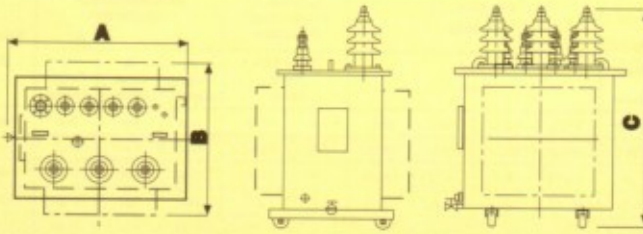
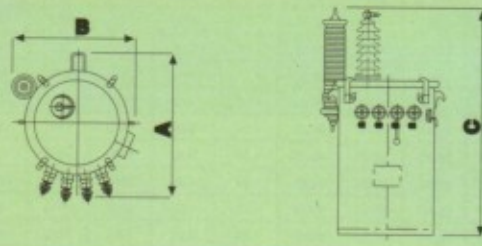


Precise



3 ϕ 50Hz
800-2500KVA
20KV/400V



CSP
1 ϕ 50Hz
15 25 50KVA
11547V / $\frac{231}{462}$ V

Punctual



Accurate

Kapasitas Capacity	Arus Beban No. 1 Exciting Current IO	Impedansi Impedance Zsc	Rugi Besi No-load losses	Rugi Tembaga Pada 75°C load losses	Rugi Total Pada 75°C Total losses	Efisiensi pada 75° C Faktor daya : 1.0 Efficiency				Pengaturan pada beban penuh Voltage Regulation		Dimensi/dimension toleransi 5%			Volume oil	Berat (Weight)
						Beban Load				Faktor daya Power Factor		A Panjang (Length)	B Lebar (Width)	C Tinggi (Height)		
						100%	75%	50%	25%	1.0	0.8	mm	mm	mm		
KVA	%	%	Watt	Watt	Watt	100%	75%	50%	25%	1.0	0.8	mm	mm	mm	Liter	Kg
25	2.4	4.0	75	425	500	98.03	98.44	98.56	98.39	1.86	3.60	920	540	1000	95	350
50	2.3	4.0	150	800	950	98.13	98.42	98.62	98.42	1.67	3.50	1000	600	1100	140	510
100	2.3	4.0	300	1600	1900	98.13	98.42	98.62	98.42	1.67	3.50	980	780	1120	150	700
160	2.3	4.0	400	2000	2400	98.52	98.74	98.89	98.70	1.32	3.31	1050	830	1180	215	890
200	2.2	4.0	480	2500	2980	98.53	98.76	98.91	98.74	1.32	3.31	1050	830	1250	196	980
250	2.1	4.0	600	3000	3600	98.58	98.79	98.93	98.75	1.27	3.28	1280	860	1320	250	1180
315	2.0	4.0	770	3900	4670	98.54	98.76	98.90	98.72	1.31	3.30	1300	890	1350	280	1335
400	1.9	4.0	930	4600	5530	98.64	98.84	98.97	98.79	1.22	3.25	1350	920	1420	345	1550
500	1.9	4.0	1100	5500	6600	98.70	98.89	99.02	98.86	1.17	3.22	1430	1020	1450	460	1850
630	1.8	4.0	1300	6500	7800	98.78	98.96	99.08	98.93	1.11	3.17	1680	1280	1480	520	2150
800	2.0	4.5	1750	9100	10850	98.66	98.87	99.00	98.85	1.37	3.65	1500	1360	1600	610	2750
1000	2.0	5.0	2300	12100	14400	98.58	98.80	98.95	98.79	1.33	3.90	1760	1460	1680	720	3150
1250	2.0	5.5	2500	15000	17500	98.80	98.82	98.98	98.85	1.34	4.25	2050	1550	1800	840	3350
1600	2.0	6.0	3000	18100	21100	98.69	98.88	99.03	98.98	1.30	4.52	2250	1600	1850	910	4100
2000	2.0	7.0	3600	21000	24600	98.78	98.98	99.12	99.02	1.29	5.11	2380	1700	1950	1250	5200
2500	2.0	7.0	4000	25000	29000	98.85	99.04	99.19	99.20	1.24	5.08	2650	1800	2030	1400	5800
2.500 up to 10000										On Request						

Kapasitas Capacity	Arus Beban No. 1 Exciting Current IO	Impedansi Impedance Zsc	Rugi Besi No-load losses	Rugi Tembaga Pada 75°C load losses	Rugi Total Pada 75°C Total losses	Efisiensi pada 75° C Faktor daya : 1.0 Efficiency				Pengaturan pada beban penuh Voltage Regulation		Dimensi/dimension toleransi 5%			Volume oil	Berat (Weight)
						Beban Load				Faktor daya Power Factor		A Panjang (Length)	B Lebar (Width)	C Tinggi (Height)		
						100%	75%	50%	25%	1.0	0.8	mm	mm	mm		
KVA	%	%	Watt	Watt	Watt	100%	75%	50%	25%	1.0	0.8	mm	mm	mm	Liter	Kg
15	2.0	2.5	75	275	350	97.72	98.00	98.12	97.16	1.85	2.85	585	520	1000	57	200
25	1.6	2.5	105	385	490	98.08	98.31	98.41	97.16	1.56	2.73	750	685	1080	118	315
50	1.4	2.5	170	585	755	98.51	98.69	98.75	98.15	1.20	2.75	870	745	1200	169	475
15	2.0	2.5	75	275	350	97.72	98.00	98.12	97.16	1.85	2.85	640	575	1075	79	225
25	1.6	2.5	105	385	490	98.08	98.31	98.41	97.16	1.56	2.73	650	585	1120	82	265
50	1.4	2.5	170	585	755	98.51	98.69	98.75	98.15	1.20	2.75	835	710	1270	167	445



PT Sintra Sinarindo Elektrik, the newest component of SHEN CHANG GROUP, was established in October 1996, with its factory (20,000 M2) being located in the Newton Techno Park, Lippo Cikarang in West Java, Indonesia.

between 25 and 50 KVA, has been declared to have successfully passed the short-circuit testing standard of PLN.

The transformers are manufactured in accordance with IEC-76, BS-171, NEMA-TR1, SPLN, and ASEAN standards, as well as individual customer requirements.

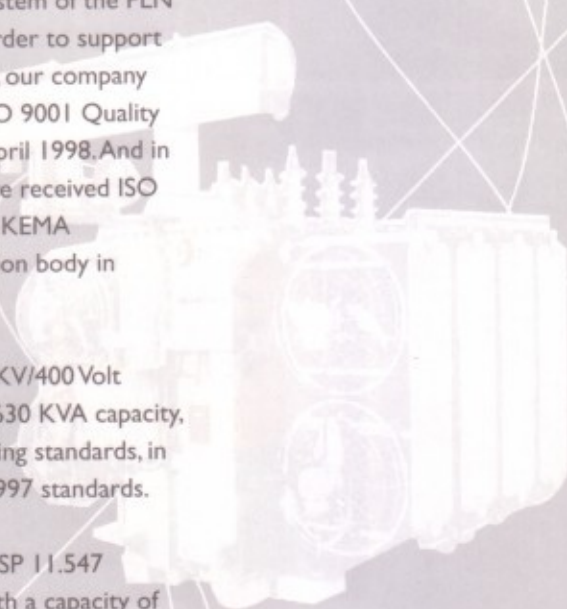
Over the past three decades, Shen Chang, a leading manufacturer of distribution transformers in Taiwan, R.O.C., has demonstrated its dedication to quality and finesse in facing growing market demand. It has built up links with well-known companies in the United States and Europe to upgrade technological expertise. Furthermore, in 1994 Shen Chang was awarded the ISO 9002 Certificate for Quality Assurance.

PT Sintra Sinarindo Elektrik, which is a joint venture company of Shen Chang Electric, CV Sinarindo, and Tong Cheng Cable & Wires, has as its major product line: transformers, cores, surge arresters, fuse cut-outs, welding machines, and high voltage testing equipment.

In January 1998, our company's products obtained quality certification from the SPM-PLN (Quality Supervision System of the PLN State Electricity Board). In order to support and maintain product quality, our company has also implemented the ISO 9001 Quality Management System since April 1998. And in November that same year, we received ISO 9001 accreditation from the KEMA Registered Quality certification body in Indonesia.

Our three-phase, 50 Hz, 20 KV/400 Volt transformers of 25 KVA to 630 KVA capacity, all have passed rigorous testing standards, in accordance with SPLN-50 1997 standards.

Whereas the single-phase CSP 11.547 KV/462-231 Volt product with a capacity of



ISO 9001 Accreditation

CORES

The cores use high quality cold-rolled grain-oriented silicon steel sheet. They provide low iron loss, low noise, compact size, and the best performance for high efficiency transformers.

Type of Cores

◉ Strip-Wound Core

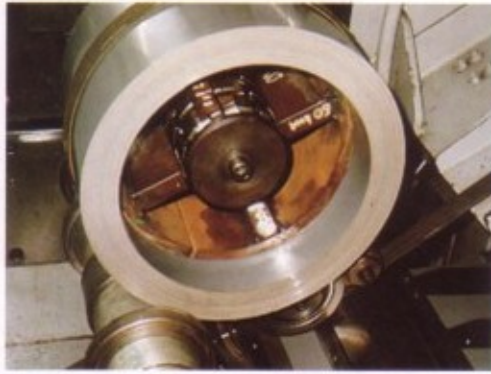
For application in single-phase or three-phase compact size transformers with low noise and excellent magnetic circuit characteristics.

◉ Step-Lap Core

Suitable for application in single-phase or three-phase, core-type or shell-type compact size transformers. It has excellent magnetic circuits which reduce iron loss considerably and greatly increase the mechanical strength of the transformer.

◉ Stacking Core

The mitered core, joined by 45-degree cut silicon steel sheets, has excellent mechanical strength, and is for application in three-phase, high capacity transformers. It can have best performance on low iron loss by using high-quality silicon steel sheets.



High Quality Cores



WINDINGS

A. Materials

We use high quality products. The categories are as follows :

- ◉ **Round Enameled Magnet Wire**
- ◉ **Paper-Wrapped Rectangular Copper Wire**
The wires, ribbed with thermally upgraded insulating paper, are applied in oil-immersed transformers.
- ◉ **Copper/Aluminum strip**
The high conductivity copper or aluminum foil is applied in low voltage windings. The foils must be processed through an edge-modifier to get rid of burrs and to have the round edges.

B. Winding Structure

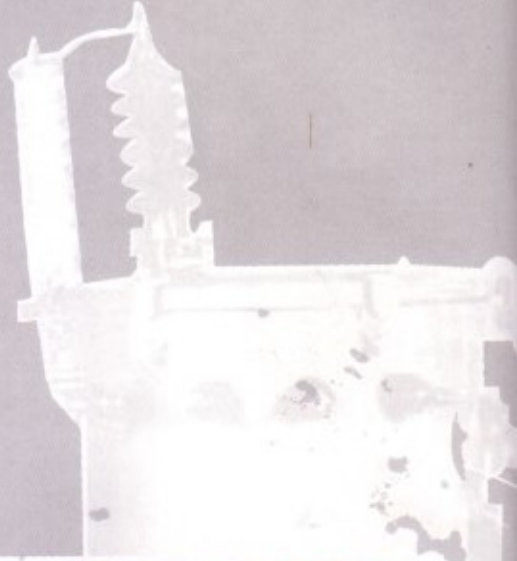
Basic designs are as follows :

- ◉ **HV-LV (core type)**
- ◉ **LV-HV-LV (shell-type)**

By using a copper/aluminum strip, rectangular copper wires, the windings have a compact size, excellent heat transmission, low load loss, high lightning, impulse resistance, and outstanding anti-short-circuit Strength.

INSULATION

Our oil-immersed transformers use press board, thermally upgraded insulating craft paper, and insulating oil (mineral, silicon, or high fire-point oil, etc). We normally apply "Shell" Diala B grade as our standard transformer oil; as specified by PLN.



BUSHINGS

○ HV Bushing

High quality porcelain bushings are used on the high voltage terminals. Optional bushing wells and plug-in bushing are supplied upon request, allowing high voltage cables to be inserted directly, and show no live parts outside.

○ LV Bushing

High-quality porcelain LV bushings can be equipped with clamp type, stud bolt type, or spade type terminals. The aforementioned LV terminals are connectable to switch gears by cables or bus bars.



Excellent Tank & Clamp

TANK

All tanks are assembled by cold-rolled and hot-rolled steel plates through welding. They are equipped with radiators or corrugated steel sheets in accordance with the capacity of the transformer. Meanwhile, reinforced structure and pressure relief valves enhance the strength of tanks to face any harsh operational environment.

The tanks must go through degreasing, acid cleaning, phosphide film, oxide primer, and polyurethane process etc., to guarantee its functioning in the worst operational environment.

electromagnetic characteristics and the best anti-short-circuit strength. This guarantees the safety of the system when an abnormal breakdown occurs.



CLAMP

Step-Lap Cores and Stacking Cores have different clamp arrangements. We designed a special pre-load structure, which not only can resist axial electromagnetic forces, but also perform well on resisting radial electromagnetic force. With reinforced clamps, the coils increase their anti-axial and radial strength, making the coils compact and strong. So, our transformers have excellent



ACCESSORIES

Transformer standard accessories

normally consist of :

- ⊙ Name plate (rating plate)
- ⊙ Factory name plate
- ⊙ Oil level indicator
- ⊙ Thermometer
- ⊙ Oil filling device
- ⊙ Drain valve
- ⊙ Lifting lugs
- ⊙ Off-load tap changer
- ⊙ Medium voltage & low voltage bushings
- ⊙ Base roller or skid base

Optional accessories

A. Conventional Tank

- ⊙ Conservator with breather
- ⊙ Buchholz relays
- ⊙ Dial type thermometer with alarm & tripping contacts
- ⊙ Bushings cover box cable box
- ⊙ Elastimold epoxy resin bushings for HV side

B. Hermetically Sealed Tank

- ⊙ Pressure relief valve or device with N_2
- ⊙ Pressure vacuum gaugesealed
- ⊙ Nitrogen filling valve
- ⊙ Dial thermometer with alarm & tripping contacts
- ⊙ Bushings cover box cable box
- ⊙ Elastimold bushing



Optional & Standard

Quality Control Testing

TEST

All products must pass standard Quality Control and testing procedures before shipment.

A. Complete routine test

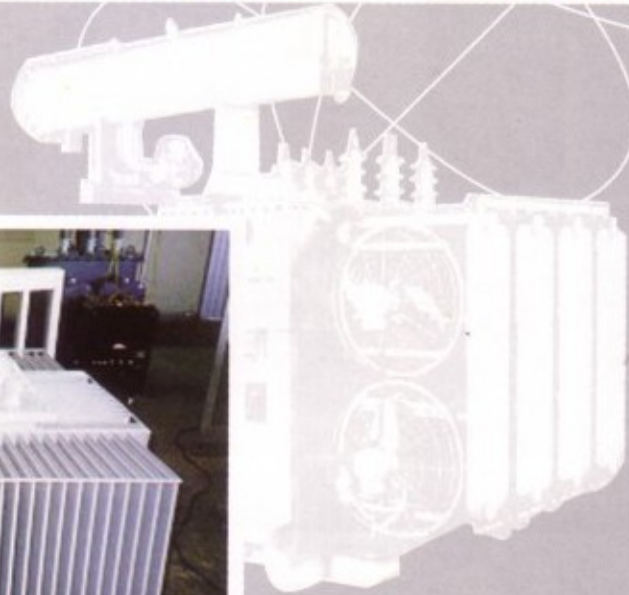
as specified in standards

- Turn ratio test
- Polarity test
- Copper loss (load loss) test
- Iron loss (no load loss) test
- Transformer oil breakdown voltage test
- Measurement of no load current (exciting current)
- Measurement of impedance
- Applied voltage test
- Induced over voltage test

B. Type test

In case of a newly designed transformer or upon special request from customer, we could also perform the following type test

- All routine test, item specified in (A)
- Impulse voltage test
- Temperature rise test



Special Design Offer

Installation

Our transformers can be installed indoor or outdoor. Special designs or special installation can be arranged upon customer request.

Inquiries data

The following data are required when inquiring :

- ⊙ Rated power (kVA)
- ⊙ Rated frequency
- ⊙ Primary voltage and tapping
- ⊙ Secondary voltage
- ⊙ Impedance
- ⊙ Vector group
- ⊙ Service condition

Please specify for the use of traction motors or furnaces.

If you have any technical questions, please contact our technical department at :
Tel.(021) 8974489-95 (Hunting)
Fax. (021) 8974491

