



CT-GB-39/05



Since 1969, ORTEA SpA is a leading manufacturer of voltage stabilisers, magnetic components and electrical equipment. Such position has been reached thanks to the sound professional skills of its staff.

Thirty-five years in the business and ongoing technical research have made ORTEA competitive and technologically up-to-date. A close co-operation between design, production and marketing, allows for the needs of a constantly growing number of customers to be satisfied. A constant attention to market developments, pushes the company towards the improvement of established products and the design of new ones. Beyond the standard products, ORTEA is organised to be extremely flexible in developing and manufacturing special equipment according to user's specification thanks to the experience gained by the Company over its many years of applied technological development. Such development now includes sophisticated computer hardware and software that enable the technical staff to drawing up and examining electrical and mechanical designs for each "custom product" on a quick and cost-effective basis. The belief that product quality and customer satisfaction are the basis for a modern organisation led to the implementation of an ISO 9001:2000 approved Quality System.



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THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IONet and its partner
CISQ/ISO-CSQ
hereby certify that the organization

ORTEA SPA
VIA DEI CHIOSI 21 - 20040 CAVENAGO BRIANZA (MI) Italy

for the following field of activities
Design, development, production and marketing of transformers, inductors,
voltage regulators, voltage stabilizers and electric equipment

Refer to quality manual for details of application to ISO 9001:2000 requirements
has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard
ISO 9001:2000
Issued on: 2003 - 11 - 14

Registration Number: **IT - 1523**

Fabio Bassani
President of IONet

Giuseppe Prati
President of CISQ

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CERTIFICATO N. 9101.ORTE
CERTIFICATE N. 9101.ORTE

SI CERTIFICA CHE IL SISTEMA QUALITÀ DI
ME ANNESSI CERTIFICATO CHE IL SISTEMA QUALITÀ OPERATO DA

ORTEA SPA
VIA DEI CHIOSI 21 - 20040 CAVENAGO BRIANZA (MI)
UNITÀ OPERATIVE
OPERATIVE UNITI
VIA DEI CHIOSI 21 - 20040 CAVENAGO BRIANZA (MI)

È CONFORME ALLA NORMA
IN COMPIANZA CON LO STANDARD
ISO 9001:2000

PER LE SEGUENTI ATTIVITÀ
PER THE FOLLOWING ACTIVITIES
EA: 19

Progettazione, sviluppo, fabbricazione e commercializzazione di trasformatori, induttori, stabilizzatori, variatori di frequenza ed apparecchiature elettriche. Design, development, production and marketing of transformers, inductors, voltage regulators, voltage stabilizers and electric equipment

Refer to quality manual for details of application to ISO 9001:2000 requirements

IL PRESENTE CERTIFICATO È VALIDO FINO AL 31/12/2006
PER LA CERTIFICAZIONE DEL SISTEMA QUALITÀ E DEI SISTEMI DELLA AZIENDA
THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SAFELY THE REQUIREMENTS OF THE RULES FOR THE CERTIFICATION OF QUALITY AND MANAGEMENT SYSTEMS

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ISO S.p.A. - VIA CANTUANO, 41 - 20138 MILANO

**СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ГОССТАНДАРТ РОССИИ**

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС ИТ.АЮ77.001062

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ИЗГОТОВИТЕЛЬ Фирма "ORTEA SPA"
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НА ОСНОВАНИИ Протокол испытаний № 27101-05-СНД от 27.10.2003 г. - ГУВ "Сертификационный центр "Система сертификации" (Атт. лист № РОСС ИТ.0001.21МЕ95), 195272, г. Санкт-Петербург, Малознаменский пр., д. 48.
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Certificate of Compliance

Certificate Number: 251004 - 0210525
Report Reference: 0210525, October 1st, 2004
Issue Date: 2004 October 25

Page 1 of 1

Underwriters Laboratories Inc.

Issued to: ORTEA SPA
VIA DEL CHIOSI 21
I-20040 CAVENAGO BRIANZA - MILANO ITALIA

This is to certify that representative samples of

Systems, Electrical Insulation
Class 200 (N) Insulation system designated ORT-200.

Have been investigated by Underwriters Laboratories Inc. in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 144 - Systems of Insulating Materials - General

Additional Information:

System Designation	Insulation Class	Maximum Temperature	Moisture	Indoor/Outdoor	Maximum Input Voltage, V
ORT-200	200/0	200°C (not spec)	Yes	Indoor/Outdoor	1000

Only those products bearing the UL Recognized Component Mark should be considered as being covered by UL's Recognition and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and listing number, model number or other product designation as specified under "Marking" in the particular Recognition or Listing in the appropriate UL Standard. In a representative system of identifying products that have been produced under UL's Component Recognition Program, the UL Recognized Component Mark **is** used in conjunction with the required Recognized Mark. The Recognized Component Mark is required when specified on the UL Standard governing the recognition of under "Marking" for the individual components.

Look for the UL Recognized Component Mark on the product

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INTRODUCTION & TECHNOLOGY

IMPORTANCE OF VOLTAGE STABILISERS

The increase of voltage sensitive equipment has determined a continuous **request** for means able to guarantee the supply of steady voltage independently from mains variation.

Loss of data, defective products, security failure, machinery faults and inaccurate information are only a few examples of possible problems due to unstable supply.

The voltage stabiliser has proved to be an efficient **answer** in order to prevent from potential damages due to input voltage fluctuation.

Installing a voltage stabiliser is often the solution to ensure continuity and quality of production.

USE OF A VOLTAGE STABILISER

A typical voltage stabiliser is able to respond to changes in the voltage level called **sags (voltage drops)** and **surges (voltage peaks)** on the input line.

Sags might be due to undersized distribution lines, connection of large loads to the network, ground faults.

Surges might be generated by disconnection of large loads, increased voltage at the generating plant, atmospheric events.

The duration of such phenomena depends on the cause and is not easily predictable.

Sags are generally more common especially where the distribution is not wide and efficient.

Other disturbances like spikes, transients, high frequency noise and harmonic distortion have to be treated with the addition of specific filtering systems.

The good functioning of the majority of electrical and electronic equipment depends on the supply voltage correctness and steadiness. Nowadays, many industrial and private users are subject to long-lasting fluctuations that can be inconvenient or even dangerous..



COMPARISON WITH A UPS SYSTEM

The type of utilisation described before pushes towards the choice of a voltage stabiliser instead of a UPS in order to have:

- Lower costs
- High power availability
- Wider input variation ranges
- Overload capacity up to 2In
- Inrush current capacity up to 10In
- Higher reliability and ruggedness
- Absence of batteries and consequent easy storage and handling
- Negligible harmonic distortion because of the use of electronic components only in auxiliary circuits
- Service continuity

CHOICE OF A VOLTAGE STABILISER

Generally speaking, a stabiliser can be chosen on the basis of a few elements:

1. NUMBER OF PHASES
2. RATED VOLTAGE
3. INPUT VARIATION RANGE
4. TYPE OF REGULATION
5. RATED POWER
6. INSTALLATION

Once these six points have been established, any other optional request can be dealt with separately.

1. Number of phases

The stabiliser number of phases depends on the type of load:

One 1-phase load: 1-phase stabiliser

Combination of several 1-phase loads or 3-phase loads: 3-phase stabiliser or a 1-phase stabiliser on each load.

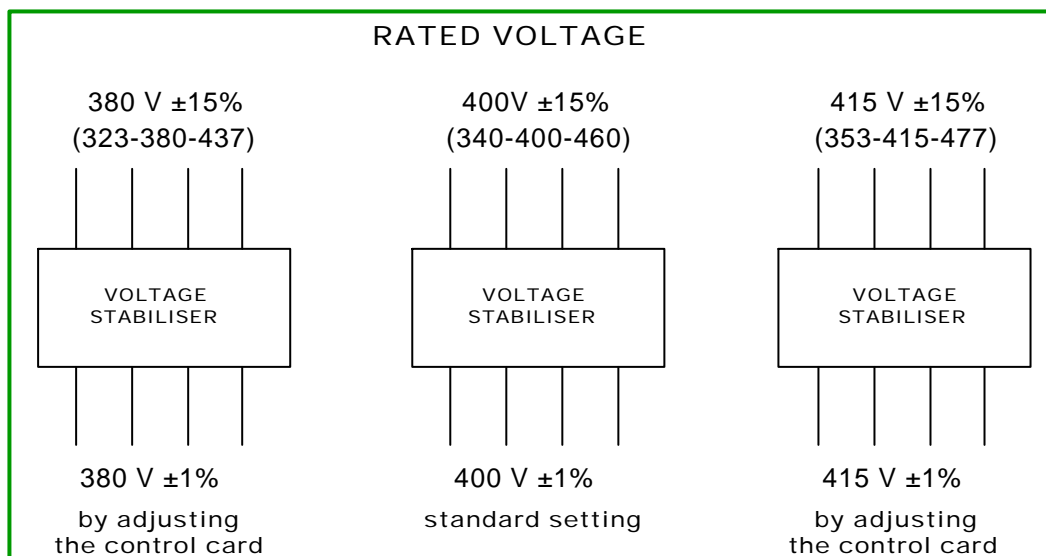
3-phase load: 3-phase stabiliser

2. Rated voltage

Always detect the nominal voltages that are supposed to be present at the input and at the output of the stabiliser. In case of 3-phase systems, provide with the line-to-line voltage value.

Since there are different nominal voltages around the world, do not assume that YOUR nominal voltage is automatically known.

The standard voltage stabiliser can operate with the following rated voltage:

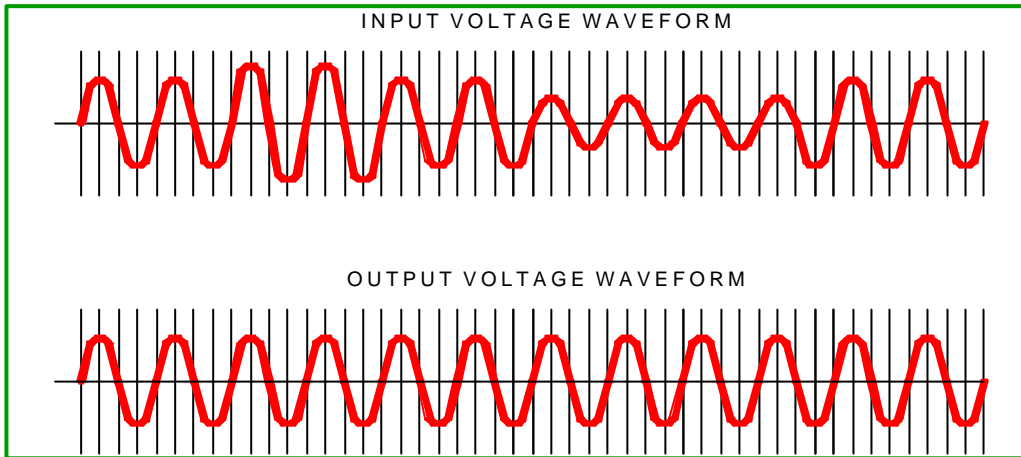


3. Input variation range

It's a key information for the choice and the design of the stabiliser.

Establish the nature of the oscillation of the input voltage and **always keep a safety margin on such percentage**. The standard production can include stabilisers for symmetrical and asymmetrical input variation range. If the input voltage variation goes beyond the rated range, the difference between real and rated variation is transferred onto the output.

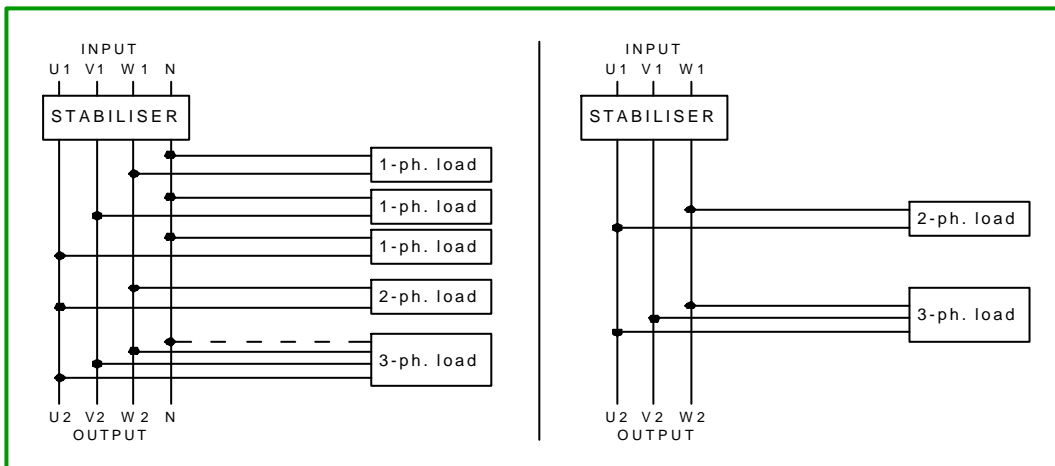
For example: rated input variation $\pm 15\%$ rated output accuracy $\pm 1\%$
 abnormal variation $\pm 20\%$ output accuracy $\pm 6\%$



4. Type of regulation

The three-phase voltage regulation can be performed in two different ways:

- independently on each phase. Used for 3-phase loads and 1-phase loads with until 100% unbalance and unbalance input voltage rated. In this configuration the voltage stabiliser requires the neutral wire presence.
- averaged on the three phases. Used for 3-phase loads and 2-phase loads with 50% maximum unbalance and balance input voltage rated. In this configuration the voltage stabiliser does not require the neutral wire presence.



5. Rated power

Establish the power required to supply your load system and **consider an extra safety margin** for a possible future expansion.

A voltage stabiliser power is expressed in kVA (kilovoltamperes), whilst load power is often given in kW (kilowatts). The link between these two measuring units is provided by the power factor ($\cos\phi$):

$$\text{kVA} = \frac{\text{kW}}{\cos\phi}$$

Remember the following:

$kVA = \text{load voltage} \times \text{load current (single-phase)}$

$kVA = \sqrt{3} \times \text{phase to phase load voltage} \times \text{load current (three-phase)}$

**If the power factor or the load power in kW cannot be easily established, measure the absorbed currents in order to allow for a correct design of the stabiliser.
All the stabilisers are designed for the maximum input current.**

6. Installation

In order to provide with the best machine, it is recommended to inform about the installation condition. It is necessary to know:

- IP protection degree
- Indoor or outdoor installation
- Installation site altitude and climatic properties
- Ambient temperature
- Possible environmental hazards such as aggressive atmosphere, exposure to chemical components and so on.

AVAILABLE RANGE

ORTEA's voltage stabiliser production covers an extensive range of standard types:

- Single-phase electrodynamic line from 0.2 kVA to 100 kVA (VEGA, ANTARES and LYBRA)
- Three-phase electrodynamic line from 2 kVA to 4000 kVA (ORION, SIRIUS, TAURUS, ARIES and DISCOVERY)
- Single-phase static line from 0.5 kVA to 10 kVA (GEMINI)
- Three-phase static line from 3 kVA to 1000 kVA (AQUARIUS and ODYSSEY)

ADVANTAGES

Choosing an electromechanical voltage stabiliser means:

- Smooth and reliable regulation
- Up to $\pm 0.5\%$ output accuracy
- Admitted inrush current up to $10I_n$
- Negligible introduction of harmonic distortion
- High efficiency
- High ratings

PERSONAL SAFETY

Access to the equipment can only be obtained by opening or dismantling the metal enclosure using appropriate tools: therefore, protection against direct contact inherently complies with IP21 class.

Inside the equipment there are dangerous voltages.

Access to the components for installation, setting, inspection and maintenance must be granted only to qualified personnel in charge of it.

The stabiliser must not function without the earth connection.

A circuit breaker should be installed upstream to the equipment in accordance with the requirements of IEC364 (CEI 64-8) "Electrical installations".

The stabiliser must be used exclusively on the purpose for which it had been designed and built.

Any other utilisation has to be considered as inappropriate and therefore dangerous.

The Company will not be held liable for possible damages to people, animals and belongings due to incorrect use or installation.

ELECTRODYNAMIC STABILIZERS WITH DIGITAL CONTROL

DESCRIPTION OF THE UNIT

The stabilising system is designed to operate with rated voltage in accordance with IEC 38 and is expected to be connected between main power supply and load.

The purpose is to supply the loads a stabilised voltage having an input voltage variable with respect to the rated value. The highest input current is obtained with the minimum rated voltage; as the output voltage is stabilised within a close range, the output current is considered to be constant.

Stabilisation takes place on the 'rms' value of the voltage and is not affected by harmonic distortion in the mains.

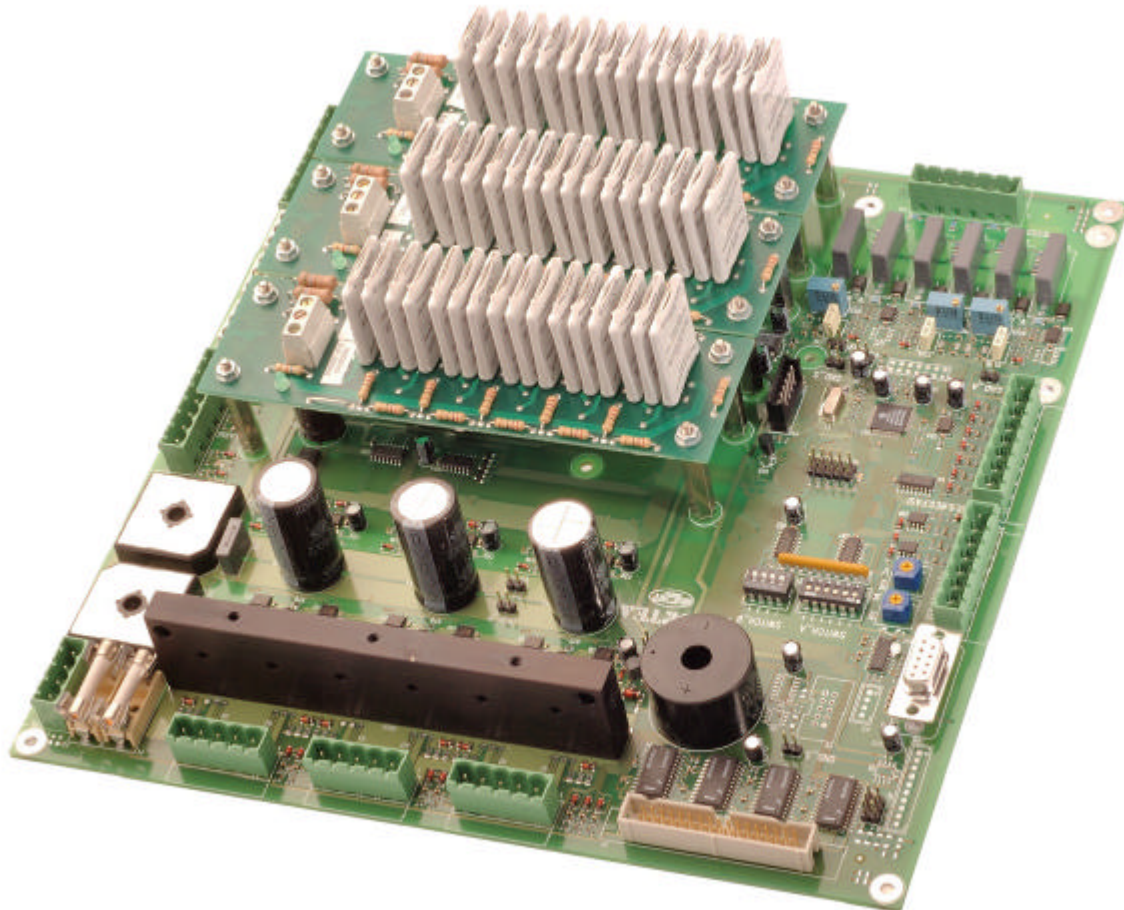
The stabiliser can operate with a load variation range from 0 to 100%; the response time depends on the input voltage percentage variation and on the type of design (indicatively, it can vary between 11 and 32msec/V).

The voltage stabiliser is not affected by the load power factor and since regulation is performed without chopping the voltage sine wave, neither an appreciable harmonic distortion nor a phase displacement are introduced on the downstream line.

The equipment is housed in a metal enclosure with RAL7035/RAL7032 finish and IP21 protection class, suitably sized according to power rating. Depending on the model, The stabilisers are cooled by air (natural or aided convection) or oil, depending on the type.

When the input variation percentage is -25%, -30% or -45% the unit is provided with a special component (super capacitor) able to adjust automatically the output voltage to the minimum value after a failure in the mains.

Such device prevents from possible damages to the user due to the potentially high voltages that might occur when the rated supply is re-established.



MAIN COMPONENTS

The main components of the stabiliser are:

1. Buck/boost transformer

The booster transformer is a standard dry-type transformer; the secondary winding is connected in series to the mains while the primary winding is supplied by the voltage regulator.

2. Voltage regulator

The voltage regulator consists of an autotransformer with continuously variable transformer ratio. The voltage intake varies depending on the contact position; therefore the voltage supplied to the transformer primary winding also varies. The voltage across the regulator contacts (and consequently that on the secondary winding of the buck/boost transformer) is either in phase or in opposition to the supply voltage, and it is therefore added or subtracted to the supply voltage, thus compensating its variations

3. AUXILIARY CIRCUIT WITH MICROPROCESSOR

The **DSP** microprocessor-based control circuit (specific for fully digital drives) compares the output voltage value to the adjusted one. When the percentage variation is too high, the control drives the voltage regulator gearmotor. By doing so the regulator rollers change their position thus varying the voltage drawn and supplied to the buck/boost transformer primary winding.

All the described activities are performed automatically

The voltage stabiliser can operate with input and output voltages different from the rated voltage. Such setting can be performed at the factory or at the Customer's premises by adjusting the dip-switch mounted on the electronic control card within the allowed range and according to the instructions described in the handbook. In the SIRIUS and TAURUS stabilisers, such setting can be performed by communicating directly with the microprocessor from a PC (through an RS232 interface). If the rated output voltage differs from the input voltage, a suitable step-up or step-down autotransformer should be installed in the equipment. However the voltage stabiliser can work just as well after accepting that the range of input voltage variation is not symmetric.



VEGA

The VEGA stabiliser covers the power rating range between 0.2kVA and 15kVA and allows for the choice of several input voltage variation percentages within a broad range from +30% up to -45%.

For $\pm 15\%$ and $\pm 20\%$ range the change of stabilisation is obtained through different internal connections.

Fuses or automatic circuit breakers are provided on the regulation circuit to protect against overload and short circuit on the voltage regulator. The auxiliary circuit is protected by fuses.

Where provided, a buzzer is activated whenever an overload condition occurs.

On the front panel there are a pilot light that indicates when the stabiliser is connected to the mains and an **analogical voltmeter** to show the output voltage.

The logic control is based on a microprocessor.

VEGA STANDARD FEATURES

FREQUENCY	47/65Hz
ADMITTED LOAD VARIATION	from 0 to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.2%
COOLING	Natural Air
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	200% 2min
COLOUR	RAL 7035
PROTECTION	IP 21
INSTALLATION	Indoor

RATING IN RELATION TO THE INPUT VARIATION PERCENTAGE

$\pm 15\%$	$\pm 20\%$	$\pm 25\%$	$\pm 30\%$	-25/+15%	-35/+15%	-45/+15%
1	0.7	0.5	0.3	0.5	0.3	0.2
2.5	2	1.5	1	1.5	1	0.7
5	4	3	2	3	2	1.5
7	5	4	3	4	3	2
10	7	5	4	5	-	-
15	10	7	5	7	-	-

Any other variation range not mentioned in the table above can be dealt with on request.

VEGA $\pm 15\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 15\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
100-15	1	230	5	230	4	>94	16	12	15
250-15	2.5	230	12.5	230	11	>96	16	12	22
500-15	5	230	25	230	22	>97	16	13	40
700-15	7	230	35	230	31	>98	16	13	42
1000-15	10	230	50	230	44	>98	16	13	50
1500-15	15	230	75	230	65	>98	16	13	55

VEGA $\pm 20\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 20\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
70-20	0.7	230	3.8	230	3	>94	12	12	15
200-20	2	230	11	230	9	>96	12	12	22
400-20	4	230	22	230	17.5	>97	12	13	40
500-20	5	230	28	230	22	>98	12	13	42
700-20	7	230	39	230	31	>98	12	13	50
1000-20	10	230	54	230	44	>98	12	13	55

VEGA ±25% AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±25% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
50-25	0.5	230	3	230	2.2	>96	10	12	15
150-25	1.5	230	9	230	6.5	>97	10	12	22
300-25	3	230	18	230	13	>98	10	13	40
400-25	4	230	23	230	17.5	>98	10	13	42
500-25	5	230	29	230	22	>98	10	13	50
700-25	7	230	41	230	31	>98	10	13	55

VEGA ±30% AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±30% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
30-30	0.3	230	2	230	1.3	>96	8	12	15
100-30	1	230	6.2	230	4	>97	8	12	22
200-30	2	230	12.4	230	9	>98	8	13	40
300-30	3	230	18.6	230	13.5	>98	8	13	42
400-30	4	230	24.8	230	18	>98	8	13	50
500-30	5	230	31	230	22	>98	8	13	55

VEGA -25%/+15% AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
50-15/25	0.5	230	3	230	2.2	>95	12	12	38
150-15/25	1.5	230	9	230	6.5	>96	12	12	42
300-15/25	3	230	18	230	13	>97	12	13	50
400-15/25	4	230	23	230	17.5	>97	12	13	55
500-15/25	5	230	29	230	22	>97	12	13	62
700-15/25	7	230	41	230	31	>97	12	13	68

VEGA -35%/+15% AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
30-15/35	0.3	230	2	230	1.3	>95	10	12	38
100-15/35	1	230	6.7	230	4	>96	10	13	42
200-15/35	2	230	13.4	230	9	>97	10	13	50
300-15/35	3	230	20	230	13	>97	10	13	55

VEGA -45%/+15% AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
20-15/45	0.2	230	1.6	230	0.9	>95	8	12	38
70-15/45	0.7	230	5.5	230	3	>96	8	13	42
150-15/45	1.5	230	11	230	6.5	>97	8	13	50
200-15/45	2	230	16	230	9	>97	8	13	55

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 220/240V - Input output voltage 60Hz: 208/240V

ANTARES

The ANTARES stabiliser covers the power rating range between 3kVA and 100kVA and allows for the choice of several input voltage variation percentages within a broad range from +30% up to -45%.

For $\pm 15\%$ and $\pm 20\%$ range the change of stabilisation is obtained through different internal connections.

Automatic circuit-breakers are provided on the regulation circuit to protect against overload and short circuit on the voltage regulator.

The auxiliary circuit is protected by fuses.

A buzzer is activated whenever an overload condition occurs.

The measuring instrumentation for the ANTARES stabilisers is mounted on the cabinet door and consists of a **multi-task digital network analyser**. Such instrument is able to provide with information regarding the status of the line downstream the voltage stabiliser such as phase voltage, current, power factor, $\cos\phi$, active power, apparent power, reactive power, etc.

The logic control is based on a microprocessor

ANTARES STANDARD FEATURES

FREQUENCY	47/65Hz
ADMITTED LOAD VARIATION	from 0 to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.2%
COOLING	Aided air
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	200% 2min
COLOUR	RAL 7035
PROTECTION	IP 21
INSTALLATION	Indoor

RATING IN RELATION TO THE INPUT VARIATION PERCENTAGE

$\pm 15\%$	$\pm 20\%$	$\pm 25\%$	$\pm 30\%$	-25/+15%	-35/+15%	-45/+15%
-	-	-	-	-	5	3
-	-	-	-	10	7	5
20	15	10	7	15	10	7
25	20	15	10	20	15	10
35	25	20	15	25	20	15
50	35	25	20	35	25	20
75	50	35	25	50	35	25
100	75	50	35	75	50	35

Any other variation range not mentioned in the table above can be dealt with on request.

ANTARES $\pm 15\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 15\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
2000-15	20	230	102	230	87	>98	18	22	80
2500-15	25	230	128	230	109	>98	18	23	100
3500-15	35	230	179	230	152	>98	18	23	120
5000-15	50	230	256	230	217	>98	18	24	260
7500-15	75	230	384	230	326	>98	18	24	300
10000-15	100	230	511	230	435	>98	18	24	380

ANTARES $\pm 20\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 20\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
1500-20	15	230	81	230	65	>98	14	22	80
2000-20	20	230	109	230	87	>98	14	23	100
2500-20	25	230	136	230	109	>98	14	23	120
3500-20	35	230	190	230	152	>98	14	24	260
5000-20	50	230	271	230	217	>98	14	24	300
7500-20	75	230	407	230	325	>98	14	24	380

ANTARES $\pm 25\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 25\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
1000-25	10	230	57	230	43	>98	11	22	80
1500-25	15	230	87	230	65	>98	11	23	100
2000-25	20	230	116	230	87	>98	11	23	120
2500-25	25	230	144	230	108	>98	11	24	260
3500-25	35	230	203	230	152	>98	11	24	300
5000-25	50	230	289	230	217	>98	11	24	380

ANTARES $\pm 30\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 30\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
700-30	7	230	43	230	30	>97	9	22	80
1000-30	10	230	61	230	43	>97	9	23	100
1500-30	15	230	93	230	65	>97	9	23	120
2000-30	20	230	124	230	87	>97	9	24	260
2500-30	25	230	156	230	109	>97	9	24	300
3500-30	35	230	217	230	152	>97	9	24	380

ANTARES $-25\%/+15\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $-25/+15\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
1000-15/25	10	230	58	230	43	>97	14	22	80
1500-15/25	15	230	87	230	65	>97	14	22	107
2000-15/25	20	230	116	230	87	>97	14	23	131
2500-15/25	25	230	144	230	109	>97	14	23	150
3500-15/25	35	230	203	230	152	>97	14	24	298
5000-15/25	50	230	289	230	217	>97	14	24	335
7500-15/25	75	230	435	230	326	>97	14	24	430

ANTARES $-35\%/+15\%$ AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $-35/+15\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
500-15/35	5	230	33.5	230	22	>97	11	22	80
700-15/35	7	230	47	230	31	>97	11	22	96
1000-15/35	10	230	67	230	44	>97	11	22	107
1500-15/35	15	230	100	230	65	>97	11	23	131
2000-15/35	20	230	134	230	87	>97	11	23	150
2500-15/35	25	230	167	230	109	>97	11	24	298
3500-15/35	35	230	234	230	152	>97	11	24	335
5000-15/35	50	230	334	230	217	>97	11	24	430

ANTARES -45%/ +15% AUTOMATIC SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
300-15/45	3	230	24	230	13.5	>97	9	22	80
500-15/45	5	230	40	230	22	>97	9	22	96
700-15/45	7	230	55	230	31	>97	9	22	107
1000-15/45	10	230	79	230	44	>97	9	23	131
1500-15/45	15	230	119	230	65	>97	9	23	150
2000-15/45	20	230	158	230	87	>97	9	24	298
2500-15/45	25	230	197	230	109	>97	9	24	335
3500-15/45	35	230	276	230	152	>97	9	24	430



The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer
 Input output voltage 50Hz: 220/240V - Input output voltage 60Hz: 208/240V

ORION

The ORION stabiliser covers the power rating range between 2kVA and 450kVA and allows for the choice of several input voltage variation percentages within a broad range from +30% up to -45%.

For $\pm 15\%$ and $\pm 20\%$ range, the change of stabilisation is obtained through different internal connections.

These stabilisers can be provided with two types of regulation.

The regulation in the ORION Y stabilisers is independent on each phase. These stabilisers are used with three-phase loads and single-phase loads with 100% unbalance with unbalance input rated voltage. In this configuration the voltage stabiliser requires the neutral wire presence.

The regulation in the ORION A stabilisers is performed on the average three-phase voltage. These stabilisers are used with three-phase loads and two-phase loads with 50% maximum unbalance and balance input rated voltage. In this configuration the voltage stabiliser does not require the neutral wire presence.

Fuses or automatic circuit breakers are provided on the regulation circuit to protect against overload and short circuit on the voltage regulator.

The auxiliary circuit is protected by fuses.

Where provided, a buzzer is activated whenever an overload condition occurs.

The measuring instrumentation for the ORION stabilisers mounted on the cabinet door and consists of a **multi-task digital network analyser**. Such instrument is able to provide with information regarding the status of the line downstream the voltage stabiliser such as phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc.

The logic control is based on a microprocessor.

ORION A STANDARD FEATURES

FREQUENCY	47/65Hz
ADMITTED LOAD VARIATION	from 0 to 100%
ADMITTED LOAD UNBALANCE	up to 50%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.2%
COOLING	Aided air
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60 °C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	200% 2min
COLOUR	RAL 7035
PROTECTION	IP 21
INSTALLATION	Indoor

RATING IN RELATION TO THE INPUT VARIATION PERCENTAGE

$\pm 15\%$	$\pm 20\%$	$\pm 25\%$	$\pm 30\%$	-25/+15%	-35/+15%	-45/+15%
5	4	3	2	4	3	2
10	7	4	3	7	4	3
15	10	7	4	10	7	4
20	15	10	7	15	10	7
30	20	15	10	20	15	10
45	30	20	15	30	20	15
60	45	30	20	45	30	20
75	60	45	30	60	45	30
105	75	60	45	75	60	45
135	105	75	60	105	75	60
175	135	105	75	135	105	75
230	175	135	105	175	135	105
300	230	175	135	230	175	135
450	300	230	175	300	230	175

Any other variation range not mentioned in the table above can be dealt with on request.

ORION A ±15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
A5-15	5	400	8	400	7	>95	16	22	50
A10-15	10	400	16	400	14	>96	16	22	60
A15-15	15	400	25	400	21	>97	16	23	100
A20-15	20	400	33	400	28	>98	16	23	120
A30-15	30	400	50	400	43	>98	16	23	160
A45-15	45	400	76	400	65	>98	16	24	180
A60-15	60	400	102	400	87	>98	18	24	250
A75-15	75	400	126	400	108	>98	18	24	260
A105-15	105	400	176	400	152	>98	18	25	350
A135-15	135	400	229	400	195	>98	18	25	500
A175-15	175	400	297	400	253	>98	18	25	600
A230-15	230	400	390	400	332	>98	18	26	800
A300-15	300	400	509	400	433	>98	18	26	850
A450-15	450	400	765	400	650	>98	18	41	1100

ORION A ±20% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±20% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
A4-20	4	400	7	400	6	>95	12	22	50
A7-20	7	400	13	400	10	>96	12	22	60
A10-20	10	400	17	400	14	>97	12	23	100
A15-20	15	400	26	400	21	>98	12	23	120
A20-20	20	400	36	400	29	>98	12	23	160
A30-20	30	400	54	400	43	>98	12	24	180
A45-20	45	400	81	400	65	>98	14	24	250
A60-20	60	400	107	400	86	>98	14	24	260
A75-20	75	400	135	400	108	>98	14	25	350
A105-20	105	400	187	400	150	>98	14	25	500
A135-20	135	400	244	400	195	>98	14	25	600
A175-20	175	400	316	400	253	>98	14	26	800
A230-20	230	400	415	400	332	>98	14	26	850
A300-20	300	400	542	400	433	>98	14	41	1100

ORION A ±25% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±25% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
A3-25	3	400	6	400	4	>96	10	22	50
A4-25	4	400	8	400	6	>97	10	22	60
A7-25	7	400	13	400	10	>98	10	23	100
A10-25	10	400	19	400	14	>98	10	23	120
A15-25	15	400	29	400	22	>98	10	23	160
A20-25	20	400	38	400	29	>98	10	24	180
A30-25	30	400	57	400	43	>98	11	24	250
A45-25	45	400	86	400	65	>98	11	24	260
A60-25	60	400	115	400	86	>98	11	25	350
A75-25	75	400	144	400	108	>98	11	25	500
A105-25	105	400	203	400	152	>98	11	25	600
A135-25	135	400	260	400	195	>98	11	26	800
A175-25	175	400	337	400	253	>98	11	26	850
A230-25	230	400	443	400	332	>98	14	41	1100

ORION A $\pm 30\%$ AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 30\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
A2-30	2	400	4	400	3	<96	8	22	50
A3-30	3	400	6	400	4	>96	8	22	60
A4-30	4	400	8	400	6	>97	8	23	100
A7-30	7	400	14	400	10	>98	8	23	120
A10-30	10	400	20	400	14	>98	8	23	160
A15-30	15	400	31	400	22	>98	8	24	180
A20-30	20	400	41	400	29	>98	9	24	250
A30-30	30	400	61	400	43	>98	9	24	260
A45-30	45	400	93	400	65	>98	9	25	350
A60-30	60	400	123	400	87	>98	9	25	500
A75-30	75	400	154	400	108	>98	9	25	600
A105-30	105	400	217	400	152	>98	9	26	800
A135-30	135	400	278	400	195	>98	9	26	850
A175-30	175	400	361	400	253	>98	9	41	1100

ORION A -25%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
A4-15/25	4	400	8	400	6	>94	12	22	60
A7-15/25	7	400	13	400	10	>95	12	22	70
A10-15/25	10	400	19	400	14	>96	12	23	115
A15-15/25	15	400	27	400	22	>97	12	23	140
A20-15/25	20	400	39	400	29	>97	12	23	185
A30-15/25	30	400	57	400	43	>97	12	24	215
A45-15/25	45	400	87	400	65	>97	14	24	265
A60-15/25	60	400	116	400	87	>97	14	24	300
A75-15/25	75	400	144	400	108	>97	14	25	390
A105-15/25	105	400	202	400	152	>97	14	25	560
A135-15/25	135	400	260	400	195	>97	14	25	670
A175-15/25	175	400	337	400	253	>97	14	26	900
A230-15/25	230	400	443	400	332	>97	14	26	970
A300-15/25	300	400	578	400	433	>97	14	41	1100

ORION A -35%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
A3-15/35	3	400	7	400	4	>94	10	22	60
A4-15/35	4	400	9	400	6	>95	10	22	70
A7-15/35	7	400	15	400	10	>96	10	23	115
A10-15/35	10	400	21	400	14	>97	10	23	140
A15-15/35	15	400	33	400	22	>97	10	23	185
A20-15/35	20	400	44	400	29	>97	10	24	215
A30-15/35	30	400	66	400	43	>97	11	24	290
A45-15/35	45	400	100	400	65	>97	11	24	305
A60-15/35	60	400	133	400	87	>97	11	25	410
A75-15/35	75	400	166	400	108	>97	11	25	570
A105-15/35	105	400	234	400	152	>97	11	25	700
A135-15/35	135	400	300	400	195	>97	11	26	920
A175-15/35	175	400	389	400	253	>97	11	26	1000
A230-15/35	230	400	511	400	332	>97	11	41	1100

ORION A -45%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
A2-15/45	2	400	5	400	3	>94	8	22	60
A3-15/45	3	400	8	400	4	>95	8	22	75
A4-15/45	4	400	10	400	6	>95	8	23	120
A7-15/45	7	400	18	400	10	>96	8	23	145
A10-15/45	10	400	25	400	14	>97	8	23	190
A15-15/45	15	400	39	400	22	>97	8	24	215
A20-15/45	20	400	52	400	29	>97	9	24	295
A30-15/45	30	400	79	400	43	>97	9	24	315
A45-15/45	45	400	118	400	65	>97	9	25	420
A60-15/45	60	400	158	400	87	>97	9	25	600
A75-15/45	75	400	196	400	108	>97	9	25	720
A105-15/45	105	400	276	400	152	>97	9	26	950
A135-15/45	135	400	354	400	195	>97	9	26	1030
A175-15/45	175	400	460	400	253	>97	9	41	1100



The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer
 Input output voltage 50Hz: 380/415V - Input output voltage 60Hz: 460/480V

ORION Y STANDARD FEATURES

FREQUENCY	47/65Hz
ADMITTED LOAD VARIATION	from 0 to 100%
ADMITTED LOAD UNBALANCE	up to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.2%
COOLING	Aided Air
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	200% 2min
COLOUR	RAL 7035
PROTECTION	IP 21
INSTALLATION	Indoor

RATING IN RELATION TO THE INPUT VARIATION PERCENTAGE

±15%	±20%	±25%	±30%	-25/+15%	-35/+15%	-45/+15%
5	4	3	2	4	3	2
10	7	4	3	7	4	3
15	10	7	4	10	7	4
20	15	10	7	15	10	7
30	20	15	10	20	15	10
45	30	20	15	30	20	15
60	45	30	20	45	30	20
75	60	45	30	60	45	30
105	75	60	45	75	60	45
135	105	75	60	105	75	60
175	135	105	75	135	105	75
230	175	135	105	175	135	105
300	230	175	135	230	175	135
450	300	230	175	300	230	175

Any other variation range not mentioned in the table above can be dealt with on request.

ORION Y ±15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y5-15	5	400	8	400	7	>95	16	22	70
Y10-15	10	400	16	400	14	>96	16	22	75
Y15-15	15	400	25	400	21	>97	16	23	140
Y20-15	20	400	33	400	28	>98	16	23	145
Y30-15	30	400	50	400	43	>98	16	23	170
Y45-15	45	400	76	400	65	>98	16	23	190
Y60-15	60	400	102	400	87	>98	18	24	260
Y75-15	75	400	126	400	108	>98	18	24	350
Y105-15	105	400	176	400	152	>98	18	25	420
Y135-15	135	400	229	400	195	>98	18	25	510
Y175-15	175	400	297	400	253	>98	18	25	610
Y230-15	230	400	390	400	332	>98	18	26	900
Y300-15	300	400	509	400	433	>98	18	26	920
Y450-15	450	400	765	400	650	>98	18	41	1200

ORION Y $\pm 20\%$ AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 20\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y4-20	4	400	7	400	6	>95	12	22	70
Y7-20	7	400	13	400	10	>96	12	22	75
Y10-20	10	400	17	400	14	>97	12	23	140
Y15-20	15	400	26	400	21	>98	12	23	145
Y20-20	20	400	36	400	29	>98	12	23	170
Y30-20	30	400	54	400	43	>98	12	23	190
Y45-20	45	400	81	400	65	>98	14	24	260
Y60-20	60	400	107	400	86	>98	14	24	350
Y75-20	75	400	135	400	108	>98	14	25	420
Y105-20	105	400	187	400	150	>98	14	25	510
Y135-20	135	400	244	400	195	>98	14	25	610
Y175-20	175	400	316	400	253	>98	14	26	900
Y230-20	230	400	415	400	332	>98	14	26	920
Y300-20	300	400	542	400	433	>98	14	41	1200

ORION Y $\pm 25\%$ AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 25\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y3-25	3	400	6	400	4	>96	10	22	70
Y4-25	4	400	8	400	6	>97	10	22	75
Y7-25	7	400	13	400	10	>98	10	23	140
Y10-25	10	400	19	400	14	>98	10	23	145
Y15-25	15	400	29	400	22	>98	10	23	170
Y20-25	20	400	38	400	29	>98	10	23	190
Y30-25	30	400	57	400	43	>98	11	24	260
Y45-25	45	400	86	400	65	>98	11	24	350
Y60-25	60	400	115	400	86	>98	11	25	420
Y75-25	75	400	144	400	108	>98	11	25	510
Y105-25	105	400	203	400	152	>98	11	25	610
Y135-25	135	400	260	400	195	>98	11	26	900
Y175-25	175	400	337	400	253	>98	11	26	920
Y230-25	230	400	443	400	332	>98	11	41	1200

ORION Y $\pm 30\%$ AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE $\pm 30\%$ [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 1\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y2-30	2	400	4	400	3	<96	8	22	70
Y3-30	3	400	6	400	4	>96	8	22	75
Y4-30	4	400	8	400	6	>97	8	23	140
Y7-30	7	400	14	400	10	>98	8	23	145
Y10-30	10	400	20	400	14	>98	8	23	170
Y15-30	15	400	31	400	22	>98	8	23	190
Y20-30	20	400	41	400	29	>98	9	24	260
Y30-30	30	400	61	400	43	>98	9	24	350
Y45-30	45	400	93	400	65	>98	9	25	420
Y60-30	60	400	123	400	87	>98	9	25	510
Y75-30	75	400	154	400	108	>98	9	25	610
Y105-30	105	400	217	400	152	>98	9	26	900
Y135-30	135	400	278	400	195	>98	9	26	920
Y175-30	175	400	361	400	253	>98	9	41	1200

ORION Y -25%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y4-15/25	4	400	8	400	6	>94	12	22	75
Y7-15/25	7	400	13	400	10	>95	12	22	85
Y10-15/25	10	400	19	400	14	>96	12	23	155
Y15-15/25	15	400	27	400	22	>97	12	23	165
Y20-15/25	20	400	39	400	29	>97	12	23	195
Y30-15/25	30	400	57	400	43	>97	12	23	220
Y45-15/25	45	400	87	400	65	>97	14	24	295
Y60-15/25	60	400	116	400	87	>97	14	24	395
Y75-15/25	75	400	144	400	108	>97	14	25	470
Y105-15/25	105	400	202	400	152	>97	14	25	570
Y135-15/25	135	400	260	400	195	>97	14	25	680
Y175-15/25	175	400	337	400	253	>97	14	26	1000
Y230-15/25	230	400	443	400	332	>97	14	26	1040
Y300-15/25	300	400	578	400	433	>97	14	41	1200

ORION Y -35%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y3 -15/35	3	400	7	400	4	>94	10	22	75
Y4-15/35	4	400	9	400	6	>95	10	22	85
Y7-15/35	7	400	15	400	10	>96	10	23	155
Y10-15/35	10	400	21	400	14	>97	10	23	165
Y15-15/35	15	400	33	400	22	>97	10	23	195
Y20-15/35	20	400	44	400	29	>97	10	23	225
Y30-15/35	30	400	66	400	43	>97	11	24	300
Y45-15/35	45	400	100	400	65	>97	11	24	395
Y60-15/35	60	400	133	400	87	>97	11	25	480
Y75-15/35	75	400	166	400	108	>97	11	25	580
Y105-15/35	105	400	234	400	152	>97	11	25	705
Y135-15/35	135	400	300	400	195	>97	11	26	1020
Y175-15/35	175	400	389	400	253	>97	11	26	1070
Y230-15/35	230	400	511	400	332	>97	11	41	1200

ORION Y -45%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y2-15/45	2	400	5	400	3	>94	8	22	80
Y3-15/45	3	400	8	400	4	>95	8	22	90
Y4-15/45	4	400	10	400	6	>95	8	23	160
Y7-15/45	7	400	18	400	10	>96	8	23	170
Y10-15/45	10	400	25	400	14	>97	8	23	200
Y15-15/45	15	400	39	400	22	>97	8	23	225
Y20-15/45	20	400	52	400	29	>97	9	24	305
Y30-15/45	30	400	79	400	43	>97	9	24	405
Y45-15/45	45	400	118	400	65	>97	9	25	490
Y60-15/45	60	400	158	400	87	>97	9	25	605
Y75-15/45	75	400	196	400	108	>97	9	25	730
Y105-15/45	105	400	276	400	152	>97	9	26	1050
Y135-15/45	135	400	354	400	195	>97	9	26	1100
Y175-15/45	175	400	460	400	253	>97	9	41	1200

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 380/415V - Input output voltage 60Hz: 460/480V

SIRIUS

The SIRIUS line covers the range from 30kVA to 2000kVA and allows for the choice of several input voltage variation percentages within a broad range from +30% up to -45%.

The SIRIUS voltage stabilisers are supplied with independent regulation on each phase.

The SIRIUS type is used when the main is unbalanced and when unbalanced three-phase loads and/or single-phase loads need to be supplied. In this situation the presence of the neutral wire is required.

The stabilisers are air cooled (natural convection with cabinet internal temperature lower than 40°C).

The measuring instrumentation for the SIRIUS stabilisers is incorporated in a control panel on the cabinet door and consists of **two multi-task digital network analysers**. Such instruments are able to provide with information regarding the status of the lines upstream and downstream the voltage stabiliser such as phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc.

Such information can also be monitored on a remote PC via an RS485 output an RS485/RS232 converter and a special software package supplied with the unit.

Pilot lights are provided for each phase signalling 'power on', reaching of voltage regulation limits and direction of voltage regulation (increase/decrease).

Alarms for minimum and maximum voltages, maximum current, over-temperature and ventilation failure are also indicated. The alarm indicators are accompanied by an acoustic alarm.

In the SIRIUS type, these signals are located on the control panel mounted on the cabinet door and consisting of a set of LEDs.

The stabiliser is provided with a voltage regulator protection circuit controlled by thermal probes. The circuit works in case of temporary overload: it opens the connection between the voltage regulator and the buck/boost transformer and short-circuits the transformer primary winding at the same time.

By doing so, the transformer voltage drop is cancelled and the user can be supplied the mains voltage (although not stabilised) without interruption.

The auxiliary circuit is protected by fuses.

The logic control, performed on the true rms voltage, is based on a 2-way microprocessor. By using this device, monitoring the system and setting the stabiliser parameters via a PC connection are made possible.



SIRIUS STANDARD FEATURES

FREQUENCY	47/65Hz
ADMITTED LOAD VARIATION	from 0 up to 100%
ADMITTED LOAD UNBALANCE	up to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.2%
COOLING	Natural Air (aided over 40°C)
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	200% 2min
COLOUR	RAL 7032
PROTECTION	IP 21
INSTALLATION	Indoor

Any other variation range not mentioned in the table above can be dealt with on request.

RATING IN RELATION TO THE INPUT VARIATION PERCENTAGE

±15%	±20%	±25%	±30%	-25/+15%	-35/+15%	-45/+15%
125	100	75	50	75	50	30
160	125	100	75	100	75	50
200	160	125	100	125	100	75
250	200	160	125	160	125	100
315	250	200	160	200	160	125
400	315	250	200	250	200	160
500	400	315	250	315	250	200
630	500	400	315	400	315	250
800	630	500	400	500	400	315
1000	800	630	500	630	500	400
1250	1000	800	630	800	630	500
1600	1250	1000	800	1000	800	630
2000	1600	1250	1000	1250	1000	800

SIRIUS ±15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y125-15	125	400	212	400	181	>98	20	40	550
Y160-15	160	400	272	400	231	>98	20	40	600
Y200-15	200	400	340	400	289	>98	20	41	800
Y250-15	250	400	425	400	361	>98	20	41	900
Y315-15	315	400	535	400	455	>98	20	41	1200
Y400-15	400	400	680	400	578	>98	20	42	1400
Y500-15	500	400	850	400	723	>98	20	42	1600
Y630-15	630	400	1071	400	910	>98	20	42	2000
Y800-15	800	400	1361	400	1156	>98	24	43	2600
Y1000-15	1000	400	1700	400	1445	>98	24	43	2800
Y1250-15	1250	400	2125	400	1806	>98	24	44	3000
Y1600-15	1600	400	2720	400	2312	>98	24	44	3400
Y2000-15	2000	400	3400	400	2890	>98	24	44	3900

SIRIUS ±20% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±20% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y100-20	100	400	180	400	144	>98	15	40	550
Y125-20	125	400	226	400	181	>98	15	40	600
Y160-20	160	400	289	400	231	>98	15	41	800
Y200-20	200	400	361	400	289	>98	15	41	900
Y250-20	250	400	452	400	361	>98	15	41	1200
Y315-20	315	400	569	400	455	>98	15	42	1400
Y400-20	400	400	722	400	578	>98	15	42	1600
Y500-20	500	400	903	400	723	>98	15	42	2000
Y630-20	630	400	1138	400	910	>98	18	43	2600
Y800-20	800	400	1445	400	1156	>98	18	43	2800
Y1000-20	1000	400	1806	400	1445	>98	18	44	3000
Y1250-20	1250	400	2258	400	1806	>98	18	44	3400
Y1600-20	1600	400	2890	400	2312	>98	18	44	3900

SIRIUS ±25% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±25% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y75-25	75	400	144	400	108	>98	12	40	550
Y100-25	100	400	193	400	144	>98	12	40	600
Y125-25	125	400	241	400	181	>98	12	41	800
Y160-25	160	400	308	400	231	>98	12	41	900
Y200-25	200	400	385	400	289	>98	12	41	1200
Y250-25	250	400	482	400	361	>98	12	42	1400
Y315-25	315	400	607	400	455	>98	12	42	1600
Y400-25	400	400	770	400	578	>98	12	42	2000
Y500-25	500	400	963	400	723	>98	15	43	2600
Y630-25	630	400	1214	400	910	>98	15	43	2800
Y800-25	800	400	1541	400	1156	>98	15	44	3000
Y1000-25	1000	400	1927	400	1445	>98	15	44	3400
Y1250-25	1250	400	2408	400	1806	>98	15	44	3900

SIRIUS ±30% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±30% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y50-30	50	400	103	400	72	>98	10	40	550
Y75-30	75	400	155	400	108	>98	10	40	600
Y100-30	100	400	206	400	144	>98	10	41	800
Y125-30	125	400	258	400	181	>98	10	41	900
Y160-30	160	400	330	400	231	>98	10	41	1200
Y200-30	200	400	413	400	289	>98	10	42	1400
Y250-30	250	400	516	400	361	>98	10	42	1600
Y315-30	315	400	650	400	455	>98	10	42	2000
Y400-30	400	400	826	400	578	>98	12	43	2600
Y500-30	500	400	1032	400	723	>98	12	43	2800
Y630-30	630	400	1300	400	910	>98	12	44	3000
Y800-30	800	400	1651	400	1156	>98	12	44	3400
Y1000-30	1000	400	2064	400	1445	>98	12	44	3900

SIRIUS -25%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y75-15/25	75	400	144	400	108	>97	15	40	570
Y100-15/25	100	400	193	400	144	>97	15	40	680
Y125-15/25	125	400	241	400	181	>97	15	41	890
Y160-15/25	160	400	308	400	231	>97	15	41	1000
Y200-15/25	200	400	385	400	289	>97	15	41	1320
Y250-15/25	250	400	482	400	361	>97	15	42	1540
Y315-15/25	315	400	607	400	455	>97	15	42	1750
Y400-15/25	400	400	770	400	578	>97	15	42	2190
Y500-15/25	500	400	963	400	723	>97	18	43	2820
Y630-15/25	630	400	1214	400	910	>97	18	43	3050
Y800-15/25	800	400	1541	400	1156	>97	18	44	3750
Y1000-15/25	1000	400	1927	400	1416	>97	18	44	4300
Y1250-15/25	1250	400	2408	400	1806	>97	18	44	4430

SIRIUS -35%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y50-15/35	50	400	111	400	72	>97	12	40	600
Y75-15/35	75	400	167	400	108	>97	12	40	750
Y100-15/35	100	400	222	400	144	>97	12	41	930
Y125-15/35	125	400	278	400	181	>97	12	41	1150
Y160-15/35	160	400	356	400	231	>97	12	41	1370
Y200-15/35	200	400	445	400	289	>97	12	42	1600
Y250-15/35	250	400	556	400	361	>97	12	42	1820
Y315-15/35	315	400	700	400	455	>97	12	42	2250
Y400-15/35	400	400	889	400	578	>97	15	43	3150
Y500-15/35	500	400	1112	400	723	>97	15	43	3380
Y630-15/35	630	400	1401	400	910	>97	15	44	3900
Y800-15/35	800	400	1779	400	1156	>97	15	44	4350
Y1000-5/35	1000	400	2223	400	1445	>97	15	44	4430

SIRIUS -45%/15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y30-15/45	30	400	79	400	43	>97	10	40	780
Y50-15/45	50	400	131	400	72	>97	10	40	950
Y75-15/45	75	400	197	400	108	>97	10	41	1200
Y100-15/45	100	400	263	400	144	>97	10	41	1400
Y125-15/45	125	400	328	400	181	>97	10	41	1650
Y160-15/45	160	400	420	400	231	>97	10	42	1790
Y200-15/45	200	400	525	400	289	>97	10	42	1900
Y250-15/45	250	400	657	400	361	>97	10	42	2320
Y315-15/45	315	400	828	400	455	>97	12	43	2940
Y400-15/45	400	400	1051	400	578	>97	12	43	3500
Y500-15/45	500	400	1314	400	723	>97	12	44	4000
Y630-15/45	630	400	1655	400	910	>97	12	44	4430
Y800-15/45	800	400	2102	400	1156	>97	12	44	4700

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 380/415V - Input output voltage 60Hz: 460/480V

TAURUS

The TAURUS types cover the range from 800kVA to 4000kVA and allow for the choice of several input voltage variation percentages from +15% up to -35%.

They are similar in construction to the SIRIUS Y but differ in terms of type of cooling.

The stabilisers are either cooled by a combination of air and oil or by a complete oil cooling system.

The measuring instrumentation for the TAURUS stabilisers is incorporated in a control panel on the cabinet door and consists of **two multi-task digital network analysers**. Such instruments are able to provide with information regarding the status of the lines upstream and downstream the voltage stabiliser such as phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc.

Such information can also be monitored on an industrial PC included in the unit.

Pilot lights are provided for each phase signalling 'power on', reaching of voltage regulation limits and direction of voltage regulation (increase/decrease).

Alarms for minimum and maximum voltages, maximum current, over-temperature and ventilation off are also indicated.

The alarm indicators are accompanied by an acoustic alarm.

In the TAURUS type, these signals are located on the control panel mounted on the cabinet door an consisting of a set of LEDs.

The stabiliser is provided with a voltage regulator protection circuit controlled by thermal probes. The circuit works in case of temporary overload: it opens t he connection between the voltage regulator and the buck/boost transformer and short-circuits the transformer primary winding at the same time.

By doing so, the transformer voltage drop is cancelled and the user can be supplied the mains voltage (although not stabilised) without interruption.

The auxiliary circuit is protected by fuses.

The logic control, performed on the true rms voltage, is based on a 2-way microprocessor. By using this device, monitoring the system and setting the stabiliser parameters via a PC connection are made possible.

TAURUS STANDARD FEATURES

FREQUENCY	47/65Hz
ADMITTED LOAD VARIATION	from 0 up to 100%
ADMITTED LOAD UNBALANCE	up to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.2%
COOLING	Natural Air (aided over 40°C) and oil
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	200% 2min
COLOUR	RAL 7032
PROTECTION	IP 21
INSTALLATION	Indoor

RATING IN RELATION TO THE INPUT VARIATION PERCENTAGE

±15%	±20%	±25%	-25/+15%	-35/+15%
1600	1250	1000	1000	800
2000	1600	1250	1250	1000
2500	2000	1600	1600	1250
3150	2500	2000	2000	1600
4000	3150	2500	2500	2000

Any other variation range not mentioned in the table above can be dealt with on request.

TAURUS ±15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
1600-15	1600	400	2720	400	2312	>98	80	46	5600
2000-15	2000	400	3400	400	2890	>98	80	46	6300
2500-15	2500	400	4250	400	3613	>98	80	47	7500
3150-15	3150	400	5355	400	4552	>98	80	47	8600
4000-15	4000	400	6800	400	5780	>98	80	48	9500

TAURUS ±20% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±20% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
1250-20	1250	400	2258	400	1806	>98	60	46	5600
1600-20	1600	400	2890	400	2312	>98	60	46	6300
2000-20	2000	400	3613	400	2890	>98	60	47	7500
2500-20	2500	400	4516	400	3613	>98	60	47	8600
3150-20	3150	400	5690	400	4552	>98	60	48	9500

TAURUS ±25% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±25% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
1000-25	1000	400	1927	400	1445	>98	48	46	5600
1250-25	1250	400	2408	400	1806	>98	48	46	6300
1600-25	1600	400	3083	400	2312	>98	48	47	7500
2000-25	2000	400	3854	400	2890	>98	48	47	8600
2500-25	2500	400	4817	400	3613	>98	48	48	9500

TAURUS -25%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
1000-15/25	1000	400	1927	400	1445	>97	60	46	5600
1250-15/25	1250	400	2408	400	1806	>97	60	46	6300
1600-15/25	1600	400	3083	400	2312	>97	60	47	7500
2000-15/25	2000	400	3854	400	2890	>97	60	47	8600
2500-15/25	2500	400	4817	400	3613	>97	60	48	9500

TAURUS -35%/+15% AUTOMATIC THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
800-15/35	800	400	1779	400	1156	>97	48	46	5600
1000-15/35	1000	400	2223	400	1445	>97	48	46	6300
1250-15/35	1250	400	2779	400	1806	>97	48	47	7500
1600-15/35	1600	400	3557	400	2312	>97	48	47	8600
2000-15/35	2000	400	4446	400	2890	>97	48	48	9500

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 380/415V - Input output voltage 60Hz: 460/480V

LYBRA

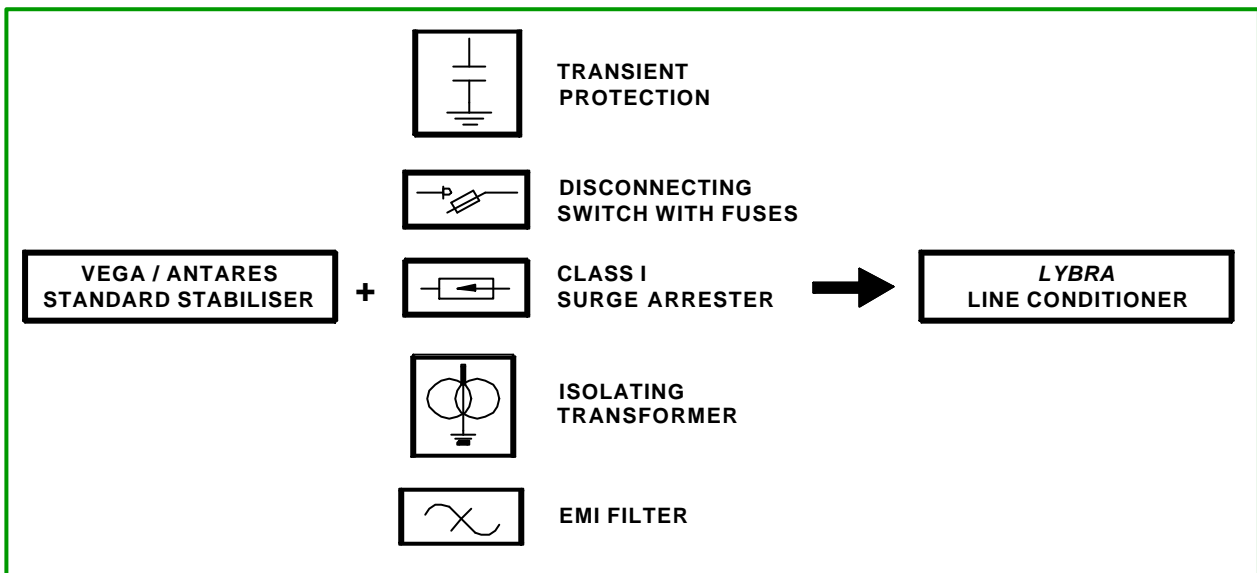
Every VEGA and ANTARES stabiliser can be transformed into a LYBRA line conditioner by adding a set of components and an isolating transformer.

All LYBRA conditioners are single-phase and cover the power rating range between 0.2kVA and 100kVA, allowing for the choice of several input voltage variation percentages.

Being the line conditioner provided with transient protection, disconnecting switch with fuses, surge protective devices, isolating transformer and EMI filter, a higher level of protection for the user is assured.

The measuring instrumentation for LYBRA is mounted on the cabinet door and consists of a **multi-task digital network analyser**. Such instrument is able to provide with information regarding the status of the line downstream the voltage stabiliser such as phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc.

The logic control is based on a microprocessor.



LYBRA ±15% SINGLE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
100-15	1	230	5	230	4	>94	16	22	30
250-15	2.5	230	12.5	230	11	>96	16	22	44
500-15	5	230	25	230	22	>97	16	23	80
700-15	7	230	35	230	31	>98	16	23	84
1000-15	10	230	50	230	44	>98	16	23	100
1500-15	15	230	75	230	65	>98	16	23	110
2000-15	20	230	102	230	87	>98	18	27	160
2500-15	25	230	128	230	109	>98	18	28	200
3500-15	35	230	179	230	152	>98	18	28	240
5000-15	50	230	256	230	217	>98	18	29	520
7500-15	75	230	384	230	326	>98	18	29	600
10000-15	100	230	511	230	435	>98	18	29	760

LYBRA ±20% SINGLE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±20% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEI-GHT [kg]
70-20	0.7	230	3.8	230	3	>94	12	22	30
200-20	2	230	11	230	9	>96	12	22	44
400-20	4	230	22	230	17.5	>97	12	23	80
500-20	5	230	28	230	22	>98	12	23	84
700-20	7	230	39	230	31	>98	12	23	100
1000-20	10	230	54	230	44	>98	12	23	110
1500-20	15	230	81	230	65	>98	14	27	160
2000-20	20	230	109	230	87	>98	14	28	200
2500-20	25	230	136	230	109	>98	14	28	240
3500-20	35	230	190	230	152	>98	14	29	520
5000-20	50	230	271	230	217	>98	14	29	600
7500-20	75	230	407	230	325	>98	14	29	760

LYBRA ±25% SINGLE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±25% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEI-GHT [kg]
50-25	0.5	230	3	230	2.2	>96	10	22	30
150-25	1.5	230	9	230	6.5	>97	10	22	44
300-25	3	230	18	230	13	>98	10	23	80
400-25	4	230	23	230	17.5	>98	10	23	84
500-25	5	230	29	230	22	>98	10	23	100
700-25	7	230	41	230	31	>98	10	23	110
1000-25	10	230	57	230	43	>98	11	27	160
1500-25	15	230	87	230	65	>98	11	28	200
2000-25	20	230	116	230	87	>98	11	28	240
2500-25	25	230	144	230	108	>98	11	29	520
3500-25	35	230	203	230	152	>98	11	29	600
5000-25	50	230	289	230	217	>98	11	29	760

LYBRA ±30% SINGLE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±30% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEI-GHT [kg]
30-30	0.3	230	2	230	1.3	>96	8	22	30
100-30	1	230	6.2	230	4	>97	8	22	44
200-30	2	230	12.4	230	9	>98	8	23	80
300-30	3	230	18.6	230	13.5	>98	8	23	84
400-30	4	230	24.8	230	18	>98	8	23	100
500-30	5	230	31	230	22	>98	8	23	110
700-30	7	230	43	230	30	>98	9	27	160
1000-30	10	230	61	230	43	>98	9	28	200
1500-30	15	230	93	230	65	>98	9	28	240
2000-30	20	230	124	230	87	>98	9	29	520
2500-30	25	230	156	230	109	>98	9	29	600
3500-30	35	230	217	230	152	>98	9	29	760

LYBRA -25% /+15% SINGLE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
50-15/25	0.5	230	3	230	2.2	>95	12	22	30
150-15/25	1.5	230	9	230	6.5	>96	12	22	44
300-15/25	3	230	18	230	13	>97	12	23	80
400-15/25	4	230	23	230	17.5	>97	12	23	84
500-15/25	5	230	29	230	22	>97	12	23	100
700-15/25	7	230	40	230	30	>97	12	23	110
1000-15/25	10	230	58	230	43	>97	12	23	136
1500-15/25	15	230	87	230	65	>97	14	27	214
2000-15/25	20	230	116	230	87	>97	14	28	262
2500-15/25	25	230	144	230	109	>97	14	28	300
3500-15/25	35	230	203	230	152	>97	14	29	596
5000-15/25	50	230	289	230	217	>97	14	29	670
7500-15/25	75	230	434	230	326	>97	14	29	860

LYBRA -35% /+15% SINGLE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
30-15/35	0.3	230	2	230	1.3	>95	10	22	76
100-15/35	1	230	6.7	230	4	>96	10	22	84
200-15/35	2	230	13.4	230	9	>97	10	22	100
300-15/35	3	230	20	230	13	>97	10	23	110
500-15/35	5	230	33.5	230	22	>97	11	23	124
700-15/35	7	230	47	230	31	>97	11	23	136
1000-15/35	10	230	67	230	44	>97	11	27	214
1500-15/35	15	230	100	230	65	>97	11	28	262
2000-15/35	20	230	134	230	87	>97	11	28	300
2500-15/35	25	230	167	230	109	>97	11	29	596
3500-15/35	35	230	234	230	152	>97	11	29	670
5000-15/35	50	230	334	230	217	>97	11	29	860

LYBRA -45% /+15% SINGLE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
20-15/45	0.2	230	1.6	230	0.9	>95	8	22	76
70-15/45	0.7	230	5.5	230	3	>96	8	22	84
150-15/45	1.5	230	11	230	6.5	>97	8	22	100
200-15/45	2	230	16	230	9	>97	8	23	110
300-15/45	3	230	24	230	13.5	>97	9	23	124
500-15/45	5	230	40	230	22	>97	9	23	136
700-15/45	7	230	55	230	31	>97	9	27	214
1000-15/45	10	230	79	230	44	>97	9	28	262
1500-15/45	15	230	119	230	65	>97	9	28	300
2000-15/45	20	230	158	230	87	>97	9	29	596
2500-15/45	25	230	197	230	109	>97	9	29	670
3500-15/45	35	230	276	230	152	>97	9	29	860

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 220/240V - Input output voltage 60Hz: 208/240V

ARIES

Every ORION Y stabiliser can be transformed into an ARIES line conditioner by adding a set of components and an isolating transformer.

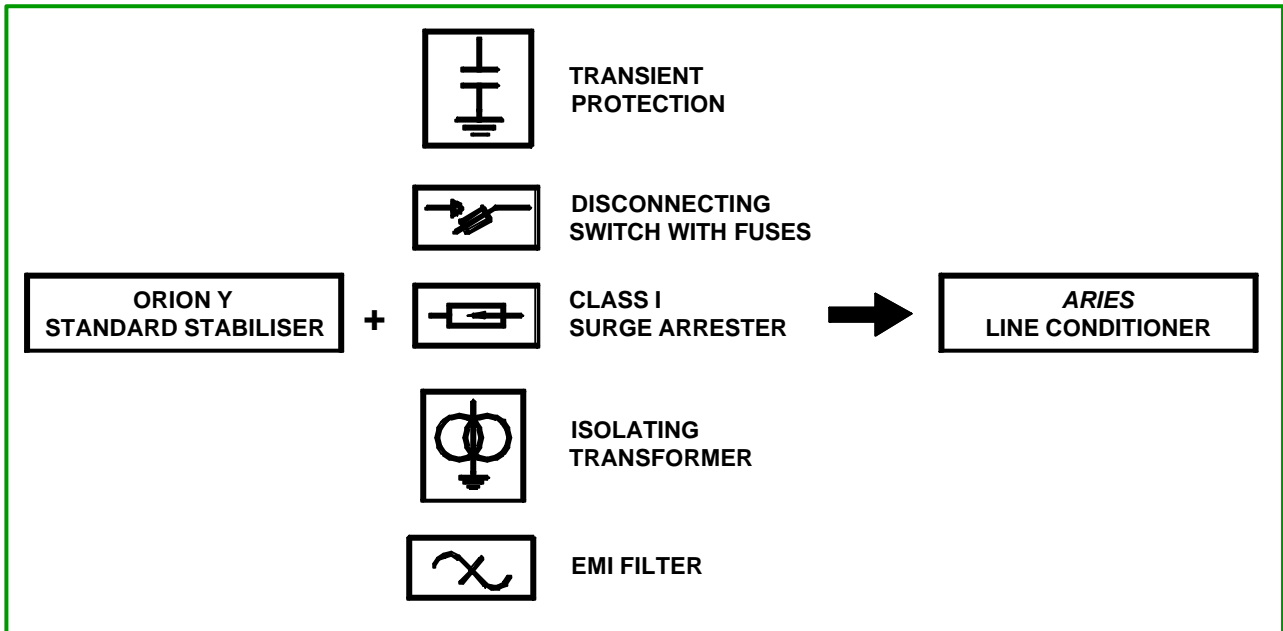
All ARIES are three-phase and cover the power rating range between 2kVA and 450kVA, allowing for the choice of several input voltage variation percentages.

The ARIES are available with independent regulation only.

Being the line conditioner provided with transient protection, disconnecting switch with fuses, surge protective devices, isolating transformer and EMI filter, a higher level of protection for the user is assured.

The measuring instrumentation for ARIES is mounted on the cabinet door and consists of a **multi-task digital network analyser**. Such instrument is able to provide with information regarding the status of the line downstream the voltage stabiliser, such as phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc.

The logic control is based on a microprocessor.



ARIES ±15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y5-15	5	400	8	400	7	>95	16	27	140
Y10-15	10	400	16	400	14	>96	16	27	150
Y15-15	15	400	25	400	21	>97	16	28	280
Y20-15	20	400	33	400	28	>98	16	28	290
Y30-15	30	400	50	400	43	>98	16	28	340
Y45-15	45	400	76	400	65	>98	16	28	380
Y60-15	60	400	102	400	87	>98	18	29	520
Y75-15	75	400	126	400	108	>98	18	29	700
Y105-15	105	400	176	400	152	>98	18	29	840
Y135-15	135	400	229	400	195	>98	18	26	1020
Y175-15	175	400	297	400	253	>98	18	26	1220
Y230-15	230	400	390	400	332	>98	18	26	1800
Y300-15	300	400	509	400	433	>98	18	26	1840
Y450-15	450	400	765	400	650	>98	18	42	2400

ARIES ±20% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±20% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y4-20	4	400	7	400	6	>95	12	27	140
Y7-20	7	400	13	400	10	<96	12	27	150
Y10-20	10	400	17	400	14	>97	12	28	280
Y15-20	15	400	26	400	21	>98	12	28	290
Y20-20	20	400	36	400	29	>98	12	28	340
Y30-20	30	400	54	400	43	>98	12	28	380
Y45-20	45	400	81	400	65	>98	14	29	520
Y60-20	60	400	107	400	86	>98	14	29	700
Y75-20	75	400	135	400	108	>98	14	29	840
Y105-20	105	400	187	400	150	>98	14	26	1020
Y135-20	135	400	244	400	195	>98	14	26	1220
Y175-20	175	400	316	400	253	>98	14	26	1800
Y230-20	230	400	415	400	332	>98	14	26	1840
Y300-20	300	400	542	400	433	>98	14	42	2400

ARIES ±25% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±25% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y3-25	3	400	6	400	4	>96	10	27	140
Y4-25	4	400	8	400	6	>97	10	27	150
Y7-25	7	400	13	400	10	>98	10	28	280
Y10-25	10	400	19	400	14	>98	10	28	290
Y15-25	15	400	29	400	22	>98	10	28	340
Y20-25	20	400	38	400	29	>98	10	28	380
Y30-25	30	400	57	400	43	>98	11	29	520
Y45-25	45	400	86	400	65	>98	11	29	700
Y60-25	60	400	115	400	86	>98	11	29	840
Y75-25	75	400	144	400	108	>98	11	26	1020
Y105-25	105	400	203	400	152	>98	11	26	1220
Y135-25	135	400	260	400	195	>98	11	26	1800
Y175-25	175	400	337	400	253	>98	11	26	1840
Y230-25	230	400	443	400	332	>98	11	42	2400

ARIES ±30% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±30% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y2-30	2	400	4	400	3	>96	8	27	140
Y3-30	3	400	6	400	4	>96	8	27	150
Y4-30	4	400	8	400	6	>97	8	28	280
Y7-30	7	400	14	400	10	>98	8	28	290
Y10-30	10	400	20	400	14	>98	8	28	340
Y15-30	15	400	31	400	22	>98	8	28	380
Y20-30	20	400	41	400	29	>98	9	29	520
Y30-30	30	400	61	400	43	>98	9	29	700
Y45-30	45	400	93	400	65	>98	9	29	840
Y60-30	60	400	123	400	87	>98	9	26	1020
Y75-30	75	400	154	400	108	>98	9	26	1220
Y105-30	105	400	217	400	152	>98	9	26	1800
Y135-30	135	400	278	400	195	>98	9	26	1840
Y175-30	175	400	361	400	253	>98	9	42	2400

ARIES -25%/+15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y4-15/25	4	400	8	400	6	>95	12	27	150
Y7-15/25	7	400	13	400	10	>95	12	27	170
Y10-15/25	10	400	19	400	14	>96	12	28	310
Y15-15/25	15	400	27	400	22	>97	12	28	330
Y20-15/25	20	400	39	400	29	>97	12	28	390
Y30-15/25	30	400	57	400	43	>97	12	28	440
Y45-15/25	45	400	87	400	65	>97	14	29	590
Y60-15/25	60	400	116	400	87	>97	14	29	790
Y75-15/25	75	400	144	400	108	>97	14	29	940
Y105-15/25	105	400	202	400	152	>97	14	26	1140
Y135-15/25	135	400	260	400	195	>97	14	26	1360
Y175-15/25	175	400	337	400	253	>97	14	26	2000
Y230-15/25	230	400	443	400	332	>97	14	26	2080
Y300-15/25	300	400	578	400	433	>97	14	42	2400

ARIES -35%/+15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y3-15/35	3	400	7	400	4	>95	10	27	150
Y4-15/35	4	400	9	400	6	>95	10	27	170
Y7-15/35	7	400	15	400	10	>96	10	28	310
Y10-15/35	10	400	21	400	14	>97	10	28	330
Y15-15/35	15	400	33	400	22	>97	10	28	390
Y20-15/35	20	400	44	400	29	>97	10	28	450
Y30-15/45	30	400	66	400	43	>97	11	29	600
Y45-15/35	45	400	100	400	65	>97	11	29	790
Y60-15/35	60	400	133	400	87	>97	11	29	960
Y75-15/35	75	400	166	400	108	>97	11	26	1160
Y105-15/35	105	400	234	400	152	>97	11	26	1410
Y135-15/35	135	400	300	400	195	>97	11	26	2040
Y175-15/35	175	400	389	400	253	>97	11	26	2140
Y230-15/35	230	400	511	400	332	>97	11	42	2400

ARIES -45%/+15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±1% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y2-15/45	2	400	5	400	3	>95	8	27	160
Y3-15/45	3	400	8	400	4	>95	8	27	180
Y4-15/45	4	400	10	400	6	>96	8	28	320
Y7-15/45	7	400	18	400	10	>97	8	28	340
Y10-15/45	10	400	25	400	14	>97	8	28	400
Y15-15/45	15	400	39	400	22	>97	8	28	450
Y20-15/45	20	400	52	400	29	>97	9	29	610
Y30-15/45	30	400	79	400	43	>97	9	29	810
Y45-15/45	45	400	118	400	65	>97	9	29	980
Y60-15/45	60	400	158	400	87	>97	9	26	1210
Y75-15/45	75	400	196	400	108	>97	9	26	1460
Y105-15/45	105	400	276	400	152	>97	9	26	2100
Y135-15/45	135	400	354	400	195	>97	9	26	2200
Y175-15/45	175	400	460	400	253	>97	9	42	2400

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 380/415V - Input output voltage 60Hz: 460/480V

DISCOVERY

Every SIRIUS stabilisers can be transformed into a DISCOVERY line conditioner by adding a set of components and an isolating transformer.

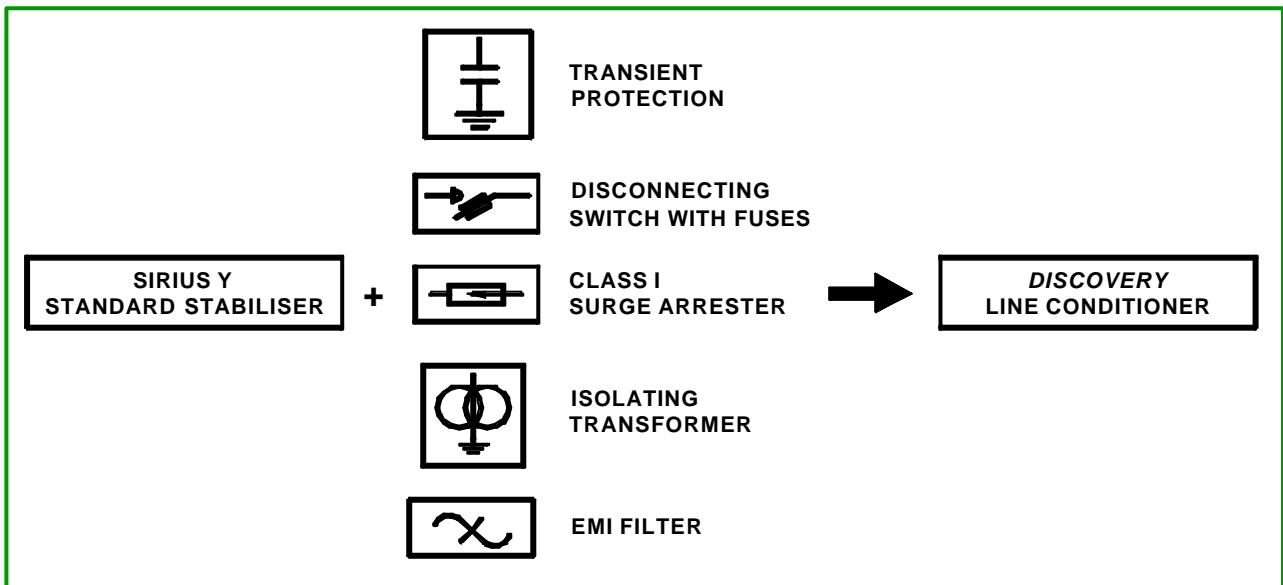
The DISCOVERY line conditioners are three-phase and cover the power rating range between 30kVA and 2000kVA, allowing for the choice of several input voltage variation percentages.

The DISCOVERY line conditioner is available with independent regulation on each phase only.

Being the line conditioner provided with transient protection, disconnecting switch with fuses, surge protective devices, isolating transformer and EMI filter, a higher level of protection for the user is assured.

The measuring instrumentation for the ARIES stabilisers is incorporated in a control panel on the cabinet door and consists of **two multi-task network analysers**. Such instruments are able to provide with information regarding the status of the lines upstream and downstream the voltage stabiliser such as phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc.

The logic control, performed on the true rms voltage, is based on a 2-way microprocessor. By using this device, monitoring the system and setting the stabiliser parameters via a PC connection are made possible.



DISCOVERY ±15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y125-15	125	400	212	400	180	>98	20	41	1100
Y160-15	160	400	272	400	231	>98	20	41	1200
Y200-15	200	400	340	400	289	>98	20	42	1600
Y250-15	250	400	425	400	361	>98	20	42	1800
Y315-15	315	400	535	400	455	>98	20	42	2400
Y400-15	400	400	680	400	578	>98	20	43	2800
Y500-15	500	400	850	400	723	>98	20	43	3200
Y630-15	630	400	1071	400	910	>98	20	43	4000
Y800-15	800	400	1361	400	1156	>98	24	44	5200
Y1000-15	1000	400	1700	400	1445	>98	24	44	5600
Y1250-15	1250	400	2125	400	1806	>98	24	45	6000
Y1600-15	1600	400	2720	400	2312	>98	24	45	6800
Y2000-15	2000	400	3400	400	2890	>98	24	45	7800

DISCOVERY ±20% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±20% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y100-20	100	400	180	400	144	>98	15	41	1100
Y125-20	125	400	226	400	181	>98	15	41	1200
Y160-20	160	400	289	400	231	>98	15	42	1600
Y200-20	200	400	361	400	289	>98	15	42	1800
Y250-20	250	400	452	400	361	>98	15	42	2400
Y315-20	315	400	569	400	455	>98	15	43	2800
Y400-20	400	400	722	400	578	>98	15	43	3200
Y500-20	500	400	903	400	723	>98	15	43	4000
Y630-20	630	400	1138	400	910	>98	18	44	5200
Y800-20	800	400	1445	400	1156	>98	18	44	5600
Y1000-20	1000	400	1806	400	1445	>98	18	45	6000
Y1250-20	1250	400	2258	400	1806	>98	18	45	6800
Y1600-20	1600	400	2890	400	2312	>98	18	45	7800

DISCOVERY ±25% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±25% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y75-25	75	400	144	400	108	>98	12	41	1100
Y100-25	100	400	193	400	144	>98	12	41	1200
Y125-25	125	400	241	400	181	>98	12	42	1600
Y160-25	160	400	308	400	231	>98	12	42	1800
Y200-25	200	400	385	400	289	>98	12	42	2400
Y250-25	250	400	482	400	361	>98	12	43	2800
Y315-25	315	400	607	400	455	>98	12	43	3200
Y400-25	400	400	770	400	578	>98	12	43	4000
Y500-25	500	400	963	400	723	>98	15	44	5200
Y630-25	630	400	1214	400	910	>98	15	44	5600
Y800-25	800	400	1541	400	1156	>98	15	45	6000
Y1000-25	1000	400	1927	400	1445	>98	15	45	6800
Y1250-25	1250	400	2408	400	1806	>98	15	45	7800

DISCOVERY ±30% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE ±30% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y50-30	50	400	103	400	72	>98	10	41	1100
Y75-30	75	400	155	400	108	>98	10	41	1200
Y100-30	100	400	206	400	144	>98	10	42	1600
Y125-30	125	400	258	400	181	>98	10	42	1800
Y160-30	160	400	330	400	231	>98	10	42	2400
Y200-30	200	400	413	400	289	>98	10	43	2800
Y250-30	250	400	516	400	361	>98	10	43	3200
Y315-30	315	400	650	400	455	>98	10	43	4000
Y400-30	400	400	826	400	578	>98	12	44	5200
Y500-30	500	400	1032	400	723	>98	12	44	5600
Y630-30	630	400	1300	400	910	>98	12	45	6000
Y800-30	800	400	1651	400	1156	>98	12	45	6800
Y1000-30	1000	400	2064	400	1445	>98	12	45	7800

DISCOVERY -25%/+15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -25/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y75-15/25	75	400	144	400	108	>97	15	41	1140
Y100-15/25	100	400	193	400	144	>97	15	41	1360
Y125-15/25	125	400	241	400	181	>97	15	42	1780
Y160-15/25	160	400	308	400	231	>97	15	42	2000
Y200-15/25	200	400	385	400	289	>97	15	42	2640
Y250-15/25	250	400	482	400	361	>97	15	43	3080
Y315-15/25	315	400	607	400	455	>97	15	43	3500
Y400-15/25	400	400	770	400	578	>97	15	43	4380
Y500-15/25	500	400	963	400	722	>97	18	44	5640
Y630-15/25	630	400	1214	400	910	>97	18	44	6100
Y800-15/25	800	400	1541	400	1156	>97	18	45	7500
Y1000-15/25	1000	400	1927	400	1445	>97	18	45	8600
Y1250-15/25	1250	400	2408	400	1806	>97	18	45	8860

DISCOVERY -35%/+15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -35/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y50-15/35	50	400	111	400	72	>97	12	41	1200
Y75-15/35	75	400	167	400	108	>97	12	41	1500
Y100-15/35	100	400	221	400	144	>97	12	42	1860
Y125-15/35	125	400	278	400	181	>97	12	42	2300
Y160-15/35	160	400	356	400	231	>97	12	42	2740
Y200-15/35	200	400	445	400	289	>97	12	43	3200
Y250-15/35	250	400	556	400	361	>97	12	43	3640
Y315-15/35	315	400	700	400	455	>97	12	43	4500
Y400-15/35	400	400	889	400	578	>97	15	44	6300
Y500-15/35	500	400	1112	400	723	>97	15	44	6760
Y630-15/35	630	400	1401	400	910	>97	15	45	7800
Y800-15/35	800	400	1779	400	1156	>97	15	45	8700
Y1000-15/35	1000	400	2223	400	1445	>97	15	45	8860

DISCOVERY -45%/+15% THREE-PHASE LINE CONDITIONER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -45/+15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ±0.5% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
Y30-15/45	30	400	78	400	43	>97	10	41	1560
Y50-15/45	50	400	131	400	72	>97	10	41	1900
Y75-15/45	75	400	197	400	108	>97	10	42	2400
Y100-15/45	100	400	263	400	144	>97	10	42	2800
Y125-15/45	125	400	328	400	181	>97	10	42	3300
Y160-15/45	160	400	420	400	231	>97	10	43	3580
Y200-15/45	200	400	525	400	289	>97	10	43	3800
Y250-15/45	250	400	657	400	361	>97	10	43	4640
Y315-15/45	315	400	828	400	455	>97	12	44	5880
Y400-15/45	400	400	1051	400	578	>97	12	44	7000
Y500-15/45	500	400	1314	400	723	>97	12	45	8000
Y630-15/45	630	400	1655	400	910	>97	12	45	8860
Y800-15/45	800	400	2102	400	1156	>97	12	45	9400

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 380/415V - Input output voltage 60Hz: 460/480V

STATIC VOLTAGE STABILISERS WITH DIGITAL CONTROL

DESCRIPTION OF THE UNIT

This type of stabiliser finds application when the speed of operation is a critical issue (for example, computers, laboratory apparatus, measuring benches and medical instrumentation).

The response time is 2ms/V.

The stabilising system is designed to operate with rated voltage in accordance with IEC 38 and is expected to be connected between main power supply and load. However it is also designed so that it can operate with a different rated voltage (220V and 240V for single-phase; 380V and 415V for three phase) to be selected as necessary.

The purpose is to supply the load a stabilised voltage having an input voltage variable with respect to the rated value. The stabiliser operates with a load variation range for each phase from 0 to 100% and is not affected by the power factor of the load; the harmonic distortion introduced on the output voltage is negligible. The presence of a RFI filter reduces the effect of mains interference on the load and likewise interference of the load towards the mains.

The voltage stabiliser does not provide galvanic separation between input and output.

The equipment is usually housed in a metal enclosure with RAL 7035 finish and IP21 protection degree, suitably sized according to the power rating.

MAIN COMPONENTS

The main components of the voltage stabiliser are:

- Multi-tap transformer;
- Microprocessor control system
- Set of **TRIAC** switches for GEMINI and AQUARIUS; Set of **IGBT** electronic switches for ODYSSEY
- Display

The autotransformer (single- or three-phase) is provided with taps to be connected to the voltage stabiliser output in order to be able to compensate for variations in the input voltage.

The microprocessor system monitors the input voltage and decides which transformer tap requires connection to the voltage stabiliser output in order to guarantee the best regulation of the voltage to the load.

The electronic switches, controlled by the microprocessor, run the connection of the transformer taps to the output when the alternating current crosses the zero-point.

The display system, controlled by the microprocessor, shows not only the load level, but also any input voltage outside the regulation limits as well as overload state and over temperature. An acoustic alarm is available for signalling overload and overheating.



GEMINI

The GEMINI single-phase voltage stabiliser is able to adjust the output voltage within $\pm 3\%$ of the rated voltage. The supplied load is protected both from $-18\%/+14\%$ variations of the input voltage and short but high overvoltages (4kV).

The main characteristics of the GEMINI electronic voltage stabilisers can be summarised as follows:

- Reliable operation thanks to a microprocessor full control
- Compact size
- Quick response time
- High efficiency
- Insensitivity to load power factor
- Wide range of information available via the front LED panel

Information available:

- Mains input voltage exceeding regulation limits
- Mains frequency exceeding limit
- Load lower than 25%, 50%, 75%, 100%
- Overload
- Alarm for input overvoltage and/or overheating (the visual alarm is accompanied by an acoustic alarm)

The logic control is based on a microprocessor.

GEMINI STANDARD FEATURES

FREQUENCY	48/62Hz
ADMITTED LOAD VARIATION	from 0 to 100%
ADMITTED LOAD UNBALANCE	up to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.5%
COOLING	Natural ventilation
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	1.5 In 5 sec
COLOUR	RAL 7035
PROTECTION	IP 21
INSTALLATION	Indoor

GEMINI SINGLE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER. [kVA]	INPUT VOLTAGE -18/+14% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 3\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
E50	0.5	230	3	230	2	>98	2	14	8
E100	1	230	5	230	4	>98	2	14	10
E200	2	230	11	230	9	>98	2	15	20
E400	4	230	21	230	17	>98	2	15	25
E500	5	230	27	230	22	>98	2	15	27
E1000	10	230	52	230	43	>98	2	16	51

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 220/240V – Input/Output voltage 60Hz: 208/240V

AQUARIUS

The AQUARIUS three-phase electronic voltage stabiliser is able to adjust the output voltage within $\pm 3\%$ of the rated voltage.

The supplied load is protected both from $-18/+14\%$ ($-21/+14\%$ on request) variations of the input voltage and short but high overvoltages (4kV).

Voltage stabilisation is performed independently on each phase.

The main characteristics of the AQUARIUS electronic voltage stabilisers can be summarised as follows:

- Reliable operation thanks to a microprocessor full control
- Compact size
- Quick response time
- High efficiency
- Insensitivity to load power factor
- Wide range of information available via the front LED panel

Information available

- Mains input voltage exceeding regulation limits
- Mains frequency exceeding limit
- Load lower than 25%, 50%, 75%, 100%
- Overload
- Alarm for input overvoltage and/or overheating (the visual alarm is accompanied by an acoustic alarm)

The logic control is based on a microprocessor.

AQUARIUS STANDARD FEATURES

FREQUENCY	48/62Hz
ADMITTED LOAD VARIATION	from 0 to 100%
ADMITTED LOAD UNBALANCE	up to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.5%
COOLING	Natural ventilation
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	95%
ADMITTED OVERLOAD	1.5 In 5 sec
COLOUR	RAL 7035
PROTECTION	IP 21
INSTALLATION	Indoor

AQUARIUS THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER [kVA]	INPUT VOLTAGE -18/+14% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE $\pm 3\%$ [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
E300	3	400	5	400	4	>98	2	16	40
E600	6	400	11	400	9	>98	2	16	44
E1000	10	400	18	400	15	>98	2	16	48
E1200	12	400	21	400	17	>98	2	16	52
E1500	15	400	27	400	22	>98	2	16	60
E3000	30	400	52	400	43	>98	2	23	150

The technical data in the above tables are subject to change by the Company either for internal reasons or because of a specific request from the Customer

Input output voltage 50Hz: 380/418 – Input/Output voltage 60Hz: 460/480

ODYSSEY

The ODYSSEY Electronic stabiliser is designed to supply a 400V voltage stabilised within $\pm 2\%$ to the load, working with a variable input voltage (with regard to the rated voltage value). The system is based on **IGBT** static switches and a single buck/boost transformer. Choosing the **IGBT** controlled regulation allows for a very fast response time (0.75msec/V). Thanks to a specially designed three-phase buck/boost transformer, the ODYSSEY stabiliser contains only one power magnetic part which means limiting weight and dimensions of the equipment. The ODYSSEY is housed in an IP21 metallic cubicle provided with front door thus allowing for easy access to the components. The **IGBT** switches and the other semiconductors are protected against overvoltages and overcurrents due to short-circuits either on the mains or on the plant. Such protection is obtained by means of auxiliary circuits integrated in the logic control. In addition, a thyristor based by-pass circuit is provided. The circuit activates in case of overload or logic control failure. The heart of the stabiliser is the Electronic Control Unit that manages the three phases independently by means of three control cards and an alarm card. In order to ease inspection and maintenance, all the boards are Eurocard type thus providing with removable and interchangeable components. Each phase card gives indications concerning supply presence, regulation mode and regulation limits. The alarm card deals with abnormal conditions and warns the operator about a possible problem by means of a red led and a siren (that can be silenced).

All the electrical data are shown on the display of a versatile digital multimeter. The relevant values can be easily read and transferred onto a remote PC thanks to the foreseen RS485 output, an interface and a dedicated software.

The logic control is based on a microprocessor.

The main features of the ODYSSEY stabiliser are:

- Modular system (rating up to 1MVA)
- Fast response time
- Independent regulation on each phase
- Automatic input circuit breaker
- Absence of moving parts
- Protecting by-pass on the **IGBT**
- Negligible harmonic distortion
- 100% phase unbalance allowed
- 0 to 100% load variation allowed
- Remote control software
- Surge protective devices against lightning and/or spike reduction varistors
- RFI and EMI filters
- Not affected by the load power factor

The following accessories can be included on request:

- By-pass line (manual or automatic)
- Isolating input transformer to reduce line noise and transients and protect from lightings
- Output interrupting devices
- Other auxiliary circuits or signals

ODYSSEY STANDARD FEATURES

FREQUENCY	48/63Hz
ADMITTED LOAD VARIATION	from 0 to 100%
ADMITTED LOAD UNBALANCE	Up to 100%
MAINS WAVEFORM DISTORTION INCREMENT	< 0.2%
COOLING	Natural Ventilation (Aided ventilation over 40°C)
AMBIENT TEMPERATURE	-15/+45 °C
STORAGE TEMPERATURE	-25/+60°C
RELATIVE HUMIDITY	90%
ADMITTED OVERLOAD	200% 2sec
COLOUR	RAL 7032
PROTECTION	IP 21
INSTALLATION	Indoor

ODYSSEY ±15% THREE-PHASE VOLTAGE STABILISER

TYPE	RATED POWER. [kVA]	INPUT VOLTAGE ±15% [V]	MAX INPUT CURRENT [A]	OUTPUT VOLTAGE ± 2% [V]	RATED OUTPUT CURRENT [A]	EFFICIENCY [%]	RESPONSE TIME [ms/V]	CABINET TYPE	WEIGHT [kg]
50-15	50	400	85	400	72	>98	0.75	40	300
100-15	100	400	170	400	145	>98	0.75	40	400
200-15	200	400	340	400	289	>98	0.75	40	500
400-15	400	400	680	400	578	>98	0.75	41	900
600-15	600	400	1020	400	867	>98	0.75	42	1300
800-15	800	400	1360	400	1156	>98	0.75	42	1700
1000-15	1000	400	1700	400	1445	>98	0.75	43	2100

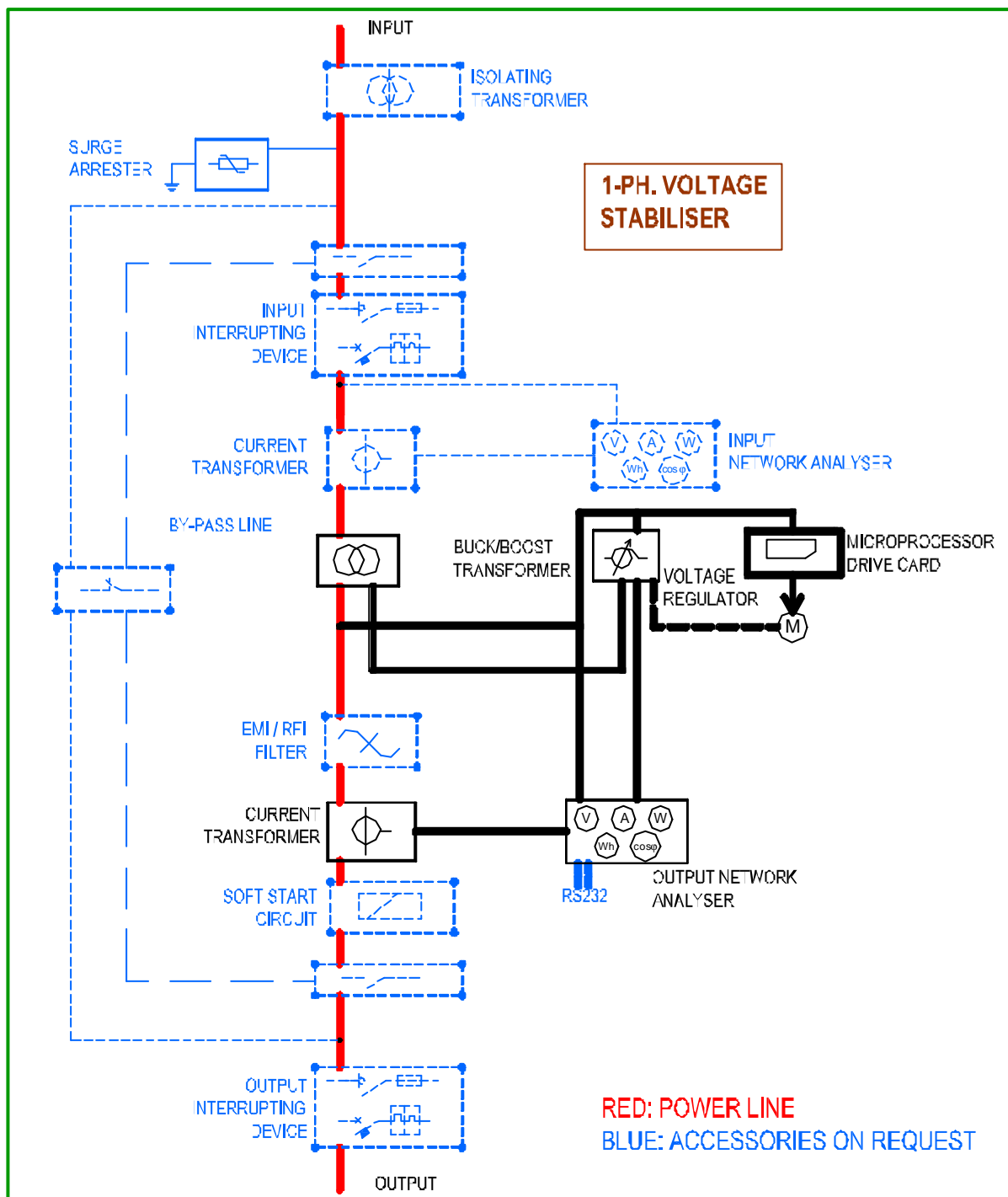
ODYSSEY -20/+10% THREE-PHASE VOLTAGE STABILISER

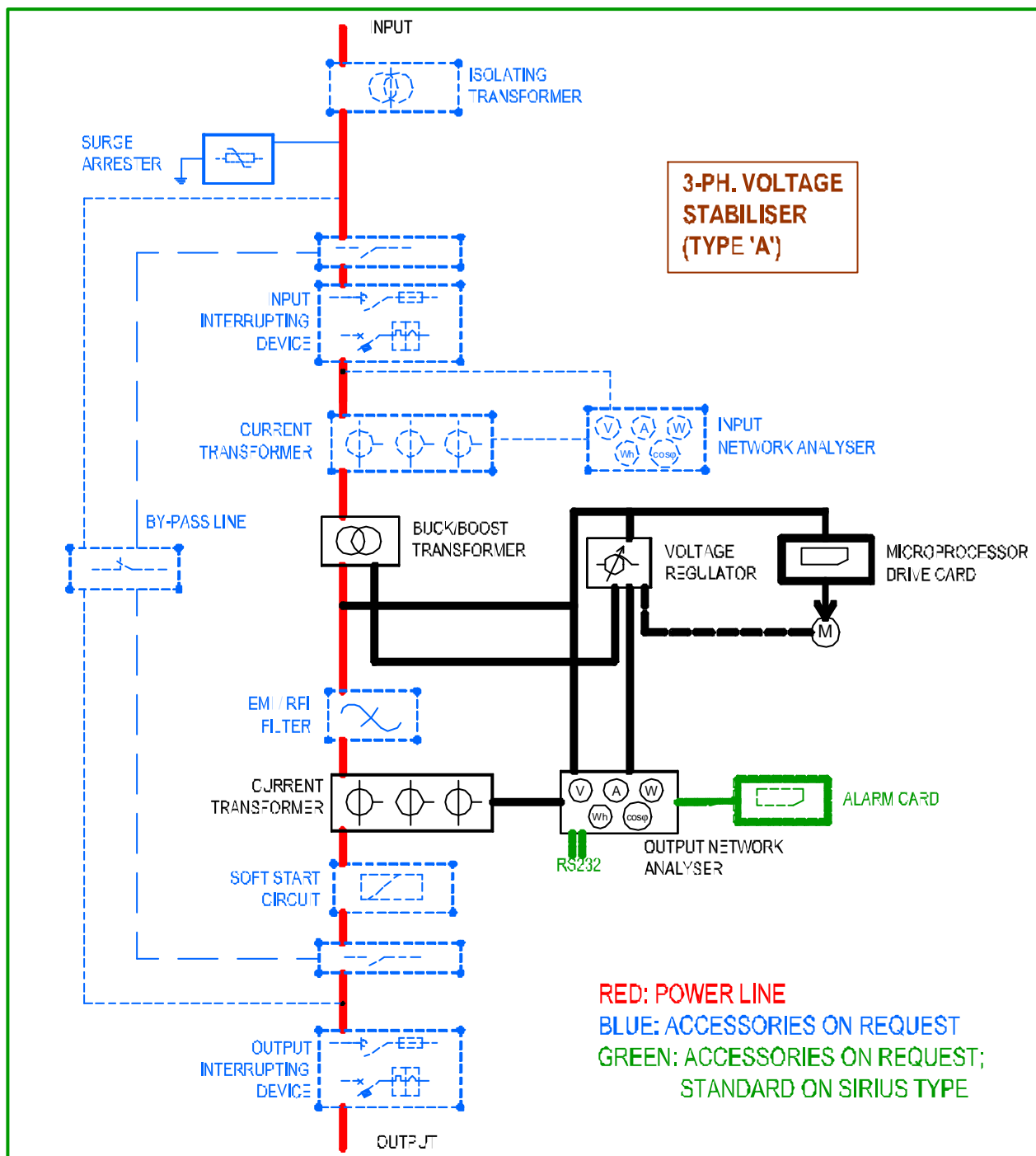
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50-10/20	50	400	90	400	72	>97	0.75	40	350
100-10/20	100	400	181	400	145	>97	0.75	40	450
200-10/20	200	400	361	400	289	>97	0.75	40	580
400-10/20	400	400	722	400	578	>97	0.75	41	1030
600-10/20	600	400	1084	400	867	>97	0.75	42	1450
800-10/20	800	400	1445	400	1156	>97	0.75	42	1950
1000-10/20	1000	400	1806	400	1445	>97	0.75	43	2350

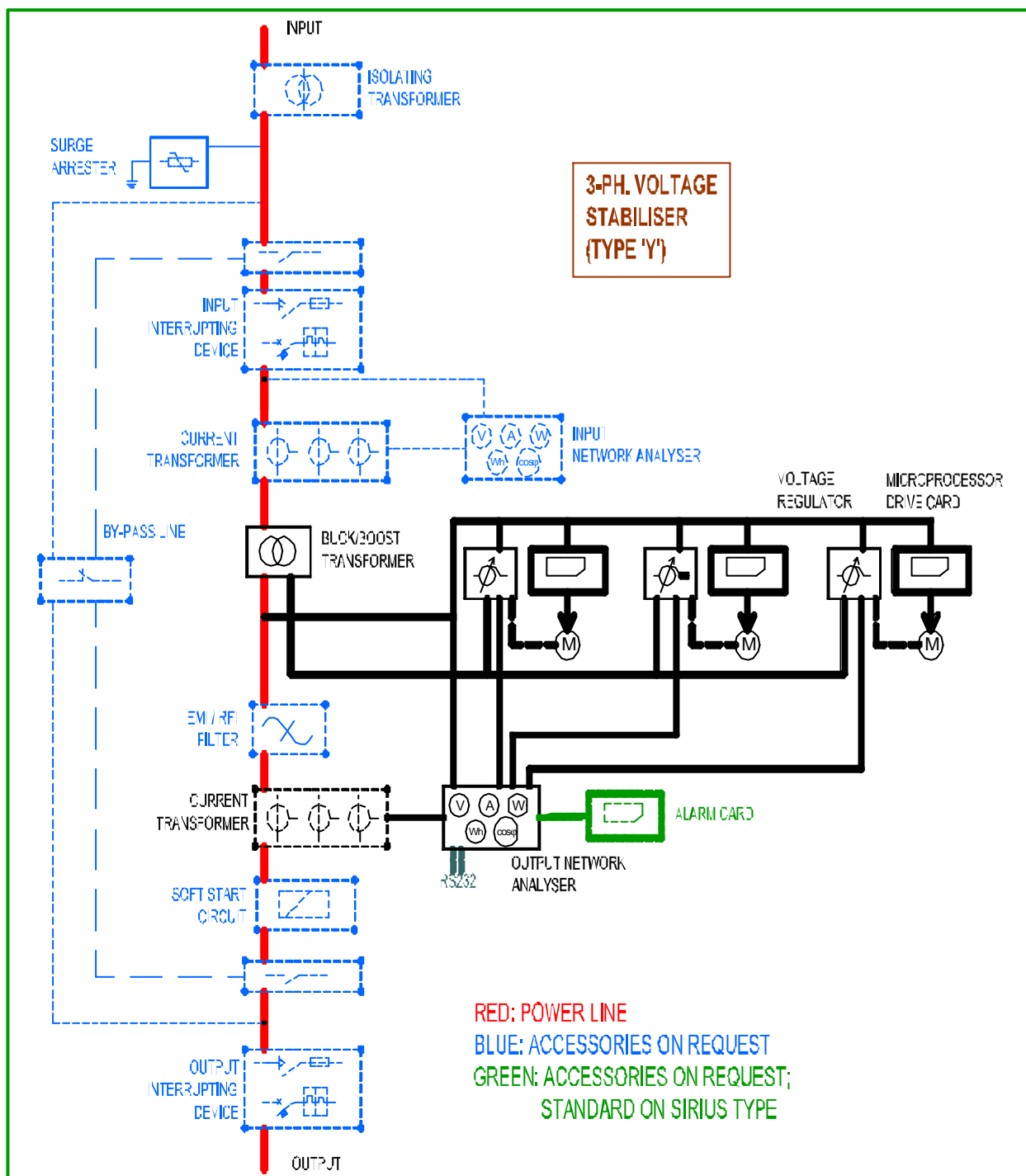


The technical data in the above table are subject to change by the Company either for internal reasons or because of a specific request from the Customer
 Input/output voltage 50Hz: 380/415V – Input/Output voltage 60Hz: 460/480

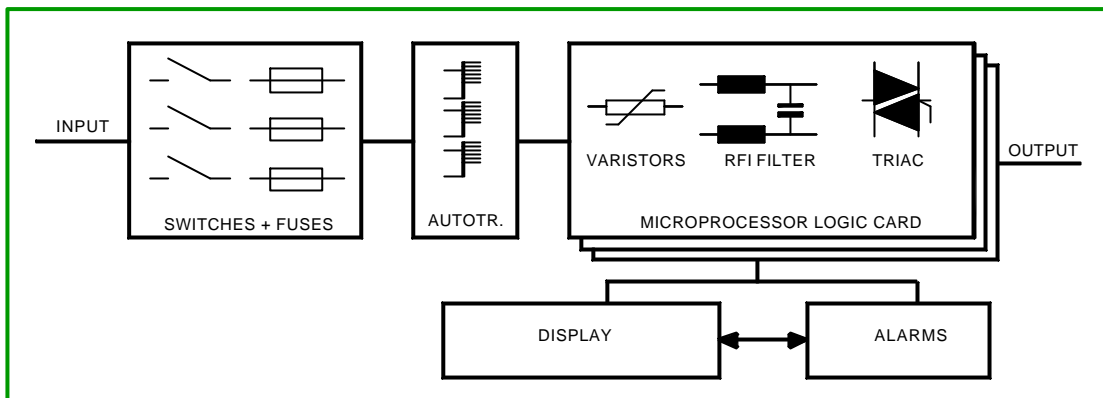
DIAGRAMS



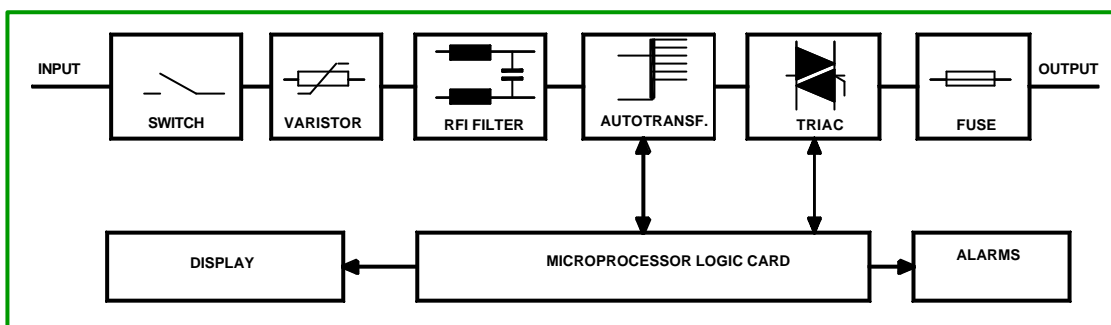




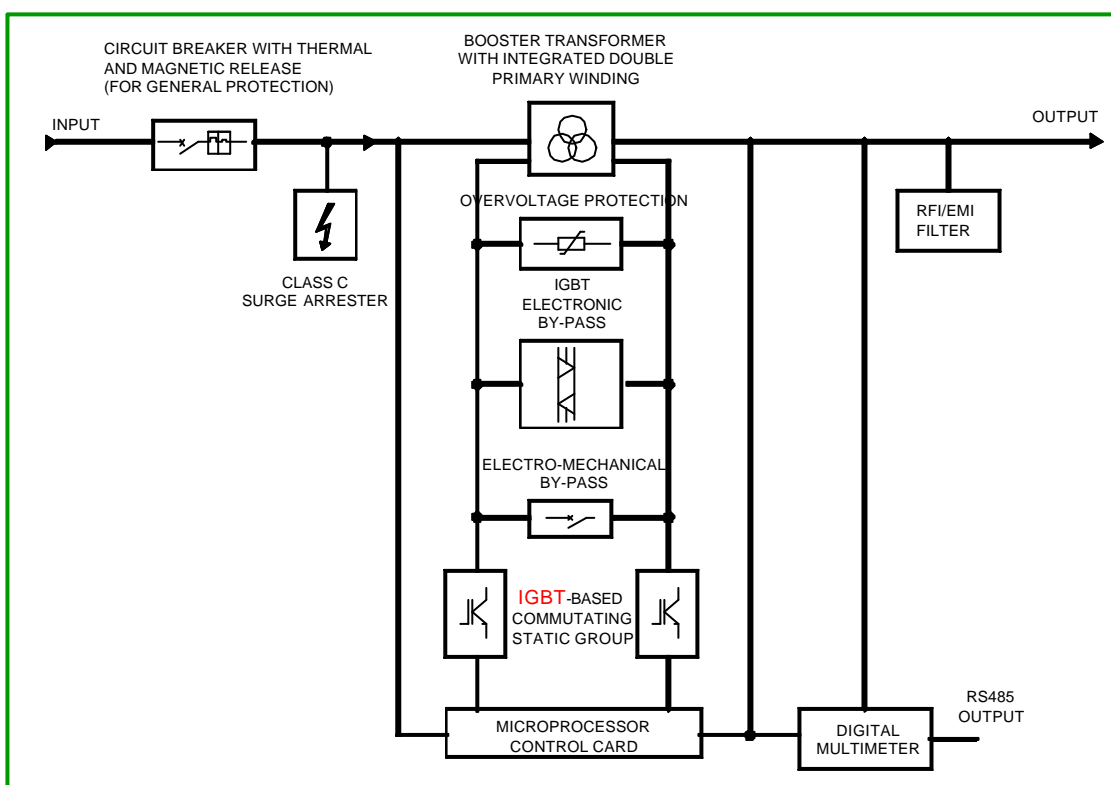
GEMINI



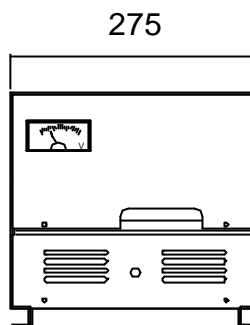
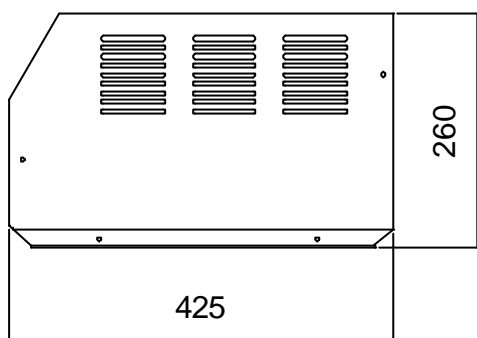
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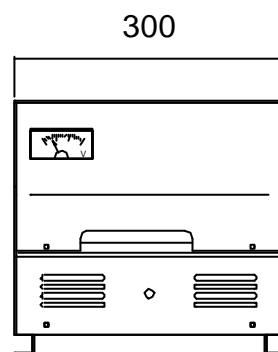
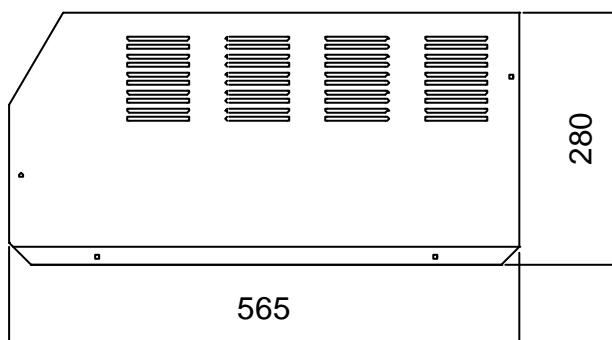
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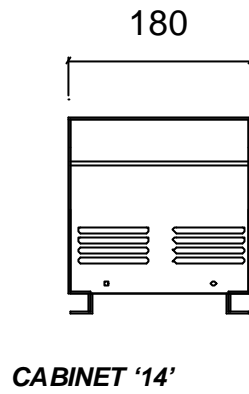
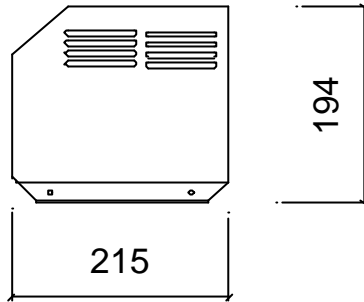
DIMENSIONS



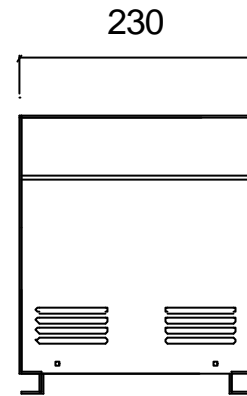
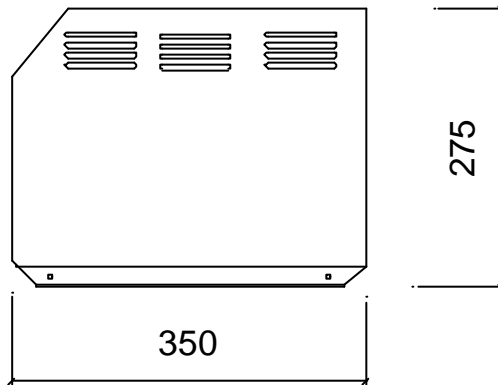
CABINET '12'



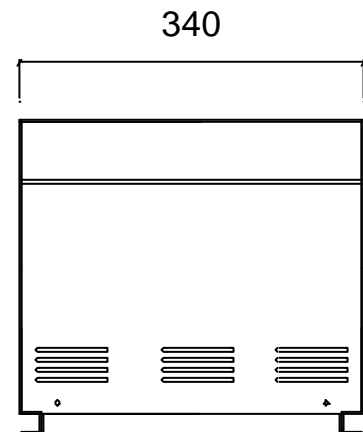
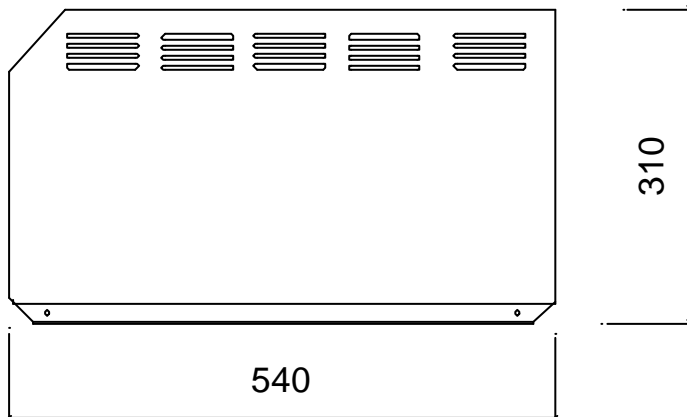
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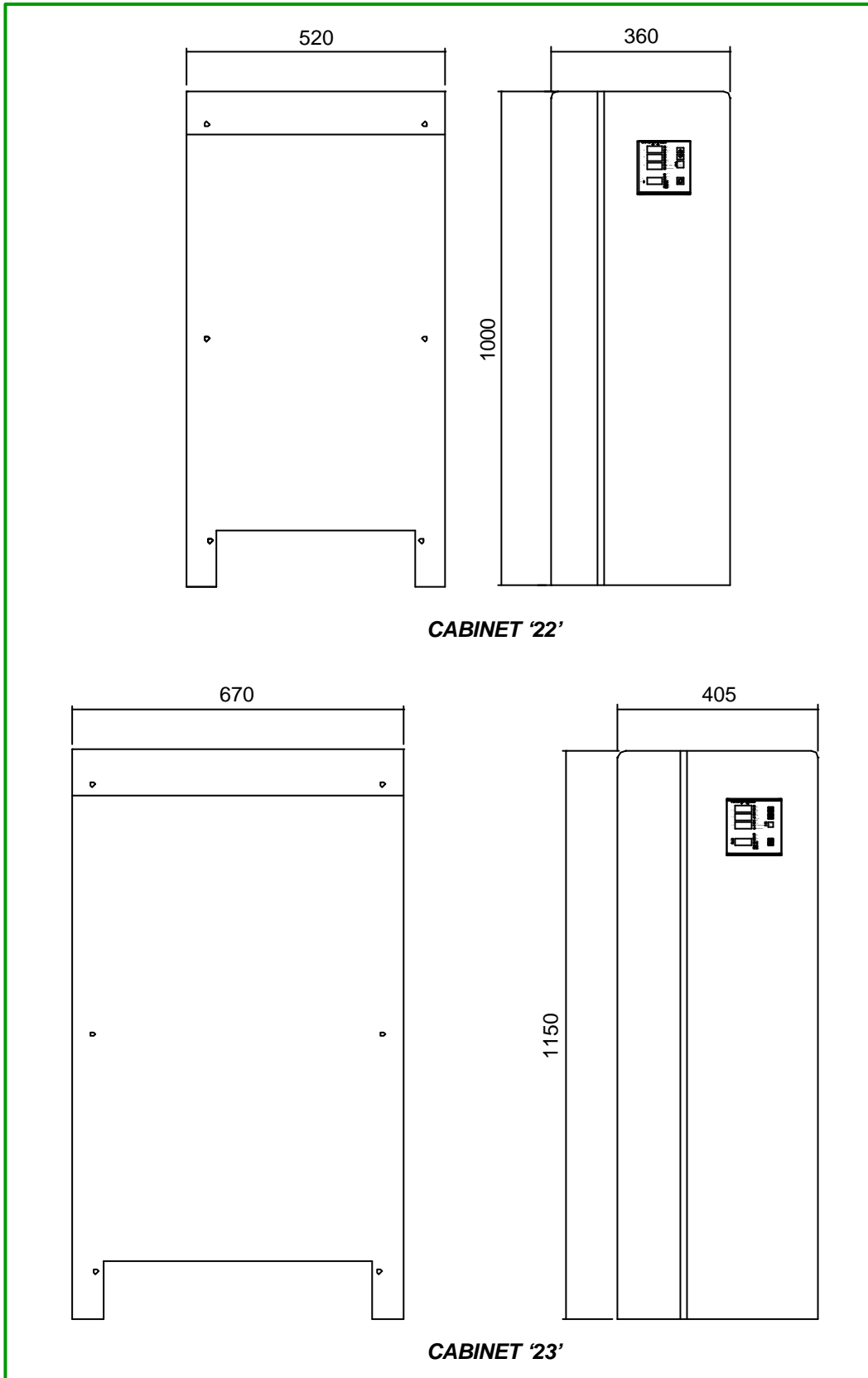
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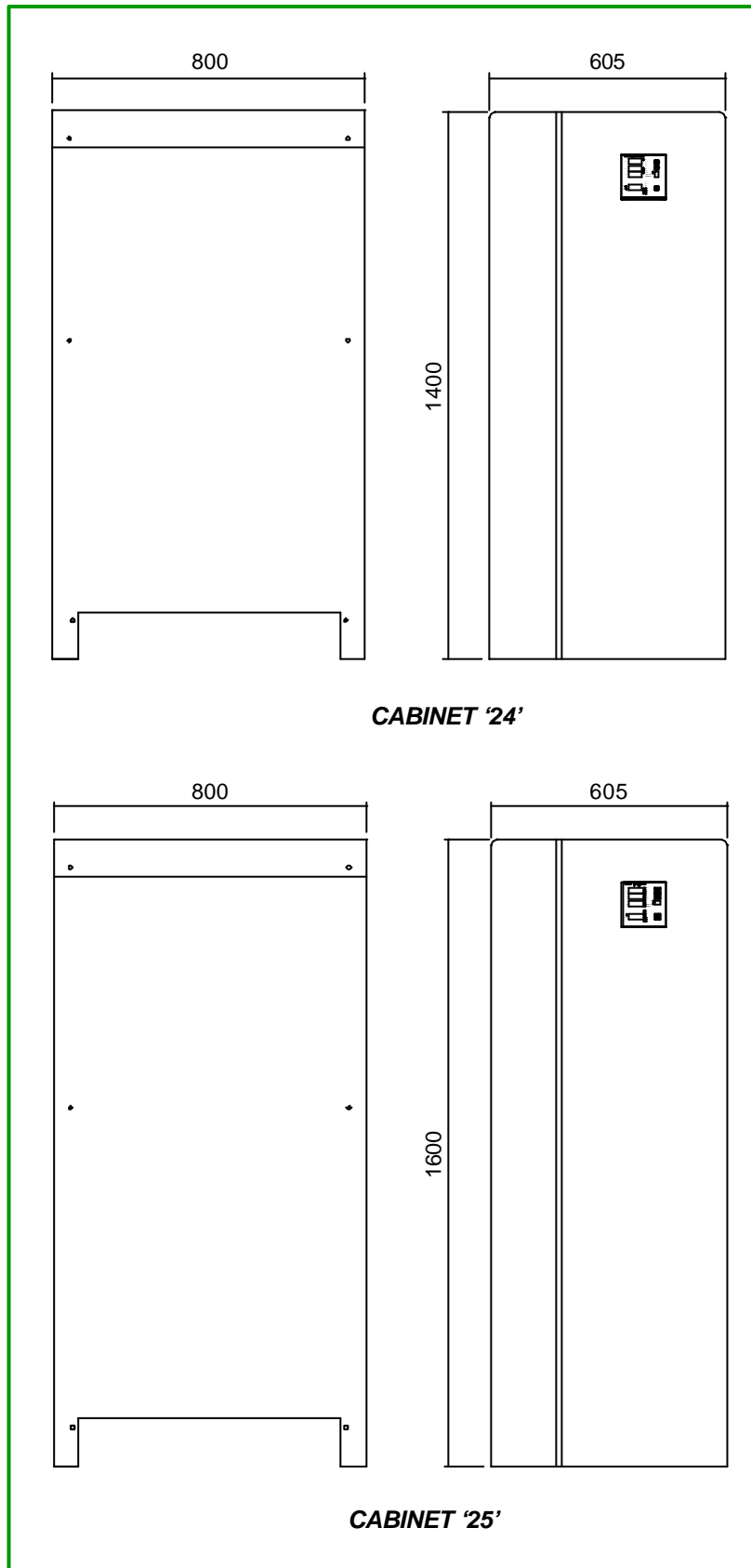


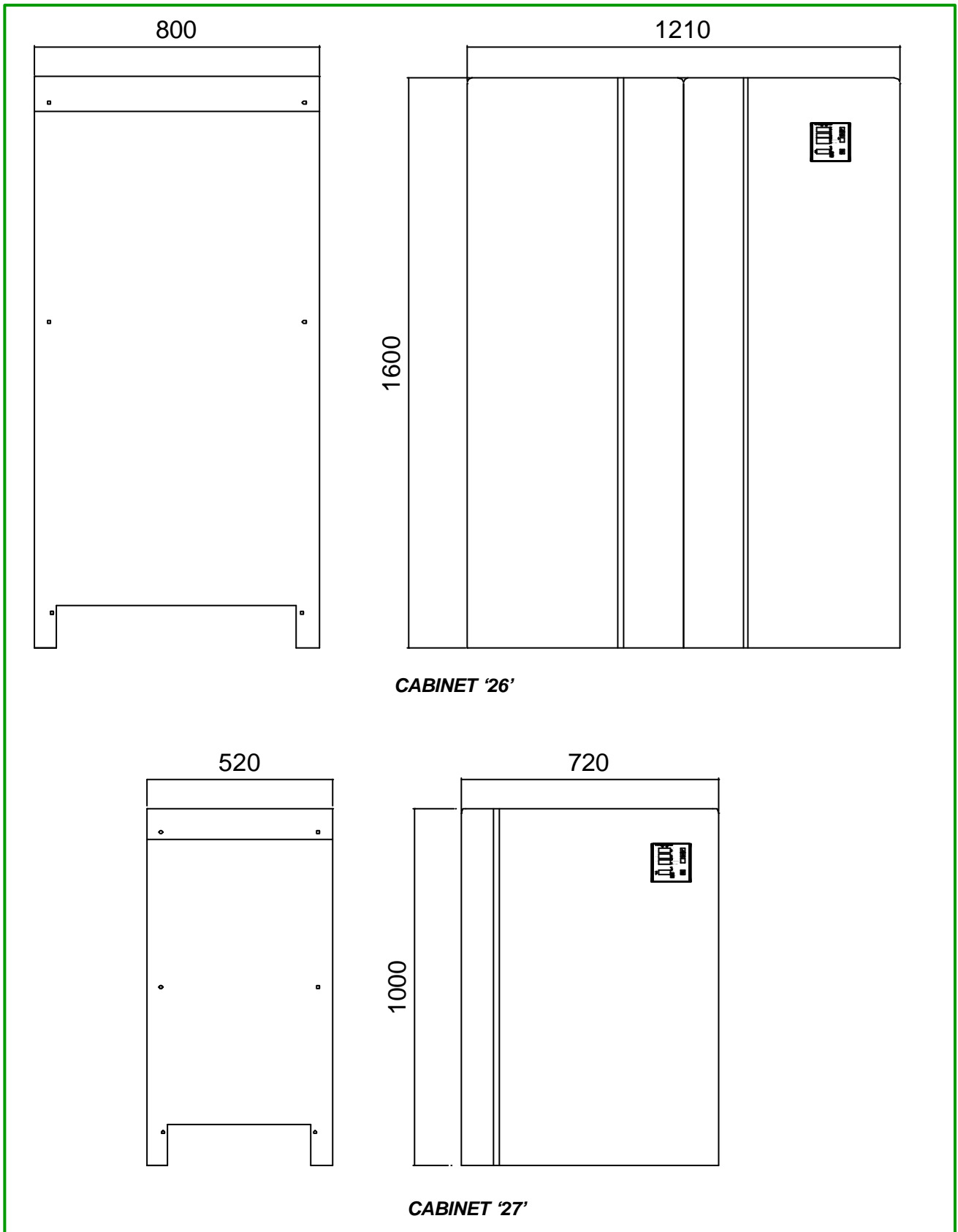
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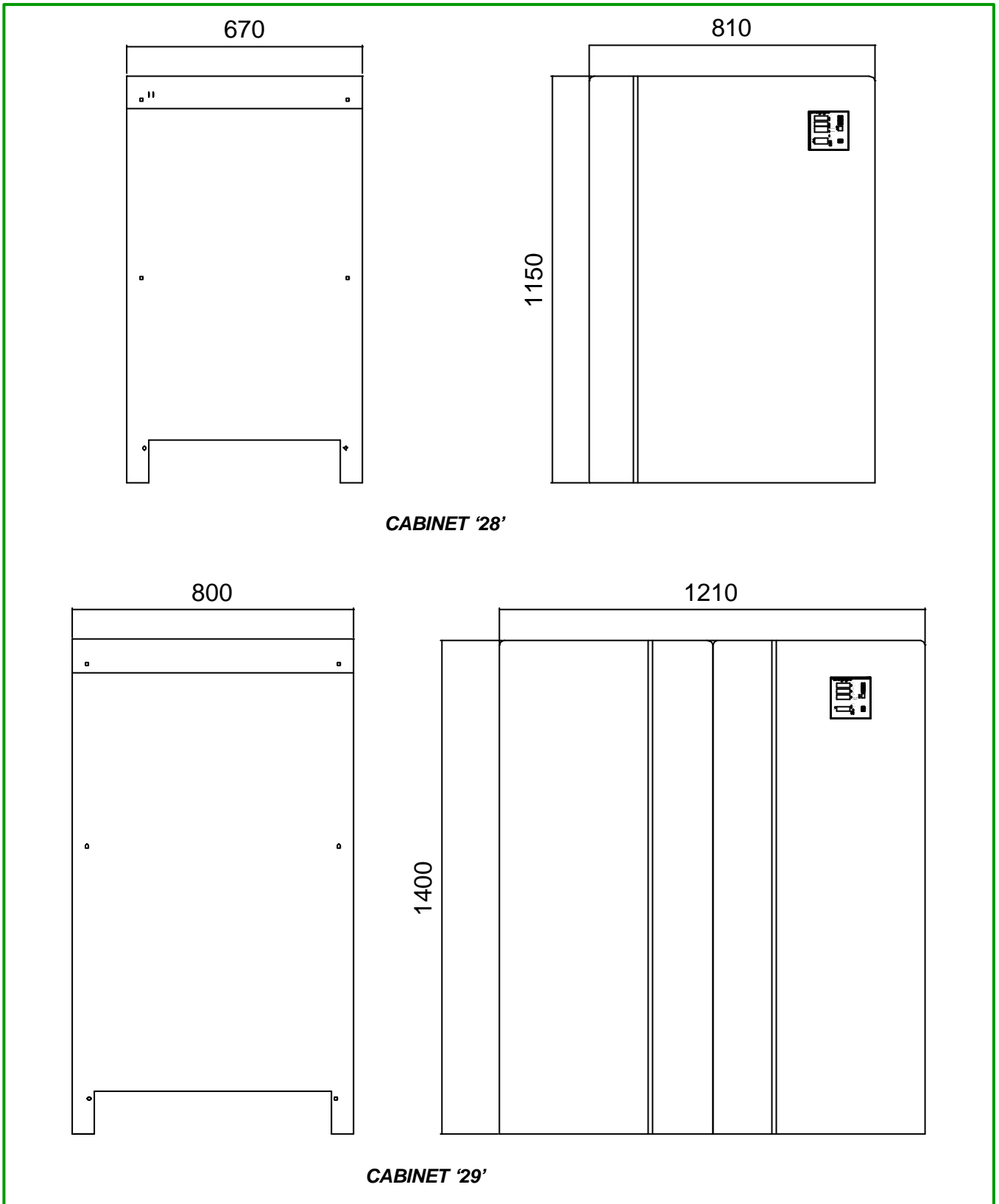


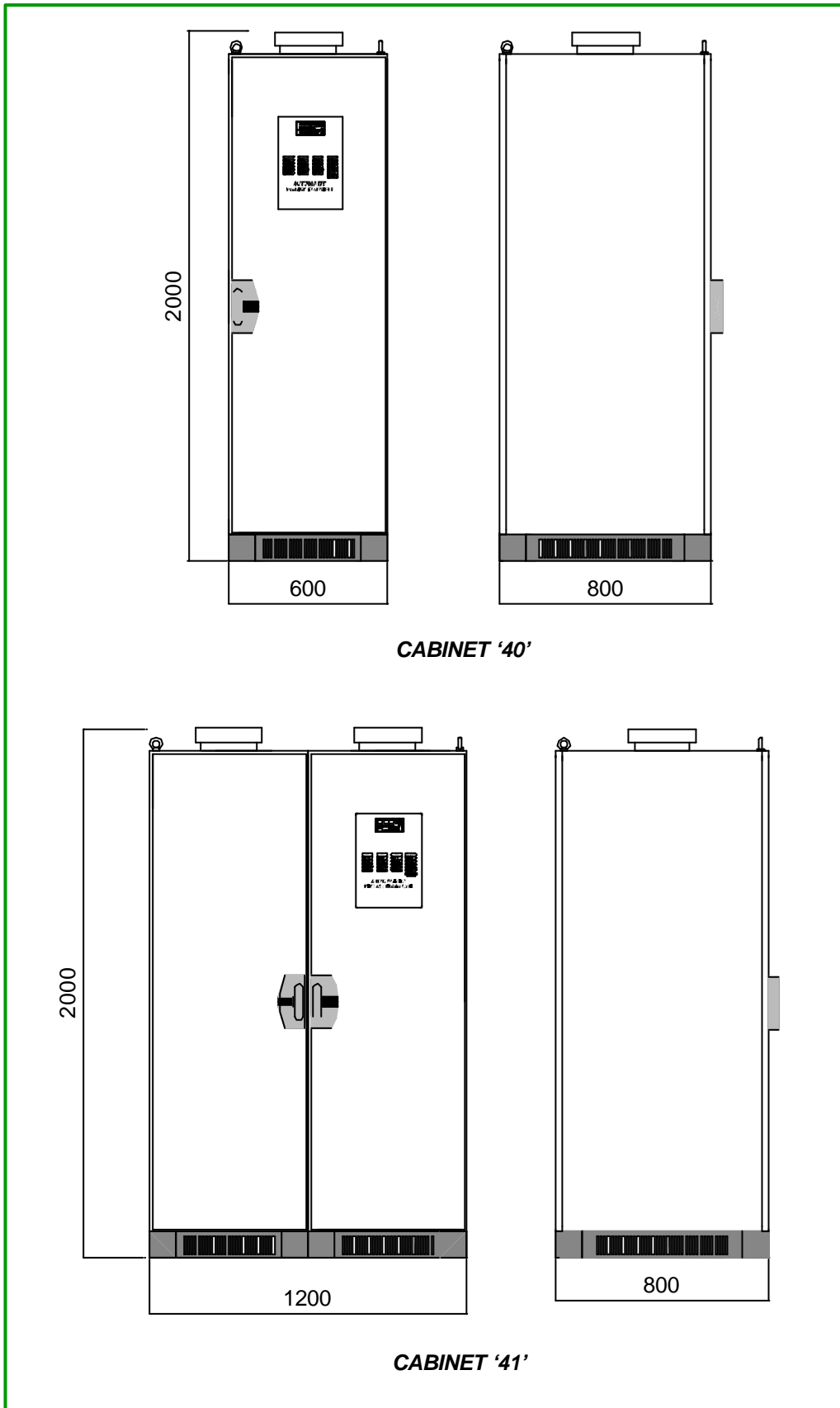
CABINET '16'

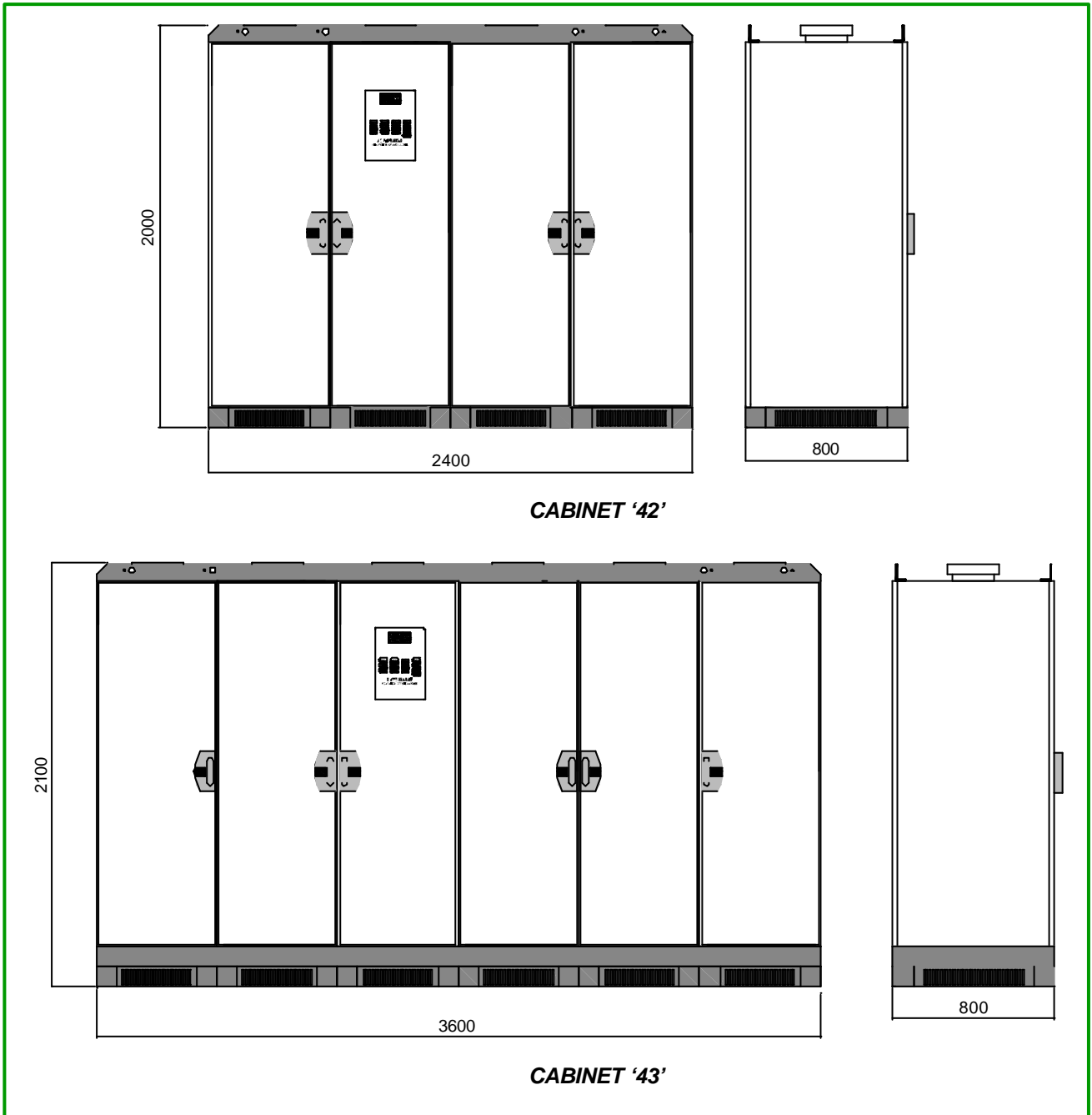


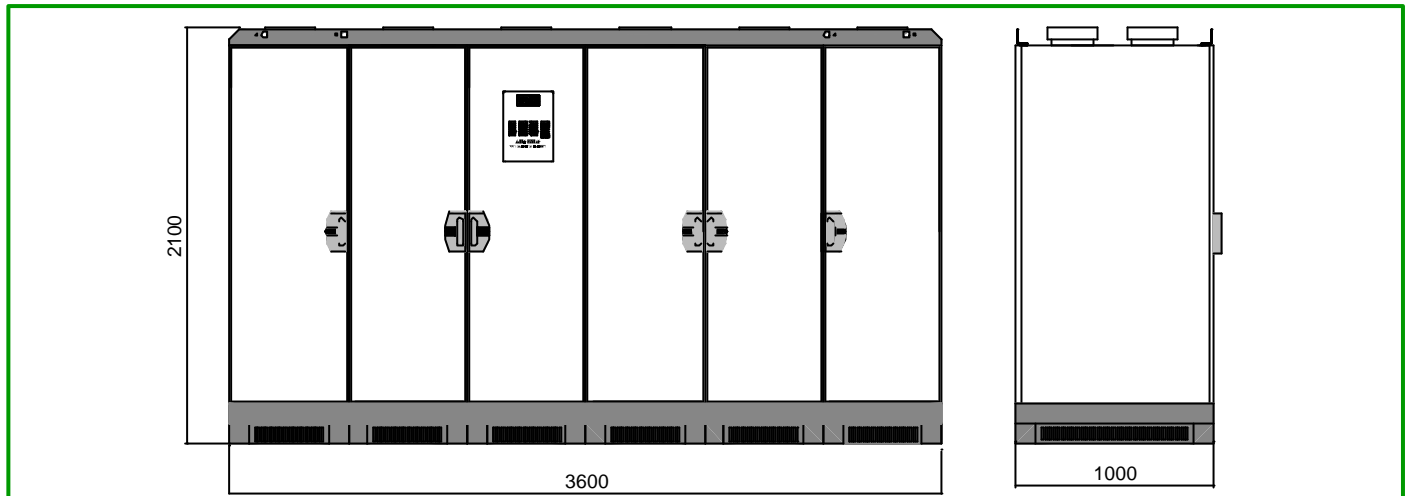




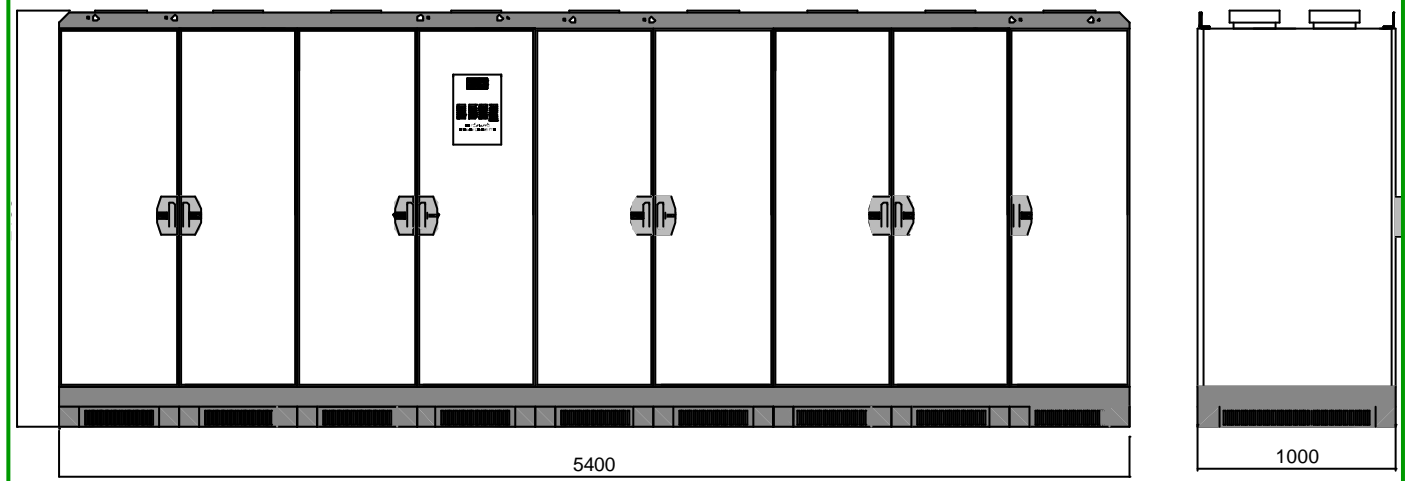




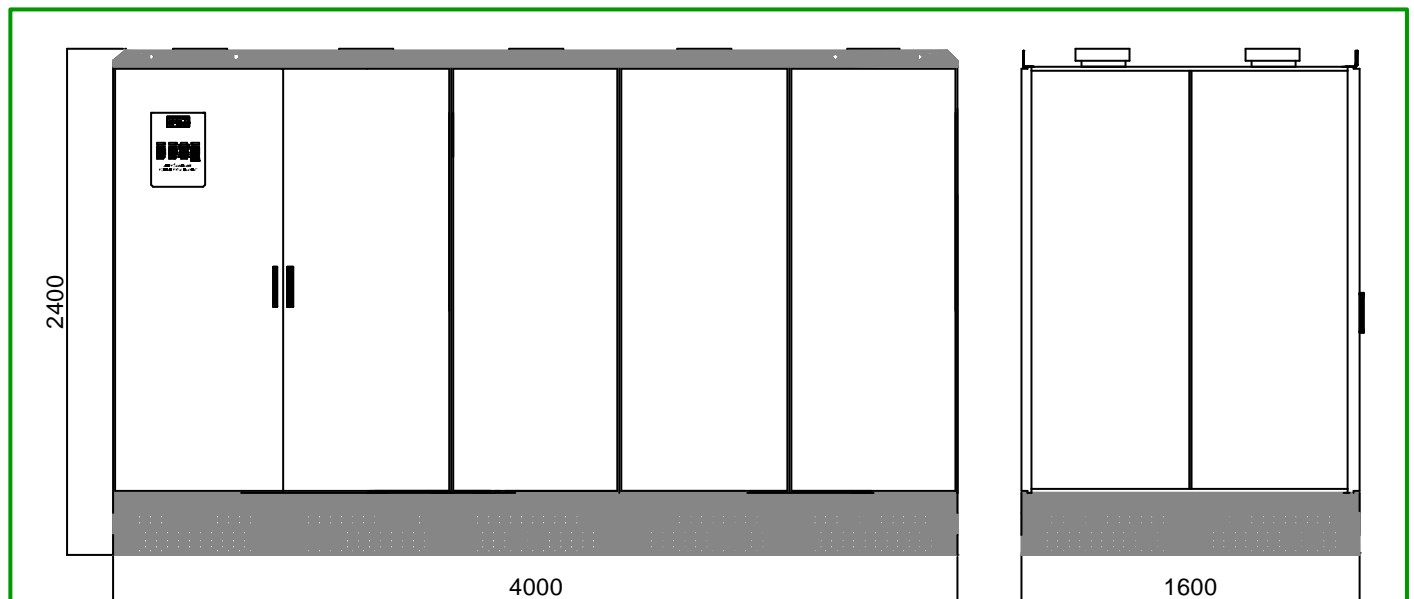




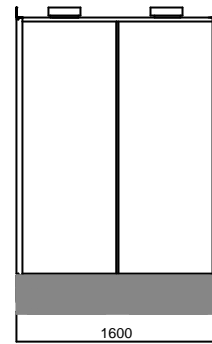
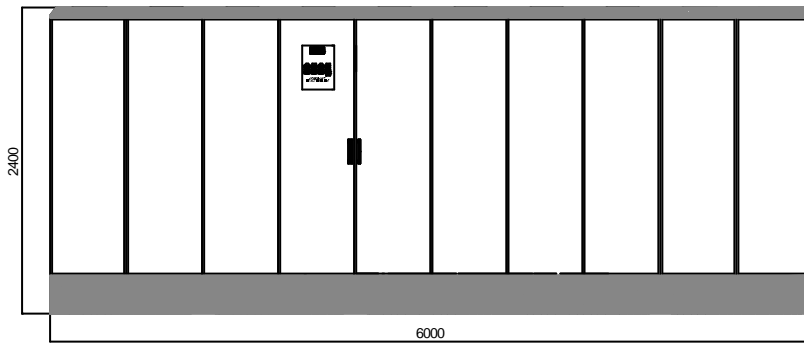
CABINET '44'



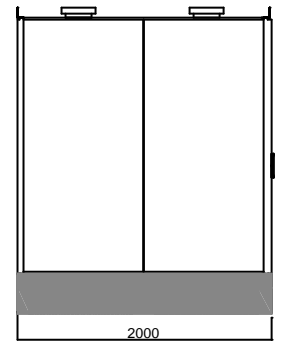
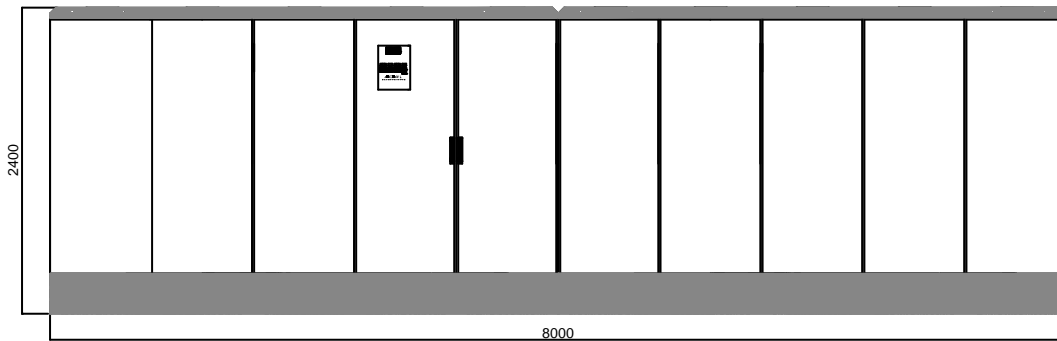
CABINET '45'



CABINET '46'



CABINET '47'



CABINET '48'

Any other variations concerning the dimensions can be dealt with on request.

ACCESSORIES

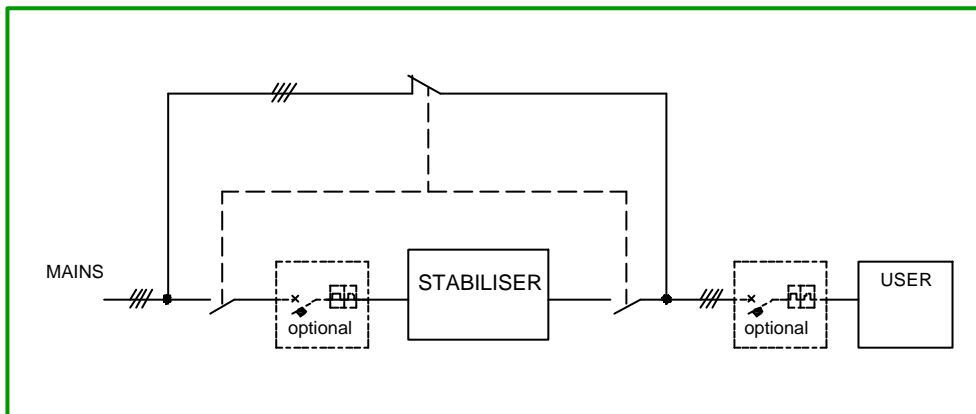
The characteristics described so far are typical of the standard machine. Accessories performing other tasks can be supplied on request. Combinations of one or more of the following accessories are usually installed in an additional modular enclosure.

1. By-pass switch

Useful for working on the voltage stabiliser without switching off the power supply to the loads. For the operators' safety, the by-pass operation should be manual. The by-pass device consists of three interlocked switches with three positions

- by-pass OFF/stabiliser ON
- by-pass OFF/stabiliser OFF
- by-pass ON/stabiliser OFF

The circuit can include automatic circuit breakers.

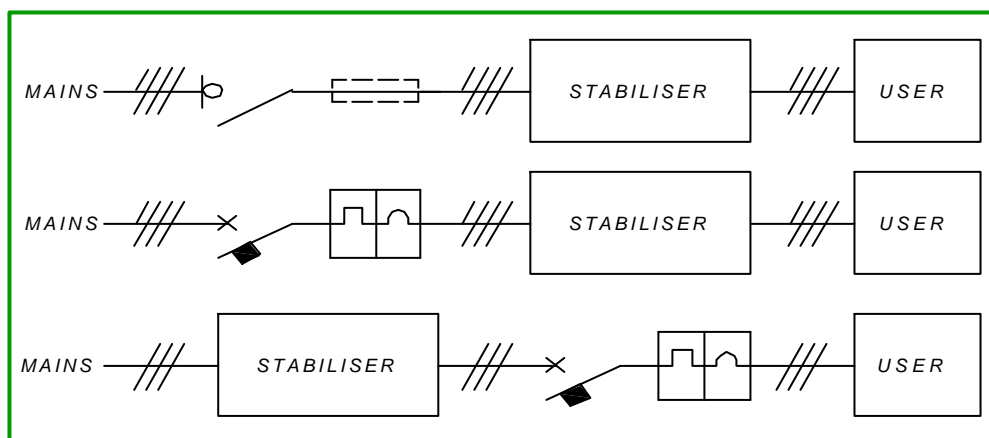


2. Input isolation transformer

It provides for galvanic separation between the stabiliser with its load and the mains. It also protects from possible overvoltages.

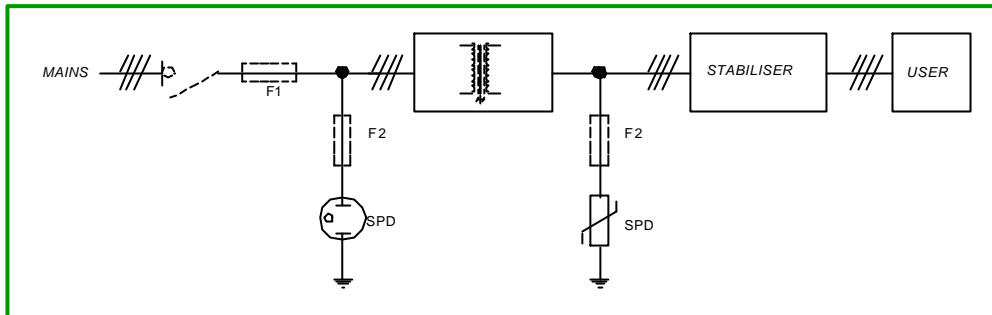
3. Interrupting devices

Fused disconnections or circuit breakers with thermal and magnetic release can be supplied whenever it is necessary to isolate the input line, the output one or both.



4. Surge arresters (SPD)

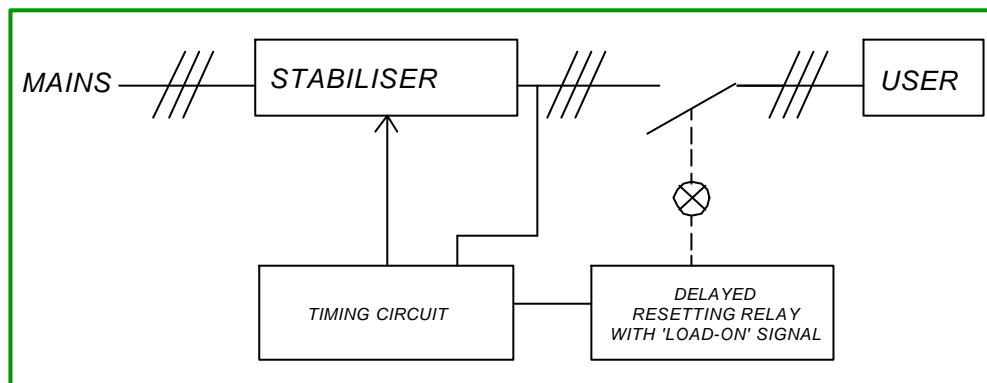
Surge arresters (lightning arresters) and overvoltage suppressors can be provided to protect from overvoltage peaks of atmospheric or operational origin by discharging them to ground. The installation depends on the system configuration. For example, in case of high ratings the suggested sequence would be: spark-gap arresters followed by an isolating device (ideally an isolating transformer) and varistor-based arresters on its output.



5. "Soft Start" Circuit

The 'Soft Start' circuit is a protection with a double purpose:

- To delay the connection to the load each time the stabiliser switches on so that the users can undergo a smooth start-up with an already stabilised voltage.
- To protect the load from surges, sags and overload by disconnecting the load from the stabiliser.



6. Protection degree (IP)

High protection degree (until IP54) can be obtained increasing the dimensions or with heat exchanger and air condition.

7. Additional instrumentation and special construction

For special requirements, the instrumentation can be expanded according to request, with provision for computerised remote signalling.

Due to our flexibility, it is possible to customise the design according to specific requests.

8. Outdoor constructions

On request the stabiliser can be designed for outdoor construction with stainless steel or glass-fibre cabinet.

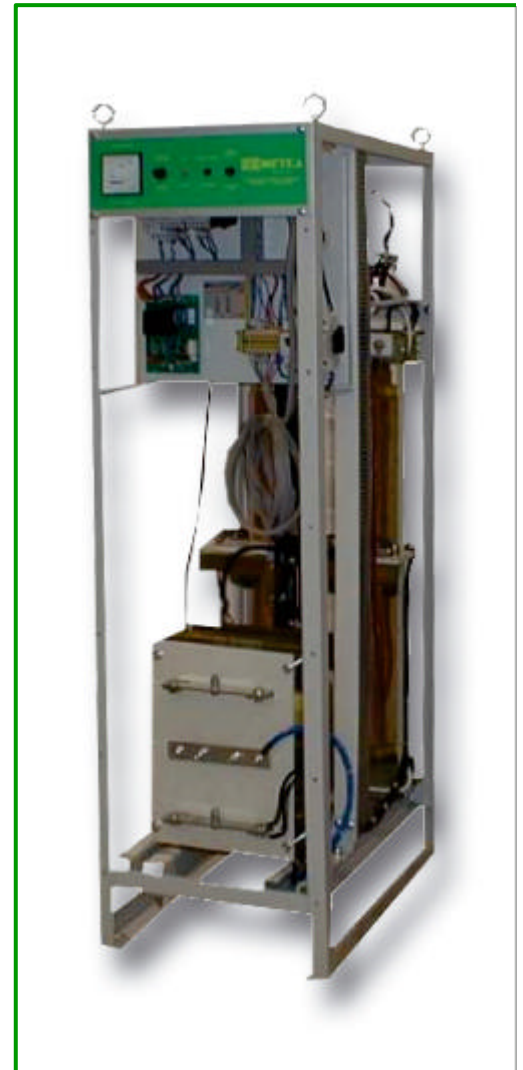
"CUSTOMISED" CONSTRUCTIONS

The production of stabilisers is completed by special constructions items based on the Customer's specifications. These machines can include:

- Open-type stabilisers that are widely used inside UPS systems, generating sets, etc
- Stabilisers designed to be assembled inside a cabinet provided by the Customer
- Stabilisers designed for cabinets with high level of IP protection (outdoor installation, dusty environment, etc.)

All the before mentioned types of stabilisers can be used in order to build a special construction.

Some examples are shown in the following photographs.



VOLTAGE REGULATOR SYSTEM

Assembly of full systems for voltage regulation is a direct offshoot of the production of voltage regulators. Typical applications of voltage regulators consist of test benches, variable load supply systems and electric furnaces. The equipment is assembled inside a metal cabinet of size suitable for the rated power of the system or else it is mounted on an open frame.

Regulation of the output voltage is through electromechanical components. Operation is motorised and is activated by push buttons mounted on a control panel installed in the electrical cabinet or else remote control is provided. The voltage regulator is normally used as a component of a wider system. Therefore protective devices should be mounted before and after the unit rated according to the currents circulating.

The unit is normally air cooled. However for very high power ratings, the voltage regulator and/or power transformer is placed inside tanks and oil cooled. The voltage regulation system is normally connected directly to the mains. On request, an input isolation transformer can be installed in order to have galvanic separation before the equipment.



DRY TYPE MV TRANSFORMERS

The dry type MV transformers cover the power rating range between 160kVA up to 3150KVA transformers and are normally installed in areas close to where people live and work. Therefore safety, fire hazards and environmental problems are important factors.

Dry-type transformers often quite rightly called "ecological", provide the solution to this type of problems.

In fact, in case of fire, they have minimum combustion capability and do not release additional toxic gases. They are suitable for installation in environments with high humidity and chemically aggressive atmospheres. Moreover they are resistant to thermal shock and therefore able to operate even at very low temperatures (-40°C).

Such transformers do not require preventive maintenance, therefore routine maintenance is minimum.

Furthermore the polyester insulation means that the copper can be recycled after decommissioning.

ACCESSORIES

Standard:

- Load-bearing resin insulators on high voltage side
- Connections for the $\pm 2 \times 2.5\%$ variation on the high voltage side
- Copper plates for connection on low voltage side
- Eye-bolts for hoisting the transformer
- Bi-directional wheels
- Earth (ground) terminals
- Nameplate
- Temperature probes with connection terminals

On request:

- Electronic instrument connected to the temperature probes with temperature indication on LCD display and setting of overtemperature alarms
- Cabinet with IP20, IP21, IP23 protection class
- Vibration-damping pads for handling with transpallets
- Forced air cooling system with radial or axial fans, with or without cabinet



EPOXY RESIN MV TRANSFORMERS

Epoxy resin transformers offer the highest level of safety against fire while they safeguard the environment. They do not require maintenance and they are designed for easy installation (they avoid the need for construction of fire-fighting equipment and/or oil collecting ditches).

Advantages offered by choosing a transformer of this type can be summed up as follows:

- High level of safety and environment friendly
- Easier installation
- Minimum maintenance
- Flame retardant with excellent fire resistance
- High decomposition temperature without appreciable toxic emission in the case of fire
- Suitable for environments with high dust loading and/or with chemically aggressive atmosphere
- High degree of insulation and no partial discharges
- Very low losses
- Good resistance to impulse overvoltage and to short circuits for all power rating and voltage ranges

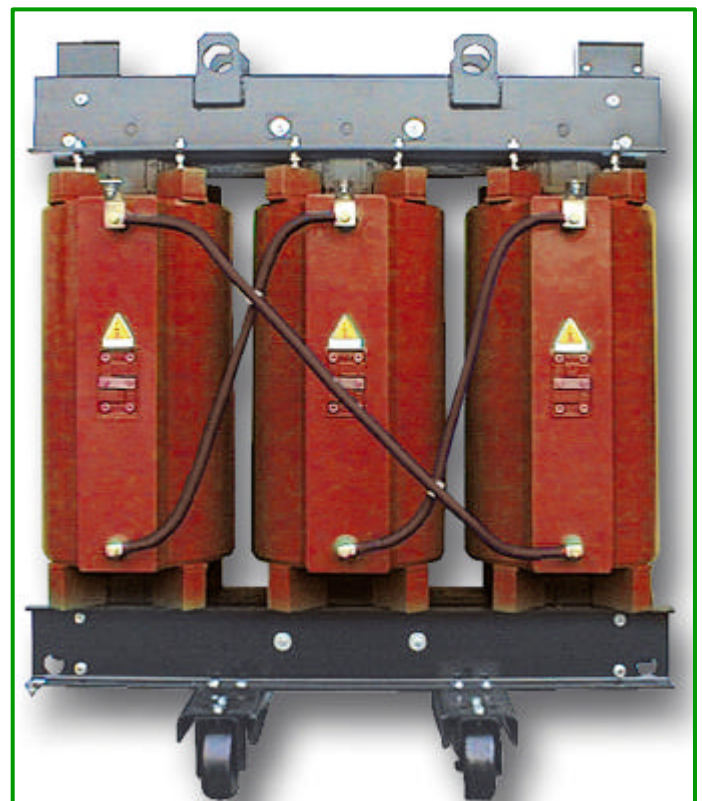
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LV TRANSFORMERS

The range of LV single-phase transformers covers the power rating between from 50kVA up to 1000kVA, the three-phase from 100kVA up to 2000kVA. These transformer find very wide application: from supplying systems, rectifier circuits, inverters, uninterruptible power supplies (UPS) to electro-plating, furnaces, or else merely as separators between the main power supply and users. They are normally built according to application requirements, thus allowing great flexibility in choosing nominal parameters, ratings and sizes. Although normally designed for open version, the transformer can be supplied housed in a metal cabinet.



Three phase high insulation transformer (20kV)



Three-phase five-legs transformer

MV/LV REACTORS

ORTEA has been manufacturing reactors for many years. Thanks to an extensive experience and strong co-operation with the customers, a specific know-how of the problems and various applications regarding such equipment has been built up.

Each type can be manufactured for low voltage and medium voltage with insulation level up to 36 kV. Construction is in compliance with the relevant Technical Standard (EN 60289).

The ORTEA production of reactors covers the entire field of applications: medium voltage insertion reactors; medium voltage choking inductors; tuning reactors; blocking reactors; current limiting reactors; smoothing inductors; special reactors. The reactors are built according to application requirements, thus allowing wide flexibility in choice of nominal parameters, ratings and size.

The standard MV reactors range is for electrical insulation class for 17.5kV, however other insulation classes can be obtained, namely: 3.6kV, 7.2kV, 12kV, 24kV e 36kV.



Low voltage block and filter reactor



MV insertion reactors for outdoor duty.



Examples of standard three-phase MV choking inductor (on left for indoor duty, on right for outdoor duty).

