

**Systematic Pipe Rehabilitation**



# KA-TE Robot



## The product

The name "KA-TE" stands for the professional rehabilitation of sewer systems. DIRINGER & SCHEIDEL ROHR-SANIERUNG has been utilising this high-tech product for more than 20 years and is the major user worldwide because of the large number of robots in operation.



*Milling robot DN 150  
with panorama camera*

The core piece of this hydraulically operating system is a self-propelled carriage which can even be utilised when intruding ground water is slightly pressing. The functional units are controlled by video camera from the base car. The KA-TE robots have an available power of exactly 6 PS (4,41 kW) and they can be equipped with various tools.

## The field of application

KA-TE robots come into operation in pipelines of any common material in a nominal diameter range from DN 150 to DN 800. Additional equipment allows the cruising in egg-shaped profiles. The fields of application comprise protruding, broken, recessed inlets or inlets to be closed, axial and



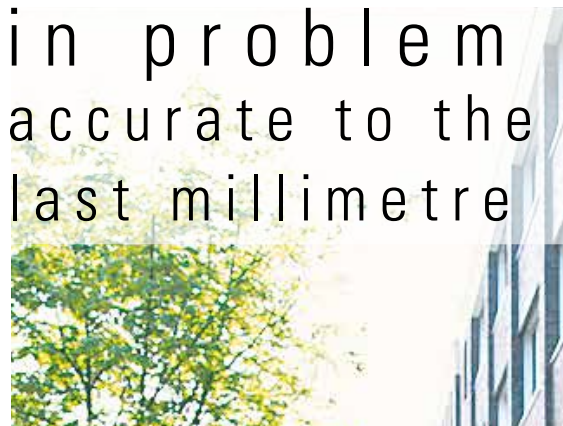
*Diamond and carbide milling heads*

radial cracks, off-sets, holes, shards, solid deposits, obstructions, intrusive roots and defective collars.

## The application

The hydraulically operating KA-TE robots are controlled by video camera from the control centre in the base car. After the milling of the damaged spots, the filler robot grouts a two-component epoxy resin into the milled groove. A sheathing collar, purpose-built for this system, allows rehabilitation work against a faint groundwater pressure without a prior water-proofing tools.

unerring in problem  
accurate to the  
last millimetre



*KA-TE robot is entered into the  
sewer by means of a chain hoist*

areas  
very



*The robots in the sewer are operated from the control desk by remote control*



*KA-TE robot 150 is entered into a nominal width of DN 134-300*



of the line segment. The sheathing collar is removed as soon as the filled-in epoxy resin has cured. A subsequent treatment of the connection area is not necessary. An adequate preparation of the damaged spots is of utmost importance for the result of the rehabilitation work. During the first work step the prepared surface is carefully milled out with the milling robot and grease contaminants, loose parts, etc. are completely eliminated. Then the sheathing collar is positioned by the filler robot over the inlet and a balloon, having the function of an internal sheathing, is placed in the inlet. A lock makes sure that the collar is tight in the defined position. The epoxy resin is then pressed through two openings into the inlet to be rehabilitated. After the curing the filler robot picks up the collar and the balloon sheathing. The result is an inlet with a smooth surface, completely backfilled and without any cross-sectional reduction in the branch connection area.



*Pre-milled socket before the KA-TE rehabilitation*

### **The advantages**

The advantages of the system – compared for instance with the short liner method – are particularly revealed in the elimination of cracks and shards as well as in the rehabilitation of sockets. The KA-TE robot excels in the most different modes of utilisation and its enormous milling capacity is a crucial criterion for the quality of workmanship as well the durability of the rehabilitation.



- BlueLine Procedure
- Burst Lining
- Cement Mortar Lining
- Compact Pipe
- CP-ZA 2012-Top-Hat Profile
- DS-CityLiner
- DS - Hose Relining
- DynTec (close-fit-lining)
- Flexoren Relining
- House and Industry Liner
- Installation Procedures/ Large Profile Rehabilitation
- KA-TE Robotics
- Manual Rehabilitation
- Partial In-Liner
- Pipe Relining (long pipe, short pipe and pipe run)
- Polyester Liner
- Superheated Steam Liner
- UV Liner
- and other procedures

[www.dus-rohr.de](http://www.dus-rohr.de)

**DIRINGER & SCHEIDEL**  
**ROHRSANIERUNG** GmbH & Co. KG  
Wilhelm-Wundt-Straße 19-21  
**D - 68199 Mannheim**

