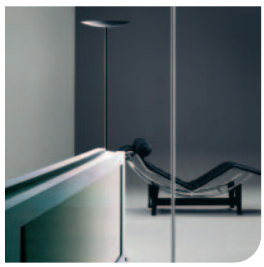
Automotive Electronics

Industrial Electronics



Entertainment Electronics

# Impeder für induktives HF-Schweissen

## Impeder for inductive welding

Consumer Goods Industry

Telecommunications


Lighting Electronics

TÜV CERT ISO TS 16949

KASCHKE KG

GMBH & CO. WWW.KASCHKE.DE

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# Impeder für induktives HF-Schweissen
# Impeder for inductive welding

Die Kaschke KG produziert ein breites Spektrum Impederstäbe für das induktive HF-Schweissen. Diese Ferritimpeder werden als Konzentratoren für den magnetischen Fluss benötigt, um nahtlose Rohre zu fertigen, wie sie in der Öl- oder Gasindustrie Verwendung finden.
Hierfür stehen die beiden Ferritmaterialien K 700 und K 2006 zur Verfügung, die sich vor allem durch folgende Eigenschaften auszeichnen:

- Eine hohe Curietemperatur, und damit eine hohe Anwendungstemperatur
- Eine hohe Flussdichte im Temperaturbereich bis 150 °C
- Niedrige Verlustleistungen im Frequenzbereich bis 500 kHz
- Eine hohe wirksame Permeabilität
- Eine gute Frequenzstabilität der Permeabilität bis 1 MHz

Die Palette der Kaschke-Ferritimpederkerne umfasst 5 verschiedene Kernformen:

- Runde Stabkerne
- Abgeflachte Stabkerne
- Gefiederte Stabkerne
- Runde Hohlzylinderkerne
- Gefiederte Hohlzylinderkerne

in den Durchmessern von 3 mm bis 40 mm
und Längen bis zu 200 mm

Kaschke KG offers a wide range of impeder cores for HF welding applications. The ferrite impeder cores are used for the concentration of magnetic flux, e.g. in the manufacture of seamless tubes, used in the oil and gas industry.

For these applications we offer the special ferrite materials K 700 and K 2006, carrying the following features:

- High Curie temperature and thus a high operating temperature
- High flux density in the temperature range up to 150 °C
- Low losses in the frequency range of up to 500 kHz and more
- High effective permeability
- High frequency stability of the permeability up to 1 MHz

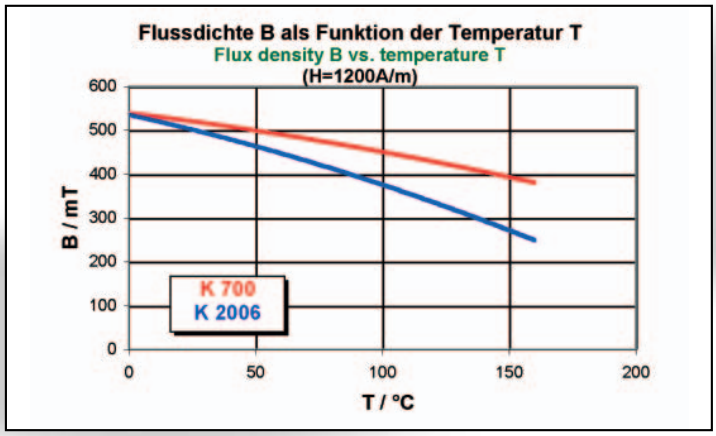
The range of the Kaschke ferrite impeder cores covers the following 5 different core types:

- Solid round rods
- Solid flatsided rods
- Solid fluted rods
- Hollow rods
- Hollow fluted rods

with the diameters of 3 mm up to 40 mm
and lengths of up to 200 mm

**Materialeigenschaften**
**Material characteristics**

| Eigenschaft<br>Physical characteristic | Einheit<br>Unit | K 700 | K 2006 |
|---|---|---|---|
| Anfangsperameabilität $\mu_i$<br>Initial permeabilty $\mu_i$ | - | 700 ± 25% | 2100 ± 25% |
| Fluxdichte B<br>Flux density B<br>bei Feldstärke H<br>at field strength H | mT<br><br>A/m | ≥ 500<br><br>1000 | ≥ 490<br><br>800 |
| Remanenz $B_r$<br>Remanence $B_r$ | mT | ≥ 350 | ≥ 200 |
| Coercivitfeldstärke $H_C$<br>Coercive force $H_C$ | A/m | ≤ 75 | ≤ 20 |
| Curie-Temperatur $\vartheta_C$<br>Curie temperature $\vartheta_C$ | °C | ≥ 330 | ≥ 200 |
| Spez. Widerstand p<br>Resistivity p | Ωm | ≥ 1 | ≥ 1 |

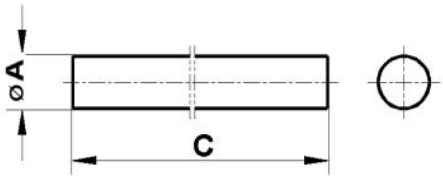


## Impederstäbe
## Impeder cores

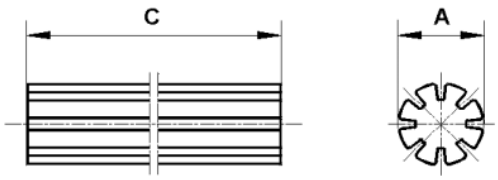
| Typ | Zch.-Nr. | Abmessungen A/mm | Abmessungen C/mm | Nuten | Segmente | EDV-Nr. |
|---|---|---|---|---|---|---|
| Type | Drawing no. | Physical dimension | | Grooves | Segments | EDP no. |
| S 4/200A | 1 | 4,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 042001 xxx |
| S 5/200A | 1 | 5,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 052001 xxx |
| S 6/200A | 1 | 6,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 062001 xxx |
| S 7/200A | 1 | 7,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 072001 xxx |
| S 8/200A | 1 | 8,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 082001 xxx |
| S 10/200A | 1 | 10,0 ± 0,35 | 200 ± 3,0 | | 1 | 402 102001 xxx |
| S 11/200A | 1 | 11,0 ± 0,35 | 200 ± 3,0 | | 1 | 402 112001 xxx |
| S 12/200A | 1 | 12,0 ± 0,35 | 200 ± 3,0 | | 1 | 402 122001 xxx |
| S 14/200A | 1 | 14,0 ± 0,4 | 200 ± 3,0 | | 1 | 402 142001 xxx |
| S 15/200A | 1 | 15,0 ± 0,45 | 200 ± 3,0 | | 1 | 402 152001 xxx |
| S 16/200A | 1 | 16,0 ± 0,5 | 200 ± 3,0 | | 1 | 402 162001 xxx |
| S 18/200A | 1 | 18,0 ± 0,55 | 200 ± 3,0 | | 1 | 402 182001 xxx |
| S 20/200A | 1 | 20,0 ± 0,6 | 200 ± 3,0 | | 1 | 402 202001 xxx |
| S 22/200A | 1 | 22,0 ± 0,65 | 200 ± 3,0 | | 8 | 402 222001 xxx |
| S 5/200B | 2 | 5,0 ± 0,3 | 200 ± 3,0 | 6 | 1 | 402 052004 xxx |
| S 6/200B | 2 | 6,0 ± 0,3 | 200 ± 3,0 | 6 | 1 | 402 062004 xxx |
| S 7/200B | 2 | 7,0 ± 0,3 | 200 ± 3,0 | 6 | 1 | 402 072004 xxx |
| S 8/200B | 2 | 8,0 ± 0,3 | 200 ± 3,0 | 6 | 1 | 402 082004 xxx |
| S 9/200B | 2 | 9,0 ± 0,3 | 200 ± 3,0 | 6 | 1 | 402 092004 xxx |
| S 10/200B | 2 | 10,0 ± 0,35 | 200 ± 3,0 | 6 | 1 | 402 102004 xxx |
| S 11/200B | 2 | 11,0 ± 0,35 | 200 ± 3,0 | 6 | 1 | 402 112004 xxx |
| S 12/200B | 2 | 12,0 ± 0,35 | 200 ± 3,0 | 8 | 1 | 402 122004 xxx |
| S 13/200B | 2 | 13,0 ± 0,35 | 200 ± 3,0 | 8 | 1 | 402 132004 xxx |
| S 14/200B | 2 | 14,0 ± 0,4 | 200 ± 3,0 | 8 | 1 | 402 142004 xxx |
| S 15/200B | 2 | 15,0 ± 0,4 | 200 ± 3,0 | 8 | 1 | 402 152004 xxx |
| S 16/200B | 2 | 16,0 ± 0,5 | 200 ± 3,0 | 8 | 1 | 402 162004 xxx |
| S 17/200B | 2 | 17,0 ± 0,5 | 200 ± 3,0 | 8 | 1 | 402 172004 xxx |
| S 18/200B | 2 | 18,0 ± 0,55 | 200 ± 3,0 | 8 | 1 | 402 182004 xxx |
| S 19/200B | 2 | 19,0 ± 0,55 | 200 ± 3,0 | 8 | 1 | 402 192004 xxx |
| S 20/200B | 2 | 20,0 ± 0,6 | 200 ± 3,0 | 8 | 1 | 402 202004 xxx |
| S 21/200B | 2 | 21,0 ± 0,6 | 200 ± 3,0 | 8 | 8 | 402 212004 xxx |
| S 22/200B | 2 | 22,0 ± 0,65 | 200 ± 3,0 | 8 | 8 | 402 222004 xxx |
| S 23/200B | 2 | 23,0 ± 0,75 | 200 ± 3,0 | 8 | 8 | 402 232004 xxx |
| S 24/200B | 2 | 24,0 ± 0,75 | 200 ± 3,0 | 8 | 8 | 402 242004 xxx |
| S 25/200B | 2 | 25,0 ± 0,75 | 200 ± 3,0 | 8 | 8 | 402 252004 xxx |
| S 3/200C | 3 | 3,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 032003 xxx |
| S 4/200C | 3 | 4,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 042003 xxx |
| S 5/200C | 3 | 5,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 052003 xxx |
| S 6/200C | 3 | 6,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 062003 xxx |
| S 7/200C | 3 | 7,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 072003 xxx |
| S 8/200C | 3 | 8,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 082003 xxx |
| S 9/200C | 3 | 9,0 ± 0,3 | 200 ± 3,0 | | 1 | 402 092003 xxx |
| S 10/200C | 3 | 10,0 ± 0,35 | 200 ± 3,0 | | 1 | 402 102003 xxx |
| S 11/200C | 3 | 11,0 ± 0,35 | 200 ± 3,0 | | 1 | 402 112003 xxx |
| S 12/200C | 3 | 12,0 ± 0,35 | 200 ± 3,0 | | 1 | 402 122003 xxx |
| S 13/200C | 3 | 13,0 ± 0,4 | 200 ± 3,0 | | 1 | 402 132003 xxx |
| S 14/200C | 3 | 14,0 ± 0,4 | 200 ± 3,0 | | 1 | 402 142003 xxx |

„xxx“ muss durch die Materialkennziffer ersetzt werden (K 700: 700; K 2006: 026)
„xxx“ to be replaced by the material code (K 700: 700; K 2006: 026)

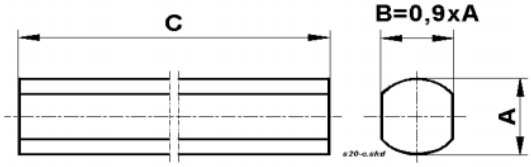
Zeichnung 1
Drawing 1




Zeichnung 2
Drawing 2




Zeichnung 3
Drawing 3

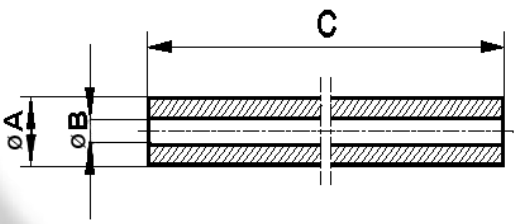


## Hohlzylinderkerne
## Hollow rod

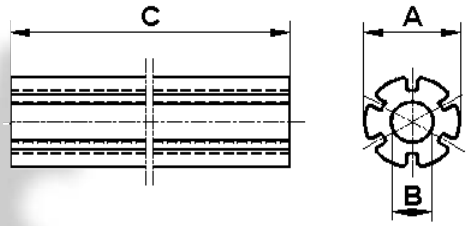
| Typ | Zch.-Nr. | Abmessungen A/mm | Abmessungen B/mm | Abmessungen C/mm | Nuten | Segmente | EDV-Nr. |
|---|---|---|---|---|---|---|---|
| Type | Drawing no. | Physical dimension | | | Grooves | Segments | EDP no. |
| HZ 6/3/200g | 4 | 6,0 ± 0,3 | 3,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 063200 xxx |
| HZ 7/3/200g | 4 | 7,0 ± 0,3 | 3,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 073200 xxx |
| HZ 8/4/200g | 4 | 8,0 ± 0,3 | 4,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 084200 xxx |
| HZ 9/4/200g | 4 | 9,0 ± 0,3 | 4,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 094200 xxx |
| HZ 10/5/200g | 4 | 10,0 ± 0,3 | 5,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 105200 xxx |
| HZ 11/5/200g | 4 | 11,0 ± 0,35 | 5,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 115200 xxx |
| HZ 12/6/200g | 4 | 12,0 ± 0,35 | 6,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 126200 xxx |
| HZ 13/6/200g | 4 | 13,0 ± 0,35 | 6,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 136200 xxx |
| HZ 14/7/200g | 4 | 14,0 ± 0,4 | 7,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 147200 xxx |
| HZ 15/7/200g | 4 | 15,0 ± 0,4 | 7,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 157200 xxx |
| HZ 16/8/200g | 4 | 16,0 ± 0,5 | 8,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 168200 xxx |
| HZ 17/8/200g | 4 | 17,0 ± 0,5 | 8,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 178200 xxx |
| HZ 18/9/200g | 4 | 18,0 ± 0,55 | 9,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 189200 xxx |
| HZ 19/9/200g | 4 | 19,0 ± 0,55 | 9,0 ± 0,3 | 200 ± 3,0 | | 1 | 407 199200 xxx |
| HZ 20/10/200g | 4 | 20,0 ± 0,6 | 10,0 ± 0,35 | 200 ± 3,0 | | 1 | 434 201020 xxx |
| HZ 21/10/200g | 4 | 21,0 ± 0,6 | 10,0 ± 0,35 | 200 ± 3,0 | | 1 | 434 211020 xxx |
| HZ 22/11/200g | 4 | 22,0 ± 0,65 | 11,0 ± 0,35 | 200 ± 3,0 | | 1 | 434 221120 xxx |
| HZ 23/11/200g | 4 | 23,0 ± 0,75 | 11,0 ± 0,35 | 200 ± 3,0 | | 8 | 434 231120 xxx |
| HZ 24/12/200g | 4 | 24,0 ± 0,75 | 12,0 ± 0,35 | 200 ± 3,0 | | 8 | 434 241220 xxx |
| HZ 25/12/200g | 4 | 25,0 ± 0,75 | 12,0 ± 0,35 | 200 ± 3,0 | | 8 | 434 251220 xxx |
| HZ 28/14/200g | 4 | 28,0 ± 0,85 | 14,0 ± 0,4 | 200 ± 3,0 | | 8 | 434 281420 xxx |
| HZ 30/15/200g | 4 | 30,0 ± 0,9 | 15,0 ± 0,45 | 200 ± 3,0 | | 8 | 434 301520 xxx |
| HZ 10/3/200GF | 5 | 10,0 ± 0,35 | 3,0 ± 0,3 | 200 ± 3,0 | 6 | 1 | 391 103206 xxx |
| HZ 11/3/200GF | 5 | 11,0 ± 0,35 | 3,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 113208 xxx |
| HZ 12/4/200GF | 5 | 12,0 ± 0,35 | 4,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 124208 xxx |
| HZ 13/5/200GF | 5 | 13,0 ± 0,35 | 5,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 135208 xxx |
| HZ 14/4/200GF | 5 | 14,0 ± 0,4 | 4,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 144208 xxx |
| HZ 15/4/200GF | 5 | 15,0 ± 0,4 | 4,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 154208 xxx |
| HZ 16/5/200GF | 5 | 16,0 ± 0,5 | 5,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 165208 xxx |
| HZ 17/6/200GF | 5 | 17,0 ± 0,5 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 176208 xxx |
| HZ 18/6/200GF | 5 | 18,0 ± 0,55 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 186208 xxx |
| HZ 19/6/200GF | 5 | 19,0 ± 0,55 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 196208 xxx |
| HZ 20/6/200GF | 5 | 20,0 ± 0,6 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 206208 xxx |
| HZ 21/6/200GF | 5 | 21,0 ± 0,6 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 216208 xxx |
| HZ 22/6/200GF | 5 | 22,0 ± 0,65 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 1 | 391 226208 xxx |
| HZ 23/6/200GF | 5 | 23,0 ± 0,75 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 8 | 391 236208 xxx |
| HZ 24/6/200GF | 5 | 24,0 ± 0,75 | 6,0 ± 0,3 | 200 ± 3,0 | 8 | 8 | 391 246208 xxx |
| HZ 25/10/200GF | 5 | 25,0 ± 0,75 | 10,0 ± 0,35 | 200 ± 3,0 | 8 | 8 | 391 250208 xxx |
| HZ 26/10/200GF | 5 | 26,0 ± 0,75 | 10,0 ± 0,35 | 200 ± 3,0 | 8 | 8 | 391 260208 xxx |
| HZ 28/13/200GF | 5 | 28,0 ± 0,85 | 13,0 ± 0,4 | 200 ± 3,0 | 8 | 8 | 391 283208 xxx |
| HZ 29/10/200GF | 5 | 29,0 ± 0,85 | 10,0 ± 0,35 | 200 ± 3,0 | 8 | 8 | 391 290208 xxx |
| HZ 32/13/200GF | 5 | 32,0 ± 0,95 | 13,0 ± 0,4 | 200 ± 3,0 | 8 | 8 | 391 320208 xxx |
| HZ 33/10/200GF | 5 | 33,0 ± 0,9 | 10,0 ± 0,35 | 200 ± 3,0 | 8 | 8 | 391 330208 xxx |
| HZ 40/20/200GF | 5 | 40,0 ± 1,2 | 20,0 ± 0,6 | 200 ± 3,0 | 8 | 8 | 391 402208 xxx |

„xxx“ muss durch die Materialkennziffer ersetzt werden (K 700:700; K 2006:026)
„xxx“ to be replaced by the material code (K 700:700; K 2006:026)

Zeichnung 4
Drawing 4




Zeichnung 5
Drawing 5

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Informationen über unsere Materialien, sowie über das gesamte Lieferprogramm erhalten Sie über unsere Vertretungen, unsere Homepage *www.kaschke.de* oder aus dem Gesamtkatalog.

If you require further information about our products, do not hesitate to contact our representatives, to visit our homepage, *www.kaschke.de* or just have a look in our complete catalogue.

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