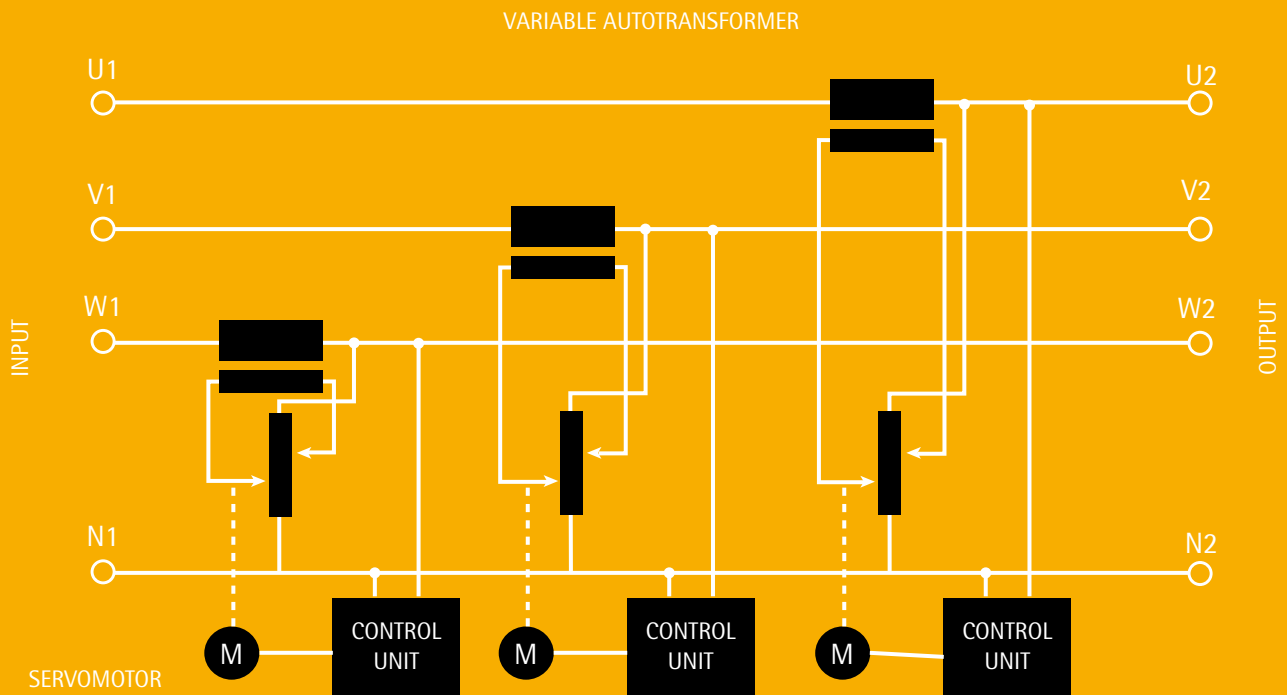




## 3PH AUTOMATIC VOLTAGE STABILISERS Y MODELS INDEPENDENT REGULATION OF EACH PHASE



The voltage regulator of Y series consists in a fully electronic control circuit, a servomotor, a variable autotransformer and a series transformer (booster) on each phase.

This system allows an independent regulation of the output voltage on each phase.

The control circuits are connected across the output of the regulator between phase and neutral. When the output voltage between phase and neutral varies from the pre-set value, an unbalance is detected by the control circuit: the signal is amplified and operates the servo driven motor of the variable autotransformer which gives the additive or subtractive voltage to the series transformer, necessary to have the correct output value.

The regulation of the output voltage is true RMS, therefore the voltage regulator is unaffected by possible harmonic distortion present on the supplying line.

This type of voltage regulator has the advantage of having no mobile contacts or brushes in series to the line, as the regulation is directly made by the series transformers.



Further, the series transformers and the variable autotransformers are only dimensioned for the power necessary to make the adjustment, and not for the entire power.

The voltage regulator is unaffected by load value, load power factor, it does not introduce any harmonic distortion (<0.2%) and has a high efficiency.

Y series AVRs are suitable for unbalanced input voltage and load unbalance among phases up to 100%.

Neutral is essential for the proper operation of Y series stabilisers. Therefore the input line must have 4 wires (3 phases + neutral). Should neutral not be available, it must be created by means of a neutral-point reactor or transformer to be installed before the AVR.



# Y MODELS

Power kVA	±10%	±15%	±20%	±25%	±30%	-35% +15%			
3					Y304AN3				
3.3	Y304AN10	Y304AN8	Y304AN6	Y304AN5	Y306AN6	Y304AN3,3AS			
4.5									
6								Y306AN7,5AS	
7.5							Y306AN9	Y308AN9	
9									
10			Y306AN12			Y308AN10,5AS			
10.5	Y306AN24	Y306AN15		Y308AN15					
12					Y310AN18				
15				Y308AN18		Y310AN21AS			
18			Y308AN21		Y310AN24				
21				Y310AN30		Y311AN30	Y311AN30AS		
24		Y310AN45							
30	Y308AN30				Y311AN36	Y312AN36	Y312AN40AS		
36				Y311AN46	Y312AN45	Y313AN46			
40	Y310AN60						Y313AN50AS		
45						Y313AN55			
46			Y311AN66	Y312AN60		Y314AN70	Y314AN75AS		
50									
55				Y313AN75	Y314AN100				
60	Y311AN105								
66									
70			Y312AN90						
75				Y314AN120		Y316AN100	Y316AN105AS		
90			Y313AN110						
100				Y316AN130	Y317AN140	Y317AN150AS			
105	Y312AN120								
110		Y314AN170							
120				Y316AN180	Y317AN180	Y318AN185	Y318AN210AS		
130	Y313AN170								
140									
150									
170									
175									
180	Y314AN260								
185			Y316AN250		Y318AN235				
210				Y317AN250					
235						Y319AN275	Y319AN310AS		
250									
260									
275									
310	Y316AN350		Y318AN315	Y319AN355					
315									
350						Y320AN410	Y320AN440AS		
355									
410			Y318AN450	Y319AN500					
440	Y317AN530								
450					Y320AN530				
500						Y322AN550	Y322AN560AS		
530			Y319AN700						
550									
560	Y318AN700		Y320AN710	Y322AN710	Y323AN700				
700									
710							Y324AN820AS		
820						Y324AN825			
825					Y323AN890				
890	Y319AN1050	Y320AN1000	Y322AN950						
950					Y326AN960				
960									
1000					Y324AN1050				
1050									

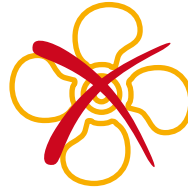
Potenza kVA	±10%	±15%	±20%	±25%	±30%	-35% +15%		
1100	Y320AN1570	Y322AN1350	Y323AN1180	Y326AN1250	Y328AN1100			
1180			Y330AN1250					
1250			Y322AN2100	Y324AN1420	Y328AN1420		Y332AN1380	
1350							Y334AN1520	
1380				Y323AN1680	Y326AN1650		Y330AN1600	
1420		Y336AN1660						
1520		Y328AN1900					Y332AN1770	Y338AN1800
1570			Y324AN2000	Y334AN1950	Y340AN1930			
1600							Y330AN2130	Y342AN2070
1650								
1660	Y338AN2300							
1680		Y332AN2360	Y340AN2500					
1770	Y328AN2700			Y334AN2600	Y342AN2660			
1800		Y324AN3150	Y336AN2840					
1900	Y330AN3000							
1930	Y332AN3350		Y338AN3080					
1950				Y340AN3300				
2000					Y342AN3550			
2070	Y334AN3700							
2100		Y328AN4200	Y336AN4000					
2130	Y338AN4350							
2300		Y330AN4750	Y340AN4600					
2350								
2360								
2500								
2600								
2660								
2700								
2840								
3000								
3080								
3150								
3300								
3350								
3550								
3700								
4000								
4200								
4350								
4600								
4750								



# MINISTAB Y THREE-PHASE 3-120 KVA



*Ministab*



## GENERAL CHARACTERISTICS

Mains	Three-phase
Nominal input voltage	380V or 400V or 415V (**)
Nominal output voltage	380V or 400V or 415V (**)
Output accuracy	±1% RMS
Frequency	50/60 Hz ±5%
Admitted load variation	0 to 100%
Admitted load unbalance	up to 50%
Admitted overload	10 times the nominal power during 10 ms, 5 times during 6 s, 2 times for 1 minute
Harmonic distortion	<0,2%
Efficiency	>98%
Cooling	natural air convection
Colour	RAL 7035
Protection degree	IP21
Installation	indoor
Standard fittings	voltmeter, pilot lamps

(\*\*) to be specified on the order. Different voltage values available on request.



## OPTIONAL FITTINGS

SHORT CIRCUIT PROTECTION

OVERLOAD PROTECTION

OVER/UNDER VOLTAGE PROTECTION

REVERSED PHASE SEQUENCE / PHASE FAILURE PROTECTION

SOFT START

MANUAL OR AUTOMATIC BY-PASS

TROPICALISED CONTROL BOARDS

DIGITAL NETWORK ANALYSER DISPLAYING THE ELECTRICAL PARAMETERS

ISOLATION TRANSFORMER

ADAPTING TRANSFORMER

NEUTRAL-POINT REACTOR

SURGE ARRESTERS

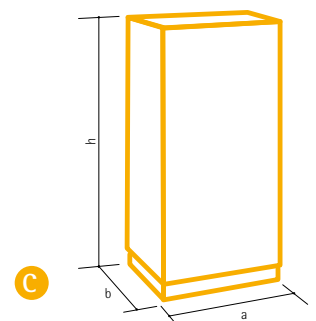
IP54 INDOOR OR OUTDOOR VERSION



## MINISTAB Y THREE-PHASE 400V 50/60 HZ INDEPENDENT REGULATION OF EACH PHASE, PROTECTION DEGREE IP21

Model	Voltage variation %	Rated power kVA	Rated current Amps	Response time ms/V	Accuracy ±%	Weight kg	Dimensions a x b x h	Figure
Y304AN3	±30	3	4	13	±1	90	650x470x1300	C
Y304AN5	±25	5	7	14				
Y304AN6	±20	6	9	16				
Y304AN8	±15	8	11,5	18				
Y304AN10	±10	10	14	21				
Y306AN6	±30	6	9	11	±1	115	650x470x1300	C
Y306AN9	±25	9	13	12				
Y306AN12	±20	12	17	14				
Y306AN15	±15	15	22	16				
Y306AN24	±10	24	35	19				
Y308AN9	±30	9	13	13	±1	135	650x470x1300	C
Y308AN15	±25	15	22	14				
Y308AN18	±20	18	26	16				
Y308AN21	±15	21	30	18				
Y308AN30	±10	30	43	21				
Y310AN18	±30	18	26	13	±1	210	650x470x1300	C
Y310AN24	±25	24	35	14				
Y310AN30	±20	30	43	16				
Y310AN45	±15	45	65	18				
Y310AN60	±10	60	87	21				
Y311AN30	±30	30	43	13	±1	240	650x650x1300	C
Y311AN36	±25	36	52	14				
Y311AN46	±20	46	66	16				
Y311AN66	±15	66	95	18				
Y311AN105	±10	105	152	21				
Y312AN36	±30	36	52	14	±1	290	650x650x1300	C
Y312AN45	±25	45	65	15				
Y312AN60	±20	60	87	24				
Y312AN90	±15	90	130	28				
Y312AN120	±10	120	173	32				

IREM AVR's are designed to deliver the declared power permanently (24/7) under the worst operating conditions, i.e. at full load, at minimum input voltage and max input current and at the declared ambient temperature.

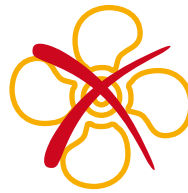




# STEROSTAB Y THREE-PHASE 46-4750 KVA



*Sterostab*



## GENERAL CHARACTERISTICS

Mains	Three-phase
Nominal input voltage	380V or 400V or 415V (**)
Nominal output voltage	380V or 400V or 415V (**)
Output accuracy	±1% RMS
Frequency	50/60 Hz ±5%
Admitted load variation	0 to 100%
Admitted load unbalance	up to 50%
Admitted overload	10 times the nominal power during 10 ms, 5 times during 6 s, 2 times for 1 minute
Harmonic distortion	<0,2%
Efficiency	>98%
Cooling	natural air convection
Colour	RAL 7035
Protection degree	IP21
Installation	indoor
Standard fittings	voltmeter, pilot lamps

(\*\*) to be specified on the order. Different voltage values available on request.

## OPTIONAL FITTINGS

SHORT CIRCUIT PROTECTION

OVERLOAD PROTECTION

OVER/UNDER VOLTAGE PROTECTION

REVERSED PHASE SEQUENCE / PHASE FAILURE PROTECTION

SOFT START

MANUAL OR AUTOMATIC BY-PASS

TROPICALISED CONTROL BOARDS

DIGITAL NETWORK ANALYSER DISPLAYING THE ELECTRICAL PARAMETERS

ISOLATION TRANSFORMER

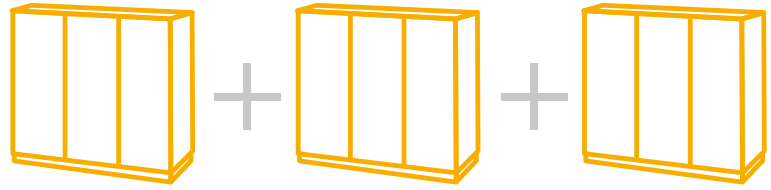
ADAPTING TRANSFORMER

NEUTRAL-POINT REACTOR

SURGE ARRESTERS

IP54 INDOOR OR OUTDOOR VERSION





IREM 3PH AVR of higher power are made in 3 sections in order to facilitate transport, handling, positioning and installation.

This kind of structure has been designed as a solution to problems related to handling of extremely big loads not common in electrical systems.

This solution particularly helps during preparation of the site, avoiding the use of expensive lifting equipment and building of special openings to access the technical room.

The voltage stabiliser is made in separate sections corresponding to the single phase units which will be connected to the plant.

No further interconnection between the different AVR sections is required, therefore the installation is perfectly similar to the connection of a voltage stabiliser made in one single cubicle.

Each single phase unit includes all the control and regulation devices that determine its autonomous and independent operation.

In the unlikely event of a failure, this type of design limits the fault propagation, ensuring the best functionality and allows to act in a targeted and selective way on the component without having to operate on the other sections.

In this case the solution allows to contain the periodic maintenance and repair costs.

## HIGHLIGHTS



### REDUCED SHIPPING COSTS

Smart solution to problems related to handling/shipping of bulky loads.

### REDUCED MAINTENANCE COSTS

Easy intervention on one section ensuring the functionality of the other units.



### EASIER HANDLING

Excellent solution avoiding the use of expensive lifting equipment and building of special openings to access the installation room.





## STEROSTAB Y THREE-PHASE 400V 50/60 HZ INDEPENDENT REGULATION OF EACH PHASE, PROTECTION DEGREE IP21

Model	Voltage variation %	Rated power kVA	Rated current Amps	Response time ms/V	Accuracy ±%	Weight kg	Dimensions a x b x h	Figure
Y313AN46	±30	46	66	12	±1	470	650x650x1800	E
Y313AN55	±25	55	79	12				
Y313AN75	±20	75	108	14				
Y313AN110	±15	110	159	16				
Y313AN170	±10	170	245	13				
Y314AN70	±30	70	101	12	±1	560	1100x650x1800	E
Y314AN100	±25	100	144	12				
Y314AN120	±20	120	173	14				
Y314AN170	±15	170	245	16				
Y314AN260	±10	260	375	18				
Y316AN100	±30	100	144	12	±1	625	1100x650x1800	E
Y316AN130	±25	130	188	12				
Y316AN180	±20	180	260	14				
Y316AN250	±15	250	361	16				
Y316AN350	±10	350	505	18				
Y317AN140	±30	140	202	15	±1	780	1100x650x1800	E
Y317AN180	±25	180	260	16				
Y317AN250	±20	250	361	17				
Y317AN350	±15	350	505	20				
Y317AN530	±10	530	765	26				
Y318AN185	±30	185	267	11	±1	1200	1100x1270x1800	E
Y318AN235	±25	235	339	12				
Y318AN315	±20	315	455	13				
Y318AN450	±15	450	650	15				
Y318AN700	±10	700	1010	19				
Y319AN275	±30	275	397	16	±1	1540	1100x1270x1800	E
Y319AN355	±25	355	512	17				
Y319AN500	±20	500	722	19				
Y319AN700	±15	700	1010	22				
Y319AN1050	±10	1050	1516	27				
Y320AN410	±30	410	592	13	±1	1980	1100x1270x1950	E
Y320AN530	±25	530	765	14				
Y320AN710	±20	710	1025	16				
Y320AN1000	±15	1000	1443	21				
Y320AN1570	±10	1570	2266	24				
Y322AN550	±30	550	794	16	±1	3000	2150x1350x2150	E
Y322AN710	±25	710	1025	18				
Y322AN950	±20	950	1371	22				
Y322AN1350	±15	1350	1949	26				
Y322AN2100	±10	2100	3031	29				
Y323AN700	±30	700	1010	16	±1	4000	2150x1350x2150	E
Y323AN890	±25	890	1285	18				
Y323AN1180	±20	1180	1703	22				
Y323AN1680	±15	1680	2425	26				
Y323AN2600	±10	2600	3753	29				
Y324AN825	±30	825	1191	16	±1	4200	2150x1350x2150	E
Y324AN1050	±25	1050	1516	18				
Y324AN1420	±20	1420	2050	22				
Y324AN2000	±15	2000	2887	26				
Y324AN3150	±10	3150	4547	29				

Model	Voltage variation %	Rated power kVA	Rated current Amps	Response time ms/V	Accuracy ±%	Weight kg	Dimensions a x b x h	Figure
Y326AN960	±30	960	1386	16	±1	5000	3 cabinets 1100x1270x1950	3E
Y326AN1250	±25	1250	1804	18				
Y326AN1650	±20	1650	2382	22				
Y326AN2350	±15	2350	3392	26				
Y326AN3700	±10	3700	5341	29				
Y328AN1100	±30	1100	1588	16	±1	5700	3 cabinets 1100x1270x1950	3E
Y328AN1420	±25	1420	2050	18				
Y328AN1900	±20	1900	2742	22				
Y328AN2700	±15	2700	3897	26				
Y328AN4200	±10	4200	6062	29				
Y330AN1250	±30	1250	1804	16	±1	6600	3 cabinets 1100x1270x1950	3E
Y330AN1600	±25	1600	2309	18				
Y330AN2130	±20	2130	3074	22				
Y330AN3000	±15	3000	4330	26				
Y330AN4750	±10	4750	6856	29				
Y332AN1380	±30	1380	1992	18	±1	7200	3 cabinets 1500x1350x2150	3E
Y332AN1770	±25	1770	2555	20				
Y332AN2360	±20	2360	3406	23				
Y332AN3350	±15	3350	4835	27				
Y334AN1520	±30	1520	2194	18				
Y334AN1950	±25	1950	2815	20				
Y334AN2600	±20	2600	3753	23				
Y334AN3700	±15	3700	5341	27				
Y336AN1660	±30	1660	2396	18	±1	8600	3 cabinets 1500x1350x2150	3E
Y336AN2130	±25	2130	3074	20				
Y336AN2840	±20	2840	4099	23				
Y336AN4000	±15	4000	5774	27				
Y338AN1800	±30	1800	2598	18				
Y338AN2300	±25	2300	3320	20				
Y338AN3080	±20	3080	4446	23				
Y338AN4350	±15	4350	6279	27				
Y340AN1930	±30	1930	2786	18	±1	9900	4 cabinets 2150x1350x2150	4E
Y340AN2500	±25	2500	3609	20				
Y340AN3300	±20	3300	4763	23				
Y340AN4600	±15	4600	6640	27				
Y342AN2070	±30	2070	2988	18				
Y342AN2660	±25	2660	3839	20				
Y342AN3550	±20	3550	5124	23				

IREM AVR's are designed to deliver the declared power permanently (24/7) under the worst operating conditions, i.e. at full load, at minimum input voltage and max input current and at the declared ambient temperature.

