DBW/SBW Series High-Power Compensated Voltage Stabilizer

1 Overview

The product is suitable for applications with voltage regulation required such as large electrical equipment and machine tool equipment in industrial and mining enterprises, post and telecommunication, railway, medicine, precise instruments in computer room, elevators, air conditioner, and household appliances.

2 Type Designation

□ B W — □ — kVA

- kVA — Rated capacity
- □ — With "F" is separate phase regulation
- W — Voltage stabilizer
- B — Compensation type
- □ — S-three phase D-single phase

3 Technical Parameters

Input voltage	Single phase: 220V Input range 176V~264V	Three phase: 380V Input range 304V~456V
Output voltage	Single-phase: 220V	Three-phase: 380V
Voltage stabilizing accuracy	±(1.5~5)% (factory set value ± 3%)	±(1.5~5)% (factory set value ± 3%)
Frequency	50Hz~ 60Hz	50Hz~ 60Hz
Response speed	≤1.5s (when input voltage fluctuation is 15V)	≤1.5s (when input voltage fluctuation is 25V)
Insulaiton resistance	≥3MΩ	≥3MΩ
Output protection	Shut down automatically when the output voltage exceeds 250V	Shut down automatically when the output voltage exceeds 430V

Notes:

1. The voltage stabilizer with three phase 380 voltage regulated to 220V or 200V can be customized according to the customer requirements; the supported voltage regulator with voltage stabilization and regulation function such as three phase 220V voltage regulated to 220, 380 or 480V can also be customized.

2. The ultra-low voltage type stabilizer can be customized according to the voltage environmental conditions at the customer's working site.

4 Operating Conditions

4.1 Ambient temperature: -5~+40℃.

4.2 Altitude: Not exceed 1,000 meters.

4.3 Relative humidity: ≤90% (when the ambient temperature is +20℃).

4.4 Installation site: The well ventilated and dry indoors site where there is no chemical gas or other corrosive medium that causes serious destroy to the insulation performance of voltage regulator, and no vibration, bumps, or sunlight exposure is required.

4.5 If inconsistent with the above specified special working conditions, the users need to contact our company for confirmation through the negotiation.

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5 Specification, Dimensions

Model	Rated capacity (kVA)	Dimensions (L x W x H) (mm)
SBW-30kVA	30	580 X 750 X 1270
SBW-50kVA	50	620 X 800 X 1300
SBW-80kVA	80	620 X 850 X 1460
SBW-100kVA	100	620 X 850 X 1460
SBW-150kVA	150	700 X 1000 X 1670
SBW-180kVA	180	700 X 1000 X 1670
SBW-200kVA	200	700 X 1000 X 1670
SBW-250kVA	250	800 X 1100 X 1850
SBW-320kVA	320	800 X 1100 X 1850
SBW-400kVA	400	1200 X 1100 X 1950
SBW-500kVA	500	1200 X 1100 X 1950
SBW-600kVA	600	1300 X 1150 X 1950
SBW-F-800kVA	800	850 X 1100 X 2100
SBW-F-1000kVA	1000	850 X 1100 X 2100
SBW-F-1250kVA	1250	950 X 1100 X 2200
SBW-F-1500kVA	1500	950 X 1300 X 2200
DBW-20kVA	20	580 X 750 X 1200
DBW-30kVA	30	580 X 750 X 1200
DBW-50kVA	50	620 X 800 X 1230
DBW-70kVA	70	620 X 850 X 1390
DBW-100kVA	100	620 X 850 X 1390
DBW-150kVA	150	700 X 1000 X 1600
DBW-200kVA	200	700 X 1000 X 1600

6 Features

6.1 With “Mains supply/Voltage regulation” manual switching function: when the mains supply works smoothly with slight voltage fluctuation, it can be switched to the “Mains supply” direct mode, saving power consumption and extending service life.

6.2 With overvoltage alarm and auto shutdown protection in case of delay: When the input voltage increases greatly or there is other fault to cause that the output voltage of voltage regulator exceeds the rated value, or when the single-phase voltage exceeds 240V or three-phase voltage exceeds 420V, the equipment will stop automatically after 3-minute delay for protection with an alarm issued to prompt the user for timely inspection for troubleshooting.

6.3 Auto startup function after power-on in case of power outage (customized): The machine can work automatically to recover power supply after power-on when power supply stops instantaneous in the power grid, and there is no need of person to be on duty.

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7 Ordering Notice

7.1 Selection

It is recommended to select the rated capacity of voltage regulator according to the following calculation formula: S=P S'/cosφ. S – Actual rated capacity required of voltage regulator; P – Load power at user end; S′ - Safety factor; cosφ – Power factor.

7.2 Power factor:

7.2.1 Pure resistance load: The power factor generally is cosφ≈1 (such as incandescent lamp, electric furnace, electric oven, electric heating room, resistance load box, and water heater).

7.2.2 Inductive or capacitive load: The power factor generally is cosφ≈0.6~0.8 (such as computer, motor, refrigerator, freezer, air conditioning, exhaust fan, hydraulic machine, gas pump, bending machine, grinding machine, punching machine, press machine, color printing, screen printing, spot welding, electric welding, spark, chip mounter, transformer, capacitive compensating tank, production line in production workshop, and radio and television equipment).

7.2.3 Integrated load: The power factor generally is cosφ≈0.6~0.7 (such as integrated load in factory, hotels, and household appliances).

7.3 Safety factor:

7.3.1 In the inductive or capacitive load environment, the impact influence of large load starting current on the voltage regulator shall be considered when selection, so "S'" shall take 2~3 times safety factor.

7.3.2 If the working site is outdoor place, the transmission and distribution line is far from the site (300m ~ 800m) (such as building site and tunnel), and the load equipment starts and stops frequently and works intermittently (for example, pile driving machinery, dedicated transfer pump of tunnel, crane, tunnel blower, loader, roadheader, large air compressor, and large electric welding machine are impact loads), it is recommended that "S'" shall take 3~4 times safety factor.

7.3.3 When the three-phase voltages at the working site are unbalanced, there is difference between the line voltages is about 30V, and the voltage fluctuation is severe during the power peak period and the upper and lower momentary fluctuation is about 45V, the product with three-phase partial-regulating ultra-low voltage (SBW-F model) must be customized, and it is recommended that "S'" shall take 2.5~3 times safety factor.

7.4 When three-phase voltage regulator works under the single-phase load, the single-phase load allowed per phase is 1/3 of rated nominal capacity.

7.5 When the input and output circuit of the product adopts three-phase four-wire system, the input end must be connected to the zero line.

7.6 Any special requirements by user shall be specified, and the product can be designed and produced by our company.