



S. AIVAZIDIS S.A.

• IMRTEC
ISO9001

www.aivazidis.gr



**OIL IMMERSSED DISTRIBUTION TRANSFORMERS FROM KVA 25 TO KVA 3000
CAST RESIN DISTRIDUTION TRANSFORMERS FROM KVA 100 TO KVA 2500
DRY TYPE TRANSFORMERS AND AUTO TRANSFORMERS FROM KVA 10 TO KVA 500**



[Profile of our company]

Our company was established in 1990.

We are a manufacturing and commercial company, leading in its field.

We can supply before and after sale consulting and technical assistance, projects of complete installation and operational advice and preventive maintenance service.

Our headquarters located in Thessaloniki (Greece) covering an area of 2.500 sq.m. in open area of 7.800 sq.m.

New offices in Athens are into business since April 2001.



[Windings]

All our windings are copper or aluminium made.

For HV windings we used enamelled copper wire or insulated by kraft paper layers copper wire according the power of the transformer.

HV windings are cylindrical, concentric type by layers with circular section.

Large oil channels made of sticks and corrugated cardboard, in the middle of the winding, give a quick oil circulation winding inside.

LV windings are made of single or multiple copper straps or alternatively of copper coil according the power and the technical characteristics of the transformer.

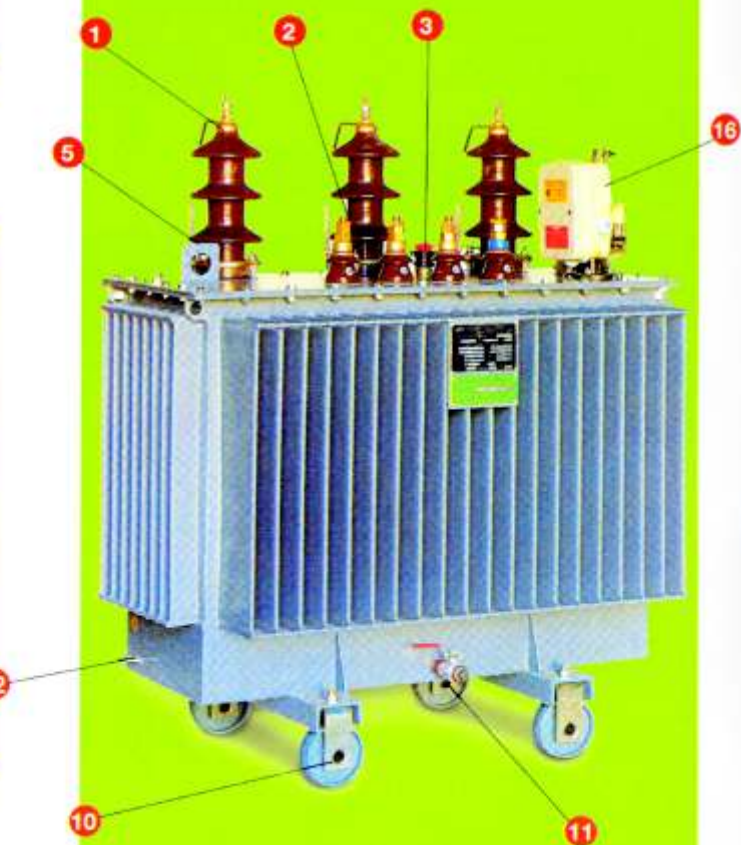
[Core]

Core is made from grain oriented silicone sheet steel first choice low losses. Automatic core strips cutting machines let ourselves to obtain a grate precision in cutting made at 45° and core's assembly is made on special seat supplied with guides and fixed data point to guarantee the perfect lamellae superimposition.

Core gets blocked by strong structural shape with vertical connecting rods for an efficacious windings aligthing .

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Execution & standard equipment



III Execution and standard equipment

1. brown porcelain bushings for HV
2. brown porcelain bushings for LV and neutral.
3. tap-changer from the cover no load handling
4. thermometer pocket
5. lifting lugs
6. oil keeper (from KVA 1.000 to KVA 3.000)
7. oil level (for transformer with oil keeper)
8. silicagel breather with salt (for transformer with oil keeper)
9. bursting valve, type:
relief valve for transformer with oil keeper
over pressure valve for transformer integral filling
10. rollers
11. drain valve
12. earthing terminal
13. name plate

III Execution and equipment by request

14. thermometer with two connections normally open (NO) (from KVA 800 price included)
15. Buchholz Relay for transformer with oil keeper (from KVA 1.000 price included)
16. RIS or DGPT transformer protection (for transformer integral filling type)
 - . double HV
 - . double LV
 - . losses and voltage different than indicated
 - . connections and vectorial groups different than indicated
 - . frequency Hz 60
 - . HV bushings disconnected type (elastimold)
 - . air cable box for HV and/or LV bushings.
 - . HV cable box (BSS according)
 - . skids for pole mounted
 - . centralized box for auxiliary circuits
 - . siliconic fluid
 - . sheet screen between HV and LV windings



TANKS

Tanks

Tanks are made from cold rolled steel and are reinforced to reach a sufficient strength.

For transformers up to KVA 1.600 corrugated tanks are used; for higher power tanks with radiators are used. For transformers up to KVA 800 tanks integral filling without oil keeper are used, for higher power tank supplied with oil keeper are used.

Tanks are welded to hold perfectly oil and all weldings are tested by fluorescent penetrant liquid (UV light inspection). Tanks are subjected to sand blasting and painted with protective varnish ENEL approved.

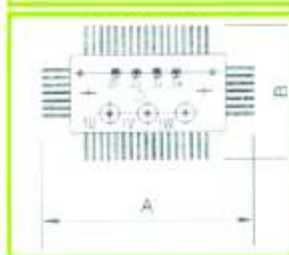
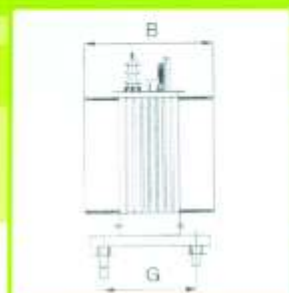
For hermetically sealed type transformers corrugated tanks without oil conservator are used.

THREE PHASES OIL IMMERSED TRANSFORMERS E.P. SERIES rated voltage up to Kv 24/0,650

RATING KVA	LOSSES WATTS		A VUOTO		DIC. C. impedance V.C.C. %	REGULATION		EFFICIENCY %				OVERALLS DIMENSIONS mm				WEIGHTS kg		
	no load	load losses	no load current			cosφ 1	cosφ 0,9	cosφ 1	cosφ 0,9	cosφ 1	cosφ 0,9	cosφ 1	cosφ 0,9	length A	width B	height C	wheels base G	oil
25	200	780	7	4	3.19	4	96.56	95.59	97.02	96.28	97.40	96.75	780	460	1.120	360	85	300
50	235	1.250	5,3	4	2,54	3,88	97,13	96,20	97,60	96,70	97,88	97,40	790	460	1,165	360	80	350
63	250	1.500	5	4	2,44	3,84	97,30	96,65	97,70	97,15	98,00	97,51	800	550	1,175	360	90	400
100	380	2.000	4	4	2,14	3,82	97,70	97,14	97,98	97,48	98,21	97,76	920	600	1,200	520	120	500
125	440	2.400	4,2	4	2	3,81	97,80	97,26	98,00	97,63	98,32	97,81	1.000	620	1,240	520	130	600
160	500	2.900	3,5	4	1,9	3,80	98,00	97,60	98,20	97,74	98,43	98,00	1.000	620	1,240	520	150	700
200	660	3.250	3,2	4	1,71	3,78	98,10	97,63	98,34	97,91	98,19	98,12	1.035	630	1,270	520	180	800
250	770	3.950	2,9	4	1,71	3,76	98,10	97,71	98,39	97,98	98,56	98,23	1.085	730	1,300	520	220	950
315	990	5.000	2,7	4,5	1,64	3,74	98,25	97,80	98,40	98,03	98,62	98,33	1.140	745	1,360	520	240	1.100
400	1.150	6.000	2,4	4,5	1,59	3,72	98,29	97,90	98,53	98,16	98,69	98,36	1.270	790	1,430	670	270	1.300
500	1.350	7.000	2,2	4,5	1,52	3,70	98,44	98,04	98,56	98,23	98,75	98,43	1.355	880	1,455	670	330	1.500
630	1.850	9.000	2	6	1,42	3,68	98,50	98,08	98,64	98,32	98,81	98,52	1.480	920	1,525	670	400	1.700
800	1.950	11.000	1,9	6	1,4	3,90	98,55	98,14	98,69	98,37	98,85	98,57	1.570	990	1,590	670	450	2.100
1.000	2.200	13.000	1,8	6	1,37	3,84	98,61	98,21	98,74	98,44	98,90	98,63	1.760	1.090	1,815	820	550	2.700
1.250	2.500	15.200	1,8	6	1,35	3,80	98,63	98,32	98,80	98,50	98,94	98,68	1.850	1.140	1,930	820	660	3.250
1.600	3.200	19.500	1,7	6	1,29	3,76	98,62	98,38	98,87	98,60	99,00	98,76	1.950	1.250	2,100	820	800	3.900
2.000	3.600	23.500	1,7	6	1,19	3,62	98,69	98,42	98,90	98,63	99,06	98,82	2.600	1.610	2,180	1.070	900	4.600
2.500	4.400	26.500	1,6	6	1,17	3,58	98,75	98,44	98,95	98,69	99,08	98,85	2.750	1.780	2,310	1.070	1.000	5.400
3.000	5.000	32.000	1,5	6	1,15	3,54	98,81	98,51	98,99	98,74	99,10	98,88	2.800	1.820	2,380	1.070	1.200	6.400

NOTE

- from KVA 25 to KVA 800 execution with tank corrugated type integral filling, without oil keeper;
- from KVA 1.000 to KVA 1.600 execution with tank corrugated type integral filling, without oil keeper;
- from KVA 2.000 to KVA 3.000 execution with tank corrugated type integral filling, without tank radiators cooler with oil keeper (by request tank corrugated type)



Insulating-oil

Mineral type oil first filling is used, free PCB and PCT, according CE/IEC standard class 1, test-certification issued. Oil is treated under vacuum to reach a complete dewatering before tank is filled up. By request it can also adopted class 2 oil and not inflammable silicone fluid (inflammable point +300 °C).

Tests

All our transformers are tested and checked during processing and finished goods are tested according CE1 14.4 (IEC 76) standards. In our test room we carry out:
 routine test: price included;
 type test: extra payment (by customer request).
 By customer request is possible carry out extra payment special test at agreed institute (es. CESI - Milano).

OIL TRANSFORMERS MEC 2 SERIES



NOTE:

- from KVA 25 to KVA 800 execution with tank corrugated type integral filling, without oil keeper;
- from KVA 1.000 to KVA 1.600 execution with tank corrugated type integral filling, without oil keeper;
- from KVA 2.000 to KVA 3.000 execution with tank corrugated type integral filling, without tank radiators cooler with oil keeper (by request tank corrugated type)

THREE PHASES OIL IMMERSED TRANSFORMERS MEC 2 SERIES rated voltage up to Kv 24/0,650

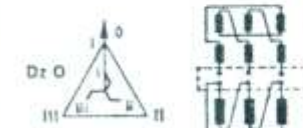
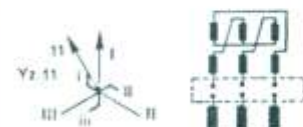
RATING	LOSSES WATTS		A VUOTO	DIC. C.	REGULATION		EFFICIENCY %						OVERALLS DIMENSIONS mm				WEIGHTS kg	
	KVA	no load			load losses	no load current	impedance V.C.C. %	cosfi 1	cosfi 0,9	cosfi 1	cosfi 0,9	cosfi 1	cosfi 0,9	cosfi 1	cosfi 0,9	length A	width B	height C
25	125	600	2,6	4	2,20	3,88	97,14	96,98	97,98	97,43	98,31	97,99	780	460	1.120	360	70	320
50	165	950	2,2	4	1,92	3,65	97,65	97,54	98,33	97,85	98,58	98,18	790	460	1.165	360	85	350
63	200	1.100	1,9	4	1,89	3,58	97,99	97,78	98,52	97,96	98,63	98,32	800	550	1.175	360	95	420
100	250	1.400	1,5	4	1,47	3,40	98,35	97,95	98,61	98,27	98,80	98,50	920	600	1.200	520	130	550
125	310	1.750	1,4	4	1,35	3,32	98,58	97,42	98,75	98,36	98,92	98,63	1.000	630	1.300	520	160	750
160	360	1.850	1,3	4	1,22	3,25	98,62	98,29	98,84	98,55	98,98	98,72	1.100	650	1.345	520	170	780
200	450	2.350	1,2	4	1,18	3,19	98,68	98,76	98,88	98,61	98,99	99,76	1.100	650	1.360	520	200	830
250	520	2.600	1,1	4	1,11	3,16	98,75	98,84	98,93	98,68	99,05	98,82	1.120	740	1.375	520	230	1.170
315	630	3.100	1,0	4	1,05	3,14	98,82	98,51	98,99	98,75	99,12	98,88	1.130	745	1.385	520	250	1.200
400	740	3.650	0,9	4	0,99	3,09	98,88	98,63	99,06	98,83	99,16	98,96	1.360	830	1.560	670	310	1.520
500	820	4.500	0,9	4	0,98	3,08	98,93	98,64	99,10	98,86	99,22	99,04	1.400	875	1.590	670	420	1.920
630	900	5.600	0,8	6	1,06	4,36	98,94	98,65	99,11	98,87	99,25	99,05	1.560	980	1.800	670	430	2.000
800	1.100	7.500	0,7	6	1,11	4,40	98,95	98,66	99,12	98,88	99,26	99,07	1.580	995	1.810	670	450	2.200
1.000	1.330	9.000	0,7	6	1,07	4,38	98,97	98,71	99,15	98,92	99,30	99,11	1.760	1.090	1.815	820	580	2.800
1.250	1.650	11.000	0,6	6	1,06	4,37	98,98	98,74	99,16	98,95	99,31	99,12	1.850	1.140	1.930	820	700	3.400
1.600	2.090	13.000	0,5	6	0,99	4,31	99,06	98,82	99,22	99,01	99,35	99,19	1.950	1.250	2.100	820	900	4.300
2.000	2.400	16.000	0,5	6	0,98	4,30	99,07	98,85	99,23	99,04	99,36	99,20	2.600	1.610	2.180	1.070	1.000	5.200
2.500	3.040	21.000	0,5	6	0,98	4,30	99,08	98,86	99,24	99,05	99,37	99,21	2.750	1.780	2.310	1.070	1.200	5.800
3.000	3.350	24.200	0,4	6	0,98	4,12	99,09	98,87	99,25	99,06	99,38	99,22	2.800	1.820	2.380	1.070	1.400	6.600



Quality Standard

Quality

In S. AVAZIDIS S.A. operates a Quality Assurance System according ISO 9001 Standard.
 The Quality Manual's constant application, with the relatives operative procedures, guarantee a severe checking with all materials and components, with the store, with working processing, with all treatments on which transformers and oil are subject, up to the final test and to the costumers deliver.
 After sale service is also assured.



Construction Standards

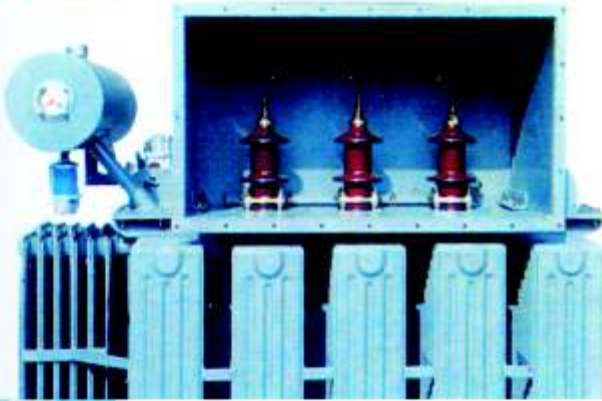
Our transformers are manufactured according following standards:
 Oil immersed transformers:
 CEI 4.4 (IEC 76)
 Dry type transformers:
 CEI 4.4 (IEC 76)
 Cast resin transformers:
 CEI 4.8 (IEC 726)
 By customer request is possible to produce transformers according other standards.





Execution and equipment by request

- thermometer with two connections normally open (NO)
- (from KVA 800 price included)
- Buchholz Relay for transformer with oil keeper
- (from KVA 1.000 price included)
- RIS or DGPT transformer protection
- (for transformer integral filling type)
- double HV
- double LV
- losses and voltage different than standardized
- connections and vectorial groups different than indicated
- frequency Hz 60
- HV bushings disconnected type (elastimold)
- air cable box for HV and/or LV bushings
- HV cable box (BSS according)
- skids for pole mounted
- centralized box for auxiliary circuits
- silliconic fluid
- sheet screen between HV and LV windings



Cast resin transformers standard execution and equipment

- HV up to Kv 24
- LV up to Kv 0,5
- insulation class up to Kv 24
- connection: from KVA 100 to KVA 2.500 delta/star with neutral
- group: Dyn 11
- frequency Hz 50
- core with oriented grain, insulated with carlite
- cast resin HV copper winding
- impregnated LV copper winding
- tappings for primary voltage changing
- rollers
- lifting lugs
- earthing terminal
- n. 3 temperature sensor type PT 100
- electronic temperature monitoring unit
- name plate

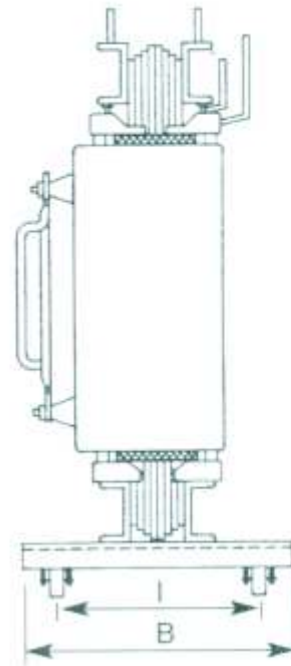
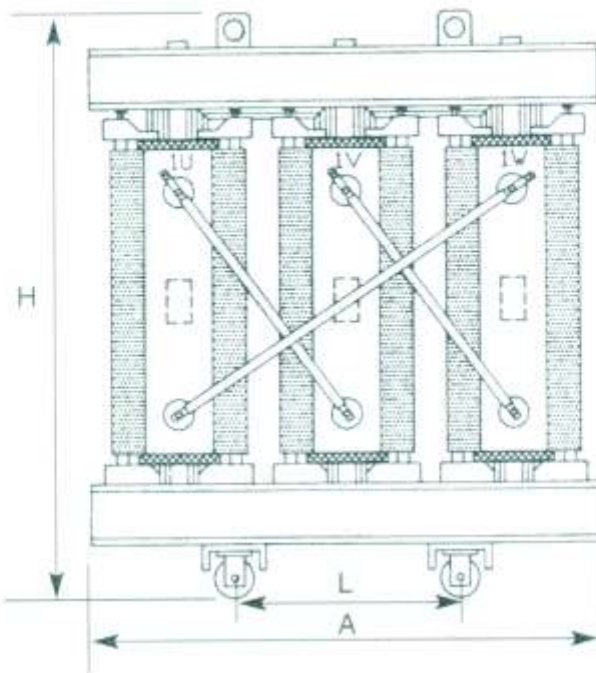


CAST RESIN TRANSFORMERS



THREE PHASES **CAST RESIN** TRANSFORMERS rated voltage up to Kv 24 / 0,5

RATING	LOSSES WATTS		A VUOTO DIC. C.		EFFICIENCY %						OVERALLS DIMENSIONS mm					TOTAL WEIGHTS kg	
	KVA	no load	load losses	no load current	impedance V.C.C. %	cosφ1	cosφ 0.9	cosφ 1	cosφ 0.9	cosφ 1	cosφ 0.9	length A	width B	height H	wheels base l		wheels base L
100	500	2.300	2	2	6	97,37	97,00	97,56	97,42	97,81	97,55	1.200	700	1.100	500	500	600
160	700	2.800	2	2	6	97,85	97,63	98,04	97,94	98,17	98,02	1.200	750	1.170	550	550	780
200	800	3.200	2	2	6	98,06	97,84	98,33	98,12	98,40	98,22	1.250	750	1.300	600	600	870
250	880	3.800	1,5	1,5	6	98,18	97,98	98,44	98,26	98,57	98,34	1.350	800	1.350	600	600	970
315	1.050	4.600	1,5	1,5	6	98,27	98,05	98,51	98,30	98,62	98,39	1.450	850	1.400	650	650	1.100
400	1.200	5.500	1,5	1,5	6	98,38	98,17	98,61	98,41	98,70	98,50	1.450	900	1.450	700	700	1.400
500	1.400	6.700	1,5	1,5	6	98,42	98,24	98,65	98,50	98,77	98,60	1.500	920	1.550	750	750	1.530
630	1.650	7.800	1,5	1,5	6	98,54	98,36	98,75	98,60	98,84	98,71	1.500	950	1.600	800	800	1.750
800	2.100	9.400	1,5	1,5	6	98,60	98,43	98,80	98,67	98,95	98,74	1.630	1.000	1.730	900	900	2.150
1.000	2.300	11.000	1	1	6	98,71	98,55	98,91	98,75	99,02	98,84	1.700	1.050	1.900	900	900	2.420
1.250	2.700	13.500	1	1	6	98,75	98,60	98,95	98,82	99,05	98,91	1.900	1.100	1.970	950	950	3.050
1.600	3.100	16.000	1	1	6	98,84	98,71	99,01	98,94	99,10	99,01	2.000	1.150	2.200	950	950	3.350
2.000	3.800	19.500	1	1	6	98,86	98,73	99,03	98,91	99,12	98,99	2.100	1.250	2.300	1.070	1.070	3.820
2.500	5.000	23.000	1	1	6	98,89	98,78	99,06	98,94	99,14	98,99	2.200	1.300	2.350	1.070	1.070	4.200



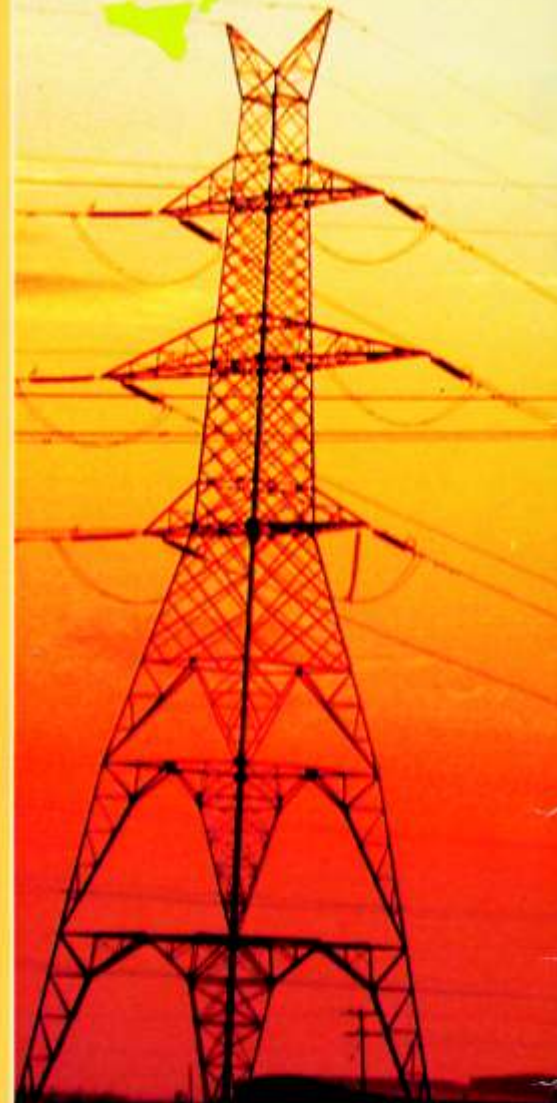


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