

Operating instructions with spare parts list

Metal Tube Cutter

MRA



Code 790 008 762

Translation of original operating instructions

| Machine-no.:

All rights reserved, in particular the rights of duplication and distribution as well as translation.
Duplication and reproduction in any form (print, photocopy, microfilm or electronic) require the written permission of Orbitalum Tools GmbH.

Table of contents

	Page
0 About these instructions	1
0.1 Warning messages	1
0.2 Further symbols and displays	2
0.3 Abbreviations	2
1 Safety instructions	3
1.1 Proper use	3
1.2 Safety regulations	3
1.3 Work safely	4
1.4 Disposal	4
1.5 Additional safety regulations	4
2 Product design	5
2.1 Standard	5
2.2 Components of the MRA	5
3 Properties and applications	7
3.1 Properties	7
3.2 Applications	7
4 Technical data	8
4.1 Characteristic data	8
5 Commissioning	9
5.1 Included with the machine*	9
6 Transport	10
7 Operation	11
7.1 Mounting cutting chain	11
7.2 Mounting the clamping shells on the pipe	12
7.3 Mounting the MRA on the pipe	13
8 What to do when	15
8.1 Fault correction	15
8.2 Servicing/customer service	16
9 Spare parts list	18

0 About these instructions

To allow quick understanding of these instructions and safe handling of the machine, all the warning messages, notes and symbols used in these instructions are presented here along with their meaning.

0.1 Warning messages

In these instructions, warning messages are used to warn you against the dangers of injury or material damage. Always read and observe these warning messages!




This is a warning symbol. It should warn you against dangers of injury.

Follow all instructions which are identified with this safety symbol in order to avoid injuries or death.

Warning symbol	Meaning
 DANGER	Direct danger! Non-observance could result in death or critical injury. ⊙ Restrictions (if applicable). ► Measures to prevent danger.
 WARNING	Possible danger! Non-observance could result in serious injury. ⊙ Restrictions (if applicable). ► Measures to prevent danger.
 ATTENTION	Dangerous situation! Non-observance could result in minor injuries.
ATTENTION	Dangerous situation! Non-observance could result in material damage.

0.2 Further symbols and displays

Symbol	Meaning
Important Note	Notes: Contain particularly important information for comprehension.
	Instruction: You must take notice of this symbol.
1.	Request for action in a sequence of actions: You have to do something here.
▶	Single request for action: You have to do something here.
▷	Conditional request for action: You have to do something here if the specified condition is met.

0.3 Abbreviations

Abbr.	Meaning
MRA	Metal Tube Cutter

1 Safety instructions

The Metal Tube Cutter (also called the MRA) is designed according to the current level of technology. Any use other than the one described in this manual can lead to personal injury to the user or others. In addition, the device or other materials may be damaged.

Therefore:

- Always ensure that the device is in good working condition, and always comply with these notes on safety.
- Keep the complete documentation close by the device.
- All regulations generally valid for the prevention of accidents must be observed.

1.1 Proper use

- Only use the MRA for cutting pipes.
- For damages caused by using not according to regulations is just the user responsible.

1.2 Safety regulations

- Only use the dimensions and materials quoted in these instructions. Other materials should only be used after consulting Orbitalum Tools's customer service department.
- Only use authentic Orbitalum Tools spare parts and materials.
- Check the MRA daily for any externally visible damage or defects. Have any damage or defects repaired immediately.

1.3 Work safely

"Play your part in ensuring safety at work."

- Report any changes in operating performance to the responsible person immediately.
- Carry out all work with an awareness of safety.
- Wear safety gloves when working with the MRA.
- Do not grip the cutting tools during use.



WARNING

Cut injuries possible to the hands!

Sharp cutting chain!

Cut injuries possible to the hand through contact with the cutting chain.

- ⊙ Do **not** touch the cutting chain.
-

1.4 Disposal

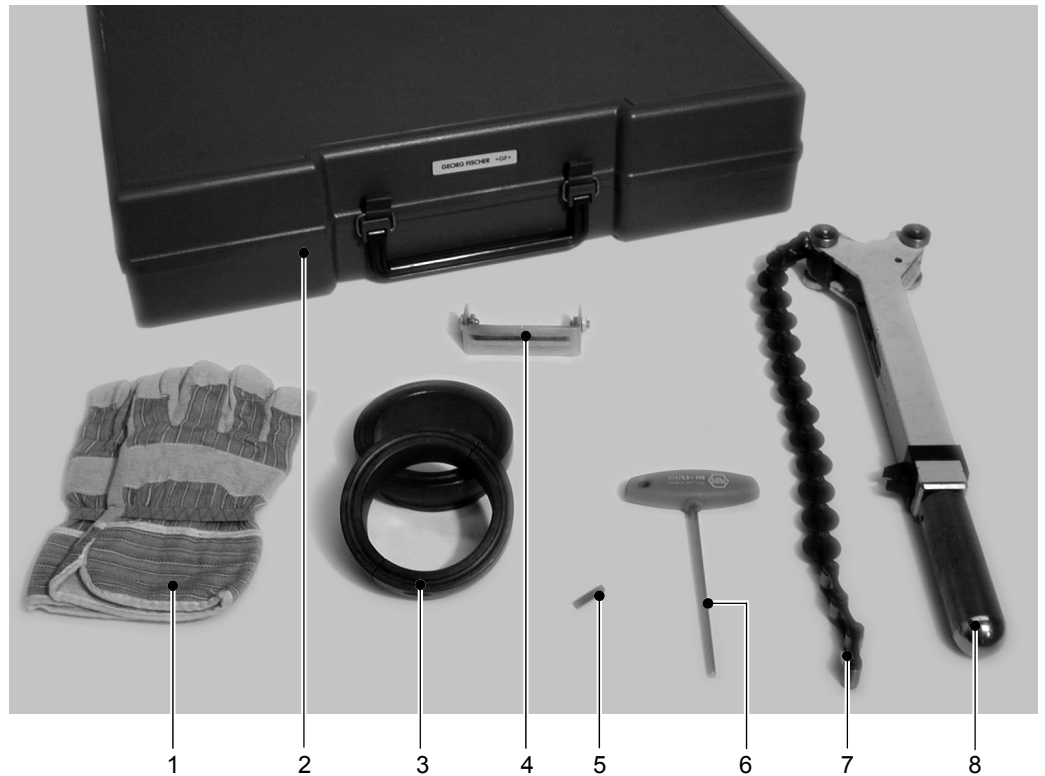
Dispose of lubricant and pipe waste according to the pertinent regulations.

1.5 Additional safety regulations

Observe the national regulations, standards and guidelines.

2 Product design

2.1 Standard



- | | |
|-------------------------|-------------------------------|
| 1 Work gloves | 5 Locking pin |
| 2 Transport case | 6 Allen wrench |
| 3 Clamping shells* | 7 Multi-roller cutting chain* |
| 4 Clamping shells clamp | 8 Pipe cutter |

* Must be ordered separately, see chapter 2.2, page 6.

2.2 Components of the MRA

Metal tube cutter including tool, work gloves, transport case.

Article	Code
MRA	790 008 001

Multi-roller cutting chains*

Article	Tube OD [mm]	Tube OD [inch]	Number of cutting wheels [pieces]	Code
Multi-roller cutting chain	33.7 - 114.3	1.330 - 4.500	15	790 008 018
Multi-roller cutting chain	114.3 - 254.0	4.500 - 10.000	16	790 008 041

Clamping shells*

Pipe diameter [mm]	Tube size [inch]	Code
33.7	1.330	790 008 105
38.1	1.500	790 008 130
40.0	1.575	790 008 135
42.4	1.670	790 008 140
48.3	1.900	790 008 155
50.0	1.970	790 008 160
50.8	2.000	790 008 165
52.0	2.050	790 008 175
54.0	2.125	790 008 185
60.3	2.375	790 008 195
63.5	2.500	790 008 200
70.0	2.755	790 008 215
75.0	2.950	790 008 225
76.1	2.996	790 008 230
84.0	3.300	790 008 240
85.0	3.350	790 008 245
88.9	3.500	790 008 250
101.6	4.000	790 008 260
104.0	4.095	790 008 270
110.0	4.330	790 008 285
114.3	4.500	790 008 290
129.0	5.080	790 008 315
139.7	5.500	790 008 325
154.0	6.060	790 008 340
160.0	6.300	790 008 355
168.3	6.625	790 008 365
204.0	8.030	790 008 380
219.1	8.625	790 008 385

* Additional dimensions between 33.7 mm (1.32 inch) and 254.0 mm (10.00 inch) are available upon request.

3 Properties and applications

3.1 Properties

- Suitable for cutting pipes of metal and non-metal materials.
- Diameter-specific clamping shells and multi-roller cutting chains.
- The clamping shells and multi-roller cutting chains are manufactured of hardened, wear-resistant steel and allow
 - running of the cutting chain around the pipe at right angles.
 - running of the MRA over guide rollers on the clamping shells.
 - minimal hand levering.
 - cutting of stainless special steel.
- Non-electric, chipless cutting technology which can also be used in areas with little space.
- Right-angled pipe ends free from deformation.
- The pipe ends are directly prepared for numerous connection techniques without laborious post-processing.

3.2 Applications

Processing range

MRA	Outer diameter Ø		Wall thickness	
	[mm]	[inch]	[mm]	[inch]
min.	33.7	1.3	0.8	0.03
max.	254.0	10.0	3.0*	0.12

* for high-alloy steels, the max. wall thickness which can be processed is 2.0-2.5 mm (0.08-0.09 inch).

Pipe material

- High-alloy steels (Special steel material no. 1.40... – 1.45... as per DIN 17 455 and DIN 17 456)
- No-alloy and low-alloy steels
- Aluminum
- Casting materials
- Non-iron metals
- PVDF plastic

* Others upon request

4 Technical data

4.1 Characteristic data

Dimensions	450 x 105 mm 17.7 x 4.1 inches
MRA weight (without chain)	3.1 kg / 6.81 lbs
Weight compl. (with case)	8.0 kg / 17.61 lbs

5 Commissioning

Checking the parts of delivery

- ▶ Check all parts of the delivery for completeness and transportation damage.
- ▶ Report any missing parts or transportation damage to your supplier immediately.

5.1 Included with the machine*

- 1 Metal Tube Cutter MRA
- 1 Durable storage and shipping case
- 1 Connecting clamp
- 1 Allen wrench
- 1 Pair work gloves
- 1 Operating instructions and 1 spare parts list

* *subject to change*

6 Transport

The MRA can be carried. Special transport equipment is not required.



- Wear safety gloves when transporting the MRA.
- Do **not** reach into the cutting tools during transport or operation.



WARNING

Cut injuries to the hands!

Sharp cutting chain!

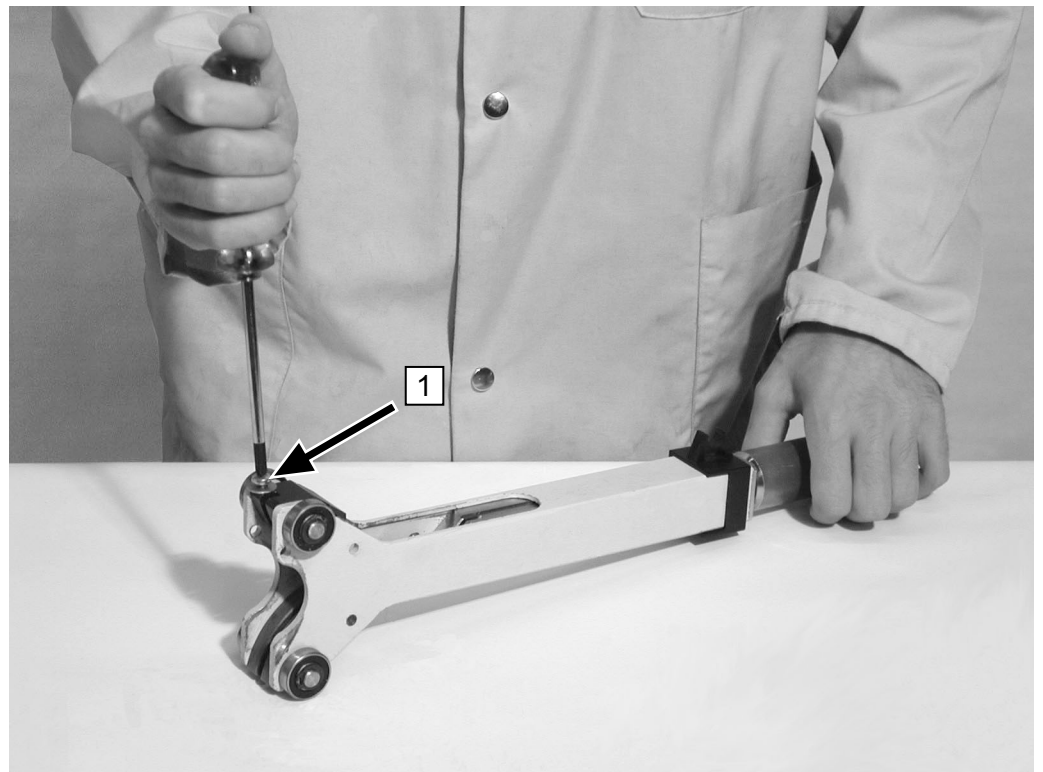
Cut injuries to the hands through contact with the cutting chain.

- ⊘ Do **not** touch the cutting chain.
-

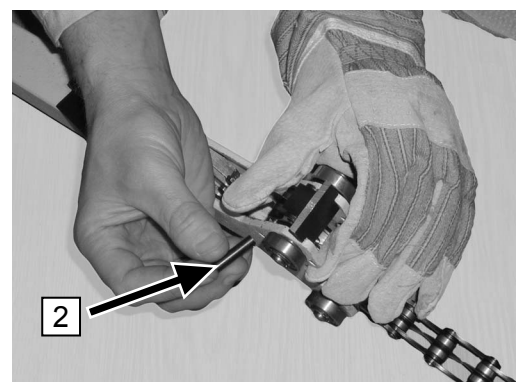
7 Operation

7.1 Mounting cutting chain

1. Open the locking flap (1) on the upper end of the pipe cutter with the help of a screwdriver.



2. Hang the cutting chain under the locking flap and fasten it with the locking pin (2).

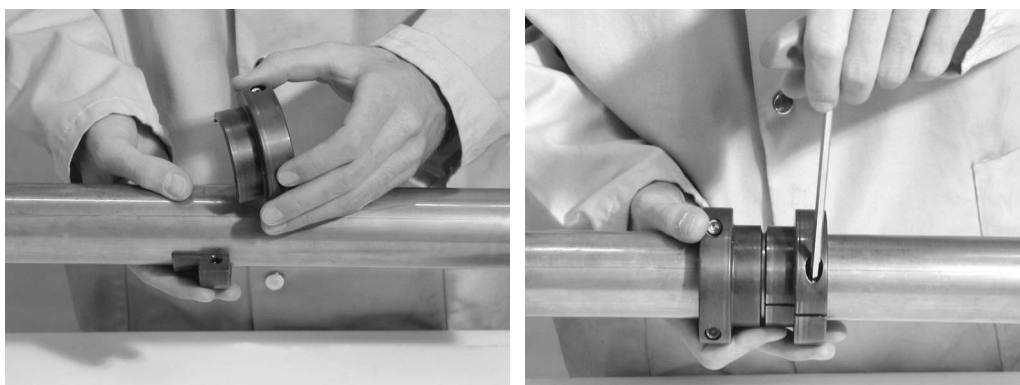


3. Close the locking flap again with a screwdriver. The locking pin secures itself upon closing of the locking flap.



7.2 Mounting the clamping shells on the pipe

1. Place the clamping shells at the intended cutting point such that the clamping shells are connected tightly.
2. Fasten the clamping shells tightly with 2 screws each, using the Allen wrench.

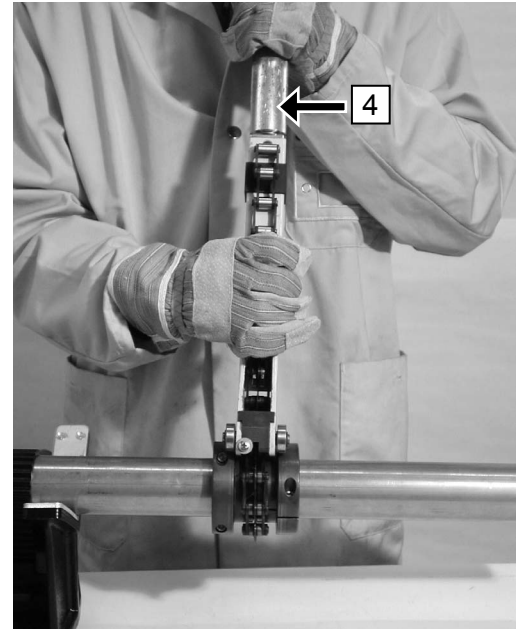


Note Make certain that the clamping shells are parallel, positioned closely to each other and locked in place.

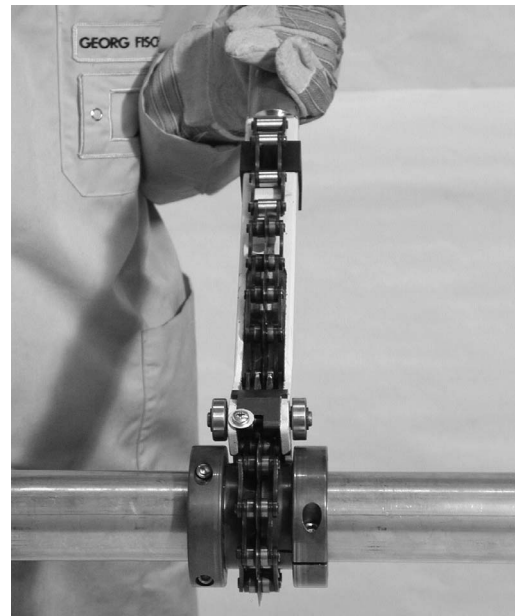
To achieve high clamping shells stability, it is recommended that the clamping shells be mounted such that the gap between the clamping shells halves is offset by 90°.

7.3 Mounting the MRA on the pipe

1. Lay the cutting chain in the cutting groove and hang it on the tension hook (3).
2. Lightly tension the cutting chain by turning the spindle (4) clockwise.



3. Add tension to the chain with even levering motions of at least 90° until the cutting wheels press into the pipe wall.

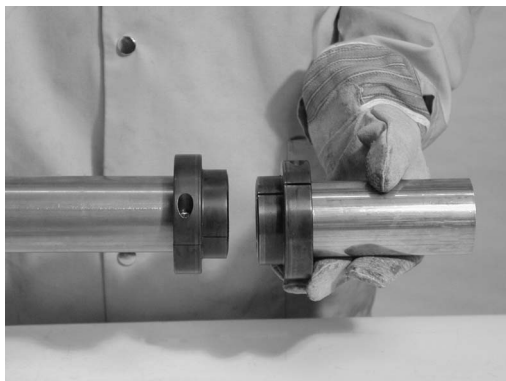


IMPORTANT

When adding tension avoid left/right motions as these can cause damage to the cutting chains.

Only add tension to the cutting chain during a levering motion. The most effective method is to add tension during a levering motion, perform the return motion, then adjust again with the next movement.

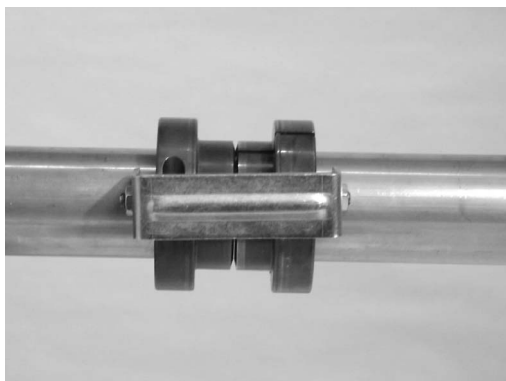
- ▶ The pipe has now been cut through completely.



Note To make the cutting process easier, the supplied cutting oil can be used.

If the clamping shells open on one side during cutting because the pipe was cut through on this side first, the clamping shells clamp must be placed at this position (image below left).

Note The pipe vice, code 790 008 008, is very helpful in cutting uninstalled pipes (image below right).



8 What to do when

8.1 Fault correction

The following table indicates possible causes of fault and correction options.

Fault	Possible cause	Correction
Clamping shells open up.	Cutting of uninstalled pipes which are not secured with a clamping shells clamp or a pipe vice.	<ul style="list-style-type: none"> <li data-bbox="1066 517 1520 600">▶ Remount clamping shells clamp. <li data-bbox="1066 611 1520 680">▶ Use the Orbitalum Tools pipe vice.
Chain does not run evenly.	The cutting wheels have been damaged by uneven levering motions.	<ul style="list-style-type: none"> <li data-bbox="1066 710 1520 808">▶ Replace the individual cutting wheels or the entire cutting chain.

8.2 Servicing/customer service

For ordering spare parts, see the spare parts list (see chapter 9, p. 18).
For the resolution of faults, please contact your branch office directly.

Please give the following details:

- Device type: **MRA**
- Device number: *(see type label)*

9 Spare parts list

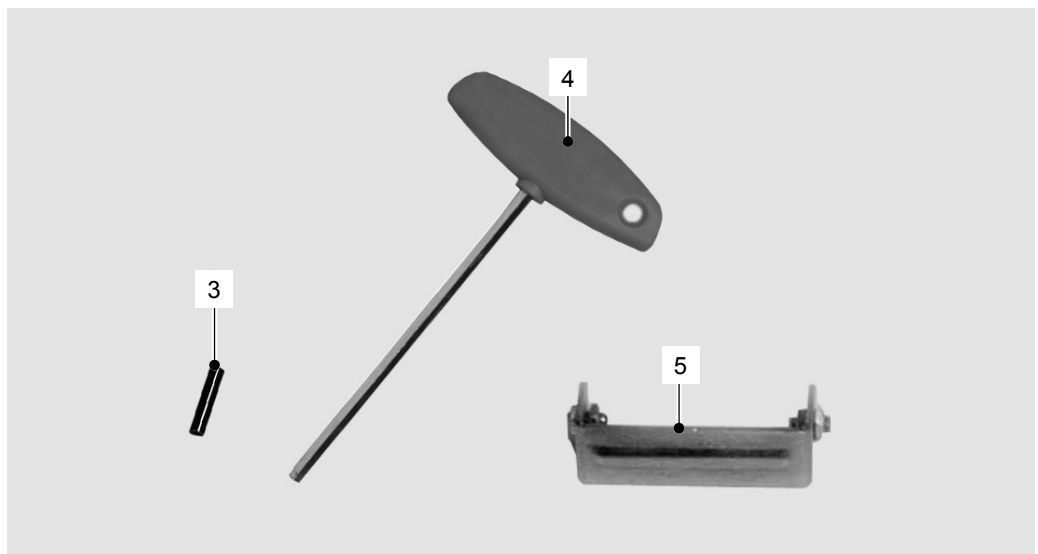
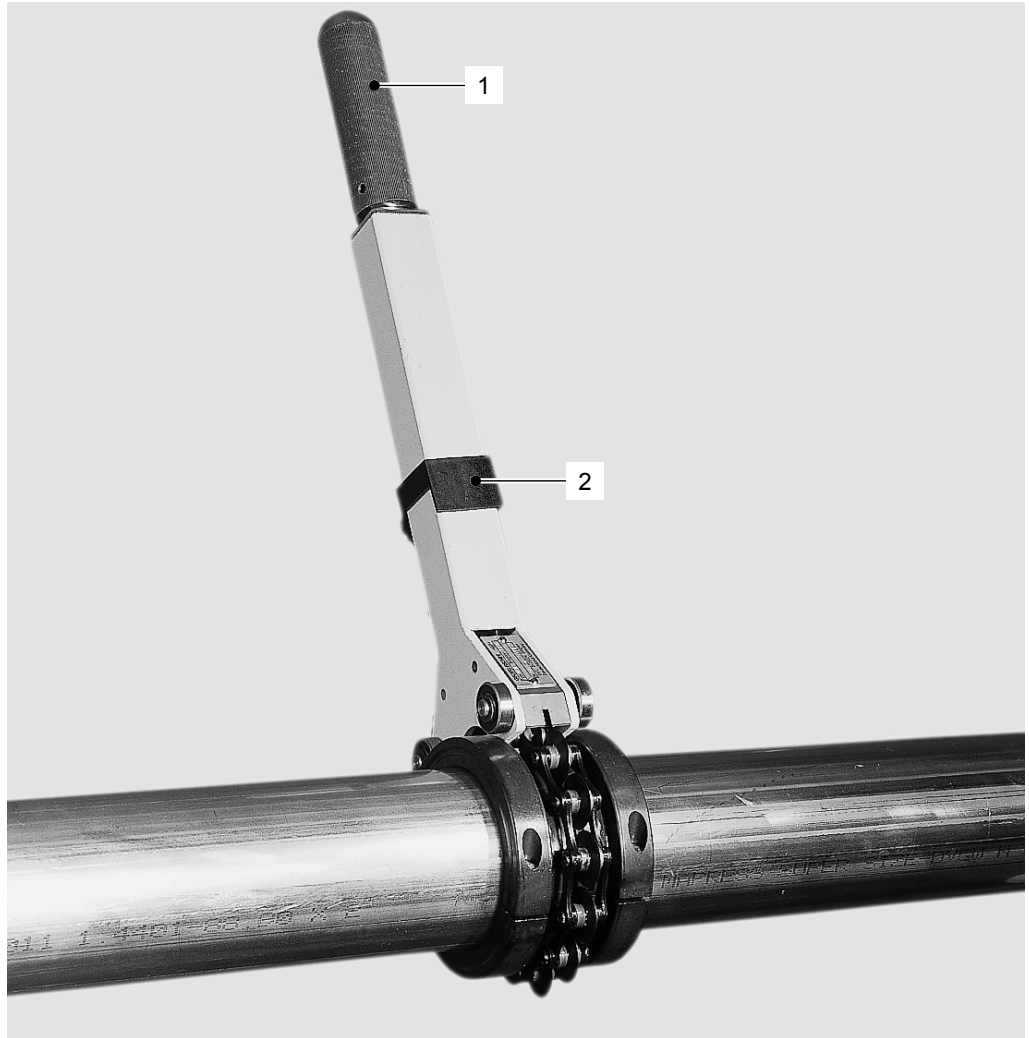


Fig.	Description	Code
1	Feed handle	790 008 816
2	Cutting chain holder	790 008 811
3	Locking pin	790 008 808
4	Allen key	790 008 053
5	Connection clamp for clamping shells	790 008 050

Orbitalum Tools GmbH
Josef-Schüttler-Straße 17
78224 Singen, Deutschland
Tel. +49 (0) 77 31 / 792-0
Fax +49 (0) 77 31 / 792-524
tools@orbitalum.com
www.orbitalum.com

An ITW Company

790 008 762_07/04 (11.08)
© Orbitalum Tools GmbH
D-78224 Singen 2008
Printed in Germany