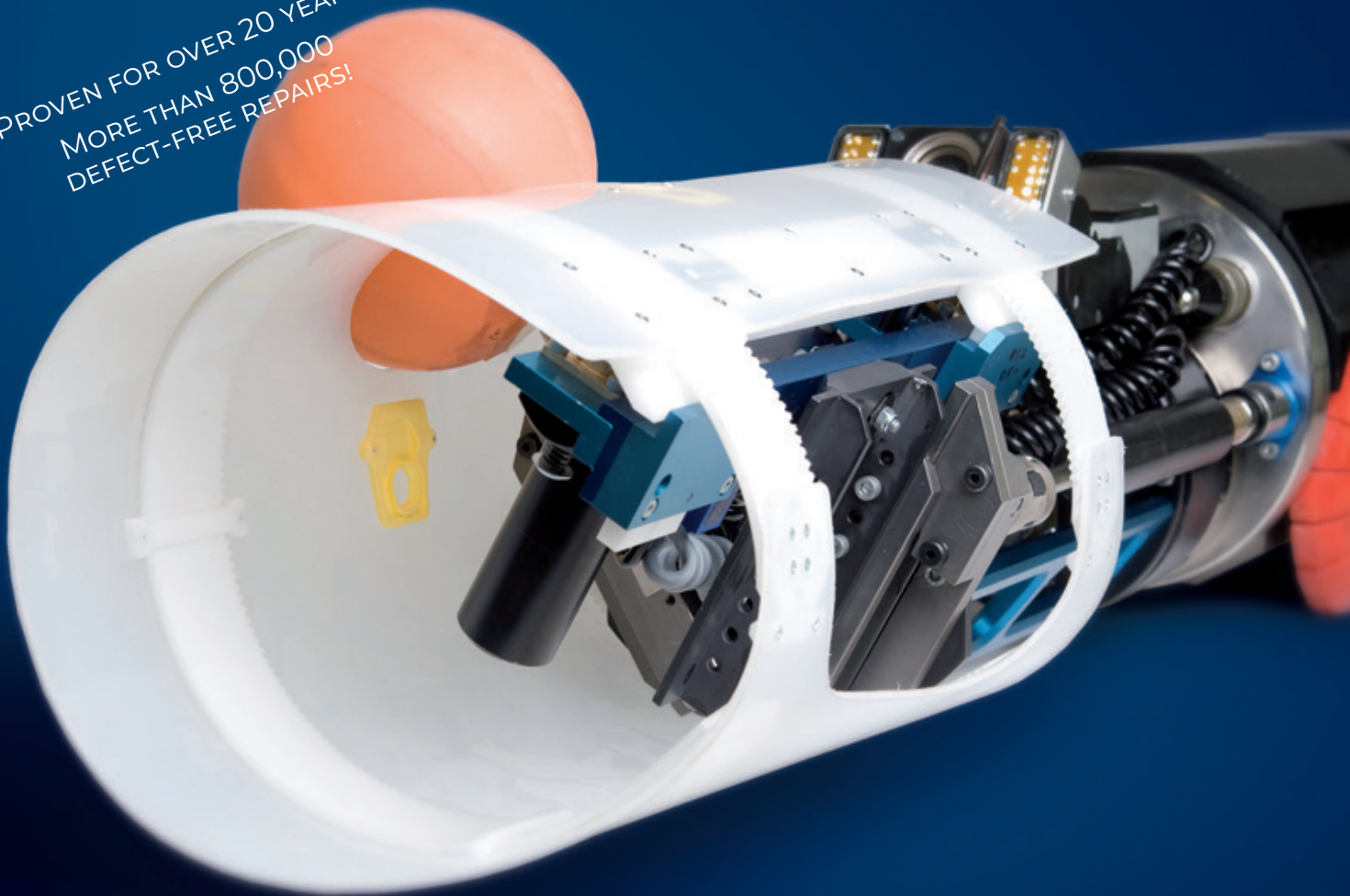


**KA|TE**<sup>+</sup>  
*das Original*

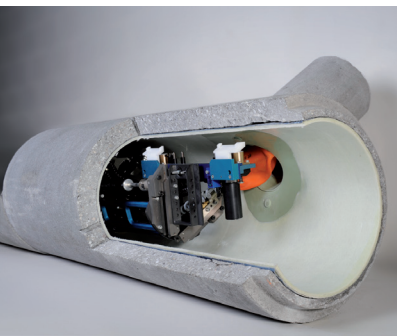
## THE KA-TE SHUTTERING SYSTEM

PROVEN FOR OVER 20 YEARS!  
MORE THAN 800,000  
DEFECT-FREE REPAIRS!



## THE KA-TE SHUTTERING SYSTEM: SM300, SM178, SM150

TESTED. CLEAN. MULTIPLE TEST WINNER.



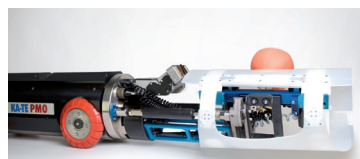
The KA-TE shuttering system is a method that can be used, among other things, for a durable and robust repair of laterals. This method was, and remains to this day, one of the key innovations in the field for repair methods using robot systems.

The shuttering module positions its attached plastic shuttering over the opening of the lateral. Then a balloon is inserted through an opening in the shuttering to serve as a mould for the missing pipe. Resin is pressed into the cavity around the balloon through the two holes by an injection tool. The shuttering can be detached from the robot and stay in place until the resin has cured.

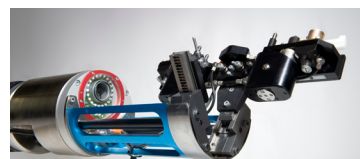
The specific shaping of the shuttering ensures a smooth transition between the repair and the wall of the main sewer pipe. As a result, hydraulic performance of the sewer system is improved. This also guarantees reliability and durability even with frequent and intensive sewer cleaning. This has been proven by cleaning tests.

KA-TE systems for the repair of sewers have been proven to be among the best methods offered on the market. In the IKT product test „Repair Methods for Lateral Connections“ in 2004, „Main channel repair process“ in 2009 and „Sewer rehabilitation in outside water areas“ in 2014 held by the renowned, independent IKT institute, Gelsenkirchen, rehabilitation companies that have worked with the KA-TE shuttering system have in most cases emerged as test winners. The long-term durability of the KA-TE method in relation with high pressure cleaning was confirmed in tests following DIN 19523 (version of August 2008) that were conducted by the independent, Oldenburg-based IRO „Institute for Pipeline Construction“ in early 2010.

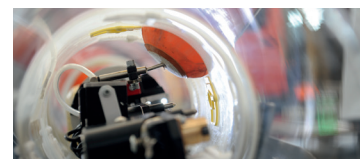
To use the KA-TE shuttering system, an additional module is fitted to the filler robot.



**shuttering system SM300**  
for pipe diameter 250-800 mm  
9.84 - 31.5 in.



**shuttering system SM178**  
for pipe diameter 200-300 mm  
7.87 - 11.81 in.



**shuttering system SM150**  
for pipe diameter 180-300 mm  
7.09 - 11.81 in.

KA-TE SHUTTERING SYSTEM



WHEN THE RESULT MATTERS



KA-TE PMO AG  
Steineggstrasse 32  
CH - 8852 Altendorf  
Tel.: +41 55 415 58 58  
info@ka-te.ch  
www.ka-te.ch

## TECHNICAL SPECIFICATIONS

SHUTTERING MODULE	SM300	SM178	SM150
ADDITIONAL MODULE FOR ROBOT	SR300.	SR178	SR150
PIPE DIAMETER	250 - 800 mm 9.84 - 31.5 in.	200 - 300 mm 7.87 - 11.81 in.	180 - 300 mm 7.09 - 11.81 in.
LENGTH WITHOUT ROBOT	610 mm 24.02 in.	560 mm 22.05 in.	400 mm 15.75 in.
LENGTH WITH ROBOT	1160 mm 45.67 in.	1170 mm 46.06 in.	1020 mm 40.16 in.
WEIGHT	11 kg 24.25 lb.	8 kg 17.64 lb.	3 kg 6.61 lb.
AVAILABLE SHUTTERING (HOLE)	sleeve shuttering, DN 100 (3.94 in.), DN120 (4.72 in.), DN150 (5.91 in.), DN180 (7.09 in.)		
AVAILABLE BALLOONS	rubber balloon, silicone balloon, passage balloon		