## CUTTERS

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## Cutters without impacts

These enz $®$ rotating cutters work without impacts. The cutter heads are equipped with hard metal plates, which are able to remove the most any kind of deposits. Their field of application is versatile. Layers of mineral deposits, concrete or concrete sludges can be milled out with them as well as roots and wood.

## Applications

- Concrete or concrete sludges
- Layers of mineral deposits
- Roots, wood


Cutters without impacts 1／4＂

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| 13.028 N | 1／4＂NPT | 1.2 | 5 | $3 \times \mathrm{M} 4$ | $3 \times \mathrm{M} 4$ | $1.1 \times 3.2$ | 0.6 | － | 5，000 |

## Cutters without impacts 1／2＂－1＂



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| 13．040TR | 1／2＂ | 1．7－2．4 | 8 | $2 \times \mathrm{M6}$ | $4 \times \mathrm{M6}$ | － | $1.6 \times 4.3$ | 1.65 | ok | 3，600 |
| 13．060TR | $1{ }^{\prime \prime}$ | 2．4－3．1 | 13 | $2 \times \mathrm{M6}$ | $4 \times \mathrm{M} 8$ | － | $2.4 \times 5.1$ | 4.40 | ok | 3，600 |

## Accessory and wearing parts cutters without impacts



|  |  | Q | ？ | $\square$ |
| :---: | :---: | :---: | :---: | :---: |
| 0013．0605TR | Milling Cutter Head 2．4＂ | 2－3 |  | 1.43 |
| 0013．0405TR | Milling Cutter Head for $1.6^{\prime \prime}$ | 2－2 |  | 0.66 |
| 0013．0404TR－48 | Wear resistant ring for Milling Cutter 40 mm |  |  | 0.15 |
| 0013．0407TR－48 | Wear ring for Milling Cutter 40 mm |  |  | 0.23 |
| 0013．0604TR－68 | Wear resistant ring |  |  | 0.28 |
| 0013．0607TR－68 | Wear ring for Milling Cutter 60mm |  |  | 0.28 |

Screw

## Cutting ball

The CB range (enz cutting ball) is equipped with a carbide root knife or penetrator blade for pipes that are clogged by more than $50 \%$ The CB90 and CB70 (enz cutting ball) work without impact, but are equipped with a plug that can be removed, that creates a vibration in the tool when rotating. (not the CB50). The cutters on the side are self-sharpening and maintain their sharpness over their entire service life. The area of application of the cutting ball is diverse. Due to its spherical shape it can easily navigate bends without damaging the pipe. Moreover, the proven braking system from enz ensures for a lower rotation speed. The CB90 + CB70 are leakage-free and can be operated with recycling water.

- The enz CB cutting balls are particularly suitable for roots in seepage pipes, mineral deposits and limescale.
- All CB cutting balls are supplied in an enz case.



## CB50 1／4＂－1／2＂



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| 420．050A | BSPP 1／4＂ | 2．2－4．0 | 6.6 | $4 \times \mathrm{M6}$ | － | $45^{\circ}$ | $1.9 \times 2.4$ | 0.9 | 2，900 |
| 420.050 AN | 1／4＂NPT | $2.2 \times 4.0$ | 6.6 | $4 \times \mathrm{M6}$ | － | $45^{\circ}$ | $1.9 \times 2.4$ | 0.9 | 2，900 |
| 420．050B | BSPP 3／8＂ | $2.2-4.0$ | 6.6 | $4 \times \mathrm{M6}$ | － |  | $1.9 \times 2.4$ | 0.9 | 2，900 |
| 420.050 BN | 3／8＂NPT | $2.2 \times 4.0$ | 6.6 | $4 \times \mathrm{M6}$ | － |  | $1.9 \times 2.4$ | 0.9 | 2，900 |
| 420．050BS | BSPP 3／8＂ | 2．2－4．0 | 14.5 | $4 \times \mathrm{M6}$ | $4 \mathrm{x} \varnothing 1.3 \mathrm{~mm}$ |  | $1.9 \times 2.4$ | 0.9 | 2，900 |
| 420.050 BSN | 3／8＂NPT | 2．2－4．0 | 14.5 | $4 \times \mathrm{M6}$ | $4 \mathrm{x} \varnothing 1.3 \mathrm{~mm}$ |  | $1.9 \times 2.4$ | 0.9 | 2，900 |
| 420．050C | BSPP 1／2＂ | $2.2 \times 4.0$ | 6.6 | $4 \times \mathrm{M6}$ | － |  | $1.9 \times 2.3$ | 0.9 | 2，900 |
| 420．050CS | BSPP 1／2＂ | 2．2－4．0 | 14.5 | $4 \times \mathrm{M6}$ | $4 \mathrm{x} \varnothing 1.3 \mathrm{~mm}$ |  | $1.9 \times 2.3$ | 0.9 | 2，900 |

## CB70 1／2＂



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| 420．070A | 1／2＂ | 3－5 | 15 | $6 \times \mathrm{M6}$ | － | $2.67 \times 3.6$ | 2.43 | ok | 2，900 |
| 420．070AS | 1／2＂ | 3－5 | 21 | $6 \times \mathrm{M6}$ | $3 \times \mathrm{M} 4$ | $2.67 \times 3.6$ | 2.43 | ok | 2，900 |

CB90 1／2＂


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| 420．090A | 1／2＂ | 4－6 | 16 | $6 \times \mathrm{M} 6$ | － |  | $3.5 \times 3.8$ | 4.94 | ok | 2，900 |
| 420．090AS | 1／2＂ | 4－6 | 21 | $6 \times \mathrm{M} 6$ | $3 \times \mathrm{M} 4$ |  | $3.5 \times 3.8$ | 4.94 | ok | 2，900 |
| 425．090A | 1／2＂ | 4－6 | 16 | $6 \times \mathrm{M} 6$ | － | ＊ | $3.5 \times 3.8$ | 4.94 | ok | 2，900 |
| 425．090AS | 1／2＂ | 4－6 | 21 | $6 \times \mathrm{M} 6$ | $3 \times \mathrm{M} 4$ | ＊ | $3.5 \times 3.8$ | 4.94 | ok | 2，900 |

Accessory cutting balls


## Impact milling cutters

These tools are a radical innovation for milling-off deposits in pipes. The enz $®$ impact milling cutters are designed to remove the most stubborn deposits like concrete, injection cement, mineral deposits etc. They work with a percussion system of 600-3000 impulses per minute and up to 12 tons of impact force.

Please ask for special equipment for plastic deposits! When using the pull rod (drawing device) the cutters can be driven with half the water quantity (from 200 mm ).
Characteristics

- superior performance compared to other cutters
- extended tooth life
- easy handling
- low maintenance cost
- proven design

All impact milling cutters can be operated without impacts.


## Impact milling cutters $1^{\prime \prime}$



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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14.100 | $1 "$ | 4 | 26 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M} 10$ | － | $3.5 \times 13.6$ | 26.46 | － | 2，100 |
| 14.120 | $1{ }^{\prime \prime}$ | 5 | 23 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $4.3 \times 13.6$ | 30.20 | － | 2，100 |
| 14.150 | $1{ }^{\prime \prime}$ | 6 | 40 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $5.1 \times 15.4$ | 47.18 | － | 2，100 |

Impact milling cutters 1＂－1 1／4＂


|  | 星 | Q． | $\cdots$ | $\theta^{\prime \prime}$ | $\cdots$ | $\rightarrow$ | 5 | ！ | 3 | $\frac{111}{\text { max }}$ |
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| 14.400 | 1＂， 1 1／4＂ | 16 | 79 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M} 10$ | － | $14.8 \times 22.0$ | 196.21 | － | 2，100 |
| 14.450 | 1＂， 1 1／4＂ | 18 | 106 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M} 10$ | － | $16.7 \times 28.0$ | 235.90 | － | 2，100 |
| 14.500 | 1＂， 1 1／4＂ | 20 | 119 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $18.7 \times 28.0$ | 244.71 | － | 2，100 |
| 14.600 | 1＂， 1 1／4＂ | 24 | 132 | $3 \times \mathrm{M} 10$ | $3 \times \mathrm{M} 10$ | － | $22.6 \times 28.0$ | 264.56 | － | 2，100 |

Accessory and wearing parts impact milling cutters
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|  |  | Q | $\square$ |
| :---: | :---: | :---: | :---: |
| 0014．100D | Diamond crown | 4 | 1.87 |
| 0014．120D | Diamond crown | 5 | 2.42 |
| 0014．150D | Diamond crown | 6 | 4.96 |
| 0014．200D | Diamond crown | 8 | 6.61 |
| 0014．250D | Diamond crown | 10 | 6.83 |


|  |  | Q | ! |
| :---: | :---: | :---: | :---: |
| 0014.300D | Diamond crown | 12 | 15.65 |
| 0014.350D | Diamond crown | 14 | 28.6 |
| 0014.400D | Diamond crown | 16 | 34.52 |
| 14.400K | Impact drilling cutter head 15.7" | 16 | 26.46 |
| 14.450K | Imact drilling cutter head 17.7" | 18 | 29.76 |
| 14.500K | Impact drilling-cutter head 19.7" | 20 | 37.48 |
| 14.600K | Impact drilling-cutter head 23.6" | 24 | 41.89 |
| 0014.3008 | Additional weight to percussion milling cutter | 12-24 | 14.88 |
| 65212.08 | Nord-Lock wedge lock washers M8 |  | 0.002 |
| 14.K05 | Cam plate 0.19 inch per pc. with screws | 8-24 | 0.44 |
| 14.K04 | Cam plate 0.15 inch per pc. with screws | till 6 | 1.01 |
| 14.D | Spacers for cutter heads per pair |  | 0.65 |
| 14.71 | Cup spring 0.14" - per pc. |  | 0.22 |
| $14 . \mathrm{G}$ | Glide plate cutter 200 - $600$ |  | 0.55 |
| 15.2KB | Center cap with bored hole |  | 1.32 |
| 14.400NA | Hub for impact drillingcutter 15.7" | 16-18 | 26.46 |

Impact milling cutters

|  |  |  | $Q$ | 号 |
| :---: | :---: | :---: | :---: | :---: |
| 14.500NA |  | Hub for impact drillingcutter 19.7" | 20 | 28.00 |
| 14.600NA |  | Hub for impact drillingcutter 23.6" | 24 | 28.00 |
| 15.21-100 |  | Segment tooth for center for 14.100 | 4 | 0.13 |
| 0014.30011 |  | Extension for the shaft of impact milling |  | 0.99 |
| 0014.2257 |  | skid for cutter head Ø225mm |  |  |
| 0014.2007 | $\square$ | Skid for cutter 7.8-9.8 inch | 7.8/9.9 | 2.19 |
| 14.450KU |  | Adapter plates for skids $17.7^{\prime \prime}$ | 18-24 | 35.27 |
| 14.2215ZS | $\mathrm{O}=$ | Pull-rod M22x1.5 $\times 8$ " | 8-24 | 2.21 |

## Recycling IMC

These tools are a radical innovation for milling-off deposits in pipes. The enz $®$ im-pact milling cutters are designed to remove the most stubborn deposits like concrete, injection cement, mineral deposits etc. They work with a percussion system of 600-3000 impulses per minute and up to 12 tons of impact force.
Please ask for special equipment for plastic deposits! When using the pull rod (drawing device) the cutters can be driven with half the water quantity (from 200 mm ).
Characteristics

- to use with recycling water
- superior performance compared to other cutters
- extended tooth life
- easy handling
- low maintenance cost
- proven design

All impact milling cutters can be operated without impacts.


IMC 1＂－11／4＂


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| 14．200R | 1＂， $11 / 4{ }^{\prime \prime}$ | 7.8 | 53 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $6.8 \times 23.6$ | 95.68 | ok | 2，100 |
| 14．225R | 1＂， 1 1／4＂ | 8.9 | 58.1 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $7.9 \times 23.6$ | 101.41 | ok | 2，100 |
| 14．250R | 1＂， 1 1／4＂ | 9.9 | 63.4 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $8.7 \times 23.6$ | 115.74 | ok | 2，100 |
| 14.300 R | 1＂， 1 1／4＂ | 11.8 | 73.9 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $11.8 \times 28$ | 211.6 | ok | 2，100 |
| 14．350R | 1＂， 1 1／4＂ | 13.8 | 73.9 | $3 \times \mathrm{M10}$ | $3 \times \mathrm{M10}$ | － | $13.8 \times 28$ | 218.2 | ok | 2，100 |

## Accessory and wearing parts IMC



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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14．200KR | Impact drilling cutter head 7．9＂ |  | 8 |  |  | 8.16 |  |
| 14．225KR | Impact drilling cutter head 8．9＂ |  | 9 |  |  | 8.16 |  |
| 14．250KR | Impact drilling cutter head 9．8＂ |  | 10 |  |  | 12.13 |  |
| 14．300KR | Impact drilling cutter head 11．8＂ |  | 12 |  |  | 16.54 |  |
| 14．350KR | Impact drilling cutter head 13．8＂ |  | 14 |  |  | 21.83 |  |
| 14．375KR | Impact drilling cutter head 14．76＂ |  | 14.76 |  |  |  |  |
| 15.21 | Impact segment tooth for center |  | 5－6 |  |  | 0.18 |  |
| 15．ZU | Universal tooth（all ø） |  | 4－24 |  |  | 0.18 |  |



