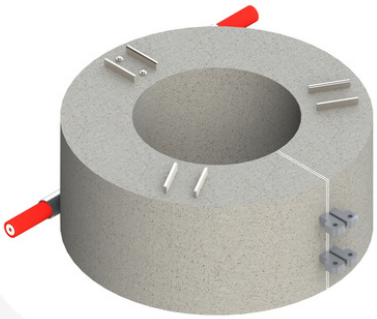
MagPower-3H™ Transformer

A Groundbreaking Medium Frequency Transformer for Solid-State Transformers



Single-phase

Introduction

The MagPower-3H™ (High Power, High Voltage, High Frequency) is an innovative medium frequency transformer specifically engineered for solid-state transformers. It offers exceptional performance, competitive pricing, reliability, and safety, making it the ideal choice for data centers and renewable energy applications. This technology is developed in partnership with the global leaders in the cement and concrete spaces.

Core Advantages

Patented Technology

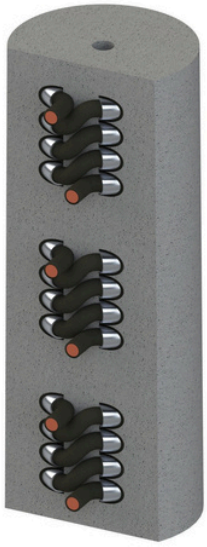
Combines patented magnetizable concrete with proprietary insulation and winding technologies.

High Performance

Low losses at high frequencies yield high efficiencies for demanding AC & DC grid applications.

Safe & Eco-Friendly

Forced air-cooled, Oil-free design with no fire risk. Magnetic aggregates obtained from recycling for cost efficiency.



Three-phase

Overview

Shape: Ring embedded coil

Core Material: Magnetizable concrete MC60®

Winding Material:

- Primary: high voltage cable
- Secondary: aluminum cavity

Phases: 1-phase/3-phase

Manufacturing: Scalable production at pre-casting plants

Specifications

Rated Power: 200 kVA - 5 MVA

Primary Voltage: Up to 36 kV

Secondary Voltage: Up to 1.5 kV

Frequency: 20 - 100 kHz

Current: Up to 300 A

Turns Ratio: 1:1 to 4:1

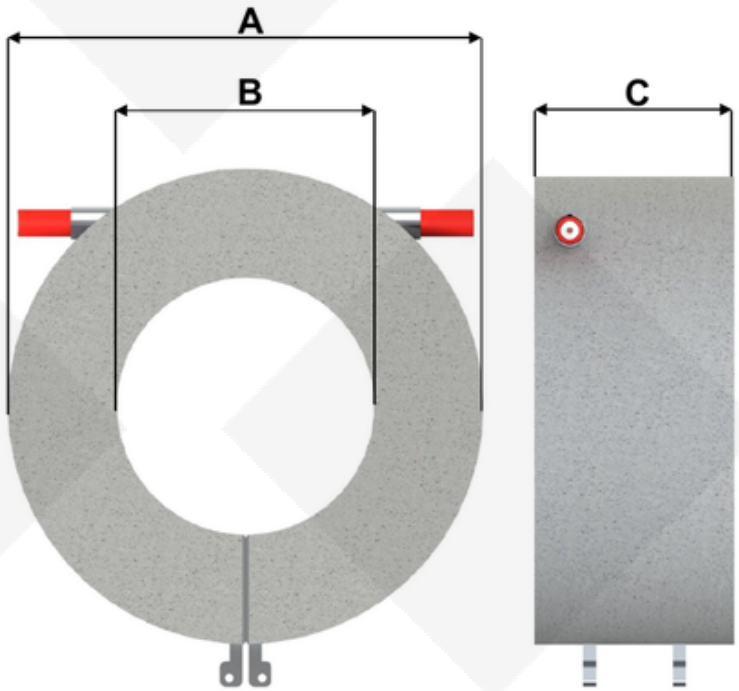
Efficiency: > 99%

Power Density: > 16 MW/m^3

Example 1 MVA

Part number: 3H-1M-36-24-4N-1P

Max. Power Rating:	1 MVA	**Dimensions:**	**A:**	73 ± 1 cm
Max. Primary Voltage:	36 kV		**B:**	40 ± 1 cm
Operating Frequency:	25 - 50 kHz		**C:**	31 ± 1 cm
Turns Ratio:	4:1	**Weight:**	320 ± 5 kg	
Phases:	1-Phase			
Primary Inductance:	175 µH ± 5%			
Midband Efficiency:	99.5%			
BIL (1.2/50 µs):	200 kV			
PD (inception & extinction voltages > 36 kV):	< 10 pC			



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