

ORION

THREE-PHASE 2-135kVA



Standard features

Voltage stabilisation	Independent phase control
Selectable output voltage (dip-switch)*	220-230-240V (L-N) / 380-400-415V (L-L)
Output voltage accuracy	±0,5%
Frequency	50Hz ±5% or 60Hz ±5%
Admitted load variation	Up to 100%
Admitted load imbalance	100%
Cooling	Up to 45kVA ±15% natural ventilation From 60kVA ±15% aided with fans
Ambient temperature	-25/+45°C
Storage temperature	-25/+60°C
Max relative humidity	<95% (non condensing)
Admitted overload	200% 2min.
Harmonic distortion	None introduced
Colour	RAL 7035
Protection degree	IP 21
Instrumentation	Output digital multimeter
Installation	Indoor
Oversvoltage protection	Output class II surge arrestors (over 60kVA ±15%)

* 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.

Ratings in relation to the input variation percentage

±15%	±20%	±25%	±30%	+15/-25%	+15/-35%	+15/-45%
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
80	60	45	30	60	45	30
105	80	60	45	80	60	45
135	105	80	60	105	80	60



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.

Accessories

Interrupting devices
Load protection against over/undervoltage
Manual by-pass line
Input isolating transformer
SPD surge arrestor
EMI/RFI filters
Neutral point reactor
Up to IP55 protection degree for indoor and outdoor installation

Orion stabilisers are available for different ranges of input voltage fluctuation.

Standard models offer a double input connection so that with the same unit two different input variations ($\pm 15\%$ / $\pm 20\%$ or $\pm 25\%$ / $\pm 30\%$) can be dealt with.

The output voltage regulation is performed independently on each phase (stabilization of each phase-to-neutral voltage). Orion stabilisers are used with three-phase loads and single-phase loads with 100% current imbalance across the phases and asymmetrical mains voltage.

For the correct operation, Orion voltage stabilisers require the neutral wire presence. Operation without neutral wire connection is achievable by adding a device able to generate it (D/Yn isolating transformer or neutral point reactor).

An automatic circuit breaker is mounted on the regulation circuit to protect against overload and short circuit on the voltage regulator, whilst the auxiliary circuit is protected by fuses.

The instrumentation consists of a multi-task digital line analyser. Such instrument is able to provide with information regarding the voltage stabiliser output parameters, such as phase and linked voltage, current, power factor, active power, apparent power, reactive power, etc.

The alarms (min/max output voltage, gearmotor lock, internal overheating, regulator overload) are recognizable by means of LEDs on the control card.

Voltage control and stabilisation, performed on the true RMS value, are managed by the digital microprocessor.

Each phase of every stabiliser belonging to this range is controlled by the same control board used on Vega and Antares models, thus simplifying maintenance operations and spare parts storage.

Up to 45kVA, the stabilisers are equipped with wheels for easy handling.



WIDE RANGE

Symmetrical: $\pm 15\%$, $\pm 20\%$, $\pm 25\%$, $\pm 30\%$ (other on request).

Asymmetrical: $+15\%/-25\%$, $+15\%/-35\%$, $+15\%/-45\%$ (other on request).

Output voltage accuracy: $\pm 0.5\%$.



TECHNOLOGY

Control and stabilisation, performed on the true RMS value, are based on a digital microprocessor operating with a software specifically developed by Ortea (Starcontrol division).

Independent regulation on each phase.



LONG LIFE

Ortea system voltage regulator with rollers (without brushes, which are subject to heavy wear & tear).



PROTECTION

The voltage regulator is protected by a circuit breaker with magneto thermal release. The auxiliary circuit is protected by fuses. Overvoltage protection: Class II output surge arrester.



INSTRUMENTATION

Multi-task digital analyser mounted on the front panel (linked and phase voltage current, frequency, power factor, active power, reactive power, apparent power etc.).

Type	Input variation	Rated power	Input voltage range	Max input current	Output voltage	Rated output current	Eff.	Adjus. speed	Cabinet type	Cabinet dimensions WxDxH	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]		[mm]	[kg]

Orion ±20%/±15%

4-20	±20	4	320-480	7,3	400	5,8	>96	12	22	410x530x1200	90
5-15	±15	5	340-460	8,5	400	7,2	>96	16	22	410x530x1200	90
7-20	±20	7	320-480	13	400	10	>96	12	22	410x530x1200	110
10-15	±15	10	340-460	17	400	14	>96	16	22	410x530x1200	110
10-20	±20	10	320-480	18	400	14	>96	12	22	410x530x1200	140
15-15	±15	15	340-460	25	400	22	>96	16	22	410x530x1200	140
15-20	±20	15	320-480	27	400	22	>98	12	23	410x680x1200	155
20-15	±15	20	340-460	34	400	29	>98	16	23	410x680x1200	155
20-20	±20	20	320-480	36	400	29	>98	12	23	410x680x1200	180
30-15	±15	30	340-460	51	400	43	>98	16	23	410x680x1200	180
30-20	±20	30	320-480	54	400	43	>98	12	23	410x680x1200	200
45-15	±15	45	340-460	76	400	65	>98	16	23	410x680x1200	200
45-20	±20	45	320-480	81	400	65	>98	12	31	600x600x1600	310
60-15	±15	60	340-460	102	400	87	>98	16	31	600x600x1600	310
60-20	±20	60	320-480	108	400	87	>98	12	40	600x800x1600	425
80-15	±15	80	340-460	136	400	115	>98	16	40	600x800x1600	425
80-20	±20	80	320-480	144	400	115	>98	12	51	600x800x1800	510
105-15	±15	105	340-460	178	400	152	>98	16	51	600x800x1800	510
105-20	±20	105	320-480	189	400	152	>98	12	51	600x800x1800	580
135-15	±15	135	340-460	229	400	195	>98	16	51	600x800x1800	580

The values listed in the table are referred to 400V nominal voltage

Orion ±30%/±25%

2-30	±30	2	280-520	4,1	400	2,9	>96	8	22	410x530x1200	90
3-25	±25	3	300-500	5,7	400	4,3	>96	10	22	410x530x1200	90
3-30	±30	3	280-520	6,1	400	4,3	>96	8	22	410x530x1200	110
4-25	±25	4	300-500	7,7	400	5,8	>96	10	22	410x530x1200	110
4-30	±30	4	280-520	8,3	400	5,8	>96	8	22	410x530x1200	140
7-25	±25	7	300-500	13	400	10	>96	10	22	410x530x1200	140
7-30	±30	7	280-520	14	400	10	>98	8	23	410x680x1200	155
10-25	±25	10	300-500	19	400	14	>98	10	23	410x680x1200	155
10-30	±30	10	280-520	21	400	14	>98	8	23	410x680x1200	180
15-25	±25	15	300-500	29	400	22	>98	10	23	410x680x1200	180
15-30	±30	15	280-520	31	400	22	>98	8	23	410x680x1200	200
20-25	±25	20	300-500	38	400	29	>98	10	23	410x680x1200	200
20-30	±30	20	280-520	41	400	29	>98	8	31	600x600x1600	310
30-25	±25	30	300-500	58	400	43	>98	10	31	600x600x1600	310
30-30	±30	30	280-520	62	400	43	>98	8	40	600x800x1600	425
45-25	±25	45	300-500	87	400	65	>98	10	40	600x800x1600	425
45-30	±30	45	280-520	93	400	65	>98	8	51	600x800x1800	510
60-25	±25	60	300-500	115	400	87	>98	10	51	600x800x1800	510
60-30	±30	60	280-520	124	400	87	>98	8	51	600x800x1800	580
80-25	±25	80	300-500	154	400	115	>98	10	51	600x800x1800	580

The values listed in the table are referred to 400V nominal voltage