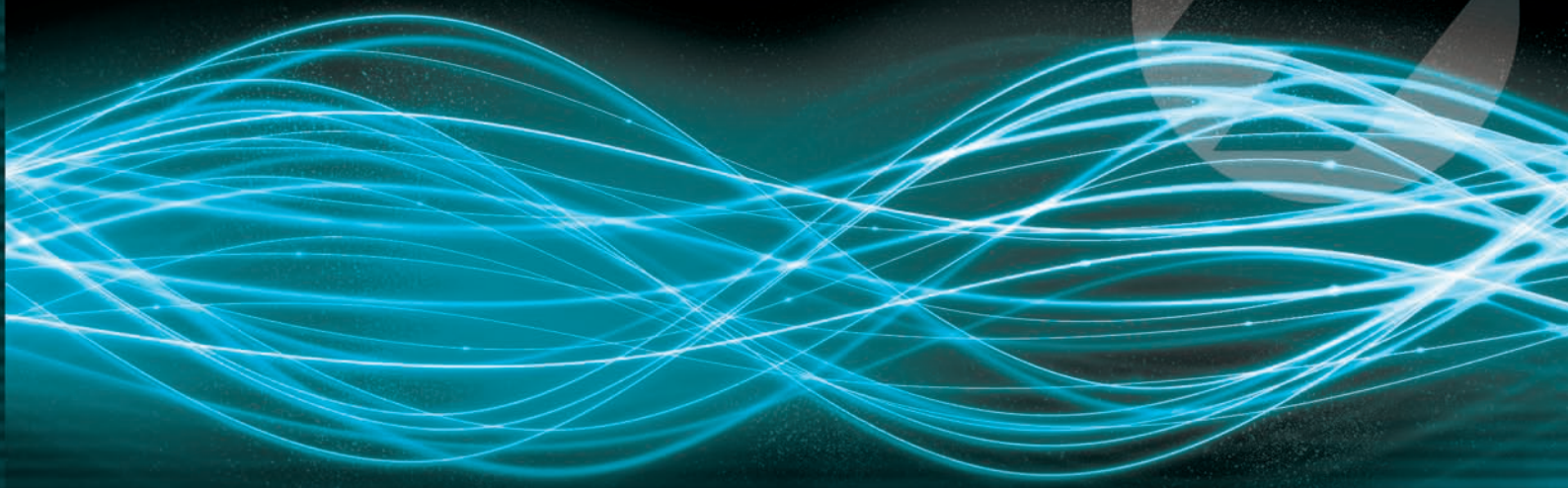


ISO 9001
BUREAU VERITAS
Certification



EREMU_{SA}



Estabilizadores de tensión

ERESTAB

Automatic voltage regulators



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ERESTAB IP21

Electrodynamic Voltage Regulators

Guide to selection and technical data

- M** Models for SINGLE-PHASE 230V mains
- M AS** Asymmetrical Models for SINGLE-PHASE 230V mains
- T** Models for THREE-PHASE 400V mains (common regulation of the three phases)
- Y** Models for THREE-PHASE 400V mains (independent regulation of each phase)
- Y AS** Asymmetrical Models for THREE-PHASE 400V mains (independent regulation of each phase)

The following tables only show models for single-phase 230V and three-phase 400V mains. Upon request, stabilizers can be manufactured for 100, 110, 115, 120, 127, 200, 220, 240, 265V single-phase mains, and for 208, 220, 230, 240, 380, 415, 440, 460, 480 and 500V three-phase mains.

The single-phase models M and the three-phase models T are fitted with a range selector. Therefore, the power ratings that each model can deliver are selected by means of the switching device available on the cabinet. For all other models, it is necessary to specify the power required.

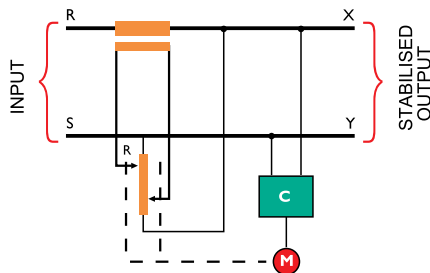
The models listed in the T tables perform the voltage regulation on the average of the three phases and are therefore suitable for lines with balanced voltage and for a maximum unbalance between phases up to 50%. T models, being equipped with just one stabilizing circuit ensuring a common regulation of the 3 phases, are less expensive. They can be connected to input mains without neutral.

The models listed in the Y tables are equipped with one stabilizing circuit for each phase, hence they are suitable for unbalanced mains and a maximum unbalance between phases up to 100%. For their correct operation, neutral is mandatory. Therefore, the input line must have 4 wires (3 phases + neutral).

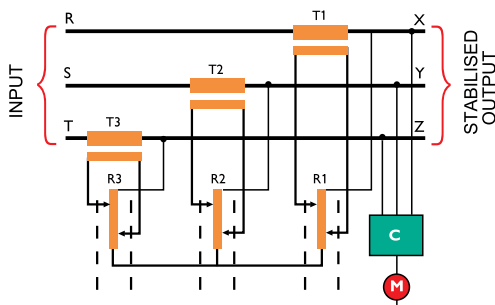
The voltage regulators do not transform the voltage and deliver in output the input rated value. When input and output voltages are different, an external transformer is required.

Ministab and Sterostab correctly operate both at 50 and 60 cycles. Special features on request: output accuracy $\pm 0.5\%$ and optional fittings as per list here below must be previously checked with the factory.

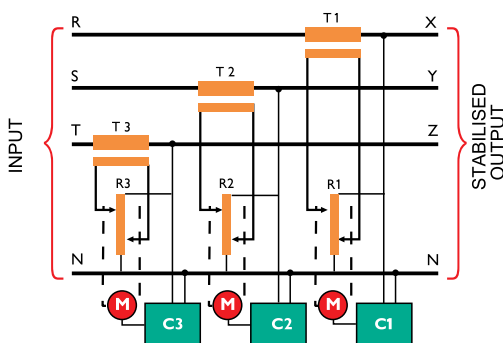
All models comply with the requirements of following standards: Electromagnetic Compatibility 89/336/EEC and following amendments – Low Voltage Electrical Equipment 73/23/EEC and following amendments.



SINGLE-PHASE M STABILIZERS



THREE-PHASE T STABILIZERS

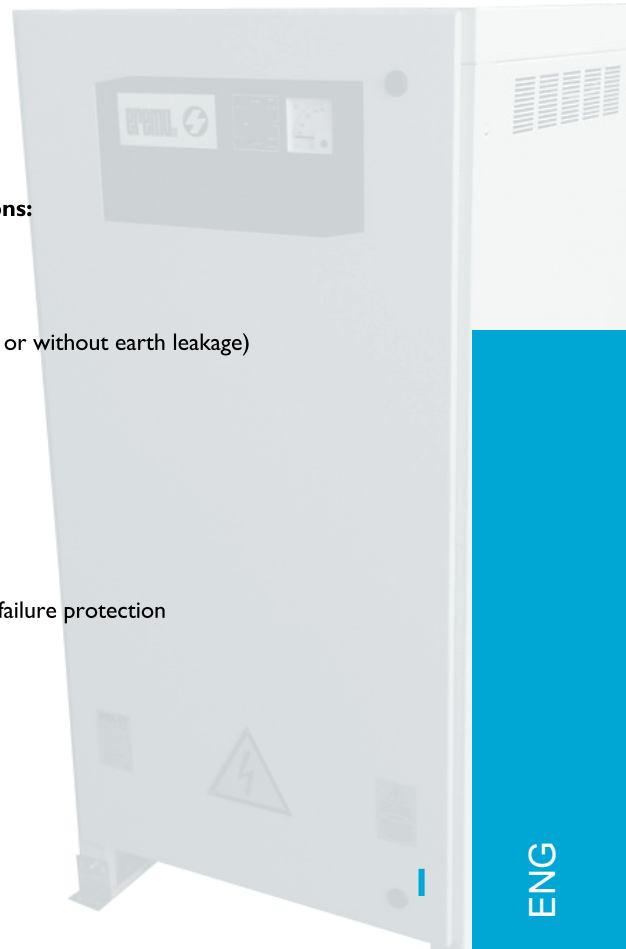


THREE-PHASE Y STABILIZERS

- T** Buck-boost transformer
- R** Variable transformer
- C** Electronic control circuit
- M** Servomotor

Optional fittings & special versions:

- Ammeter
- Frequency meter
- Digital multimeter
- Input or output circuit breaker (with or without earth leakage)
- Manual or automatic by-pass
- Isolating transformer
- Step-up / step-down transformer
- Surge arrester (lightning protection)
- Over/under voltage protection
- Thermal relay
- Soft start
- Reversed phase sequence and phase failure protection
- Tropicalized versions
- IP54 indoor or outdoor versions
- Customized colour.



M Models for SINGLE-PHASE 230V 50/60Hz mains

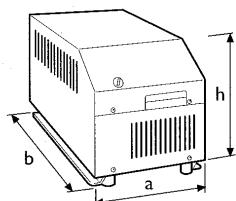


figure A

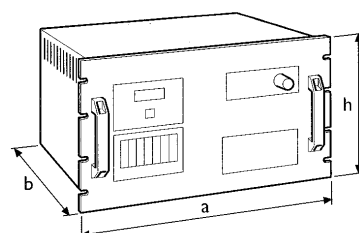
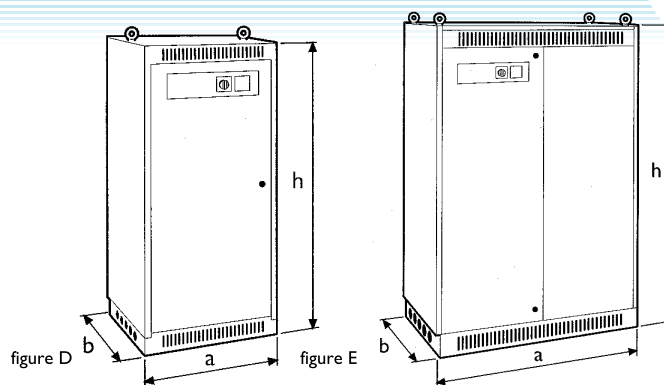


figure B

Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
M1-30	1	4,3	±30	13	±1,5	CG	20	210x385x200	18	A
M1-25	1	4,3	±25	14						
M2-20	2	8,7	±20	15						
M2,5-15	2,5	11	±15	18						
M3-10	3	13	±10	25						
M2-30	2	8,7	±30	20	±1,5	CG	20	235x410x240	30	A
M3-25	3	13	±25	21						
M4-20	4	17,4	±20	23						
M5-15	5	22	±15	27						
M8-10	8	35	±10	33						
M3-30	3	13	±30	24	±1,5	CG	20	275x425x265	37	A
M4-25	4	17,4	±25	25						
M6-20	6	26	±20	27						
M7-15	7	30	±15	30						
M10-10	10	43	±10	35						
M6-30	6	26	±30	24	±1,5		20	290X505X285	53	A
M8-25	8	35	±25	25						
M10-20	10	43	±20	27						
M15-15	15	65	±15	30						
M20-10	20	87	±10	35						
M10-30	10	43	±30	34	±1,5		20	560X396X320	78	A
M11-25	11	48	±25	24						
M14-20	14	61	±20	28						
M21-15	21	91	±15	31						
M33-10	33	143	±10	36						
M2-30L	2	8,7	±30	20	±0,5	I, L,V FG,PZ, BT*, BS*, PS*	20	485x500x275	36	B
M3-25L	3	13	±25	20						
M4-20L	4	17	±20	23						
M5-15L	5	22	±15	27						
M8-10L	8	35	±10	33						
M3-30L	3	13	±30	24	±0,5	I, L,V FG,PZ, BT*, BS*, PS*	20	485x500x275	46	B
M4-25L	4	17,4	±25	25						
M6-20L	6	26	±20	27						
M7-15L	7	30	±15	30						
M1-10L	10	43	±10	35						
M6-30L	6	26	±30	24	±0,5	I, L,V FG,PZ, BT*, BS*, PS*	20	485x500x275	58	B
M8-25L	8	35	±25	23						
M10-20L	10	43	±20	27						
M15-15L	15	65	±15	30						
M20-10L	20	87	±10	35						
M12-30	12	52	±30	20	±1	V, L	21	650x650x1300	105	D
M15-25	15	65	±25	26						
M21-20	21	91	±20	42						
M30-25	30	130	±15	58						
M40-10	40	174	±10	64						

M Models for SINGLE-PHASE 230V 50/60Hz mains



Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
M16-30	16	70	±30	8						
M18-25	18	78	±25	9						
M25-20	25	109	±20	10	±1	V, L	21	650x650x1300	168	D
M36-15	36	157	±15	12						
M56-10	56	243	±10	18						
M25-30	25	109	±30	18						
M30-25	30	130	±25	19						
M42-20	42	182	±20	21	±1	V, L	21	650x650x1800	220	D
M59-15	59	257	±15	24						
M87-10	87	378	±10	31						
M33-30	33	143	±30	18						
M45-25	45	195	±25	19						
M59-20	59	257	±20	21	±1	V, L	21	650x650x1800	250	D
M85-15	85	370	±15	24						
M117-10	117	509	±10	31						
M47-30	47	204	±30	26						
M62-25	62	270	±25	28						
M82-20	82	357	±20	29	±1	V, L	21	650x650x1800	320	D
M115-15	115	500	±15	34						
M177-10	177	770	±10	45						
M68-30	68	296	±30	20						
M85-25	85	370	±25	21						
M115-20	115	500	±20	23	±1	V, L	21	1100x650x1800	400	E
M164-15	164	713	±15	26						
M247-10	247	1074	±10	33						
M93-30	93	404	±30	27						
M120-25	120	522	±25	29						
M164-20	164	713	±20	33	±1	V, L	21	1100x650x1800	625	E
M230-15	230	1000	±15	38						
M320-10	320	1391	±10	47						

Standard fittings

V Voltmeter
L Pilot lamp
FG Out of range indication
CG Range selector
I Input circuit breaker

PZ Potentiometer
PS* Surge arresters (optional)
BT* Electronic voltage relay (optional)
BS* Tripping coil (optional)



T Models for
THREE-PHASE 400V 50/60Hz mains
 with regulation on the average of the three phases

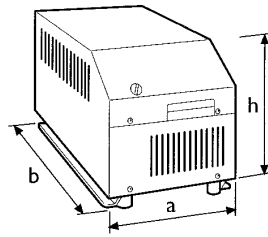


figure A

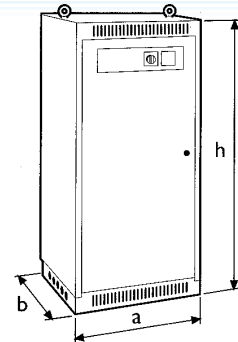
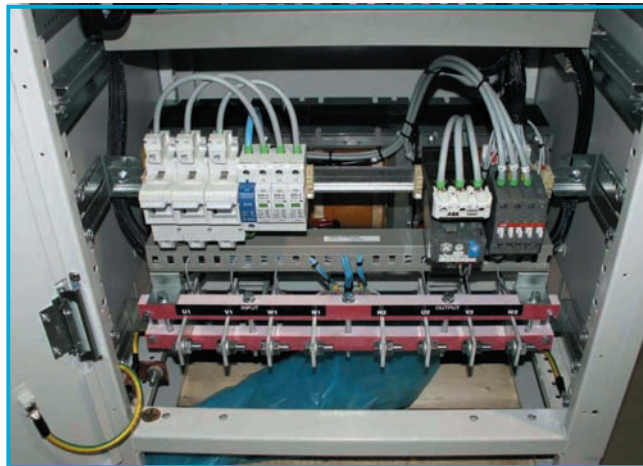


figure D

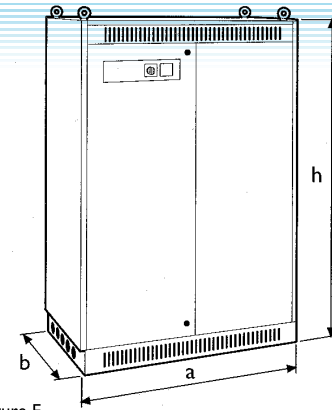
Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
T3-30	3	4	±30	13	±1	CG	20	600x300x260	45	A
T3,5-25	3,5	5	±25	15						
T5-20	5	7	±20	18						
T6-15	6	9	±15	21						
T9-10	9	13	±10	30						
T6-30	6	9	±30	13	±1	CG	20	270x445x480	74	A
T6,5-25	6,5	9,4	±25	15						
T9-20	9	13	±20	18						
T12-15	12	17	±15	21						
T17-10	17	25	±10	30						
T10-30	10	13	±30	15	±1	V,L	21	650x650x1300	122	D
T13-25	13	14	±25	16						
T17-20	17	22	±20	18						
T22-15	22	30	±15	21						
T31-10	31	45	±10	21						

Standard fittings

- V** Voltmeter
- L** Pilot lamp
- CG** Range selector



T Models for
THREE-PHASE 400V 50/60Hz mains
 with regulation on the average of the three phases



Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
T22-30	22	31	±30	10	±1	V, L	2I	650x650x1300	250	D
T30-25	30	43	±25	11						
T40-20	40	58	±20	12						
T55-15	55	79	±15	14						
T85-10	85	123	±10	18						
T35-30	35	51	±30	10	±1	V, L	2I	650x650x1300	300	D
T46-25	46	67	±25	11						
T58-20	58	84	±20	12						
T85-15	85	123	±15	14						
T115-10	115	167	±10	18						
T50-30	50	72	±30	10	±1	V, L	2I	650x650x1300	310	D
T63-25	63	91	±25	11						
T85-20	85	123	±20	12						
T122-15	122	177	±15	14						
T190-10	190	275	±10	18						
T70-30	70	101	±30	14	±1	V, L	2I	650x650x1800	450	D
T85-25	85	123	±25	16						
T110-20	110	159	±20	17						
T165-15	165	239	±15	20						
T260-10	260	377	±10	26						
T100-30	100	145	±30	12	±1	V, L	2I	1100x650x1800	620	E
T135-25	135	196	±25	13						
T170-20	170	246	±20	14						
T230-15	230	333	±15	17						
T380-10	380	551	±10	22						
T140-30	140	203	±30	12	±1	V, L	2I	1100x650x1800	990	E
T180-25	180	261	±25	14						
T240-20	240	348	±20	16						
T340-15	340	493	±15	18						
T540-10	540	783	±10	30						
T210-30	210	304	±30	21	±1	V, L	2I	1100x1100x1800	1420	E
T270-25	270	391	±25	23						
T355-20	355	514	±20	26						
T510-15	510	739	±15	29						
T780-10	780	1130	±10	46						

Standard fittings

- V** Voltmeter
- L** Pilot lamp
- CG** Range selector

Y Models for
THREE-PHASE 400V 50/60Hz mains
 with independent regulation of each phase

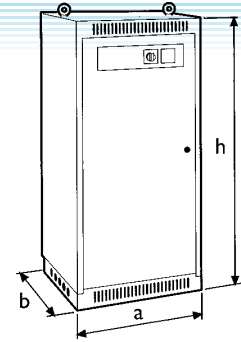


figure D

Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
Y3-30	3	4	±30	13				650x650x1300	110	D
Y4,5-25	4,5	7	±25	14						
Y6-20	6	9	±20	16	±1	V, L				
Y7,5-15	7,5	11	±15	18						
Y10-10	10	14	±10	21						
Y6-30	6	9	±30	11			650x650x1300	120	D	
Y9-25	9	13	±25	12						
Y12-20	12	17	±20	14	±1	V, L				
Y15-15	15	22	±15	16						
Y24-10	24	35	±10	19						
Y9-30	9	13	±30	13			650x650x1300	145	D	
Y15-25	15	22	±25	14						
Y18-20	18	26	±20	16	±1	V, L				
Y21-15	21	30	±15	18						
Y30-10	30	43	±10	21						
Y18-30	18	26	±30	13			650x650x1300	195	D	
Y24-25	24	35	±25	14						
Y30-20	30	43	±20	16	±1	V, L				
Y45-15	45	65	±15	18						
Y60-10	60	87	±10	21						
Y30-30	30	43	±30	13			650x650x1300	295	D	
Y33-25	33	48	±25	14						
Y44-20	44	64	±20	16	±1	V, L				
Y63-15	63	91	±15	18						
Y100-10	100	145	±10	21						
Y36-30	36	52	±30	14			650x650x1300	300	D	
Y45-25	45	65	±25	15						
Y60-20	60	87	±20	24	±1	V, L				
Y90-15	90	130	±15	33						
Y120-10	120	174	±10	37						

Standard fittings

- V** Voltmeter
- L** Pilot lamp
- CG** Range selector



**Y Models for
THREE-PHASE 400V 50/60Hz mains
with independent regulation of each phase**

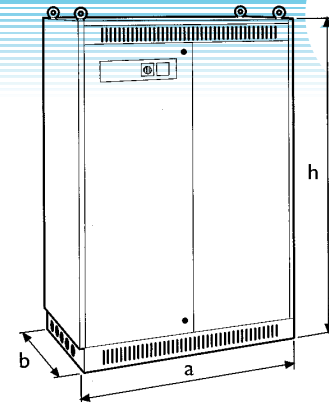


figure E

Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
Y48-30	48	69	±30	5	±1	V, L	2I	1100x650x1800	460	E
Y55-25	55	79	±25	6						
Y75-20	75	108	±20	6						
Y110-15	110	159	±15	7						
Y170-10	170	245	±10	11						
Y75-30	75	109	±30	10	±1	V, L	2I	1100x650x1800	570	E
Y90-25	90	130	±25	11						
Y125-20	125	181	±20	12						
Y175-15	175	254	±15	14						
Y260-10	260	377	±10	18						
Y100-30	100	145	±30	10	±1	V, L	2I	1100x650x1800	670	E
Y135-25	135	196	±25	11						
Y175-20	175	254	±20	12						
Y255-15	255	370	±15	14						
Y350-10	350	507	±10	18						
Y140-30	140	203	±30	15	±1	V, L	2I	1100x650x1800	1030	E
Y185-25	185	268	±25	16						
Y245-20	245	355	±20	17						
Y345-15	345	500	±15	20						
Y530-10	530	768	±10	26						
Y205-30	205	297	±30	11	±1	V, L	2I	1100x1100x1800	1200	E
Y255-25	255	370	±25	12						
Y345-20	345	500	±20	13						
Y490-15	490	710	±15	15						
Y740-10	740	1072	±10	19						
Y280-30	280	406	±30	16	±1	V, L	2I	1100x1100x1800	1700	E
Y360-25	360	522	±25	17						
Y490-20	490	710	±20	19						
Y690-15	690	1000	±15	22						
Y960-10	960	1391	±10	27						
Y380-30	380	551	±30	13	±1	V, L	2I	3 cabinets 1100x1100x1800	2770	3E
Y500-25	500	725	±25	14						
Y690-20	690	1000	±20	16						
Y1000-15	1000	1449	±15	27						
Y1500-10	1500	2165	±10	44						
Y520-30	520	754	±30	18	±1	V, L	2I	3 cabinets 1100x1100x1800	2520	3E
Y690-25	690	1000	±25	20						
Y920-20	920	1333	±20	23						
Y1300-15	1300	1884	±15	27						
Y1900-10	1900	2754	±10	36						
Y770-30	770	1116	±30	18	±1	V, L	2I	3 cabinets 1100x1100x1800	4650	3E
Y1000-25	1000	1449	±25	20						
Y1330-20	1330	1928	±20	23						
Y1800-15	1800	2609	±15	27						
Y2800-10	2800	4058	±10	36						
								T. B. A.		

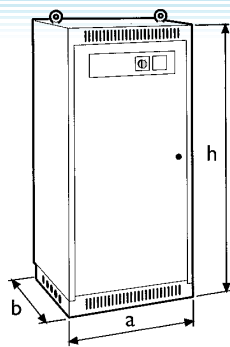


figure D

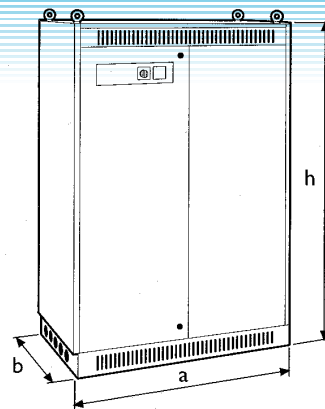


figure E

M AS Asymmetrical Models for SINGLE-PHASE 230V 50/60 Hz mains

Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
M1,1AS	1,1	4,8	+15%, -35%	14	±1.5		20	210x385x200	20	A
M2,5AS	2,5	11	+15%, -35%	20	±1.5		20	235x410x240	28	A
M3,5AS	3,5	15	+15%, -35%	23	±1.5		20	255x425x265	38	A
M7AS	7	30	+15%, -35%	23	±1.5		10	290x685x285	75	A
M10AS	10	43	+15%, -35%	24	±1	V, L	21	650x650x1300	110	D
M14AS	14	60	+15%, -35%	24	±1	V, L	21	650x650x1300	130	D

M18AS	18	78	+15%, -35%	10	±1	V, L	21	650x650x1800	210	D
M29AS	29	126	+15%, -35%	19	±1	V, L	21	650x650x1800	260	D
M40AS	40	174	+15%, -35%	19	±1	V, L	21	650x650x1800	350	D
M59AS	59	257	+15%, -35%	28	±1	V, L	21	1100x650x1800	490	E
M80AS	80	348	+15%, -35%	21	±1	V, L	21	1100x650x1800	540	E
M115AS	115	500	+15%, -35%	30	±1	V, L	21	1100x1100x1800	710	E

Y AS Asymmetrical Models for THREE-PHASE 400V 50/60Hz mains with independent regulation of each phase

Model	Rated power kVA	Rated current Amps	Voltage variation %	Response time ms/V	Accuracy ±%	Standard fittings	Protection Degree IP	Size mm a x b x h	Weight kg	Figure
Y3,3AS	3,3	5	+15%, -35%	8	±1	V, L	21	650x650x1300	110	D
Y7,5AS	7,5	11	+15%, -35%	12	±1	V, L	21	650x650x1300	125	D
Y10,5AS	10,5	15	+15%, -35%	14	±1	V, L	21	650x650x1300	140	D
Y21AS	21	30	+15%, -35%	14	±1	V, L	21	650x650x1800	280	D
Y30AS	30	43	+15%, -35%	14	±1	V, L	21	650x650x1800	330	D
Y40AS	40	58	+15%, -35%	15	±1	V, L	21	1100x650x1800	360	E

Y55AS	55	79	+15%, -35%	6	±1	V, L	21	1100x650x1800	560	E
Y85AS	85	123	+15%, -35%	11	±1	V, L	21	1100x650x1800	770	E
Y120AS	120	173	+15%, -35%	11	±1	V, L	21	1100x650x1800	920	E
Y175AS	175	253	+15%, -35%	16	±1	V, L	21	1100x650x1800	1270	E
Y240AS	240	346	+15%, -35%	12	±1	V, L	21	2 cabinets 1100x1100x1800	1150 450	E+E
Y345AS	345	498	+15%, -35%	17	±1	V, L	21	2 cabinets 1100x1100x1800	1650 480	E+E
Y440AS	440	635	+15%, -35%	16	±1	V, L	21	4 cabinets 1100x1100x1800	3300	4E
Y550AS	550	794	+15%, -35%	18	±1	V, L	21	4 cabinets 1100x1100x1800	4400	4E
Y800AS	800	1155	+15%, -35%	20	±1	V, L	21	4 cabinets 1100x1100x1800	5400	4E

Standard fittings V Voltmeter L Pilot lamp



ERESTAB IP21

Estabilizadores Electrodinámicos de Tensión

Guía para elegir y características técnicas

M Modelos para redes MONOFÁSICAS 230V

M AS Modelos asimétricos para redes MONOFÁSICAS 230V

T Modelos para redes TRIFÁSICAS 400V con regulación en la media de las tres fases

Y Modelos para redes TRIFÁSICAS 400V con regulación independiente de las tres fases

Y AS Modelos asimétricos para redes TRIFÁSICAS 400V

En las siguientes tablas se indican sólo los modelos para redes monofásicas 230V y trifásicas 400V.

Bajo pedido se pueden fabricar estabilizadores para redes monofásicas de 100, 110, 115, 120, 127, 200, 220, 240, 265 Voltios y para redes trifásicas de 208, 220, 230, 240, 380, 415, 440, 460, 480 y 500 Voltios.

Los modelos monofásicos M y los modelos trifásicos T llevan conmutador de gama. Por lo tanto, las potencias que cada modelo puede suministrar se seleccionan a través del conmutador que viene en dotación. Para los otros modelos es indispensable especificar la potencia requerida.

Los modelos citados en la tabla T efectúan la estabilización en la media de las 3 fases y por consiguiente son adecuados para redes equilibradas y para un desequilibrio máximo de carga entre las fases del 50%. Los modelos T, llevando sólo un circuito de estabilización que regula simultáneamente las tres fases, tienen un coste sensiblemente inferior. Pueden conectarse en líneas exentas de neutro.

Los modelos citados en la tabla Y llevan circuito de estabilización independiente en cada una de las fases y por consiguiente son adecuados para redes desequilibradas y cargas con desequilibrio entre las fases de hasta 100%. Para el funcionamiento de los estabilizadores Y es indispensable la conexión del neutro. La línea de entrada deberá tener 4 hilos (3 fases + neutro).

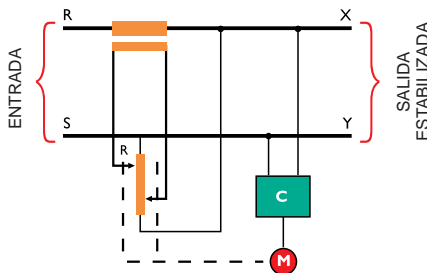
Los estabilizadores no transforman la tensión y entregan en la salida el valor nominal de la tensión de entrada. Si las tensiones de entrada y salida son diferentes es necesario incluir un transformador.

Los Erestab funcionan correctamente en redes de 50 Hz o 60 Hz. Características especiales bajo pedido: precisión $\pm 0,5\%$, variación de la tensión de entrada hasta $\pm 30\%$ y dotaciones opcionales según la tabla del pie de página a comprobar para cada modelo.

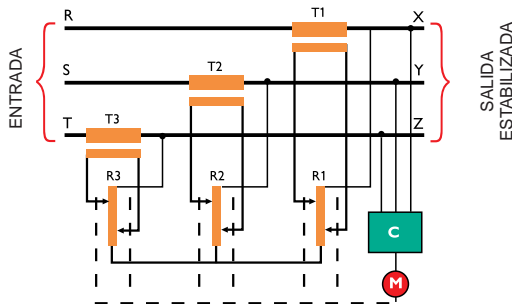
Todos los modelos son conformes con las Normas incluidas en las Directivas: EMC 89/336/CEE y modificaciones sucesivas – Baja Tensión 73/23/CEE y modificaciones sucesivas.

Dotaciones opcionales y versiones especiales:

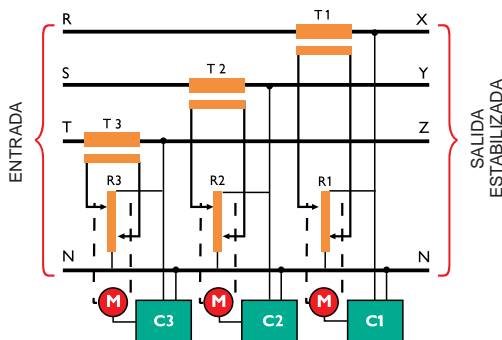
- Amperímetro
- Frecuencímetro
- Medidor multifunción
- Interruptor magnetotérmico en entrada o en salida (con o sin fuga a tierra)
- By-pass (automático o manual)
- Transformador de aislamiento
- Supresores de pico (protección contra rayos)
- Protección contra sobre/subtensiones
- Relé térmico
- Arranque suave (soft-start)
- Protección de ausencia y/o inversión de fase
- Versiones tropicalizadas
- Versiones para exterior IP54



ESTABILIZADORES M MONOFÁSICOS



ESTABILIZADORES T TRIFÁSICOS



ESTABILIZADORES Y TRIFÁSICOS

- T Transformador
- R Autotransformador variable
- C Circuito control electrónico
- M Servomotor

M Modelos para redes MONOFÁSICAS 230V 50/60Hz

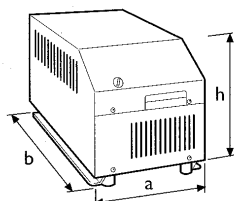


figura A

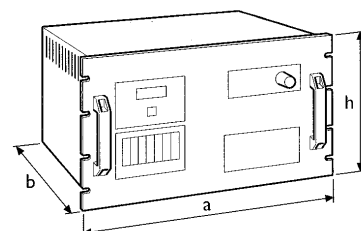
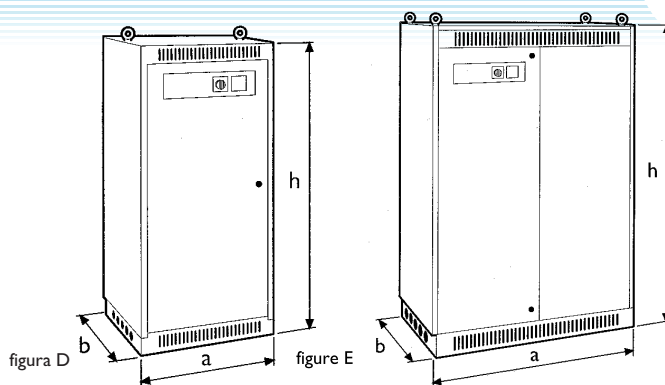


figura B

Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
M1-30	1	4,3	±30	13	±1,5	CG	20	210x385x200	18	A
M1-25	1	4,3	±25	14						
M2-20	2	8,7	±20	15						
M2,5-15	2,5	11	±15	18						
M3-10	3	13	±10	25						
M2-30	2	8,7	±30	20	±1,5	CG	20	235x410x240	30	A
M3-25	3	13	±25	21						
M4-20	4	17,4	±20	23						
M5-15	5	22	±15	27						
M8-10	8	35	±10	33						
M3-30	3	13	±30	24	±1,5	CG	20	275x425x265	37	A
M4-25	4	17,4	±25	25						
M6-20	6	26	±20	27						
M7-15	7	30	±15	30						
M10-10	10	43	±10	35						
M6-30	6	26	±30	24	±1,5		20	290X505X285	53	A
M8-25	8	35	±25	25						
M10-20	10	43	±20	27						
M15-15	15	65	±15	30						
M20-10	20	87	±10	35						
M10-30	10	43	±30	34	±1,5		20	560X396X320	78	A
M11-25	11	48	±25	24						
M14-20	14	61	±20	28						
M21-15	21	91	±15	31						
M33-10	33	143	±10	36						
M2-30L	2	8,7	±30	20	±0,5	I, L,V FG,PZ, BT*, BS*, PS*	20	485x500x275	36	B
M3-25L	3	13	±25	20						
M4-20L	4	17	±20	23						
M5-15L	5	22	±15	27						
M8-10L	8	35	±10	33						
M3-30L	3	13	±30	24	±0,5	I, L,V FG,PZ, BT*, BS*, PS*	20	485x500x275	46	B
M4-25L	4	17,4	±25	25						
M6-20L	6	26	±20	27						
M7-15L	7	30	±15	30						
M1-10L	10	43	±10	35						
M6-30L	6	26	±30	24	±0,5	I, L,V FG,PZ, BT*, BS*, PS*	20	485x500x275	58	B
M8-25L	8	35	±25	23						
M10-20L	10	43	±20	27						
M15-15L	15	65	±15	30						
M20-10L	20	87	±10	35						
M12-30	12	52	±30	20	±1	V, L	21	650x650x1300	105	D
M15-25	15	65	±25	26						
M21-20	21	91	±20	42						
M30-25	30	130	±15	58						
M40-10	40	174	±10	64						

M Modelos para redes MONOFÁSICAS 230V 50/60Hz



Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
M16-30	16	70	±30	8				650x650x1300	168	D
M18-25	18	78	±25	9						
M25-20	25	109	±20	10	±I	V, L				
M36-15	36	157	±15	12						
M56-10	56	243	±10	18						
M25-30	25	109	±30	18				650x650x1800	220	D
M30-25	30	130	±25	19						
M42-20	42	182	±20	21	±I	V, L				
M59-15	59	257	±15	24						
M87-10	87	378	±10	31						
M33-30	33	143	±30	18				650x650x1800	250	D
M45-25	45	195	±25	19						
M59-20	59	257	±20	21	±I	V, L				
M85-15	85	370	±15	24						
M117-10	117	509	±10	31						
M47-30	47	204	±30	26				650x650x1800	320	D
M62-25	62	270	±25	28						
M82-20	82	357	±20	29	±I	V, L				
M115-15	115	500	±15	34						
M177-10	177	770	±10	45						
M68-30	68	296	±30	20				1100x650x1800	400	E
M85-25	85	370	±25	21						
M115-20	115	500	±20	23	±I	V, L				
M164-15	164	713	±15	26						
M247-10	247	1074	±10	33						
M93-30	93	404	±30	27				1100x650x1800	625	E
M120-25	120	522	±25	29						
M164-20	164	713	±20	33	±I	V, L				
M230-15	230	1000	±15	38						
M320-10	320	1391	±10	47						

Accesorios

V	Voltímetro	PZ	Potenciometro
L	Piloto	PS*	Pararayos
FG	Indicador "fuera de rango"	BT*	Relé electrónico de tensión (opcional)
CG	Selector de rango	BS*	Bobina de disparo
I	Interruptor de entrada		



**T Modelos para redes
TRIFÁSICAS 400V 50/60Hz
con regulación en la media de las tres fases**

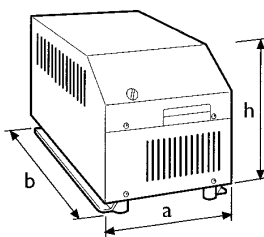


figura A

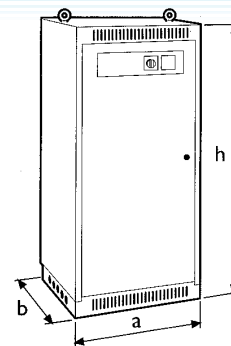
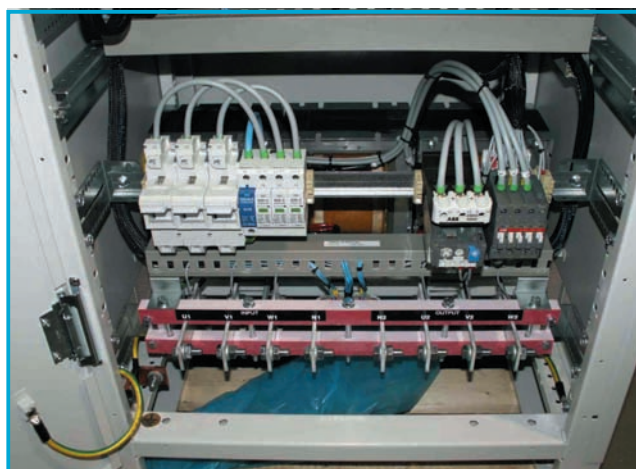


figura D

Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
T3-30	3	4	±30	13	±1	CG	20	600x300x260	45	A
T3,5-25	3,5	5	±25	15						
T5-20	5	7	±20	18						
T6-15	6	9	±15	21						
T9-10	9	13	±10	30						
T6-30	6	9	±30	13	±1	CG	20	270x445x480	74	A
T6,5-25	6,5	9,4	±25	15						
T9-20	9	13	±20	18						
T12-15	12	17	±15	21						
T17-10	17	25	±10	30						
T10-30	10	13	±30	15	±1	V,L	21	650x650x1300	122	D
T13-25	13	14	±25	16						
T17-20	17	22	±20	18						
T22-15	22	30	±15	21						
T31-10	31	45	±10	21						

Accesorios

- V** Voltímetro
- L** Piloto
- CG** Selector de rango



**T Modelos para redes
TRIFÁSICAS 400V 50/60Hz
con regulación en la media de las tres fases**

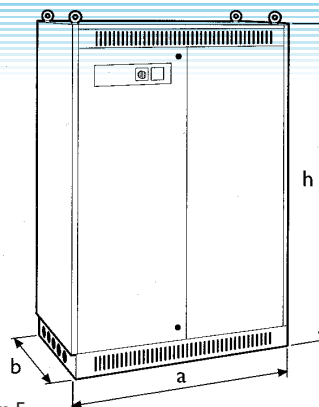


figura E

Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
T22-30	22	31	±30	10	±1	V, L	2I	650x650x1300	250	D
T30-25	30	43	±25	11						
T40-20	40	58	±20	12						
T55-15	55	79	±15	14						
T85-10	85	123	±10	18						
T35-30	35	51	±30	10	±1	V, L	2I	650x650x1300	300	D
T46-25	46	67	±25	11						
T58-20	58	84	±20	12						
T85-15	85	123	±15	14						
T115-10	115	167	±10	18						
T50-30	50	72	±30	10	±1	V, L	2I	650x650x1300	310	D
T63-25	63	91	±25	11						
T85-20	85	123	±20	12						
T122-15	122	177	±15	14						
T190-10	190	275	±10	18						
T70-30	70	101	±30	14	±1	V, L	2I	650x650x1800	450	D
T85-25	85	123	±25	16						
T110-20	110	159	±20	17						
T165-15	165	239	±15	20						
T260-10	260	377	±10	26						
T100-30	100	145	±30	12	±1	V, L	2I	1100x650x1800	620	E
T135-25	135	196	±25	13						
T170-20	170	246	±20	14						
T230-15	230	333	±15	17						
T380-10	380	551	±10	22						
T140-30	140	203	±30	12	±1	V, L	2I	1100x650x1800	990	E
T180-25	180	261	±25	14						
T240-20	240	348	±20	16						
T340-15	340	493	±15	18						
T540-10	540	783	±10	30						
T210-30	210	304	±30	21	±1	V, L	2I	1100x1100x1800	1420	E
T270-25	270	391	±25	23						
T355-20	355	514	±20	26						
T510-15	510	739	±15	29						
T780-10	780	1130	±10	46						

Accesorios

- V** Voltímetro
- L** Piloto
- CG** Selector de rango

Y Modelos para redes TRIFÁSICAS 400V 50/60Hz con regulación independiente de las tres fases

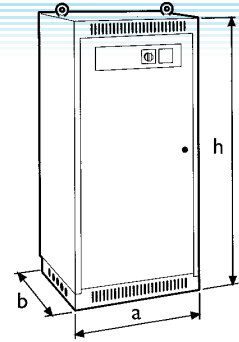


figura D

Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
Y3-30	3	4	±30	13	±1	V, L	2I	650x650x1300	110	D
Y4,5-25	4,5	7	±25	14						
Y6-20	6	9	±20	16						
Y7,5-15	7,5	11	±15	18						
Y10-10	10	14	±10	21						
Y6-30	6	9	±30	11	±1	V, L	2I	650x650x1300	120	D
Y9-25	9	13	±25	12						
Y12-20	12	17	±20	14						
Y15-15	15	22	±15	16						
Y24-10	24	35	±10	19						
Y9-30	9	13	±30	13	±1	V, L	2I	650x650x1300	145	D
Y15-25	15	22	±25	14						
Y18-20	18	26	±20	16						
Y21-15	21	30	±15	18						
Y30-10	30	43	±10	21						
Y18-30	18	26	±30	13	±1	V, L	2I	650x650x1300	195	D
Y24-25	24	35	±25	14						
Y30-20	30	43	±20	16						
Y45-15	45	65	±15	18						
Y60-10	60	87	±10	21						
Y30-30	30	43	±30	13	±1	V, L	2I	650x650x1300	295	D
Y33-25	33	48	±25	14						
Y44-20	44	64	±20	16						
Y63-15	63	91	±15	18						
Y100-10	100	145	±10	21						
Y36-30	36	52	±30	14	±1	V, L	2I	650x650x1300	300	D
Y45-25	45	65	±25	15						
Y60-20	60	87	±20	24						
Y90-15	90	130	±15	33						
Y120-10	120	174	±10	37						

Accesorios

- V** Voltímetro
- L** Piloto
- CG** Selector de rango



Y Modelos para redes TRIFÁSICAS 400V 50/60Hz con regulación independiente de las tres fases

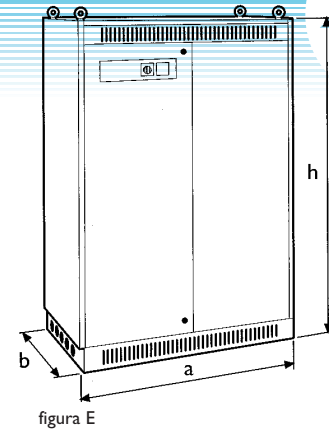


figura E

Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
Y48-30	48	69	±30	5	±1	V, L	2I	1100x650x1800	460	E
Y55-25	55	79	±25	6						
Y75-20	75	108	±20	6						
Y110-15	110	159	±15	7						
Y170-10	170	245	±10	11						
Y75-30	75	109	±30	10	±1	V, L	2I	1100x650x1800	570	E
Y90-25	90	130	±25	11						
Y125-20	125	181	±20	12						
Y175-15	175	254	±15	14						
Y260-10	260	377	±10	18						
Y100-30	100	145	±30	10	±1	V, L	2I	1100x650x1800	670	E
Y135-25	135	196	±25	11						
Y175-20	175	254	±20	12						
Y255-15	255	370	±15	14						
Y350-10	350	507	±10	18						
Y140-30	140	203	±30	15	±1	V, L	2I	1100x650x1800	1030	E
Y185-25	185	268	±25	16						
Y245-20	245	355	±20	17						
Y345-15	345	500	±15	20						
Y530-10	530	768	±10	26						
Y205-30	205	297	±30	11	±1	V, L	2I	1100x1100x1800	1200	E
Y255-25	255	370	±25	12						
Y345-20	345	500	±20	13						
Y490-15	490	710	±15	15						
Y740-10	740	1072	±10	19						
Y280-30	280	406	±30	16	±1	V, L	2I	1100x1100x1800	1700	E
Y360-25	360	522	±25	17						
Y490-20	490	710	±20	19						
Y690-15	690	1000	±15	22						
Y960-10	960	1391	±10	27						
Y380-30	380	551	±30	13	±1	V, L	2I	3 cabinets 1100x1100x1800	2770	3E
Y500-25	500	725	±25	14						
Y690-20	690	1000	±20	16						
Y1000-15	1000	1449	±15	27						
Y1500-10	1500	2165	±10	44						
Y520-30	520	754	±30	18	±1	V, L	2I	3 cabinets 1100x1100x1800	2520	3E
Y690-25	690	1000	±25	20						
Y920-20	920	1333	±20	23						
Y1300-15	1300	1884	±15	27						
Y1900-10	1900	2754	±10	36						
Y770-30	770	1116	±30	18	±1	V, L	2I	3 cabinets 1100x1100x1800	4650	3E
Y1000-25	1000	1449	±25	20						
Y1330-20	1330	1928	±20	23						
Y1800-15	1800	2609	±15	27						
Y2800-10	2800	4058	±10	36						
								T. B. A.		

M AS Modelos asimétricos para redes MONOFÁSICAS 230V 50/60Hz

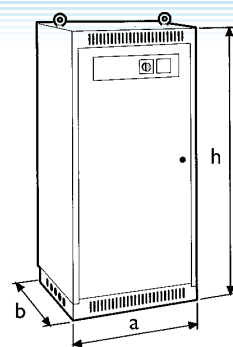


figura D

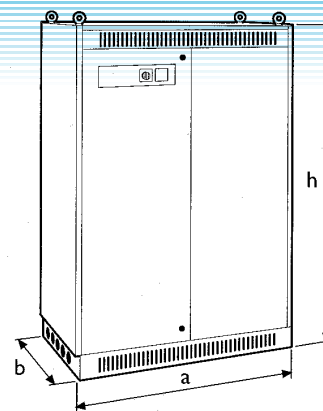


figura E

Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
M1,1AS	1,1	4,8	+15%, -35%	14	±1.5		20	210x385x200	20	A
M2,5AS	2,5	11	+15%, -35%	20	±1.5		20	235x410x240	28	A
M3,5AS	3,5	15	+15%, -35%	23	±1.5		20	255x425x265	38	A
M7AS	7	30	+15%, -35%	23	±1.5		10	290x685x285	75	A
M10AS	10	43	+15%, -35%	24	±1	V, L	21	650x650x1300	110	D
M14AS	14	60	+15%, -35%	24	±1	V, L	21	650x650x1300	130	D

M18AS	18	78	+15%, -35%	10	±1	V, L	21	650x650x1800	210	D
M29AS	29	126	+15%, -35%	19	±1	V, L	21	650x650x1800	260	D
M40AS	40	174	+15%, -35%	19	±1	V, L	21	650x650x1800	350	D
M59AS	59	257	+15%, -35%	28	±1	V, L	21	1100x650x1800	490	E
M80AS	80	348	+15%, -35%	21	±1	V, L	21	1100x650x1800	540	E
M115AS	115	500	+15%, -35%	30	±1	V, L	21	1100x1100x1800	710	E

Y AS Modelos asimétricos para redes TRIFÁSICAS 400V 50/60Hz con regulación independiente de las tres fases

Modelo	Potencia nominal kVA	Corriente nominal Amps	Variación tensión %	Tiempo de respuesta ms/V	Precisión ±%	Accesorios Standard	Protección IP	Dimensiones mm a x b x h	Peso kg	Figura
Y3,3AS	3,3	5	+15%, -35%	8	±1	V, L	21	650x650x1300	110	D
Y7,5AS	7,5	11	+15%, -35%	12	±1	V, L	21	650x650x1300	125	D
Y10,5AS	10,5	15	+15%, -35%	14	±1	V, L	21	650x650x1300	140	D
Y21AS	21	30	+15%, -35%	14	±1	V, L	21	650x650x1800	280	D
Y30AS	30	43	+15%, -35%	14	±1	V, L	21	650x650x1800	330	D
Y40AS	40	58	+15%, -35%	15	±1	V, L	21	1100x650x1800	360	E

Y55AS	55	79	+15%, -35%	6	±1	V, L	21	1100x650x1800	560	E
Y85AS	85	123	+15%, -35%	11	±1	V, L	21	1100x650x1800	770	E
Y120AS	120	173	+15%, -35%	11	±1	V, L	21	1100x650x1800	920	E
Y175AS	175	253	+15%, -35%	16	±1	V, L	21	1100x650x1800	1270	E
Y240AS	240	346	+15%, -35%	12	±1	V, L	21	2 cabinets 1100x1100x1800	1150 450	E+E
Y345AS	345	498	+15%, -35%	17	±1	V, L	21	2 cabinets 1100x1100x1800	1650 480	E+E
Y440AS	440	635	+15%, -35%	16	±1	V, L	21	4 cabinets 1100x1100x1800	3300	4E
Y550AS	550	794	+15%, -35%	18	±1	V, L	21	4 cabinets 1100x1100x1800	4400	4E
Y800AS	800	1155	+15%, -35%	20	±1	V, L	21	4 cabinets 1100x1100x1800	5400	4E



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