“SPECIAL” VOLTAGE STABILISERS

Beside designing and manufacturing customised stabilisers tailored on the Customer's requirements, ORTEA developed product series particularly thought and optimised for specific necessities and/or applications.

BTS SERIES
Telecommunication (TLC)

DLC SERIES
Line conditioners

F&B SERIES
Food & Beverage, packaging and bottling industry

CE

All ORTEA equipments are designed and built in compliance with the Low Voltage and Electromagnetic Compatibility European Directives with regard to the CE marking requirements. ORTEA products are built with suitable quality components and that the manufacturing process is constantly verified in accordance with the Quality Control Plans which the Company applies in compliance with the ISO 9001 Standards. The commitment towards environmental issues and safety at work issues is guaranteed by the certification of the Management System according to the ISO14001 and OHSAS18001 Standards.
In order to obtain better performance, the products described in the present document can be altered by the Company at any date and without prior notice. Technical data and descriptions do not hold therefore any contractual value.

BTS SERIES

The acronym BTS stands for Base Transceiver Station and is used to indicate all the transmitting and receiving devices that enable the radio coverage in a telecom cell.
This is definitely an application where high quality voltage supply, regardless of the incoming fluctuation, is very often the key for ensuring efficiency and reliability, fundamental qualities to guarantee operating continuity.
Disrupted service, loss of data, security failure, inaccurate information and general inconvenience are examples of possible problems caused by unstable supply. Of course, all this results in increased costs.
A voltage stabiliser is a device able to respond to changes in the voltage level on the input line caused by sags (due to undersized distribution lines, connection of large loads to the network, ground faults, etc.) and surges (generated by disconnection of large loads, increased voltage at the generating plant, atmospheric events, etc.) The duration of such phenomena depends on their cause and is not easily predictable. Sags are generally more common especially where the distribution is not efficient.
The voltage stabiliser specifically designed for BTS sites has proved to be an efficient solution in the telecommunication field.
In comparison to a standard voltage stabiliser, a BTS unit offers the following characteristics:

- IP54 metallic enclosure for outdoor installation.
- Manual by-pass.
- Input and output circuit breakers.
- Input digital voltmeter.
- Output Class II surge arrestors.
- Optional isolating transformer.

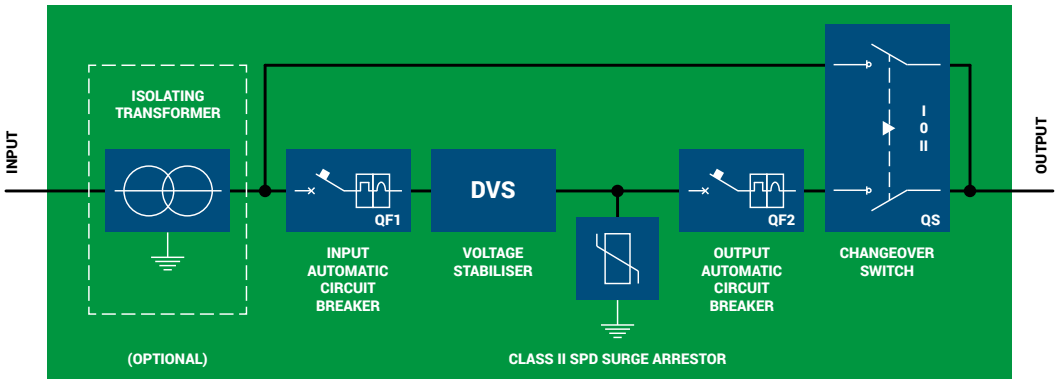
The stabilisers can be single-phase, three-phase or specifically designed for receiving a three-phase input and releasing a single-phase output. With the three-phase configuration, the regulation is performed independent on each phase and the voltage stabiliser requires the neutral wire presence for a correct operation. If the neutral wire is not available, the addition of a D/Y isolating transformer or neutral-point reactor is required.
Three-phase stabilisers can be used with three-phase loads and up to 100% unbalanced single-phase loads, even in case of asymmetric mains.
The instrumentation is installed on the cabinet door. An output digital multimetre provides with information on the line downstream the voltage stabiliser (phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc).
Minimum voltage, maximum voltage, internal overheating and overload on the voltage regulator are signalled by an acoustic alarm.
The stabiliser exploits a microprocessor-based control logic.

Main features

- Power design based on the maximum input current.
- Regulation based on the "rms voltage" and insensitivity to harmonics on the mains.
- Full functionality with load charge variable from 0 to 100%.
- Up to 30% harmonic content admitted on the load current.
- Insensitivity to the load power factor.
- No generation of noticeable harmonics in the output voltage.

Protections and signals

- Motor rotation stop due to regulation reaching the limit switches.
- Maximum and minimum line voltage alarm.
- Ambient thermostat (set to 65°C).
- Automatic circuit breaker to protect the voltage regulator.
- Fuses to protect the auxiliary circuits.
- Class II surge arrestors.



Standard features	BTS1	BTS3	BTS3/1
Number of phase	1	3	3/1
Output voltage*	220-230-240V (L-N)	380-400-415V (L-L)	380-400-415V (L-L) INPUT 220-230-240V (L-N) OUTPUT
Nominal rating	from 5kVA to 80kVA		
Input voltage range	±15% - ±20% - ±25% - ±30% - +15%/-25% - +15%/-35% - +15%/-45%		
Output voltage range	±0.5%		
Frequency	50 ±5% or 60Hz ±5%		
Admitted load variation	Up to 100%		
Admitted load imbalance	n.a.	100%	n.a.
Cooling	Natural air ventilation (air extraction over 35°C)		
Ambient temperature	-25/+45°C		
Storage temperature	-25/+60°C		
Maximum relative humidity	95% (non condensing)		
Admitted overload	200% 2 min.		
Harmonic distortion	None introduced		
Colour	RAL 7035		
Protection degree	IP54		
Installation	Outdoor		
Overvoltage protection	class II surge arrestor		

** Output voltage can be adjusted by choosing one of the indicated values.*
Such choice sets the new nominal value as a reference for all the stabiliser parameters.

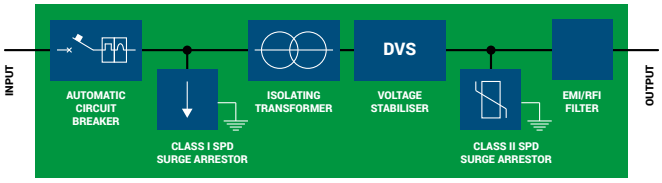
DLC SERIES

ORTEA product range is completed by a range of line conditioners based on voltage stabilisers and provided with additional protective devices.

LYBRA	Single-phase	**VEGA/ANTARES** + advanced protection	0.3-135kVA
ARIES	Three-phase	**ORION** + advanced protection	2-250kVA
ARIES PLUS	Three-phase	**ORION PLUS** + advanced protection	30-1250kVA
DISCOVERY	Three-phase	**SIRIUS** + advanced protection	60-6000kVA

The following sketch shows the typical line conditioners:

- Input automatic circuit breaker (protection against short-circuit).
- Delta/Star or Delta/Zig-zag input isolation transformer (complete galvanic isolation between the mains and the load and cancellation of third and triplen harmonics).
- Class 1 SPD surge protective device (protection against lightning).
- Class 2 SPD surge protective device (protection against transients).
- EMI/RFI filter (protection against electro-magnetic and radio-frequency noise).



F&B SERIES

Specifically designed for food & beverage, packaging and bottling industries, these voltage stabilisers are housed in an IP54 cabinet cooled via air conditioning units.
The stabiliser is therefore protected against dust or other volatile substances and liquid sprays.
The configuration includes raised feet, so that normal cleaning routines can be performed underneath the stabiliser.
On request, the cabinet can be in stainless steel.

CABINET SIZE

Type	Dimensions [mm]		
	W	D	H
11	210	400	200
12	300	460	300
13	300	560	300
21	300	500	900
22	410	530	1200
23	410	680	1200
31	600	600	1600
32	600	600	2000
33	800	600	2000
35	800	600	1800
36	1200	600	1600
37	1200	600	2000
40	600	800	1600
41	1000	800	1800
42	800	800	2000
43	1200	800	1600
44	2000	800	2000
46	1800	800	1600
47	1600	800	1800
48	2200	800	1800
49	2200	800	2000
50	2400	800	1800

Type	Dimensions [mm]		
	W	D	H
51	600	800	1800
52	1800	800	2000
53	1200	800	2000
54	600	800	2000
55	1200	800	1800
56	1800	800	1800
57	2400	800	2000
58	3000	800	2000
59	3600	800	2100
60	600	1000	1800
61	1200	1000	1800
62	1800	1000	2000
63	2400	1000	2000
64	3000	1000	2000
65	3600	1000	2000
66	4200	1000	2000
67	1200	1000	2000
68	800	1000	2000
70	3600	1000	2100
71	4200	1000	2100
72	4800	1000	2100
73	5400	1000	2100

Type	Dimensions [mm]		
	W	D	H
74	6000	1000	2100
75	6600	1000	2100
76	7200	1000	2100
80	3600	1400	2200
81	4200	1400	2200
82	4800	1400	2200
83	5400	1400	2200
84	6000	1400	2200
85	6600	1400	2200
86	7200	1400	2200
87	7800	1400	2200
86	7200	1400	2200
88	7000	1400	2200
89	8000	1400	2200
90	4200	2000	2400
91	5400	2000	2400
92	6000	2000	2400
93	6600	2000	2400
94	7200	2000	2400
95	8400	2000	2400