

GEIS

WaveFlo Oil-Immersed Transformers

GEIS Electrical Protection

Safer Smarter Greener



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 selected markets 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



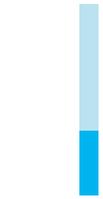
RMU Gas Insulated Switchgear



WaveCast Transformer



MLS LV Switchgear



WaveFlo Oil-Immersed Transformers

Catalogue

A

Product

Overview

Technology

Technical Parameters

B

Specifications

Testing

Features

Applications

C

WaveFlo® Inquiry Form

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)



Product

Technical Parameters

12kV and below, 50Hz,three-phase, ONAN, Dyn11, copper winding, OCTC

A. STANDARD-LOSS

Capacity (kVA)	Voltage (HV/LV)		No load loss (kw)	Load loss (kw)	Impedance (%)	Weight (kg)	DimensionsL×W×H (mm)	Gauge distance D×E (mm)
160	12 11 10 6	0.4 0.415 0.433 0.48 0.69	0.28	2.31	4	585	1050×715×945	550×550
200			0.34	2.73	4	695	1145×805×955	550×550
250			0.4	3.2	4	820	1200×830×1035	550×550
315			0.48	3.83	4	960	1275×845×1080	550×550
400			0.57	4.52	4	1135	1365×930×1105	550×550
500			0.68	5.41	4	1360	1485×1050×1165	660×660
630			0.81	6.2	4.5	1605	1495×1025×1185	660×660
800			0.98	7.5	4.5	2085	1650×1110×1280	660×660
1000			1.15	10.3	4.5	2435	1690×1190×1405	820×820
1250			1.36	12	4.5	2850	1780×1220×1560	820×820
1600			1.64	14.5	4.5	3700	1890×1280×1635	820×820
2000			1.94	18.3	5	4200	1980×1310×1635	820×820
2500			2.29	21.2	5	5010	2115×1330×1825	1070×1070

B. LOW-LOSS

Capacity (kVA)	Voltage (HV/LV)		No load loss (kw)	Load loss (kw)	Impedance (%)	Weight (kg)	DimensionsL×W×H (mm)	Gauge distance D×E (mm)
160	12 11 10 6	0.4 0.415 0.433 0.48 0.69	0.18	1.85	4	825	900×740×1045	550×550
200			0.215	2.185	4	870	1055×675×1075	550×550
250			0.26	2.56	4	1055	1165×775×1120	550×550
315			0.305	3.065	4	1305	1360×900×1205	660×660
400			0.37	3.615	4	1555	1285×845×1280	660×660
500			0.43	4.33	4	1775	1385×890×1320	660×660
630			0.51	4.96	4.5	2110	1495×1025×1185	660×660
800			0.63	6	4.5	2485	1510×985×1385	660×660
1000			0.745	8.24	4.5	2915	1650×1150×1465	820×820
1250			0.87	9.6	4.5	3685	1780×1220×1560	820×820
1600			1.05	11.6	4.5	4425	1890×1280×1680	820×820
2000			1.225	14.64	5	5145	1980×1320×1795	820×820
2500			1.44	16.96	5	6240	2100×1300×2065	1070×1070

12kV and below, 50Hz,three-phase, ONAN, Dyn11, copper winding, OCTC

Capacity (kVA)	Voltage (HV/LV)		No load loss (kw)	Load loss (kw)	Impedance (%)	Weight (kg)	DimensionsL×W×H (mm)	Gauge distance D×E (mm)
160	24 23 22 20	0.4 0.415 0.433 0.48 0.69	0.29	2.54	5.5	855	910×805×1145	550×550
200			0.34	3	5.5	860	1220×795×1105	550×550
250			0.4	3.52	5.5	950	1275×860×1085	550×550
315			0.48	4.21	5.5	1280	1300×900×1120	550×550
400			0.57	4.97	5.5	1290	1495×990×1240	550×550
500			0.68	5.94	5.5	1555	1570×1045×1250	660×660
630			0.81	6.82	6	1840	1605×1095×1255	660×660
800			0.98	8.25	6	2185	1710×1195×1325	660×660
1000			1.15	11.33	6	2540	1820×1265×1430	820×820
1250			1.38	13.2	6	3125	1880×1285×1625	820×820
1600			1.66	15.95	6	3790	1950×1310×1650	820×820
2000			1.95	19.14	6	4050	2050×1290×1900	820×820
2500			2.34	22.22	6	5500	2200×1450×2000	1070×1070

35kV and below, 50Hz,three-phase, ONAN, Dyn11, copper winding, OCTC

Capacity (kVA)	Voltage (HV/LV)		No load loss (kw)	Load loss (kw)	Impedance (%)	Weight (kg)	DimensionsL×W×H (mm)	Gauge distance D×E (mm)
160	35 33 34.5 31.5	0.4 0.415 0.433 0.48 0.69	0.28	2.82	6.5	1485	1310×1130×1900	550×550
200			0.34	3.32	6.5	1540	1450×820×1970	660×660
250			0.4	3.95	6.5	1720	1620×930×1910	660×660
315			0.48	4.75	6.5	2030	1510×840×2075	660×660
400			0.58	5.74	6.5	2300	1750×870×2095	660×660
500			0.68	6.91	6.5	2630	1795×910×2140	660×660
630			0.83	7.86	6.5	3120	1720×1295×2180	660×660
800			0.98	9.4	6.5	3570	1740×1490×2230	820×820
1000			1.15	11.5	6.5	4380	1960×1510×2330	820×820
1250			1.4	13.9	6.5	4980	1990×1730×2380	820×820
1600			1.69	16.6	6.5	5885	2155×1810×2510	1070×1070
2000			1.99	19.7	6.5	6340	2520×1995×2530	1070×1070
2500			2.36	23.2	6.5	7210	2630×2030×2840	1070×1070

Product

35kV and below, 50Hz, three-phase, ONAN, Yd11, copper winding, OCTC

Capacity (kVA)	Voltage (HV/LV)		No load loss (kw)	Load loss (kw)	Impedance (%)	Weight (kg)	Dimensions L×W×H (mm)	Gauge distance D×E (mm)
1000	35 33 34.5 31.5	3.15 6.3 10.5 11	1.15	11.5	6.5	3390	2500×1690×2590	1070×1070
1250			1.4	13.9	6.5	3650	2520×1790×2590	1070×1070
1600			1.69	16.6	6.5	4220	2560×1910×2620	1070×1070
2000			2.17	18.3	6.5	4770	2650×1955×2700	1070×1070
2500			2.56	19.6	6.5	5560	2720×2135×2780	1070×1070
3150			3.04	23	7	6280	2800×2180×2800	1070×1070
4000			3.61	27.3	7	7720	2880×2390×2910	1070×1070
5000			4.32	31.3	7	8650	2980×2520×2990	1070×1070
6300			5.24	35	8	10410	3215×2380×3275	1475×1475
8000			7.2	38.4	8	12650	3360×3170×3280	1475×1475
			8.7	45.3	8	14850	3515×3280×3500	1475×1475
			10	53.8	8	16380	3690×3320×3570	1475×1475
			12.1	65.8	8	20185	4065×3490×3730	1475×1475

35kV and below, 50Hz, three-phase, ONAN, Yd11, copper winding, OLTC

Capacity (kVA)	Voltage (HV/LV)		No load loss (kw)	Load loss (kw)	Impedance (%)	Weight (kg)	Dimensions L×W×H (mm)	Gauge distance D×E (mm)
3150	35 33 34.5 31.5	3.15 6.3 10.5 11	3.23	24.7	7	8960	2865×2180×2750	1070×1070
4000			3.87	29.1	7	10020	3425×2420×3010	1070×1070
5000			4.64	34.2	7	11975	3980×3080×3130	1070×1070
6300			5.63	36.7	8	13560	4000×3100×3170	1070×1070
8000			7.87	40.6	8	16230	4470×3100×3170	1475×1475
10000			9.28	48	8	18640	4520×3590×3570	1475×1475
12500			10.9	56.8	8	21710	4570×3070×3770	1475×1475
16000			13.1	70.3	8	22910	5030×4170×3840	1475×1475
20000			15.5	82.7	8	30840	5070×4000×3910	1475×1475
25000			18.3	97.8	10	38540	5720×4220×3970	1475×1475

The above dimensions and losses will be adjusted according to the product optimization with final drawing approval.

Specifications

Testing



实验室名称: 苏州电器科学研究院股份有限公司
 国家电器产品质量检验检测中心
 Lab Name: Suzhou Electrical Apparatus Science Research Institute Co., Ltd.
 China National Center for Quality Inspection and Test of Electrical Apparatus Products

No. 24M1229-S

型式试验报告 Type Test Report

委托单位: 安奕极电气工业系统(上海)有限公司
 Client: AEG Electric (Shanghai) Co., Ltd.
 产品名称: 有载调压电力变压器
 Name of Product: On-load voltage regulating power transformer
 产品型号: SZ22-31500/35-NX1
 Product Type: SZ22-31500/35-NX1
 检验类别: 型式试验
 Test Category: Type test



本实验室对出具的检验(试验)结果负责, 未经实验室书面同意, 不得部分地复制本报告。

The laboratory is responsible for the inspection (Test) results. The report shall not be reproduced except in full, written approval of the laboratory.



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. ±2×2.5 %, 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 Winding temperature indicator (WTI) with contacts
 Magnetic oil level gauge Pressure relief device (PRD)
 Buchholz relay (for conservator type) Double float type
 Filling plug, drain valve, earthing terminals Lifting lugs, jacking pads, bidirectional rollers
 Rating plate (stainless steel) + routine test report

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

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

6. Installation & Environment

Installation: Outdoor Indoor Max./Min. ambient temperature (°C): ____ / ____ Average ambient temperature (°C): _____
 Altitude above sea level (m): _____ (>1,000 m → 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

GEIS Electric
Website: www.geis.tech
Hotline: +86 400-820-5234

This catalog may be subjected to revision without prior notice.
Version No.: GENCLVBM26V2

