



HENG FENG YOU  
• Make Life Better •

PRODUCT MANUAL version 2022-06

# SINGLE-PHASE TRANSFORMER

HENGFENGYOU ELECTRIC GROUP



[www.hengfengyou.com](http://www.hengfengyou.com)

# 01

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## ABOUT HENGFENGYOU ELECTRIC

HENGFENGYOU ELECTRIC GROUP, is an electrical enterprise with transmission and distribution industry as its main business, integrating product research and development, manufacturing and trade. Designated suppliers for the world's top 500 enterprises. Its main products include power transformers, medium and low voltage switchgear, distribution panel, circuit breakers, transmission tower, Cable and other power distribution equipment. The group has five departments: Transformer department, Panel department, power transmission tower department, cable department and electrical engineering department. HENGFENGYOU ELECTRIC GROUP has been working hard to provide the best transmission, distribution solutions for users all over the world.

### Key figures

- Since: 1990
- Revenue in 2018: 635 million yuan
- 550 employees and 30 Electrical Engineers
- 6 production sites in China
- 6% of revenue is invested in R &D

### Single-phase Transformer solutions that drive the global energy transition

With energy demand expanding in both developed and emerging countries, the challenge for HENGFENGYOU Group is to connect energy with people. The group's teams work as closely as possible with projects and decision makers and design and propose technical and process solutions based on global user needs.



## HENGFENGYOU ELECTRIC

### • Business area

HENGFENGYOU ELECTRIC GROUP designs, manufactures and sells global solutions and equipment for public utilities and private medium and low voltage distribution networks.

Hengfengyou Electric Group's business area is global power distribution equipment demand, fully meet the different power distribution equipment demand of more than 50 countries around the world.

### • Grow business with Hengfengyou

Our goal is to become the world's leading manufacturer of electrical equipment. The business, experience and technology accumulated over the years have benefited customers in more than 50 countries around the world. Once our customers establish a cooperative relationship, they are long-term trusted customers, because HENGFENGYOU ELECTRIC GROUP always insists on providing you with our best electrical products and services.

### Qingdao Hengfengyou Electrical Engineering Co., Ltd

Smart Electric Global Service provider, Make life better!

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### • The team energy

The HENGFENGYOU ELECTRIC team achieves synergy within the team to develop and produce specific solutions that meet all customer needs.

Our equipment is designed and researched by R&D services according to each country's electrical standards and helps manage your distribution network for optimal efficiency.

HENGFENGYOU's state-of-the-art production workshop and production equipment will produce high quality products according to your specifications.

HENGFENGYOU ELECTRIC GROUP has a certified quality control laboratory where electrical products are tested out of factory to ensure the reliability and optimal life of our products.

### • Innovative development

For more than 30 years, HENGFENGYOU ELECTRIC GROUP has been designing innovative power distribution solutions to improve network security, optimize facility efficiency and become more environmentally friendly.

Every year, HENGFENGYOU ELECTRIC GROUP spends 6% of its revenue on research and development and innovation of energy saving development of distribution transformers; Intellectualization of distribution boards and substations; Research, development and improvement of transmission tower and cable materials. The R&D division has more than 30 engineers and technicians dedicated to designing and deploying new electrical solutions. Continuously meet the global demand for energy saving and intelligent electrical.

Qingdao International academician port Qingdao MINGSI is introduced as the strategic partner of Technology Co., Ltd. to provide smart power consumption solutions for global users. Through the intelligent monitoring of the Internet of things system, it can realize the remote monitoring, early warning, control and management of enterprise power transmission and distribution equipment and power consumption equipment, and finally achieve the goal of reducing fire accidents, reducing operating costs, and improving enterprise management efficiency.

HENGFENGYOU ELECTRIC

# SMART ELECTRIC GLOBAL SERVICE PROVIDER

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· Grow business with HENGFENGYOU ELECTRIC GROUP

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HENGFENGYOU ELECTRIC GROUP always adhere to carry forward the "integrity, innovation, achievement customer" of the enterprise purpose, to "quality products, the whole heart service" for the business of the team spirit, wholeheartedly for customers at home and abroad to provide excellent products and satisfactory service, is committed to be "Smart Electric Global Service provider" around the world, and sincerely hope to build a future with customers at home and abroad long-term win-win cooperation!

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## PRODUCT OVERVIEW

The HENGFENGYOU overhead transformer may be used alone for the supply of a single phase load or as one of three units in a bank for the supply of a three phase load. The unit may be direct mounted to a wooden or concrete pole, or cluster mounted on a pole for three phase use. Our single phase overhead distribution transformer is commonly used in various places including rural areas, remote regions and scattered villages to provide high quality power supply for daily lighting, agricultural production and industrial plants.

Offers 2 basic transformer types and 2 kinds of metal core types Conventional type and Complete Self Protect type, and for the transformer core, 2 types of materials are available: C.R.G.O. core and amorphous metal core.

### Executive Standards

IEEE Std C57.12.00TM-2000 standard – IEEE Standard for Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers.

IEEE Std C57.12.20TM-2005 standard – IEEE Standard for Overhead-Type Distribution Transformers, 500kVA and Smaller: High Voltage, 34500V and Below; Low Voltage, 7970/13800Y V and below.

IEEE Std C57.12.31TM-2010 standard – IEEE Standard for Pole Mounted Equipment – Enclosure Integrity

IEEE Std C57.12.35TM-1996 standard – IEEE Standard for Bar Coding for Distribution Transformers

IEEE Std C57.12.90TM-2006 standard – IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers.

IEEE Std C57.12.91TM-2001 standard – IEEE Guide for Loading Mineral-Oil-Immersed Transformers.

IEEE Std C57.154TM-2012 standard (Pending Approval)– IEEE Standard for the Design, Testing and Application of Liquid-Immersed Distribution, Power and Regulated Transformers using High-Temperature Insulation Systems and Operating at Elevated Temperatures (ASTM)American Society for Testing Materials. NEMA TR 1-1993 (R2000) – Transformers, Regulators and Reactors, Table 0-2 Audible Sound Levels

10 CFR Part 431 – Department of Energy – Energy Conservation Program for Commercial Equipment: Distribution Transformers Energy Conservation Standards; Final Rule.



Single-phase Pole-mounted transformer

## PRODUCT FEATURE



- (1) Cover mounted high voltage porcelain bushings with eyebolt terminals are mounted on flat embossments on the cover and have undercut gasket seats for improved sealing. The eye bolt connectors are cast bronze plated with tin to accommodate both aluminum and copper conductors.
- (2) One-piece fasten ring prolongs the life of the transformer, facilitates inspection and maintains even pressure around the entire rim. It combines with a specially formed tank rim, drawn cover and gasket to form an effective seal which will not deteriorate with age.
- (3) Low voltage tank-wall bushing terminals are clamp type and tin plated.
- (4) Tank is equipped with self-sealing pressure release device.
- (5) Support lugs, welded to the tank, conform to ANSI standards are made of hot-rolled steel.



Amorphus Metal Core



C.R.G.O.Core

## CONVENTIONAL TYPE



The transformer is cylinder sealing structure. Each one is fixed with grounding devices, hooks, supporting lugs which conforms to ANSI standard, and one or two high voltage bushing on the cover, low voltage bushing on the wall of the tank and eyebolt connecting terminals. The tap changer should be adjusted basing on the instruction after the power off.

## COMPLETE SELF PROTECT TYPE

This type of transformers are CSP type, which can protect itself from thunder and lightning, short circuit and protect the transiting and distribution line from current failure because of self-malfunction.

Except from some similarities such as cylinder tank, hooks, lifting lugs, grounding devices, nameplates, core and winding with the conventional type. This type of transformers have characteristics and devices as follows:

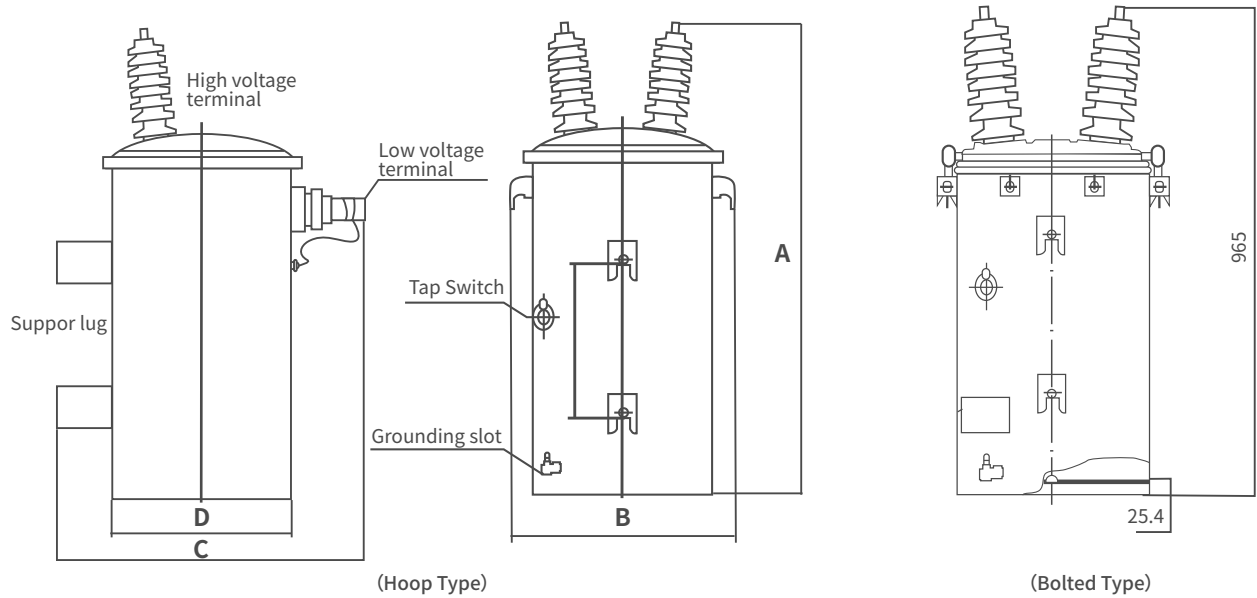
One or two high voltage bushings are on the cover with fuse.

One or two arresters are installed on the wall of the tank, whose top end is near to the high voltage bushing, and connected to the bushing by a copper strip. One secondary breaker switch is above the winding inside the tank, and here are operating handle, overload reset and signal light,

Low voltage bushing is educed from the wall of the tank, grounding device is fixed to position X2. One end of the single bushing leads out through the high voltage bushing, the other end is ground connection.



# TECHNICAL PARAMETERS

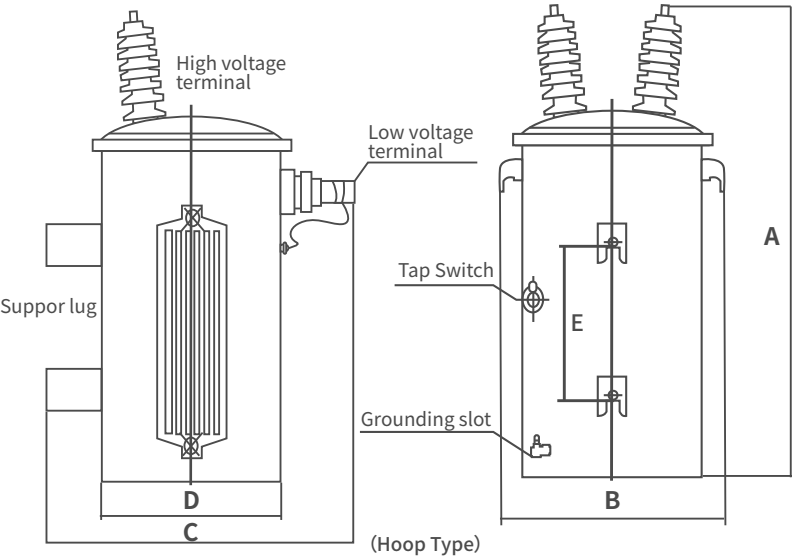


---5-50kva---

## Technical Data for D11 Series Single-Phase Pole-Mounted Distribution Transformer(C.R.G.O.Core)

Rating (KVA)	H.V(V)	Tapping Range (%)	L.V(V)	Loss(W)		Dimension(mm)					Weight(kg)		
				No Load Loss	Full Load Loss	A	B	C	D	E	Oil Weight	Oil Content	Total Weight
3	33000/ 19000	±2×2.5%  or  others	120-240  240-480  250-500  or  others	9	45	800	400	500	300	286	10	11.1	70
5	30000/ 17321			19	75	860	430	510	340		30	33.3	92
10				36	120	965	450	515	330		28.8	32	135
15	20000/ 11547			50	195	1015	480	545	360		37	41.1	155
25	13800/ 7967			80	290	1015	500	570	380		45	50	185
37.5	13200/ 7620			105	360	1075	580	650	460		58	64.4	265
50	12000/ 6930			135	500	1175	580	650	460	591	69	76.7	300
75	11000/ 6350			190	650	1175	761	706	496		102.6	114	380
100	or			210	850	1280	934	754	524		108.0	120	460
167				350	1410	1460	830	890	660		138	153.3	680
250	others			500	2000	1570	960	950	660		250	277.8	990
333				650	2500	1660	960	960	660		300	333.3	1160

# TECHNICAL PARAMETERS



---75-167kva---

Rating (KVA)	H.V(V)	Tapping Range (%)	L.V(V)	Loss(W)		Dimension(mm)					Weight(kg)		
				No Load Loss	Full Load Loss	A	B	C	D	E	Oil Weight	Oil Content	Total Weight
3	33000/ 19000	±2×2.5% or others	120-240 240-480 250-500 or others	8	45	800	400	400	300	286	10	11.1	60
5	30000/ 17321			8	75	840	400	480	310		35	38.9	75
10	20000/ 11547			12	120	955	500	565	380		35	38.9	155
15	13800/ 7967			15	195	975	500	565	380		37	41.1	160
25	13200/ 7620			18	290	1025	530	600	410		45	50	210
37.5	12000/ 6930			30	360	1075	580	650	460	591	54	60	305
50	11000/ 6350			32	500	1075	680	750	560		89	98.9	375
75	or			45	650	1215	730	820	610		123	136.7	545
100	others			50	850	1175	875	840	610		108	120	585
167				65	1410	1470	940	840	610		140	155.6	650
250				90	2000	1560	1260	960	660		250	277.8	950
333				120	2500	1660	1260	960	660		300	333.3	1200

# TECHNICAL PARAMETERS



Technical Data for D11 Series Big Capacity Single-Phase Pole-Mounted Distribution Transformer(C.R.G.O.Core)

Rating (KVA)	H.V(V)	Tapping Range (%)	L.V(V)	Loss(W)		Dimension(mm)			Weight(kg)	
				No Load Loss	Full Load Loss	L	W	H	Oil Weight	Total Weight
100	13200/ 7620	$\pm 2 \times 2.5\%$	120/240/480	210	850	1020	770	1260	94	530
167	or		or	350	1410	1290	870	1265	138	680
250	11000/ 6350	or	120-240	500	2000	1460	1080	1380	250	990
333		0	240-480	650	2500	1570	1230	1395	300	1160



Technical Data for D11 Series 30kv-33kv Single-Phase Pole-Mounted Distribution Transformer

Rating (KVA)	H.V(V)	Tapping Range (%)	L.V(V)	Loss(W)		Dimension(mm)			Weight(kg)	
				No Load Loss	Full Load Loss	L	W	H	Oil Weight	Total Weight
10	33000/ 19000	$\pm 2 \times 2.5\%$	120-240	47	165	590	510	1000	51	160
15				58	285	605	600	1030	63	208
25				66	448	620	700	1090	82	260
37.5	30000/ 17320	or	240-480	88	574	650	730	1195	97	325
50			or	110	700	680	760	1300	115	390
75	20000/ 11547	others	others	175	910	730	840	1340	140	460
100				215	1300	870	920	1350	170	550
167				308	1830	970	1240	1390	195	650
250				608	2900	1200	1420	1650	250	850

## QUALITY CONTROL

- HENGFENGYOU has formulated strict workflow and ISO standards to ensure to provide customers with first-class Single-Phase Transformer and the best service.
- The HENGFENGYOU team works collaboratively within the team to develop and produce, Single-Phase Transformer solutions that meet all customer needs.
- Our products are designed and studied by R & D services according to the electrical standards of each country and help manage your distribution network for optimal efficiency.



## THE CORNER OF OUR FACTORY

### CUSTOMER-ORIENTED CREATE VALUE FOR CUSTOMERS



▲ FACTORY DISPLAY



▲ FACTORY DISPLAY

Hengfengyou Electric has 22000 square meters of modern plant, with a monthly delivery capacity of up to 200 Single-Phase Transformer, and has fully passed the ISO9001, ISO14001, SA8000, BSCI and other market access standards reviewed and issued by international certification bodies. At present, the company has 10 senior engineers, 30 senior technicians and more than 300 employees, with an annual output value of US \$100 million

### MAKEFRIENDS ALL OVER THE WORLD



▲ DISPLAY AREA OF SINGLE-PHASE TRANSFORMER FINISHED PRODUCTS

# CASE

Hengfengyou Electric has always been committed to providing the best quality Single-Phase Transformer products for global customers



## Case show

make life better

Single-Phase overhead transformer is usually used for urban and rural power distribution

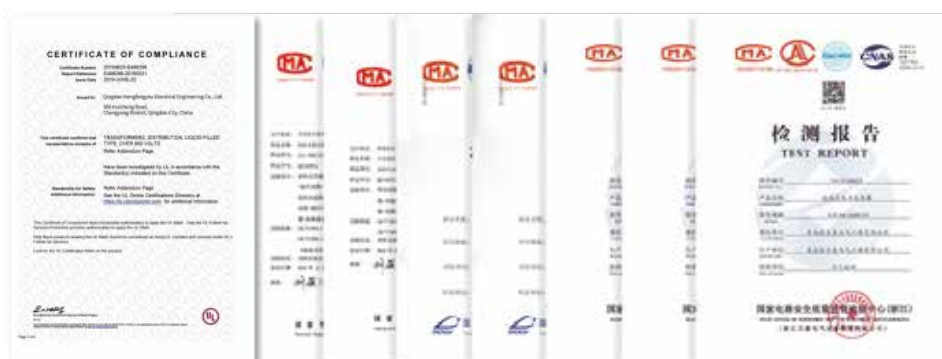


# SMART ELECTRIC GLOBALSERVICE PROVIDER

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MAKE LIFE BETTER

# CERTIFICATE

## QUALIFICATION CERTIFICATION



## OUR HONOR



## PRE-SALE SERVICE:

- 1.ISO certified excellent Manufacturer
2. Third-party authoritative certifications: CE, CB, SASO, CCC,KEMA etc
3. Flexible payment: T/T, LC, O/A
4. Sufficient inventory, fast delivery time and long validity of the price
5. The whole process of picture tracking can be realized in production and transportation
6. Experienced professional sales team and a strong technical team
7. Sincerely invite customers to visit the company for guidance

## AFTER-SALES SERVICE:

1. If there is any quality problem after receiving the goods, you can return the goods free of charge or ship new products
2. We provide our customers with a 1-year product warranty
3. Provide 24-hour, 365-day technical guidance worldwide
4. The VIP customers enjoy our promotional activity  
trained by management consultants, is able to provide professional solutions for customers.
4. Our technical team is ready for 24-hour technical support worldwide.
5. Our customer service team ensures on time delivery.



Call Us For Details

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• Make Life Better •

## 青岛恒丰友电气工程有限公司

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