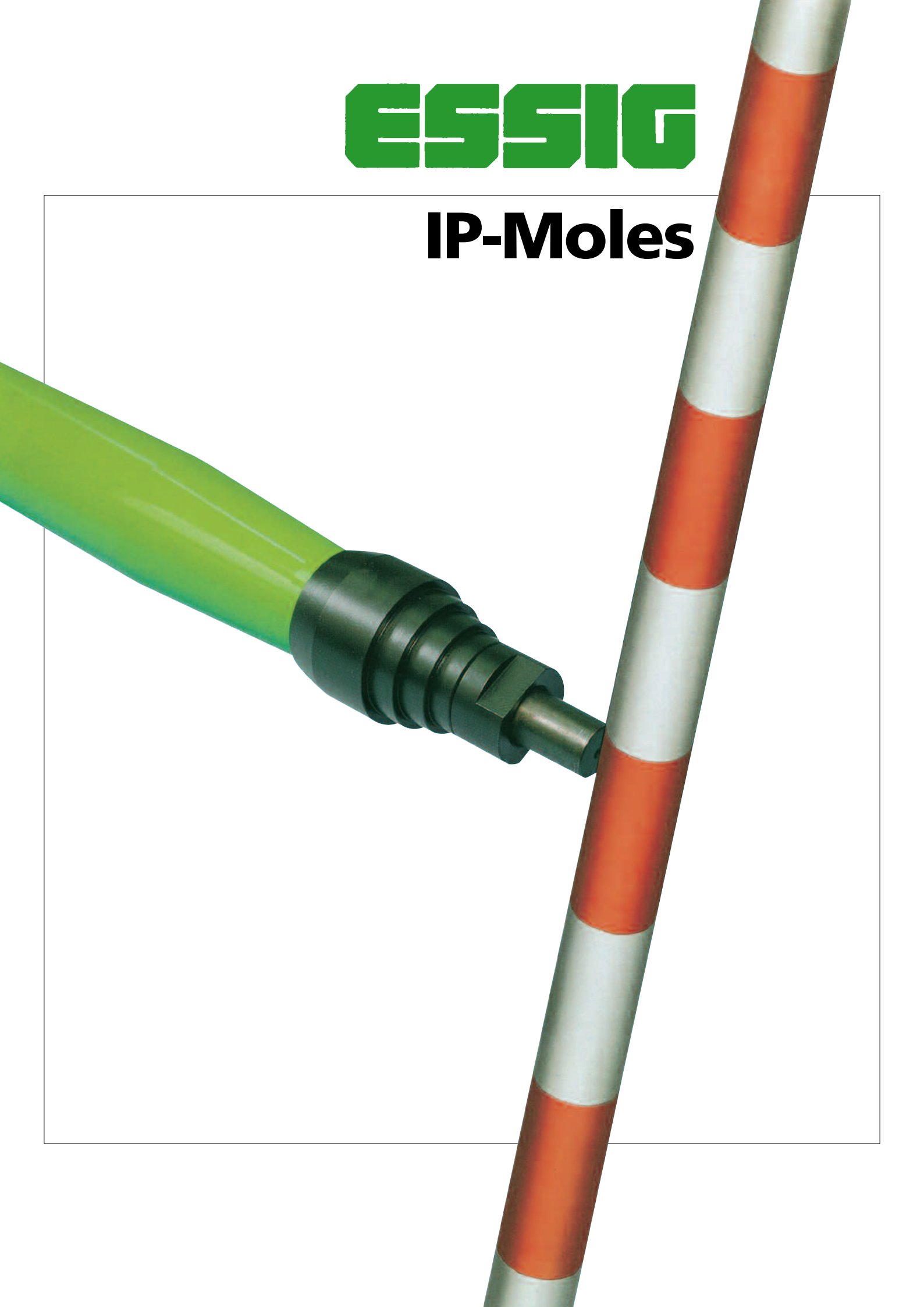


# ESSIG

## IP-Moles



# ESSIG IP-Moles for soil displacements – 14 basic versions



ESSIG produces 14 basic versions of the IP-Mole, however, customers are not limited to just 9 sizes that can be installed with the use of expanders, adaptors and other ancillary equipment. The choice of bores is almost unlimited, and diameters of 45 mm to 1.4 metres can easily and efficiently be achieved. Another highlight of the ESSIG-IP-Mole is the versatility of applications, which is due to the ideally coordinated accessories.

**ESSIG**  
underground system

**It's easy to handle  
it's rugged  
and it's reliable**

## **The ESSIG IP-Mole consists of only 3 main parts...**



These are some of the reasons why you should choose the ESSIG-IP-Mole.

All machines are fully reversible - no cables or turning needed, simply turn off the supply of compressed air, pull the hose while reintroducing compressed air. The device is reversed. To obtain forward mode simply turn off the compressed air – the control slide valve will automatically reverse to the basic position.

The ESSIG-IP-Mole is powered by compressed air, which is supplied by a generator. It is driven through the soil by a piston inside the body casing. The displacement creates a bore, in which product pipes or conduits can either be introduced directly with the mole or installed later.

*The more parts a machine has, the more likely will single parts break down. The simplicity of design reduces waiting periods and repair bills.*

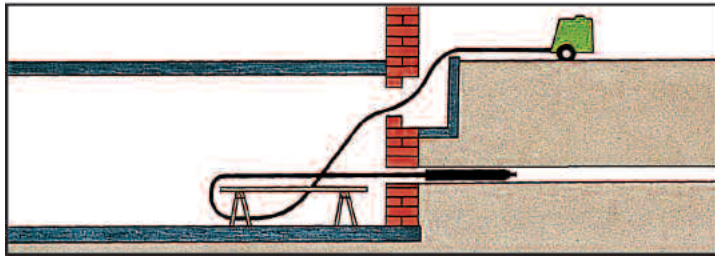
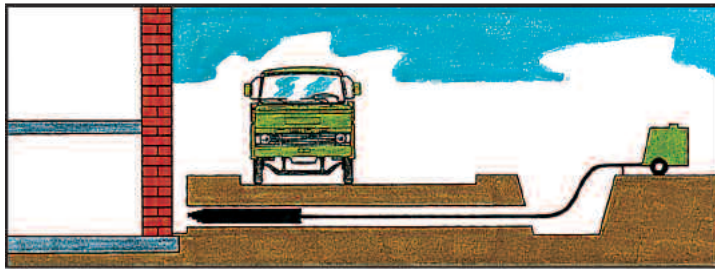
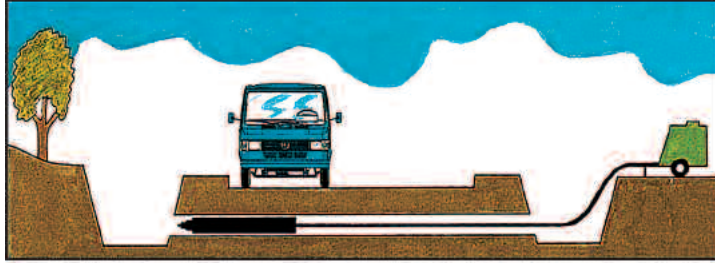
***Trust in our  
longstanding  
experience!***



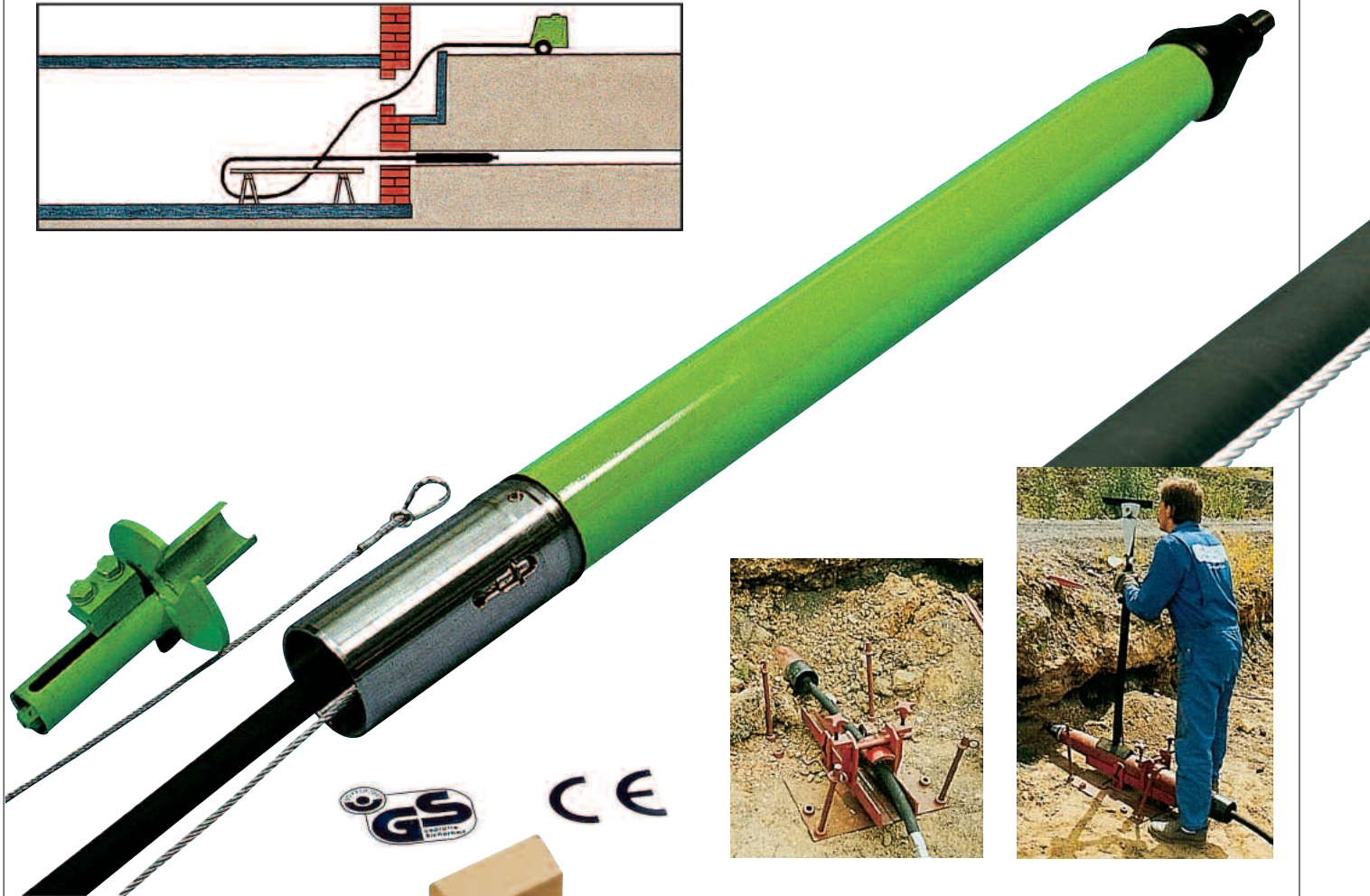
**ESSIG**



# Soil displacement hammers



**Immediate piping in PE using a mole?  
No problem – with  
the IP 130 with PVC  
grommet!**



# 4 in 1 will go!

**Basic model with expanders**



Non reversible expanders for immediate piping.



Fully reversible expander for branch bores.

| IPM-Type<br>= diameter in mm | Length<br>mm | Weight<br>KG | Air consumption<br>m <sup>3</sup> at bar | Impacts<br>per min. | Up to max dia<br>ø mm | Expanders               |
|------------------------------|--------------|--------------|--|---------------------|-----------------------|-------------------------|
| 45                           | 800          | 8            | 1,0                                      | 380                 | DN 40                 | -                       |
| 45                           | 1000         | 9            | 1,0                                      | 330                 | DN 40                 | -                       |
| 55                           | 1200         | 16           | 1,0                                      | 330                 | DN 40, 45             | -                       |
| 65                           | 1300         | 25           | 1,0 - 1,5                                | 330                 | DN 50, 1,5" PE        | -                       |
| 70                           | 1050         | 22           | 1,0 - 1,5                                | 450                 | DN 50, 2" PE          | -                       |
| 70                           | 1500         | 27           | 2,0                                      | 330                 | DN 50, 2" PE          | -                       |
| 75                           | 1500         | 29           | 2,0                                      | 330                 | DN 50, 2" PE          | -                       |
| 80                           | 1500         | 36           | 1,5                                      | 330                 | DN 75                 | -                       |
| 95                           | 1200         | 42           | 2,0                                      | 420                 | DN 70, 80             | 120, 130, 140           |
| 95                           | 1500         | 50           | 2,0                                      | 360                 | DN 70, 80             | 120, 130, 140, 160, 175 |
| 110                          | 1500         | 72           | 2,5                                      | 360                 | DN 90                 | 140, 160, 175           |
| 130                          | 1600         | 90           | 2,5 - 3,5                                | 360                 | DN 110                | 150, 160, 180, 200      |
| 145                          | 1850         | 140          | 4,5 - 5,0                                | 300                 | DN 125 PE/PVC         | 180/200                 |



# Pipe ramming



250 mm steel pipe 24 mtrs. under embankment.



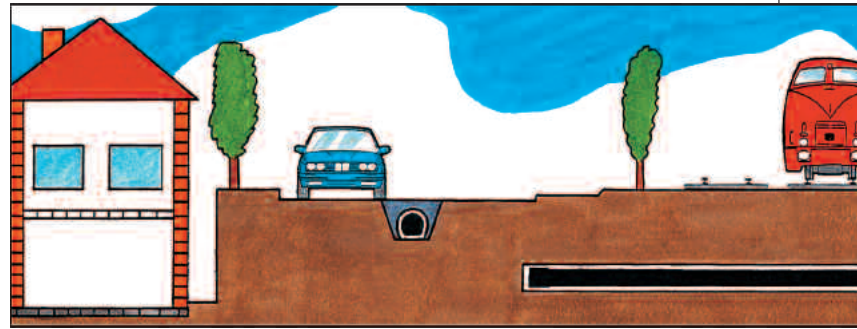
Installing cleaning element.



Cleaning the steel pipe with a pipe plug using compressed air.

## Convincing power

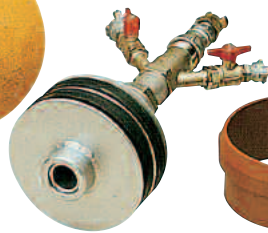
Whenever ground displacement is not possible because of lack of cover, embankments or rivers etc, pipe ramming is the answer. An open-ended steel pipe is rammed through the ground displacing soil only to the wall thickness of the pipe being used. The inner core of spoil is then blown out using air or water.

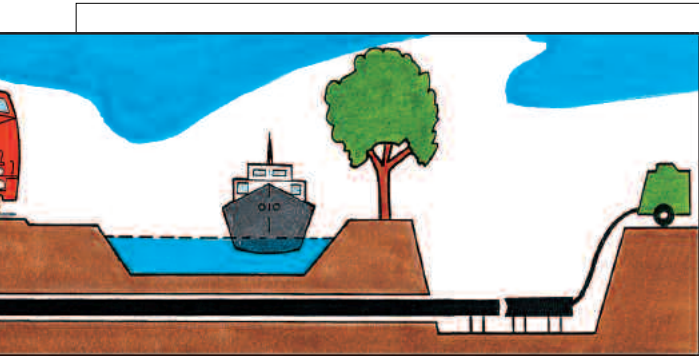


Foam balls for removing spoil from the pipe.

Pipe plug with 3-way system for air/water.

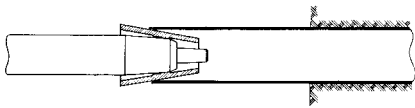
Cutting ring for the protection of the pipe and to reduce friction.



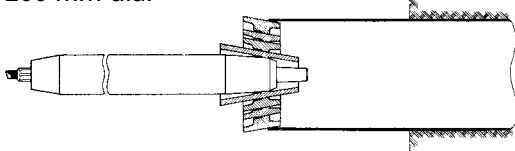


## Advantages of the ESSIG-Mole:

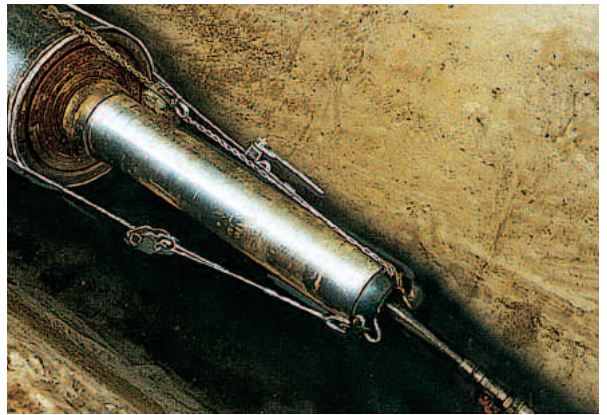
- can be used by 1 or 2 operators
- short preparation time
- small tool dimensions
- no thrust bearing
- minimal profile overlap
- accurate



IPM 155 with master cone 150 mm to 200 mm dia.



IPM 260 with master cone for pipes, 300 mm to 330 mm dia with 1st, 2nd und 3rd driving wedges for pipes, 600 mm to 630 mm dia (further conical wedges of up to 1000 mm dia available).



1000 mm pipe being driven 25 mtrs.

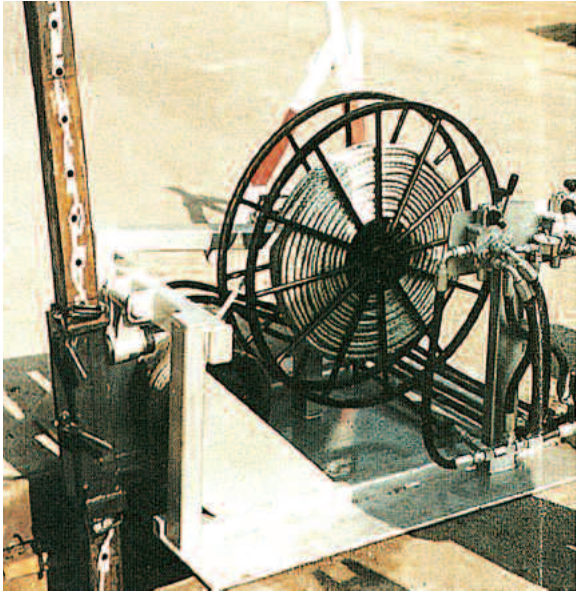


1200 mm pipe being driven 22 mtrs.

| IPM-Typ | Lengt mm | Weight Kp | Air consumption m <sup>3</sup> at 6/7 bar | Impacts per min | Up to max. dia mm |
|---------|----------|-----------|---|-----------------|-------------------|
| 95      | 1500     | 50        | 2,0                                       | 360             | 100               |
| 130     | 1600     | 90        | 2,5 - 3,5                                 | 360             | 200               |
| 145     | 1850     | 140       | 5,0                                       | 300             | 300               |
| 155     | 1800     | 160       | 5,0 - 6,0                                 | 320             | 400               |
| 200     | 1700     | 300       | 6,0 - 7,0                                 | 480             | 600               |
| 260     | 2300     | 640       | 7,0 - 10,0                                | 200             | 700               |
| 400     | 2400     | 1650      | 18,0 - 20,0                               | 180             | 1200              |
| 530     | 2800     | 3500      | 40,0                                      | 180             | 1400              |



# PCS Pipe Cracking System



7 ton winch with reel.

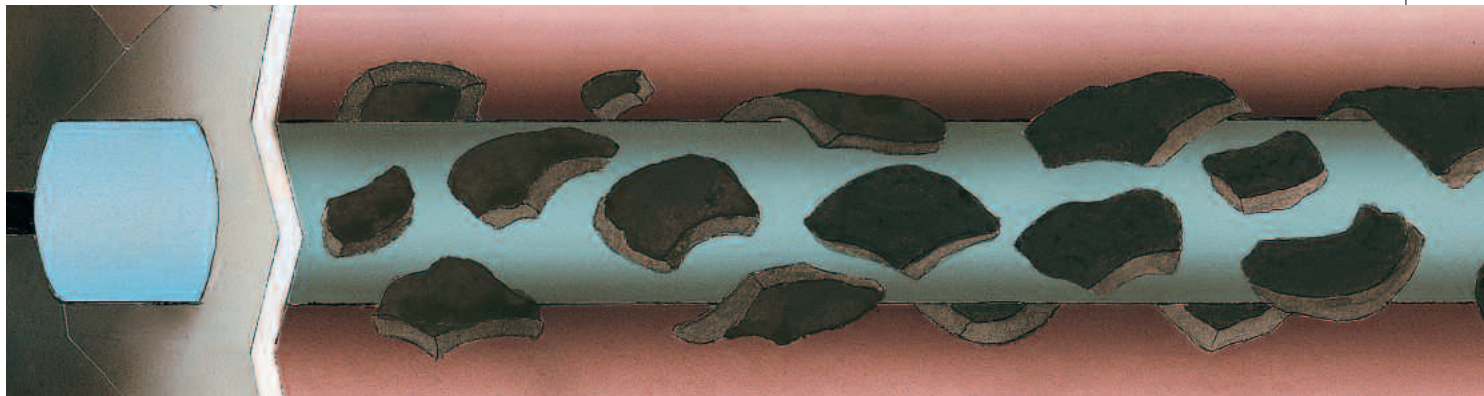


IPM 155 with PVC end seen from manhole.

An approved system to restore old, broken, leaking or corroded pipes. The pipes to be replaced are broken out and displaced into the surrounding soil by the ESSIG-IP-Mole, while a new liner is being introduced. A length of 120 m or more in one operation can be easily achieved.

## Advantages:

- little or no traffic disruption
- environmentally sound
- speedy completion of work
- the existing route can be used
- underground pipe renewal with little earthworks







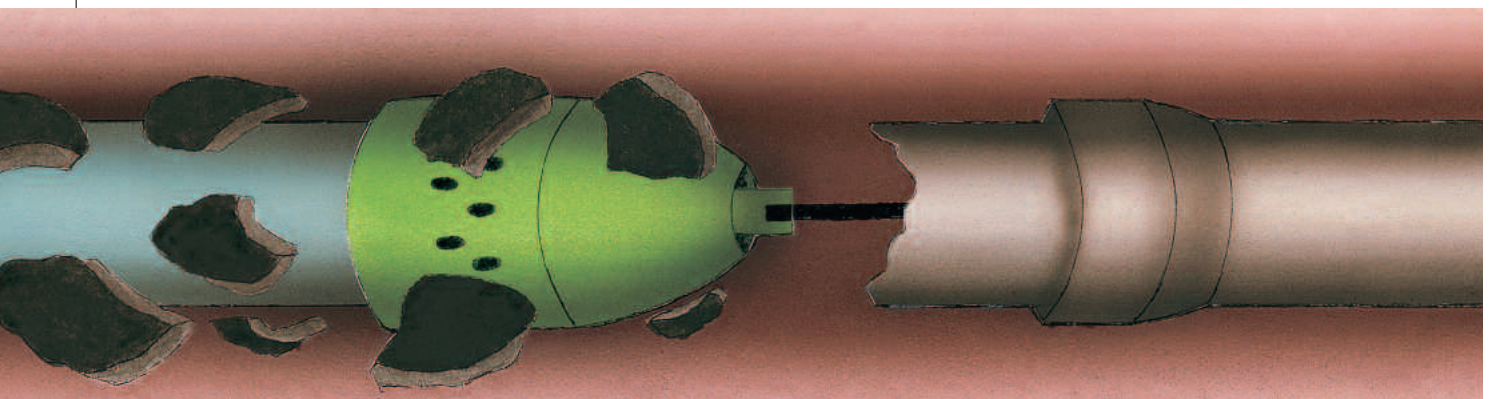
Preparing to break out cement pipes, 400 mm dia, and replacing them with the 560 mm HDPE-pipe.

PCS cutting rings for cement pipes.



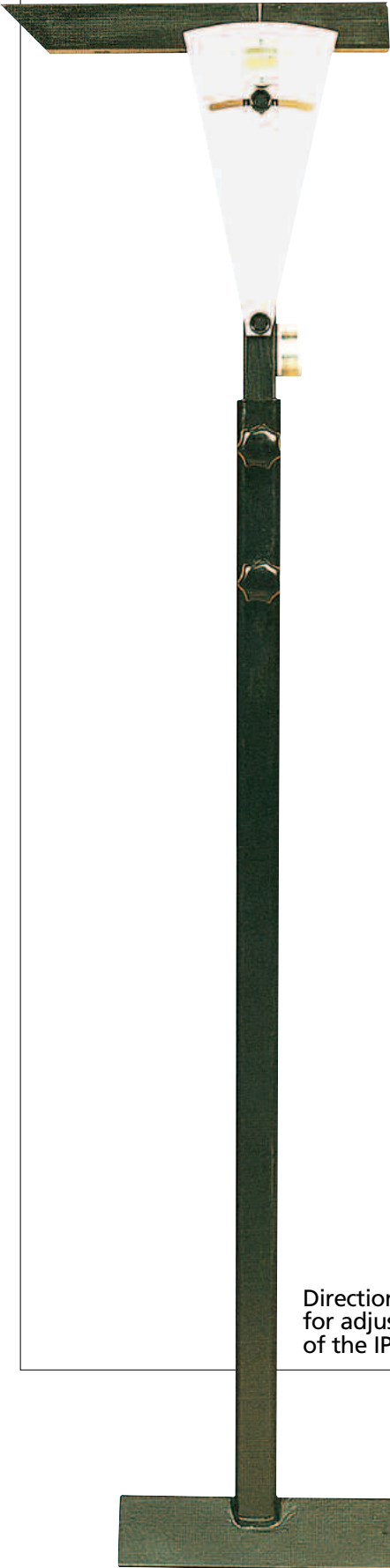
Cutting head for cast pipes.

| Pipe material   | existing tube | HDPE-pipe   | Type of IP-Mole |
|-----------------|---------------|-------------|-----------------|
| concrete        | <b>DN 150</b> | DA 180      | IP 130          |
|                 |               | DA 200      | IP 145          |
| salt glase      | <b>DN 200</b> | DA 225      | IP 145 / 155    |
|                 |               | DA 250, 280 | IP 155 / 185    |
| asbestos cement | <b>DN 250</b> | DA 280      | IP 155 / 185    |
|                 |               | DA 315      | IP 155 / 185    |
|                 | <b>DN 300</b> | DA 355, 400 | IP 155 / 185    |
|                 | <b>DN 400</b> | DA 400, 450 | IP 200          |
|                 | <b>DN 500</b> | DA 500, 560 | IP 200 / 260    |

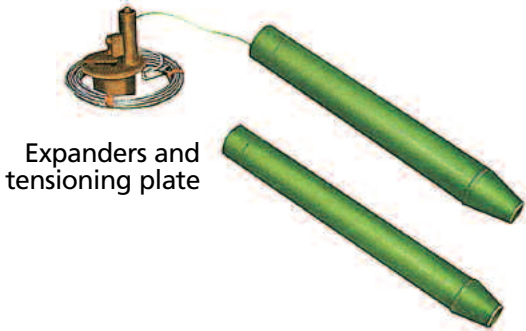


The groundbreaking reconstruction method for disposal lines! **ESSIG**

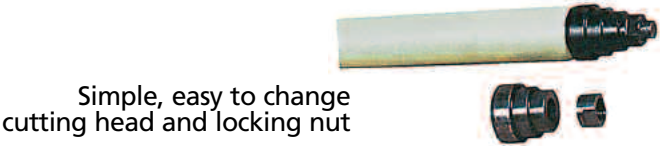
# Optimally coordinated accessories to reduce maintenance costs and increase productivity!



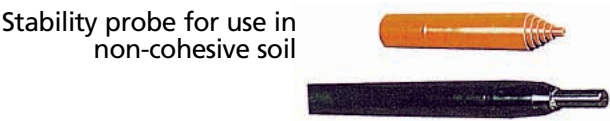
Directional loop for adjustment of the IP mole



Expanders and tensioning plate



Simple, easy to change cutting head and locking nut



Stability probe for use in non-cohesive soil



Pipe extractor for removing old gas pipes and water lines



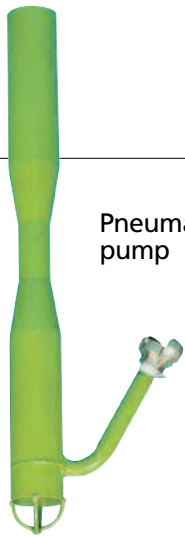
Launching cradle and earth pins



Cable baskets and mandrels for introducing PE air line







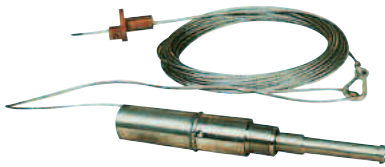
Pneumatic water pump



Various conical driving wedges (pipe ramming)



Master cones (pipe ramming)



PVC grommet with tensioner and clamp

Soil displacer (pipe ramming)



40-litre oiler for L.S.S.A. oil, 10 kg and 20 kg drums

Restraining ring and tension straps (pipe ramming)



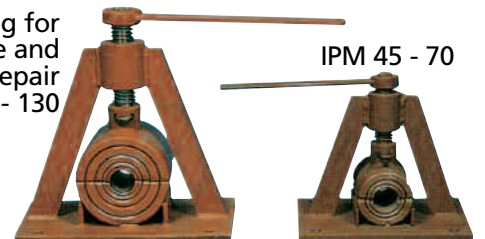
200-litre oiler with distributor for IPM 155/ 240/ 260/ 400

„C“ hook spanner (heavy model)



Assembly jig including master cones, up to 400 mm

Assembly jig for maintenance and repair IPM 45 - 130



**If you have any problems  
please do not hesitate to contact us.  
We are looking forward to you!**

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