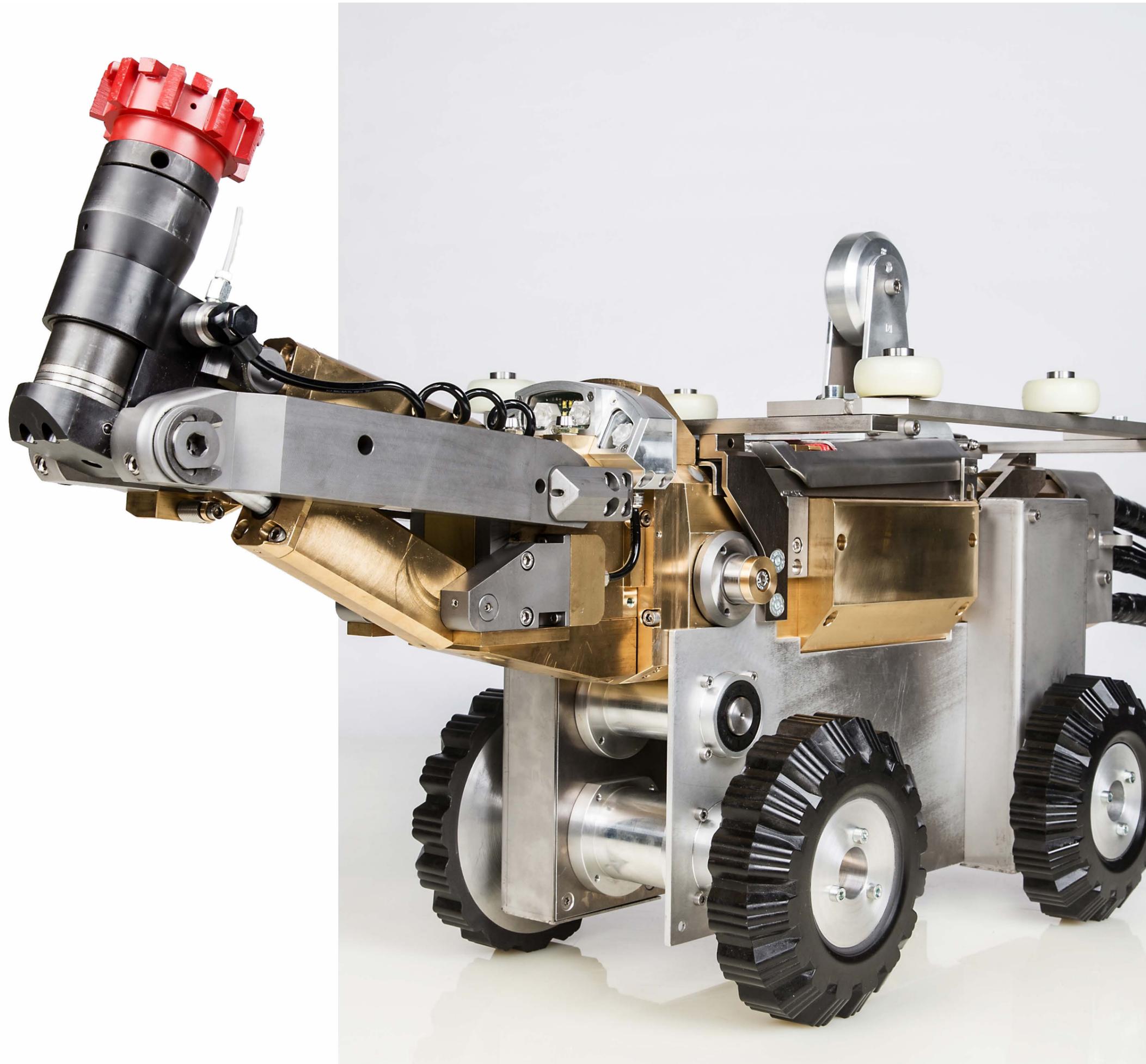
## Accessory



### HF200 / EF200 Trowel unit

After the milling tasks are completed, the trowel unit is used for the direct renovation at the respective area with the same robot. The trowel unit is filled with an epoxy resin mixture and mounted onto the HF200 or EF200. The filling compound is then pressed out at the damaged area and spread with the trowel.

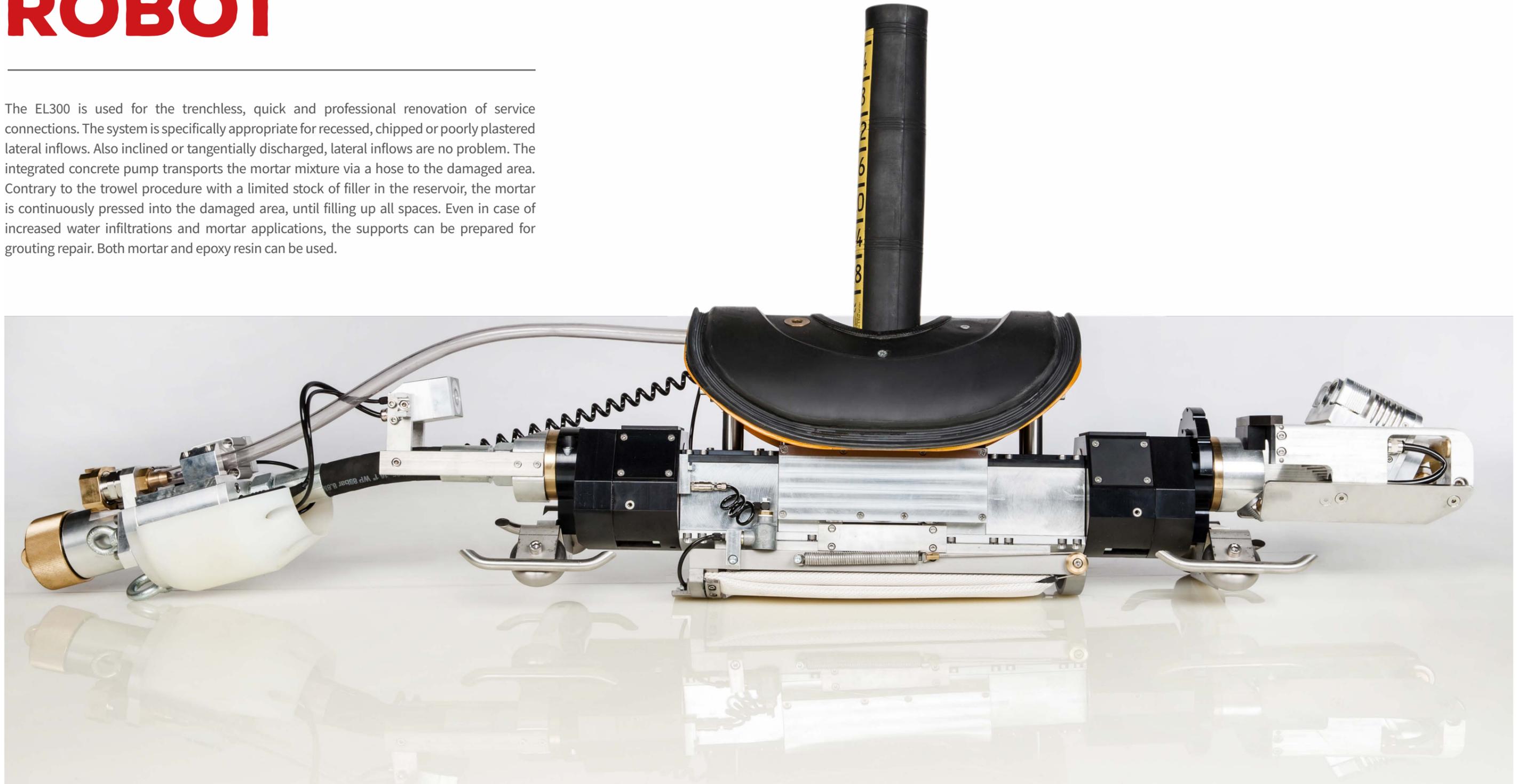
- 2 liter reservoir for epoxy resin
- LED signal lamps warn the user on the remaining level
- Various trowel attachments for longitudinal and cross-sectional cracks
- Spring-loaded trowel for a clean and uniform application
- Foldable for easy entry into the duct system



// Lateral inlet

# INLET REHABILITATION ROBOT

The EL300 is used for the trenchless, quick and professional renovation of service connections. The system is specifically appropriate for recessed, chipped or poorly plastered lateral inflows. Also inclined or tangentially discharged, lateral inflows are no problem. The integrated concrete pump transports the mortar mixture via a hose to the damaged area. Contrary to the trowel procedure with a limited stock of filler in the reservoir, the mortar is continuously pressed into the damaged area, until filling up all spaces. Even in case of increased water infiltrations and mortar applications, the supports can be prepared for grouting repair. Both mortar and epoxy resin can be used.





### Inlet rehabilitation robot: EL300

- Suitable for renovation tasks with resin or mortar
- Rotating saddle with an angle of 180°. Also appropriate for the renovation of horizontal inflows
- Front and rear camera for exact positioning
- Pressurized enclosure with oil-free and dried air
- Different bubble sizes and shapes allow the sealing behind the first sleeve
- Bubble is rolled out over a winch
- Heated renovation saddle for a quicker hardening process when using resin
- Recommended grouting material: Ergelit Kanaltec CF
- Unlimited stock quantity of the grouting material and it is also suitable for situations with water infiltration.

#### Technical data

|                        |   |
|------------------------|---|
| Tube dimensions        | circular profile main pipe: 200-600 mm<br>service connection: 70-200 mm |
| Weight                 | 40 kg   |
| Drive                  | manual feed   |
| Swivel drive           | electrical  |
| Contact pressure       | 12,700 N  |
| Length of supply cable | 70 m  |

#### Accessory



### EL300 Silicone saddle and control case for resin application

The heated silicone saddle is used for the grouting of epoxy resin. For this purpose, the resin is filled into metal containers and carried in a cartridge. Note that grouting is only allowed in a dry environment. It is operated with the respective control case for resin application.

- Control via resin control case
- Electrical connection via plug (230 V)
- Hardening time: 1 hour
- Resin quantity carried: 3 litres
- Tube dimensions: 200-600 mm
- Weight: 7.5 kg

#### Accessory



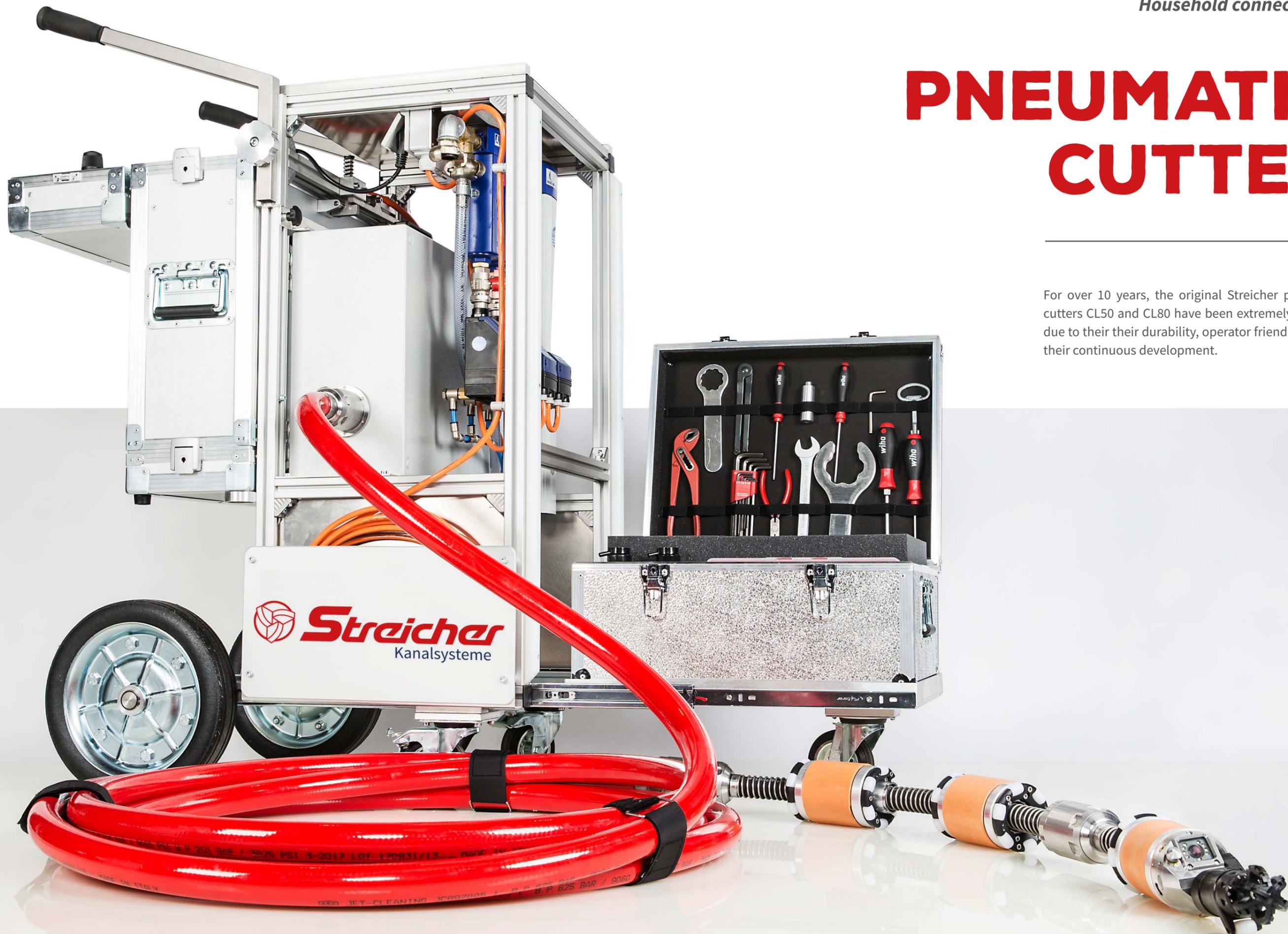
### Fully automatic squeeze out and mixing unit AP4

Fully automatic squeeze out and mixing unit for four bags of resin and hardener.

- Electrically driven via 230 volt alternating current
- Better dosing in comparison to pneumatic squeeze out and mixing units (no dripping)
- Low costs for compulsory mixers
- Much smaller than other pneumatic squeeze out and mixing units
- Dimensions (W x D x H) 305 x 240 x 1120 mm
- Spring-supported lid unit for an easier change of bags
- Very high extrusion force
- 4 tubular bags with 700 ml

# PNEUMATIC CUTTER

For over 10 years, the original Streicher pneumatic cutters CL50 and CL80 have been extremely popular due to their durability, operator friendliness and their continuous development.



 **Streicher**  
Kanalsysteme



**Pneumatic cutter:  
CL50**

- Can move in and out of pipes with 90° elbows without hindrance
- Rotating angle higher than 600°
- Color camera with adjustable LED lights
- Camera cleaning by pressurized air
- Evenly expanding bubble ensures self-centering of the robot
- Operation via portable control unit
- High-contrast monitor
- Supply cable: 12.5 m

**Optional:**

- Extension line 12.5 m
- Battery operation when AC voltage of 230 V is not available



**Pneumatic cutter:  
CL80**

- Can move in and out of pipes with 90° elbows without hindrance
- Rotating angle higher than 600°
- Color camera with adjustable LED lights
- Pressurized air or water for camera cleaning
- Operation via a mobile control case with joystick and touch panel (SPS-control)
- The device trolley is equipped with all necessary tools
- High-contrast monitor
- Sensors and display messages inform the user about the current status of the robotic system
- Supply cable: 10 m or 20 m

**Optional:**

- CL80 sliding wagon
- CL80 muscle feed
- Supply cable in diverse lengths

| Technical data         |   |
|------------------------|---|
| Pipe dimensions        | 55-125 mm (with accessory up to 150 mm) |
| Weight                 | 2.5 kg                                  |
| Feed                   | rod                                     |
| Cutting arm drive      | electrical                              |
| Milling motor drive    | pneumatic                               |
| Milling motor output   | 500 W at 20,000 rpm                     |
| Light diameter         | 53 mm                                   |
| Length of supply cable | max. 37,5 m                             |

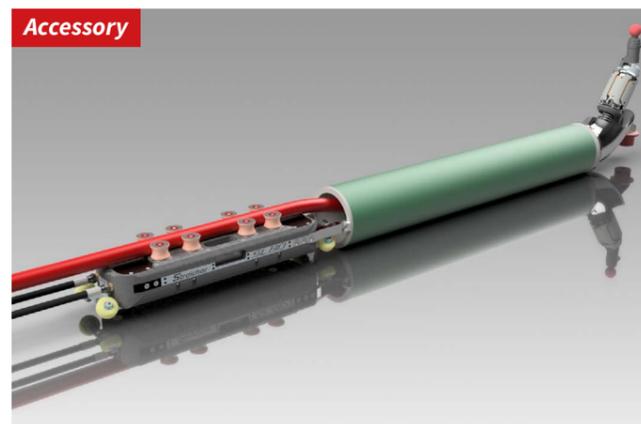
| Technical data         |  |
|------------------------|--|
| Pipe dimensions        | 85-150 mm (with accessory up to 150 mm)                        |
| Weight                 | 10 kg  |
| Feed                   | pneumatic/rod  |
| Cutting arm drive      | electrical   |
| Milling motor drive    | pneumatic  |
| Milling motor output   | 750 W at 20,000 rpm  |
| Light diameter         | 76 mm  |
| Length of supply cable | max. 50 m (with bubble feed), max. 100 m (without bubble feed) |



**CL80  
Sliding wagon**

This accessory makes the household connection robot CL80 a multi-tasking robotic system for an increased number of applications. The pneumatic cutter is also suitable for central milling tasks in 190-300 mm duct systems and is positioned at the needed location by means of a fiber-glass rod. Due to the integrated tension and lateral lighting, precise milling tasks are ensured in a work area with optimal illumination. All required parts are contained in the sliding wagon set and can be adapted to different pipe dimensions.

- Pipe dimensions: 190-300 mm
- Weight: 7.5 kg



**CL50  
Equipment cart**

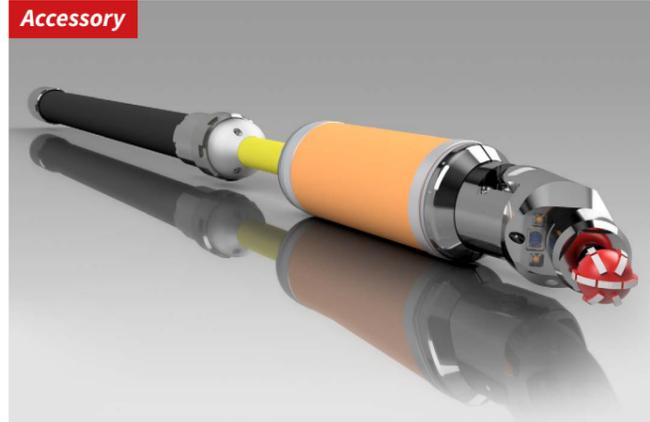
New control with aluminum housing and reduced size. The use of the previous CL50 control is also possible. Best working ergonomics through height and tilt adjustment of the control. The handles can be folded down during operation. There is also a side storage space for the robot and the muscle feed.

- Weight: 30 kg
- 2 l water tank for camera flushing
- Integrated air drying unit
- Built-in rotary distributor for all media
- Pneumatic tires
- 2 pcs. change battery

**SL80  
Satellite system**

The SL80 satellite system turns the CL80 household connection robot in combination with a milling robot EF200/HF200 into a satellite system for household connection renovation. The system consists of a powerful electric hose drive with supply cable and control as well as a plug-in side inlet ramp for inserting the CL80 home connection robot into the house connection.

- Pipe dimensions:
- Main sewer DN 190-600
  - Household connection DN 100-150



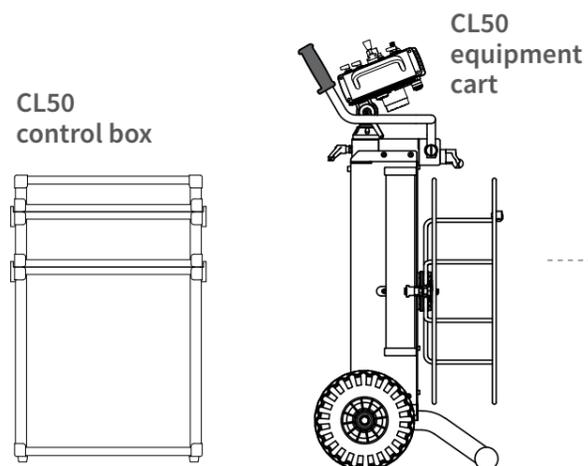
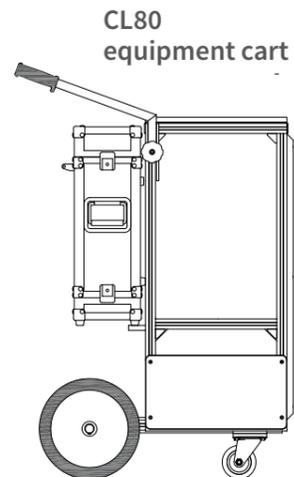
**CL80  
Muscle feed**

**CL50  
Muscle feed**

The muscle feed is intergrated between the supply cable and milling head and offers a stepless move-in motion. The robot can move in and out of pipes with 45° elbows without hindrance. It is operated by the existing controller without the need of additional accessories. The muscle feed can move to the damaged area autonomously or with the aid of a fiber glass rod. Thanks to its innovative design, milling work are performed with a stepless feed motion.

- length differences between extended and contracted muscle feed:
  - CL80: 20 cm
  - CL50: 10 cm

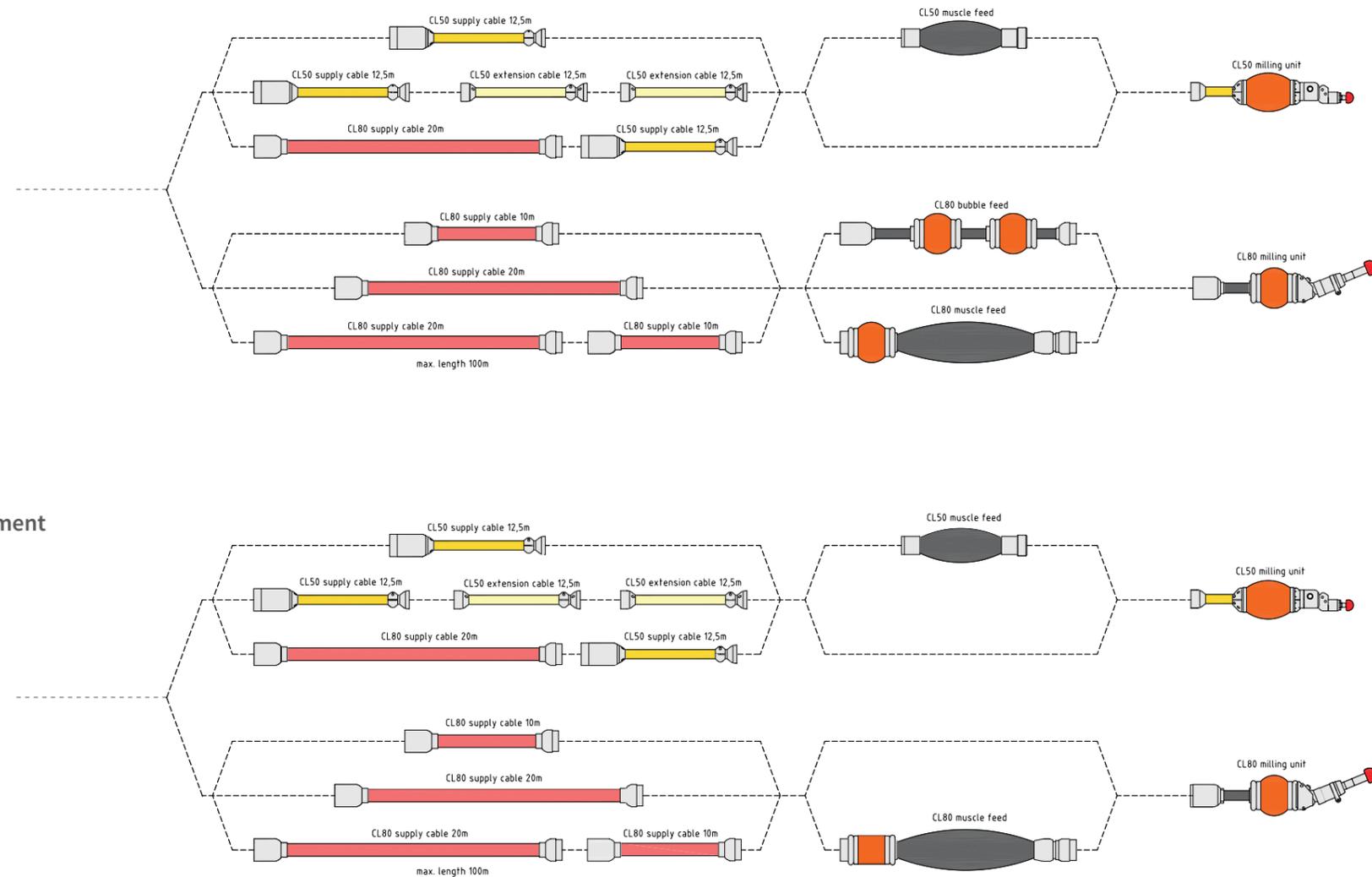
- Weight muscle feed:
  - CL80 (without milling head): 5 kg
  - CL50 (without milling head): 3 kg



**POSSIBLE COMBINATIONS  
CL50 AND CL80**

Specially eveloped interfaces allow the combining of the household connection robots CL50 and CL80. This provides users increased flexibility and reduced

purchase costs. The images below show combinations of the single components.



# LIGHT CHAIN

Advanced and eco-friendly innovation of the entire duct network is achieved with the GKF hose liners. In the trenchless duct renovation, the UV light-sensitive liners are hardened by the application of our light chains. The development and optimization was accomplished in close cooperation with the liner manufacturers.





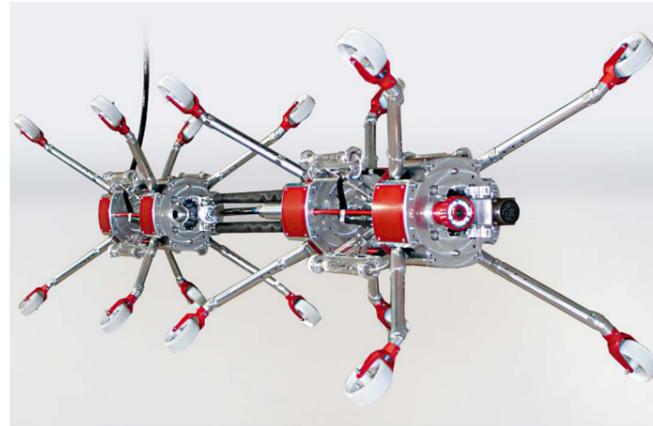
**Light chain:  
SK600**

- Applicable in circular and egg-shaped profiles
- Three integrated infrared sensors for the temperature measurement of liner surfaces
- Temperature sensor for the measurement of the ambient temperature in the liner
- Flexible design
- Rotating light retainers for minimum shadowing
- Camera cooling via built-in ventilator
- Front camera with horizontally placed image
- Heat-resistant Teflon wheels prevent the adhesion of resin particles

**Optional:**

- Back-Eye Camera

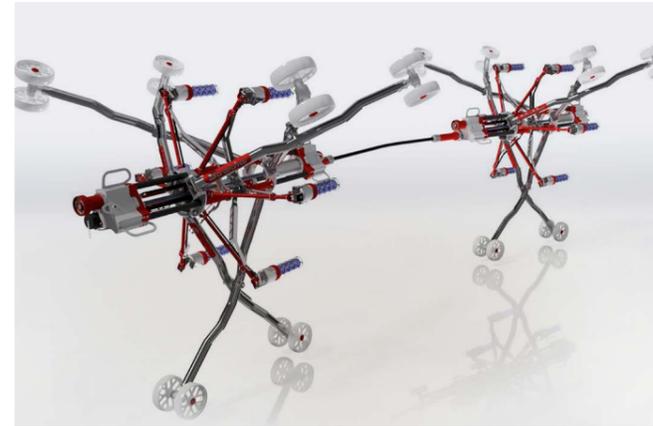
| Technical data         |  |
|------------------------|--|
| Pipe dimensions        | circular profile: 150-600 mm<br>egg-shaped profile:<br>200/300 – 500/750 |
| Number of UV radiators | 8 pcs.   |
| Number of cores        | -  |
| UV radiator output     | 400 W or 650 W   |
| Total output           | 3,200 W or 5,200 W   |
| IR sensors             | 3 pcs.   |
| Ambient air sensor     | 1 pc.  |



**Light chain:  
SK1500**

- Applicable in circular 600-1,500 mm profiles
- Three integrated infrared sensors for the temperature measurement of liner surfaces
- Temperature sensor for the measurement of the ambient temperature in the liner
- Composed of one or two cores
- Cores are interchangeable
- Electrically moveable legs and radiators
- Front camera with horizontally placed image
- Shortliners may also be driven with one core alone
- Heat-resistant Teflon wheels prevent the adhesion of resin particles

| Technical data         |  |
|------------------------|--|
| Pipe dimensions        | circular profile: 600-1,500 mm<br>egg-shaped profile: 600/900<br>– 800/1,200 |
| Number of UV radiators | 4 per core   |
| Number of cores        | 2 pcs.   |
| UV radiator output     | 2,000 W  |
| Total output           | 16,000 W   |
| IR sensors             | 3 pcs.   |
| Ambient air sensor     | 1 pc.  |



**Light chain:  
SK2000**

- Applicable in circular and egg-shaped profiles
- Three integrated infrared sensors for the temperature measurement of liner surfaces
- Temperature sensor for the measurement of the ambient temperature in the liner
- Consists of one or two self-supporting cores
- Cores can be mutually exchanged
- Electrically moveable legs and radiators
- Flexible design
- Lamp retainers to protect the radiators from mechanical damage
- Front camera with horizontally placed image
- Heat-resistant teflon wheels prevent the adhesion of resin particles

| Technical data         |  |
|------------------------|--|
| Pipe dimensions        | circular profile: 1,200-2,000 mm<br>egg-shaped profile:<br>1,000/1,500 – 1,200/1,800 |
| Number of UV radiators | 6 per core   |
| Number of cores        | 2 pcs.   |
| UV radiator output     | 2,000 W  |
| Total output           | 24,000 W   |
| IR sensors             | 3 pcs.   |
| Ambient air sensor     | 1 pc.  |



**SK600 / SK1500 / SK2000  
Packer**

- Packer for all UV light chains
- Stainless steel design for circular and egg-shaped profiles
- Lateral connections or connections in cover available
- Each with a Storz B coupling, compressor claw coupling and pressure monitoring connection
- Cable and rope grommets made of heat-resistant and frictionless teflon
- Two or three piece modular designs for larger size pipes
- A camera is available for end caps of 400 mm and larger

# VEHICLE EXPANSION

All products are standardized, whereby the complete solution for the vehicle is always individually adapted to the customer's wishes.

Our products can be integrated in a wide range of vehicle classes according to the requirements and needs of the customer; ranging from a simple trailer or box van to an expanded truck. Beside the close cooperation with the customer, system reliability and ergonomics are paramount to us. All vehicles are equipped with a significant number of standard parts and components, allowing emergency repairs to be performed also by other specialist firms.



## REHABILITATION VEHICLE



### Permitted total weight lower than 3.5 t

#### Description

This variant has the advantage that a truck driver's license is not required. Our transporter with a total weight of 3.5 tons can be driven with a class B driver license. The compact nature of the milling robot makes this a perfect variation to comply with weight requirements. Energy generation by auxiliary shaft with generator.

#### Equipment

- Generator
- Cable drum with 150 m
- Water tank incl. water pump
- Compressor with air dryer
- Crane
- Control station with table and seat
- Spare parts and tool set in the seat

#### For the following systems

- Electrical milling robot EF200

The equipped vehicle weighs 3,220 kg including the driver and without water. 280 kg remain for own use.



## REHABILITATION VEHICLE

### Permitted total weight higher than 3.5 t

#### Description

This transporter is divided into a service and device room. The service room with integrated cabinets offers space for storage. Also, there is a wardrobe for a change of clothing. The robot can be operated via secondary shaft or a battery system. Energy generation by auxiliary shaft with generator or battery system.



#### Equipment

- Cable drum with 75 m (optionally 100 m)
- Pressurized water tank
- Hydraulic unit
- Compressor with air dryer
- Distribution cabinet
- Swing crane with spotlight
- Control station with table and seat
- Storage box for the robot
- Tool cabinet

#### For the following systems

- Hydraulic milling robot HF
- Electrical milling robot EF



## REHABILITATION VEHICLE



### Trailer 3.5 t

#### Description

The inlet rehabilitation system is suitable for the integration in a renovation trailer. The advantage is that it can remain at the construction site, whereas the towing vehicle – usually equipped with a milling robot – can drive to another construction site.

#### Equipment

- Generator 13 kVA with lightweight sound hood
- Pressurized water container 350 l
- Compressor
- Control cabinet with touch panel and monitor
- Cable and hose drum
- Concrete pump with bucket mixture
- Swing crane with spotlight
- Dead weight is 2,260 kg

#### For the following systems

- Inlet rehabilitation robot EL300



## REHABILITATION VEHICLE



### As of 12 t

#### Description

As the demands are less high with regards to the weight observance for truck expansions, we place high value on comfort and comprehensive design.

#### Equipment

According to the customer's wishes these systems can also be equipped with a community room, incl. kitchen, toilet, heating, air conditioning, windows, as well as several shelves and cabinets, according to the needs of the customer. Other renovation equipment such as washing equipment for components like end caps, hydrotest devices or camera systems are built-in, offering an integrated system covering the entire renovation sequence.

#### For the following systems

- UV radiator chain SK
- Hydraulic milling robots HF
- Electrical milling robot EF



## SELF- ASSEMBLY



**Self-assembly 1,400 kg**

### Description

Customers may also self-assemble our systems according to their own plans. The following range of components is available:

### Equipment

- Cable drum
- Hydraulic unit
- Compressor with air dryer
- Water tank
- Tool cabinet
- Controller
- Distributor cabinet
- Operating controls

# SERVICE

## Order national

### Order today, delivered within 24 hours!

Order until 3.30 pm and you will receive your order within Germany on the following day. On request, we send everything directly to the site or with a fixed date. Delivery is also possible on Saturdays.

## Availability

Because of a stock of 99 % and six storage towers, we assure a quick service and a delivery time of one day.

## Rental units

All robot models are also available to our customers as rental equipment while their own robot is being repaired. **So you can continue working without delay.**

## Order international

### Order today, delivered within 48 hours

Order by 3.30 pm and you will receive your order within Europe within 48 hours.

## Repairs

Duration of repair: Ø 2 working days

**Send order to: [service@streicher-ks.de](mailto:service@streicher-ks.de)**





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