



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	Natural air ventilation up to 45kVA ±15% Aided with fans from 60kVA ±15%
Ambient temperature	-25/+45°C
Storage temperature	-25/+60°C
Max relative humidity	95% (non condensing)
Admitted overload	200% 2 min.
Harmonic distortion	None introduced
Colour	RAL 7035
Protection degree	IP21
Instrumentation	Output digital multimeter
Installation	Indoor
Overvoltage protection	Output Class II surge arrestor (over 60kVA ±15%)

* The 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.

Accessories

Interrupting devices
Load protection against over/undervoltage
Manual by-pass line
Input isolating transformer
SPD surge arrestor
EMI/RFI filters
Neutral point reactor
IP54 protection degree for indoor and outdoor installation

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Rating 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

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..

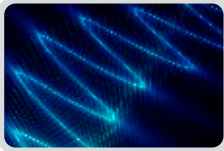
The alarms (min/max output voltage, gearmotor lock, internal overheating, regulator overload) are recognizable by means of LEDs on the control card.

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.

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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 for Ortea.
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.).

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Type	Input voltage variation range	Rating	Input voltage range	Maximum input current	Output voltage $\pm 0.5\%$	Output current	Efficiency	Speed regulation	Cabinet	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]	Type	[kg]

Input voltage variation range $\pm 20\%/\pm 15\%$ (the values listed in the table are referred to 400V nominal voltage)

4-20	± 20	4	320-480	7.3	400	5.8	>96	12	22	90
5-15	± 15	5	340-460	8.5	400	7.2	>96	16	22	110
7-20	± 20	7	320-480	13	400	10	>96	12	22	140
10-15	± 15	10	340-460	17	400	14	>96	16	22	155
10-20	± 20	10	320-480	18	400	14	>96	12	22	180
15-15	± 15	15	340-460	25	400	22	>96	16	22	200
15-20	± 20	15	320-480	27	400	22	>98	12	23	310
20-15	± 15	20	340-460	34	400	29	>98	16	40	425
20-20	± 20	20	320-480	36	400	29	>98	12	51	510
30-15	± 15	30	340-460	51	400	43	>98	16	51	580
30-20	± 20	30	320-480	54	400	43	>98	12		
45-15	± 15	45	340-460	76	400	65	>98	16		
45-20	± 20	45	320-480	81	400	65	>98	12		
60-15	± 15	60	340-460	102	400	87	>98	16		
60-20	± 20	60	320-480	108	400	86	>98	12		
80-15	± 15	80	340-460	136	400	115	>98	16		
80-20	± 20	80	320-480	144	400	115	>98	12		
105-15	± 15	105	340-460	178	400	152	>98	16		
105-20	± 20	105	320-480	189	400	152	>98	12		
135-15	± 15	135	340-460	229	400	195	>98	16		

Input voltage variation range $\pm 30\%/\pm 25\%$ (the values listed in the table are referred to 400V nominal voltage)

2-30	± 30	2	280-520	4.1	400	2.9	>96	8	22	90
3-25	± 25	3	300-500	5.7	400	4.3	>96	10	22	110
3-30	± 30	3	280-520	6.1	400	4.3	>96	8	22	140
4-25	± 25	4	300-500	7.7	400	5.8	>96	10	22	155
4-30	± 30	4	280-520	8.3	400	5.8	>96	8	22	180
7-25	± 25	7	300-500	13	400	10	>96	10	22	200
7-30	± 30	7	280-520	14	400	10	>98	8	23	310
10-25	± 25	10	300-500	19	400	14	>98	10	31	425
10-30	± 30	10	280-520	21	400	14	>98	8	40	425
15-25	± 25	15	300-500	29	400	22	>98	10	40	510
15-30	± 30	15	280-520	31	400	22	>98	8	51	510
20-25	± 25	20	300-500	38	400	29	>98	10	51	580
20-30	± 30	20	280-520	41	400	29	>98	8		
30-25	± 25	30	300-500	58	400	43	>98	10		
30-30	± 30	30	280-520	62	400	43	>98	8		
45-25	± 25	45	300-500	87	400	65	>98	10		
45-30	± 30	45	280-520	93	400	65	>98	8		
60-25	± 25	60	300-500	115	400	87	>98	10		
60-30	± 30	60	280-520	124	400	87	>98	8		
80-25	± 25	80	300-500	154	400	115	>98	10		

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Type	Input voltage variation range	Rating	Input voltage range	Maximum input current	Output voltage $\pm 0.5\%$	Output current	Efficiency	Speed regulation	Cabinet	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]	Type	[kg]

Input voltage variation range **+15%/-25%** (the values listed in the table are referred to 400V nominal voltage)

4-15/25	+15/-25	4	300-460	7.7	400	5.8	>96	14	22	100
7-15/25	+15/-25	7	300-460	13	400	10	>96	14	22	130
10-15/25	+15/-25	10	300-460	19	400	14	>96	14	22	150
15-15/25	+15/-25	15	300-460	29	400	22	>98	14	23	165
20-15/25	+15/-25	20	300-460	38	400	29	>98	14	23	190
30-15/25	+15/-25	30	300-460	58	400	43	>98	14	23	220
45-15/25	+15/-25	45	300-460	87	400	65	>98	14	40	330
60-15/25	+15/-25	60	300-460	115	400	87	>98	14	40	445
80-15/25	+15/-25	80	300-460	154	400	115	>98	14	51	530
105-15/25	+15/-25	105	300-460	202	400	152	>98	14	51	600

Input voltage variation range **+15%/-35%** (the values listed in the table are referred to 400V nominal voltage)

3-15/35	+15/-35	3	260-460	6.6	400	4.3	>96	10	22	100
4-15/35	+15/-35	4	260-460	8.9	400	5.8	>96	10	22	130
7-15/35	+15/-35	7	260-460	16	400	10	>96	10	22	150
10-15/35	+15/-35	10	260-460	22	400	14	>98	10	23	165
15-15/35	+15/-35	15	260-460	33	400	22	>98	10	23	190
20-15/35	+15/-35	20	260-460	44	400	29	>98	10	23	220
30-15/35	+15/-35	30	260-460	67	400	43	>98	10	40	330
45-15/35	+15/-35	45	260-460	100	400	65	>98	10	40	445
60-15/35	+15/-35	60	260-460	133	400	87	>98	10	51	530
80-15/35	+15/-35	80	260-460	178	400	115	>98	10	51	600

Input voltage variation range **+15%/-45%** (the values listed in the table are referred to 400V nominal voltage)

2-15/45	+15/-45	2	220-460	5.3	400	2.9	>96	8	22	100
3-15/45	+15/-45	3	220-460	7.8	400	4.3	>96	8	22	130
4-15/45	+15/-45	4	220-460	10	400	5.8	>96	8	22	150
7-15/45	+15/-45	7	220-460	18	400	10	>98	8	23	165
10-15/45	+15/-45	10	220-460	26	400	14	>98	8	23	190
15-15/45	+15/-45	15	220-460	39	400	22	>98	8	23	220
20-15/45	+15/-45	20	220-460	52	400	29	>98	8	40	330
30-15/45	+15/-45	30	220-460	79	400	43	>98	8	40	445
45-15/45	+15/-45	45	220-460	118	400	65	>98	8	51	530
60-15/45	+15/-45	60	220-460	157	400	87	>98	8	51	600