

# CONT 1280 kVA



# Ratings and Dimensions

| Frequency        | 50 Hz.               |           |           |           |      |      |      |      |  |
|------------------|----------------------|-----------|-----------|-----------|------|------|------|------|--|
| Wire Connection  | 12 Wire Three Pheese |           |           |           |      |      |      |      |  |
| Power Factor     | 0                    | ,8        | 0,8       |           |      | 0,8  |      | 0,8  |  |
| Winding No.      | #1                   | #125 #125 |           |           | #1   | .25  | #125 |      |  |
| Y Series Star    | 38                   | 380       |           | 100 41    |      | 15   | 440  |      |  |
| YY Parallel Star | 19                   | 90        | 200       |           | 208  |      | 220  |      |  |
| △ Series Delta   | 2                    | 20        | 2:        | 30 2      |      | 40   | 2.   | 54   |  |
|                  | kVA                  | kW        | kVA       | kW        | kVA  | kW   | kVA  | kW   |  |
| Cont. F 105/40°C | 1145                 | 916       | 1180      | 944       | 1180 | 944  | 1155 | 924  |  |
| Cont. H 125/40°C | 1230                 | 984       | 1280 1024 |           | 1280 | 1024 | 1240 | 992  |  |
| Stdby H 150/40°C | 1280                 | 1024      | 1320      | 1320 1056 |      | 1056 | 1300 | 104  |  |
| Stdby H 163/27°C | 1320                 | 1056      | 1350      | 1080      | 1350 | 1080 | 1325 | 1060 |  |

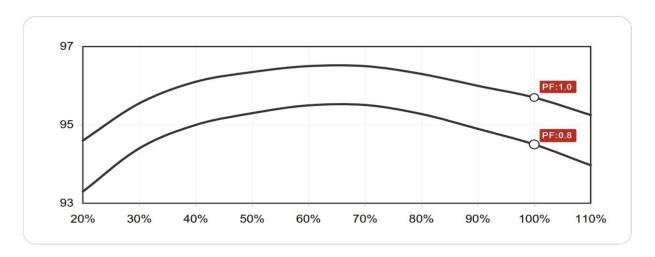
| Frequency        | 50 Hz. |            |              |    |                     |     |              |    |  |
|------------------|--------|------------|--------------|----|---------------------|-----|--------------|----|--|
| Wire Connection  |        | 12 Wire Si | ngle Phase   |    | 4 Wire Single Phase |     |              |    |  |
| Power Factor     | 0      | ,8         | 1            |    |                     | 0,8 |              | 1  |  |
| Winding No.      | #1     | 25         |              |    | #41                 |     | #4           | 41 |  |
| ΔΔ Double Delta  | 220-23 | 0-240V     | 220-230-240V |    | 220-230-240V        |     | 220-230-240V |    |  |
|                  | kVA    | kW         | kVA          | kW | kVA                 | kW  | kVA          | kW |  |
| Cont. F 105/40°C | -      | -          | -            | -  | -                   | 1   | -            | -  |  |
| Cont. H 125/40°C | -      | -          |              |    | -                   | -   | -            | -  |  |
| Stdby H 150/40°C | -      | -          |              |    | -                   | -   | -            | -  |  |
| Stdby H 163/27°C | -      | -          | -            | -  | -                   | -   | -            | -  |  |

| Frequency        | 60 Hz.               |          |           |      |      |      |      |      |  |
|------------------|----------------------|----------|-----------|------|------|------|------|------|--|
| Wire Connection  | 12 Wire Three Pheese |          |           |      |      |      |      |      |  |
| Power Factor     | 0                    | ,8       | 0         | ,8   | 0    | ,8   | 0,8  |      |  |
| Winding No.      | #1                   | 125 #125 |           |      | #1   | 25   | #125 |      |  |
| Y Series Star    | 4:                   | 16       | 5 440     |      |      | 50   | 480  |      |  |
| YY Parallel Star | 20                   | 08       | 220       |      | 230  |      | 240  |      |  |
| △ Series Delta   | 24                   | 40       | 2!        | 54   | 266  |      | 277  |      |  |
|                  | kVA                  | kW       | kVA       | kW   | kVA  | kW   | kVA  | kW   |  |
| Cont. F 105/40°C | 1280                 | 1024     | 1400      | 1120 | 1410 | 1128 | 1420 | 1136 |  |
| Cont. H 125/40°C | 1380                 | 1104     | 1500 1200 |      | 1520 | 1216 | 1530 | 1224 |  |
| Stdby H 150/40°C | 1430                 | 1144     | 1570 1256 |      | 1580 | 1264 | 1595 | 1276 |  |
| Stdby H 163/27°C | 1470                 | 1176     | 1612      | 1290 | 1624 | 1299 | 1635 | 1308 |  |

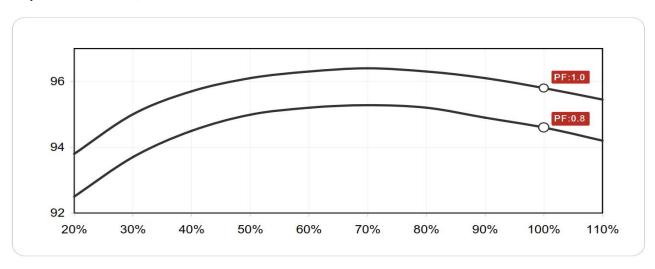
| Frequency        | 60 Hz.               |          |      |     |                     |     |      |    |  |
|------------------|----------------------|----------|------|-----|---------------------|-----|------|----|--|
| Wire Connection  | 12 Wire Single Phase |          |      |     | 4 Wire Single Phase |     |      |    |  |
| Power Factor     | 0                    | ,8       | 1    |     | 0                   | ,8  | 1    |    |  |
| Winding No.      | #1                   | .25 #125 |      | #42 |                     | #42 |      |    |  |
| ΔΔ Double Delta  | 24                   | 0V       | 240V |     | 240V                |     | 240V |    |  |
|                  | kVA                  | kW       | kVA  | kW  | kVA                 | kW  | kVA  | kW |  |
| Cont. F 105/40°C | -                    | -        | -    | -   | -                   | -   | -    | -  |  |
| Cont. H 125/40°C | -                    | -        | -    | -   | -                   | -   | -    | -  |  |
| Stdby H 150/40°C | -                    | -        |      |     | -                   | -   | -    | -  |  |
| Stdby H 163/27°C | -                    | -        | -    | -   | -                   | -   | -    | -  |  |

## **Effiency and Motor Starting**

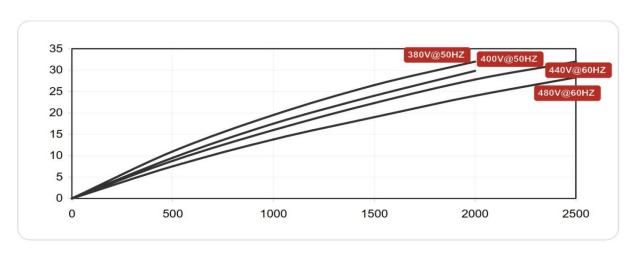
## Effiency Curve @ 50 Hz,400V



## Effiency Curves @ 60 Hz,480V



## Motor Starting Curves @ 50 Hz, 60 Hz Locked Rotor



# **Technical Data Sheet**

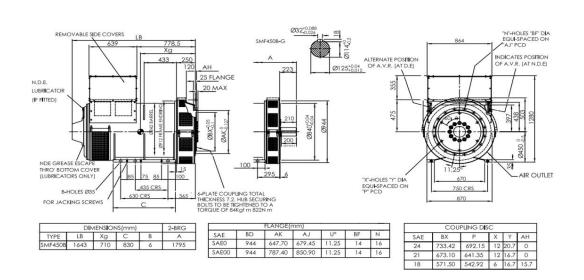
# STANDARD(S) OPTIONAL(O) INFORMATION (I) SPECIFICATION

| EXCITATION    | SELF-EXCITED   | S        | SUSTAINED SHORT-CIRCUIT: NOT AVAILABLE   |
|---------------|----------------|----------|--|
| SYSTEM        | ARAP           |          |  |
| 31312111      | PMG            |          |  |
|               | M-AVR 46       | S        | REGULATION PRECISION : +/-1,0 %  |
| AVR           | M-AVR 44       | 0        | REGULATION PRECISION : +/-1,0 %  |
| AVI           | M-AVR 32       |          |  |
|               | M-AVR 34       |          |  |
| WINDING       | Н              | S        |  |
| INSULATION    | F              |          |  |
| WINDING PITCH | 2/3            | S        | HIGHER FLEXIBILITY IN USE,BETTER MOTOR STARTING ABILITY  |
| WINDING PITCH | 5/6            | 0        | COST-EFFECTIVE POWER SUPPLY SCHEME   |
|               | STANDARD       | S        |  |
| WINDING       | "ANTI-HARSH"   | 0        | SPECIAL TREATMENT OF WINDING TO AGINST HASRH ENVIROMENT  |
| PROTECTION    | SPACE HEATER   | 0        | TO HEAT UP AIR TO REMOVE THE HUMMINITY AROUND WINDING  |
|               | THERMAL SENSOR | 0        | TO DETECT THE WINDING TEMPERATURE OR BEARING'S   |
|               | CT100          | 0        |  |
| 5454151       | CT200          |          |  |
| PARALLEL      | CT400          |          |  |
| OPERATION     | CT600          |          |  |
|               | CT1000         |          |  |
|               | 12             | S        | 12 LEADS OF WINDING ENDS,  |
| WINDING LEADS | 6              | 0        | 6 LEADS OF WINDING ENGS  |
| 1 4 4 CHINE   | IP23           | S        | STANDARD MACHINE PROTECTION  |
| MACHINE       | IP44           | 0        | TO AGINST : 1mm OBJECT AND SPLASHING WATER   |
| PROCTIION     | IP54           |          |  |
|               | 1              | 0        |  |
| POWER FACTOR  | 0,8            | S        |  |
|               | SINGLE BEARING | S        |  |
| CONNECTION TO | DOUBLE BEARING | 0        |  |
| ENGINE        | BELT DRIVE     | 0        |  |
|               | VERTICAL       |          |  |
| OVERSPEED     |                | ı        | MAX ROTATING SPEED : 2250 RPM  |
|               | <=1000m        | 1        | DERATING IS NO NEED  |
| ATTITUDE      | >1000m         | 1        | DERATING NEEDED, REFERS TO RATING BOOK   |
|               | TDF/THC        | 1        | NO LOAD < 1,5 %, NON DISTORATING BALANCED LINEAR LOAD< 5,0 %                                   |
| ELECTIRICAL   | TIF            | l i      | <50  |
| FEATRUES      | THF            | i        | <2%  |
|               | DRIVE -END     | i        | BALL 6228 - 2RS DOUBLE BEARING CONF. ONLY  |
| BEARING       | NON DRIVE END  | i        | BALL 6319- 2RS   |
|               | NET            | i        | SINGLE BEARING 2760 KG DOUBLE BEARING :2785KG  |
| WEIGHT        | GROSS          | i        | SINGLE BEARING 2700 KG DOUBLE BEARING : 2783KG  SINGLE BEARING 2860 KG DOUBLE BEARING : 2885KG |
| PACKING SIZE  | 51.055         | <u> </u> | SINGLE BLANING 2800 KG   |
| I ACKING SIZE |                | '        | SHAGEE P 5000VIIIOOVIDOO HIIII DOODEE D 5000XIIIOOXIDOO HIIII                                  |

### **Technical Data Sheet**

| STANDARD(S) OPTIONAL(O) INFORMATION (I)              |       | SPECIFICATION |      |       |      |      |      |      |  |
|--|-------|---------------|------|-------|------|------|------|------|--|
|  | 50 HZ |               |      | 60 HZ |      |      |      |      |  |
| SERIES STAR (V)                                      | 380   | 400           | 415  | 440   | 416  | 440  | 460  | 480  |  |
| PARALLEL STAR (V)                                    | 190   | 200           | 208  | 220   | 208  | 220  | 230  | 240  |  |
| SERIES DELTA (V)                                     | 220   | 230           | 240  | 254   | 240  | 254  | 266  | 277  |  |
| Xd - Direct axis synchro. Reactance unsaturated      | 3.51  | 3.26          | 3.02 | 2.64  | 4.24 | 4.14 | 3.81 | 3.53 |  |
| X'd - Direct axis transient reactance saturated.     | 0.21  | 0.20          | 0.18 | 0.16  | 0.26 | 0.25 | 0.23 | 0.22 |  |
| X"d - Direct axis sub transient reactance saturated  | 0.16  | 0.15          | 0.14 | 0.12  | 0.19 | 0.19 | 0.17 | 0.16 |  |
| Xq - Qadro. Axis synchro.reactance unsaturated.      | 2.26  | 2.10          | 1.95 | 1.70  | 2.74 | 2.67 | 2.46 | 2.28 |  |
| X"q - Quadro. Axis sub transiet reactance saturated. | 0.32  | 0.29          | 0.27 | 0.24  | 0.38 | 0.37 | 0.34 | 0.32 |  |
| X2 - Negative sequence reactance unsturated          | 0.22  | 0.21          | 0.19 | 0.17  | 0.27 | 0.26 | 0.24 | 0.23 |  |
| Xo -Zero sequence reactance unsaturated.             | 0.03  | 0.03          | 0.02 | 0.02  | 0.03 | 0.03 | 0.03 | 0.03 |  |
| T'd- Short - Circuit transiet time constant          | 0.13s |               |      |       |      |      |      |      |  |
| T"d - Sub Transiet time constant                     | 0.01s |               |      |       |      |      |      |      |  |
| T'do- Open circuit time constant                     | 2.14s |               |      |       |      |      |      |      |  |
| Ta- Armature time constant                           | 0.02s |               |      |       |      |      |      |      |  |
| Kcc - Short Circuit Ratio                            | 1/Xd  |               |      |       |      |      |      |      |  |

## **Outline Drawing**



Maranello designs, manufactures and markets the alternators which comply with the national and international standards. The alternator can be broadly used in the all-purposed application, such as backup, rental, telecom and marine, and also can be used in a.

#### **Compliant with Standards**

Other certifications can be considered on request.

#### **Electrical Features**

#### **Automatic Voltage Regulator (AVR)**

The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage.

#### 2/3 Winding Pitch

Effectively eliminates the effect of the third harmonics so as to avoid excessive neutral currents.

Varible Voltage Output

Standard voltage output can be achieved through the reconnectable 12 wire, and the beyond-the-standard voltage might be achieved by optional winding.

#### **Overload Capability**

Be capable of running at constant load limited to the insulation class with the possibility of overload up to 10% for 1 hour every 12 hours. (Continuous Duty -S1).

#### **High Efficiency and Motor Starting Capacity**

Optimizing design greatly improves the efficiency and motor starting capacity.

#### **Mechanical Features**

#### **Bracket + Flexible Disc**

The combination of casting braket and flexible disc makes product to be coupled with any brand of engine whose interface is international design

#### **Terminal Box**

Metal-made and accessed easily, it also can be customized on requests.

#### **Shaft and Key**

Rotors assembly is dymastically balanced under ISO8528 and BS5000 regulation, and double-bearing is balanced with half-key.

#### **Bearing**

Bearing is greased in the factory for life, and regreasable bearing is available on request.

#### **Machine Protection**

The standard protection is IP23, and IP44 is optional

#### **Insulation and Impregnation**

#### **H-class Insulation**

Materials used in the insulation system is classed "H", specially the copper wire applied is able to withstand 200°C

#### Vacuum Pressure Impregnation (VPI)

The advanced impregnation equipment is applied to ensure the electrical insulation and mechanical strength.

#### **Winding Protection**

#### Standard:

The winding is protected against relative humidity< 95%.

#### Optional:

The special-treated winding ("ANTI-HARSH") is recommended to apply for the environment humidity > 95%, or harsh environment such as atmospheric contaminants or salty water spr