

GEIS

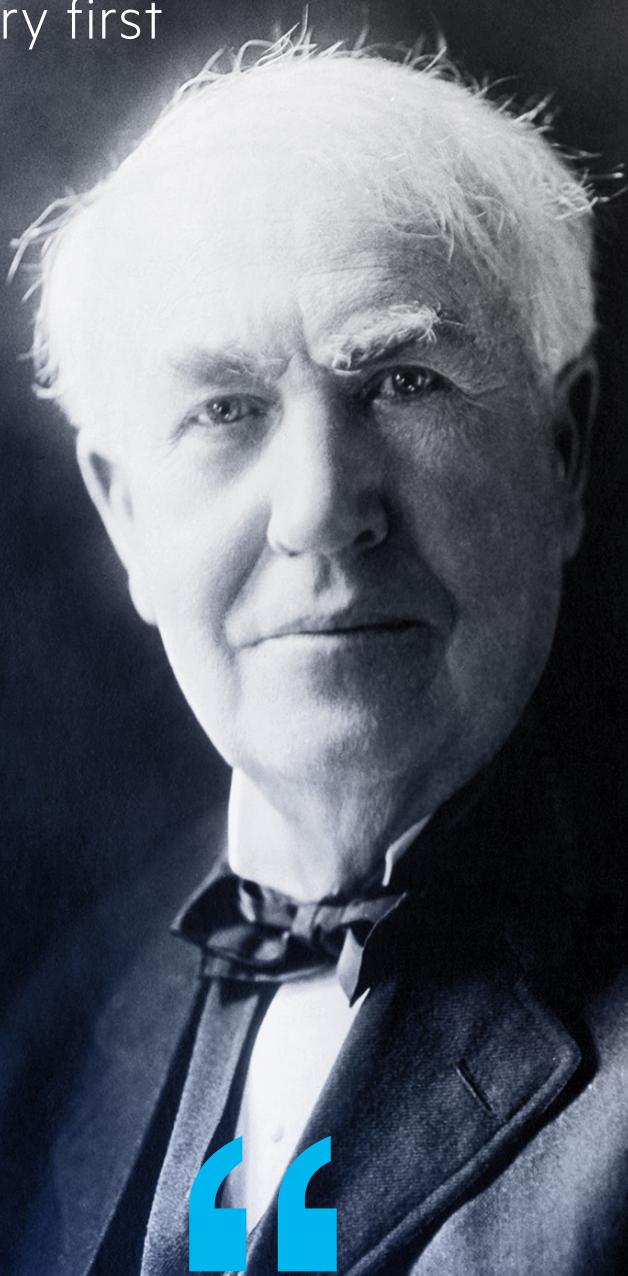
WaveFlo Oil-Immersed Transformers

GEIS Electrical Protection

Safer Smarter Greener



In 1879,
Thomas Edison
devised The very first
circuit breaker...



**I find out what the world needs...
then I proceed to invent it.**

— Thomas A. Edison

About GEIS

GEIS was established in 2019 following the spin-off of several businesses and assets that ABB had acquired from GE on July 1, 2018, include 3 manufacturing centers, Warehousing & Trading business at FTZ, China Technology Center.

- Components: Full range of circuit breakers up to 40.5kV: Medium voltage vacuum circuit breakers, LV circuit breakers: ACB, MCCB, MCB, RCD, RCBO: Control components.
- Equipment: MV switchgear (Air insulation and Gas Insulation Technology), LV switchgear, switchboard.
- Medium voltage cast coil dry type transformer.
- Medium voltage ATS system (Paralleling Switchgear).

After the separation, all the above product lines were rebranded as AEG for the China market and GEIS for global markets.



Quality is Built-in

Vertical integrated Manufacturing Center

- Over 25 years of experience in localizing world-class products and manufacturing technologies, building strong expertise and a capable team.
- Consolidated most manufacturing processes under a single 60,000-square-meter facility in Shanghai.
- A strong R&D team dedicated to developing products that meet global standards and diverse applications.
- GEIS Thailand facility focuses on NEMA product lines.



GEIS deliver complete range of products for the evolving electrification needs:



SecoVac VCB



M-PACT Plus ACB



Elfa Series MCB/RCBO



EV Charger



SecoGear MV Switchgear



RMU Gas Insulated Switchgear



WaveCast Transformer



MLS LV Switchgear

WaveFlo Oil-Immersed Transformers

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WaveFlo® Inquiry Form

Product

Overview

WaveFlo™ oil-immersed distribution transformers from GEIS deliver exceptional reliability, efficiency, and durability for modern power networks. Engineered with advanced electromagnetic designs, premium core materials, and robust insulation, they provide long-term stability and minimize downtime.

WaveFlo is fully compliant with IEC 60076 and IEEE C57.12.00 standards for power and distribution transformers.



Technology

Reliable by Design

- High-grade silicon steel core with step-lap construction
- Low no-load loss and low noise performance
- Enhanced oil-duct design improves cooling efficiency
- Corrugated tank design for superior mechanical strength



High Performance Engineering

- Sealed transformer design with optional off-circuit tap changer
- Layer-type windings for balanced ampere-turn distribution
- Strong resistance against short-circuit mechanical forces
- WaveFlo™ Corrugated Fin-Wall Tank: larger heat dissipation surface, self-adjusting oil expansion compensation, fully sealed and maintenance-free — engineered for decades of reliable, trouble-free operation.



High Quality Manufacturing

- Continuous or inner-continuous HV coil design
- Reduced winding temperature rise with guided oil flow
- Reinforced structural supports increase short-circuit strength
- Low partial-discharge insulation layout



High Efficiency

- High-permeability grain-oriented steel core
- Up to 27% lower load losses than typical products
- Lower Total Ownership Cost (TOC)

Specifications

Parameter	Typical Range
Rated Capacity	250–10000 kVA
Primary Voltage	3.3–40.5 kV
Secondary Voltage	0.4–21 kV
Cooling Method	ONAN / ONAF
Frequency	50 / 60 Hz
Tapping Range	±2×2.5% / ±5% / ±10%
Standards	IEC 60076 Series IEEE C57.12.00

Features

- High-efficiency oil-immersed transformer design with aluminum or copper windings
- Corrugated tank construction providing superior mechanical strength and thermal performance
- Flexible cooling configurations: ONAN / ONAF; available in sealed or conservator-type designs
- Enhanced safety & protection features: temperature indicators, pressure relief device (PRD), optional Buchholz relay, and corrosion-resistant tank coating
- Sustainable insulation options: natural ester oil available for environmentally friendly applications
- Smart-Grid ready: advanced monitoring functions such as DGA (Dissolved Gas Analysis), thermal sensors, and IoT gateway for real-time diagnostics and reduced maintenance costs

Applications



- Utility & Infrastructure: substations, grid reinforcement, hospitals, universities
- Industrial: mining, steel, manufacturing, chemical plants
- Renewable Energy: wind power, solar PV, ESS, microgrids

WaveFlo® Inquiry Form

1. Project Information

Project name / Location: _____ End user: _____
 Customer / EPC / Consultant: _____
 Applicable standard: IEC 60076 IEEE/ANSI C57 Other: _____

2. Rating & Electrical Data

Rated power (kVA): _____ HV rated voltage (kV): _____
 Tapping range & steps: [e.g. $\pm 2 \times 2.5\%$, 5 steps, OCTC] _____
 LV rated voltage (V): [e.g. 400 V, 433 V, etc.] _____
 Frequency: 50 Hz 60 Hz
 Vector group: [e.g. Dyn11, Yyn0, etc.] _____
 Short-circuit impedance at 75°C (%): [typical 4–7 %] _____
 No-load loss / Load loss (W) at 75°C: _____ / _____ Guarantee required Max. values
 Insulation level (LI/AC) & BIL (kV): _____
 Sound level (dB (A)): Guarantee required
 Connection type: HV/LV bushings (air) HV/LV cable box Plug-in

3. Construction & Materials

Cooling: ONAN ONAF (_____ / _____ kVA) KNAN (Ester)
 Oil preservation: Sealed (with conservator + silica gel breather) Open (conservator) Hermetically sealed (no breather)
 Oil type: Mineral oil Natural Synthetic ester
 Winding material: Copper/Copper Alu/Alu Cu/Al (hybrid)
 Core type: 3-limb stacked 5-limb stacked
 Tap changer: Off-circuit (OCTC) On-load (OLTC) make: _____

4. Standard Scope of Supply (always included unless stated otherwise)

- Oil temperature indicator (OTI) with contacts
- Magnetic oil level gauge
- Buchholz relay (for conservator type)
- Filling plug, drain valve, earthing terminals
- Rating plate (stainless steel) + routine test report
- Winding temperature indicator (WTI) with contacts
- Pressure relief device (PRD)
- Double float type
- Lifting lugs, jacking pads, bidirectional rollers

5. Optional Accessories & Features (please tick if required)

- LV air-insulated cabinet with MCCB/ACB
- DGPT2 or DGPT2+ gas & pressure relay
- Oil sampling device
- Special paint (C5M coastal, color _____)
- Remote monitoring (sensors + RTU)
- HV/LV cable boxes (disconnector, glands, etc.)
- Sudden pressure relay (SPR)
- Anti-vibration pads
- Plug-in HV bushings (EN 50181)
- Other: _____

6. Installation & Environment

Installation: Outdoor Indoor Max./Min. ambient temperature (°C): _____ / _____ Average ambient temperature (°C): _____
 Altitude above sea level (m): _____ ($> 1,000$ m \rightarrow derating)
 Environment: Normal Polluted Coastal/corrosive Seismic zone
 Special requirements (fire class K, low noise, etc.): _____

7. Commercial

Quantity: _____ units Delivery terms: EXW FOB CIF DDP site
 Warranty period required: _____ months (standard 24 months)
 Special documents/certificates needed: _____

8. Contact

Name & company: _____ E-mail: _____
 Phone: _____ Date: _____

* GEIS WaveFlo® provides oil immersed transformers from voltage range 3.3kV-40.5 kV , 250-10,000 kVA
 (Special requirement please contact GEIS sales team)

GEIS

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