

# CLZ-FP-48/10-HD

CLZ-FP-48/10-HD, Three-phase tubular power capacitor

Code: R2H56B.

> Terminal: A
> Frequency (Hz): 50
> kvar (460 V): 9,2
> kvar (480 V): 10
> Use voltage (V): 480

## Description

**CLZ-HD** (Heavy duty) capacitor range is composed of capacitors with a tubular casing, of the dry-type, covering a wide range of power and voltage ratings, at 50 and 60 Hz. The **CLZ-HD** capacitors are designed to be installed in installations with extreme working conditions. The design, manufacturing and testing processes guarantee the production of top quality and long lasting capacitors. Those **CLZ** capacitors offer a new refrigeration technology by means of nitrogen gas*, being a refrigerating system of high benefits, inert and non flammable.

## Application

Its application is based on compensation in installations with static or variable loads (capacitor banks). Especially designed to be installed in roughly environments with the most extreme conditions due to its longer life and high temperature resistance.



# CLZ-FP-48/10-HD

Tubular capacitor

Code: R2H56B.

## Specifications

### AC power supply

| | |
|---|---|
| Frequency | 50 Hz |

### Electrical characteristics

| | |
|---|---|
| Losses (W) | Dielectric: < 0,2 W / kvar Total: < 0,4 W / kvar |
| Discharge resistance | 50 V / 1 min (0,5 - 30 kvar) 75 V / 3 min (33 - 50 kvar) |
| Surge | 10 % 8h in 24 h 15 % up to 30 min in 24 hours 20 % up to 5 min in 24 hours 30 % up to 1 min in 24 hours |
| Tolerance C | -5 ... +10 % |
| Maximum phase current | 400 x In |
| Maximum transient current | 1,8 In |
| Voltage | 480 V |
| Insulation voltage, circuit | 3 / 8 kV |

### Mechanical characteristics

| | |
|---|---|
| Size (mm) width x height x depth | 85 x 276 x 85 (mm) |
| Envelope | Aluminum |
| Thermal management | Natural or forced depending on the cabinet |
| Fastening | M12 fastening screws earth conductor |
| Weight (kg) | 0,93 |

### Environmental characteristics

| | |
|---|---|
| Relative humidity (without condensation) | 95% |
| Installation, location, position. | Vertical / Horizontal. Minimum distance between condensers 2 cm. |
| Working temperature | Tª class D: Daily average: 45 °C, annual average: 35 °C, maximum: 65 °C, minimum: -50 °C |

### Standards

| | |
|---|---|
| Certifications | VDE 560 |
| Electrical safety, Maximum height (m) | 4000 |
| Standards | IEC 60831-1-1/2 |

### Protection

| | |
|---|---|
| Circuit breaker type | Dielectric regeneration Expansion system |

**CLZ-FP HD 50Hz**
Three-phase tubular power capacitor (Heavy Duty range)



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Code: R2H56B.

| CODE | TYPE | kvar (220 V) | kvar (230 V) | Use voltage (V) | kvar (400 V) | kvar (440 V) | kvar (460 V) | kvar (500 V) | kvar (525 V) | kvar (660 V) | kvar (690 V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Terminal block, Un = 3 x 230 V / 50 Hz** | | | | | | | | | | | |
| R2H516. | CLZ-FP-23/5-HD | 4,6 | 5 | 230 | | | | | | | |
| R2H517. | CLZ-FP-23/6,25-HD | 5,7 | 6,25 | 230 | | | | | | | |
| R2H518. | CLZ-FP-23/7,5-HD | 6,8 | 7,5 | 230 | | | | | | | |
| R2H51B. | CLZ-FP-23/10-HD | 9,15 | 10 | 230 | | | | | | | |
| R2H51D. | CLZ-FP-23/12,5-HD | 11,4 | 12,5 | 230 | | | | | | | |
| R2H51E. | CLZ-FP-23/15-HD | 13,75 | 15 | 230 | | | | | | | |
| **Faston terminal, Un = 3 x 440 V / 50 Hz** | | | | | | | | | | | |
| R2H541. | CLZ-FPT-44/1,25-HD | | | 400 \| 440 | 1 | 1,25 | | | | | |
| R2H542. | CLZ-FPT-44/2,5-HD | | | 400 \| 440 | 2 | 2,5 | | | | | |
| R2H543. | CLZ-FPT-44/3-HD | | | 400 \| 440 | 2,5 | 3 | | | | | |
| R2H544. | CLZ-FPT-44/3,75-HD | | | 400 \| 440 | 3 | 3,75 | | | | | |
| R2H546. | CLZ-FPT-44/5-HD | | | 400 \| 440 | 4 | 5 | | | | | |
| R2H547. | CLZ-FPT-44/6,25-HD | | | 400 \| 440 | 5 | 6,25 | | | | | |
| R2H848. | CLZ-FPT-44/7,5-HD | | | 400 \| 440 | 6,25 | 7,5 | | | | | |
| **Terminal block, Un = 3 x 440 V / 50 Hz** | | | | | | | | | | | |
| R2H54B. | CLZ-FP-44/10-HD | | | 400 \| 440 | 8 | 10 | | | | | |
| R2H54D. | CLZ-FP-44/12,5-HD | | | 400 \| 440 | 10 | 12,5 | | | | | |
| R2H54E. | CLZ-FP-44/15-HD | | | 400 \| 440 | 12,5 | 15 | | | | | |
| R2H54G. | CLZ-FP-44/18,2-HD | | | 400 \| 440 | 15 | 18,2 | | | | | |
| R2H54J. | CLZ-FP-44/20-HD | | | 400 \| 440 | 16 | 20 | | | | | |
| R2H54L. | CLZ-FP-44/25-HD | | | 400 \| 440 | 20 | 25 | | | | | |
| R2H54N. | CLZ-FP-44/30-HD | | | 400 \| 440 | 25 | 30 | | | | | |
| R2H54R. | CLZ-FP-44/40-HD | | | 400 \| 440 | 32 | 40 | | | | | |
| R2H54S. | CLZ-FP-44/50-HD | | | 400 \| 440 | 40 | 50 | | | | | |
| **Faston terminal, Un = 3 x 460 V / 50 Hz** | | | | | | | | | | | |
| R2H857. | CLZ-FPT-46/6,25-HD | | | 460 | | 5,7 | 6,25 | | | | |
| **Terminal block, Un = 3 x 460 V / 50 Hz** | | | | | | | | | | | |
| R2H55D. | CLZ-FP-46/12,5-HD | | | 460 | | 11,4 | 12,5 | | | | |
| R2H55E. | CLZ-FP-46/15-HD | | | 460 | | 13,7 | 15 | | | | |
| R2H55H. | CLZ-FP-46/19-HD | | | 460 | | 17,4 | 19 | | | | |
| R2H55L. | CLZ-FP-46/25-HD | | | 460 | | 22,9 | 25 | | | | |
| R2H55N. | CLZ-FP-46/30-HD | | | 460 | | 27,4 | 30 | | | | |
| R2H55P. | CLZ-FP-46/33.3-HD | | | 460 | | 30,5 | 33,3 | | | | |
| **Faston terminal, Un = 3 x 525 V / 50 Hz** | | | | | | | | | | | |
| R2H876. | CLZ-FPT-52/5-HD | | | 525 | | | | 4,5 | 5 | | |
| **Terminal block, Un = 3 x 525 V / 50 Hz** | | | | | | | | | | | |
| R2H579. | CLZ-FP-52/8-HD | | | 525 | | | | 7,25 | 8 | | |



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Tubular capacitor

Code: R2H56B.

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|---|---|---|---|---|---|---|---|---|---|---|---|
| R2H57B. | CLZ-FP-52/10-HD | | | 525 | | | | 9,1 | 10 | | |
| R2H57D. | CLZ-FP-52/12,5-HD | | | 525 | | | | 11,3 | 12,5 | | |
| R2H57E. | CLZ-FP-52/15-HD | | | 525 | | | | 13,6 | 15 | | |
| R2H57J. | CLZ-FP-52/20-HD | | | 525 | | | | 18,15 | 20 | | |
| R2H57L. | CLZ-FP-52/25-HD | | | 525 | | | | 22,7 | 25 | | |
| R2H57N. | CLZ-FP-52/30-HD | | | 525 | | | | 27,2 | 30 | | |
| R2H57P. | CLZ-FP-52/37,5-HD | | | 525 | | | | 34 | 37,5 | | |
| R2H57R. | CLZ-FP-52/40-HD | | | 525 | | | | 36,3 | 40 | | |
| R2H57S. | CLZ-FP-52/50-HD | | | 525 | | | | 45,4 | 50 | | |
| **Terminal block, Un = 3 x 690 V / 50 Hz** | | | | | | | | | | | |
| R2H598. | CLZ-FP-69/7,5-HD | | | 690 | | | | | | 6,9 | 7,5 |
| R2H59B. | CLZ-FP-69/10-HD | | | 690 | | | | | | 9,15 | 10 |
| R2H59D. | CLZ-FP-69/12,5-HD | | | 690 | | | | | | 11,4 | 12,5 |
| R2H59E. | CLZ-FP-69/15-HD | | | 690 | | | | | | 13,7 | 15 |
| R2H59J. | CLZ-FP-69/20-HD | | | 690 | | | | | | 18,3 | 20 |
| R2H59L. | CLZ-FP-69/25-HD | | | 690 | | | | | | 22,9 | 25 |
| R2H59N. | CLZ-FP-69/30-HD | | | 690 | | | | | | 27,5 | 30 |
| R2H59R. | CLZ-FP-69/40-HD | | | 690 | | | | | | 36,6 | 40 |
| R2H59S. | CLZ-FP-69/50-HD | | | 690 | | | | | | 45,75 | 50 |

All models are of the inert gas type, except for those with a 63.5 mm diameter and 136x355 mm size. The dimensions (dxh) are shown for the tube only. Please consult the dimensions drawing at the end of this section for more information about the actual dimensions. Terminal: maximum cross-section of type A cables: 16 mm2, type B: 25 mm2, type C: 35 mm2, F: Faston 6.3x0.8 mm and 12 A maximum current



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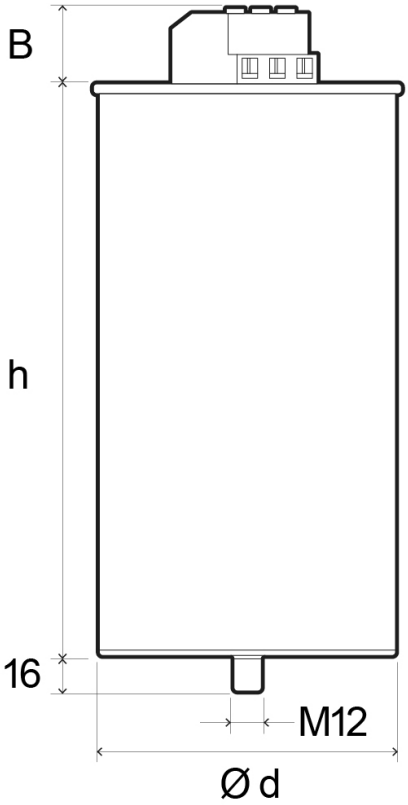
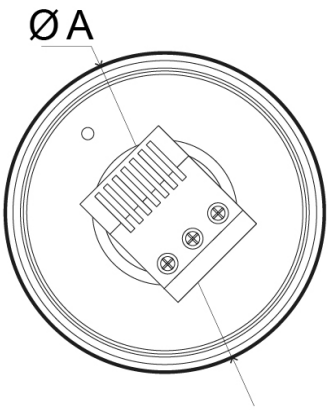
## Dimensions




| mm | d Ø | h | B | A Ø |
|---|---|---|---|---|
| 85x175 | 85 | 175 | 31 | 90 |
| 85x245 | 85 | 245 | 31 | 90 |
| 100x245 | 100 | 245 | 31 | 105 |
| 116x245 | 116 | 245 | 35 | 121 |
| 136x220 | 136 | 220 | 35 | 141 |
| 136x261 | 136 | 261 | 35 | 141 |
| 136x355 | 136 | 355 | 46 | 141 |