

# MEDIUM VOLTAGE IGBT CONVERTER

**Address**

Via Archimede 18  
Sesto San Giovanni (MI) 20099  
Italy

**Phone**

T: +39 02.26.22.40.54  
F: + 39 02.24.06.945

**Email / Web**

[commerciale@secompower.it](mailto:commerciale@secompower.it)  
[info@secompower.it](mailto:info@secompower.it)  
[www.secompower.it](http://www.secompower.it)

# About Us

## FOUNDED IN 1975, SECOM IS A LEADING COMPANY FOR THE DISTRIBUTION AND PRODUCTION OF COMPONENTS AND DEVICES FOR POWER ELECTRONICS

SECOM continuously carries out new research and technical proposal in conjunction with important clients, providing technical support to meet their specific needs.

Production excellence and efficient organization allow SECOM to commit itself to providing to the market with timely and professional service in numerous sectors of static energy conversion.

Flexibility and short delivery time have become pillars to SECOM's company policy.

### WHO WE ARE



---

Over the years the company has become an important designer and manufacturer of power electronic devices for industrial automation manufacturing technologies

### WHAT WE DO



---

SECOM studies and manufactures customized solutions on behalf of its customers.

# CONTENTS

---

|          |                              |
|----------|------------------------------|
| <b>4</b> | <b>OVERVIEW</b>              |
| <b>5</b> | <b>EQUIPMENT DESCRIPTION</b> |
| <b>7</b> | <b>TECHNICAL DATA</b>        |
| <b>8</b> | <b>CABINET LAYOUT</b>        |

# IGBT CONVERTER

## OVERVIEW

---

SECOMDRIVE MV IGBT Inverter are high performance water cooled drives in three level Neutral Point Clamped (NPC) topology.

Power stage can also be used as Active Front End (AFE) regenerative converter.

SECOMDRIVE MV IGBT Inverter meet the following **requirements**:

- High dynamic performances
- High power rating at low frequencies;
- Line power factor = almost 1.0 (AFE version)
- Four-quadrant operation (AFE version).

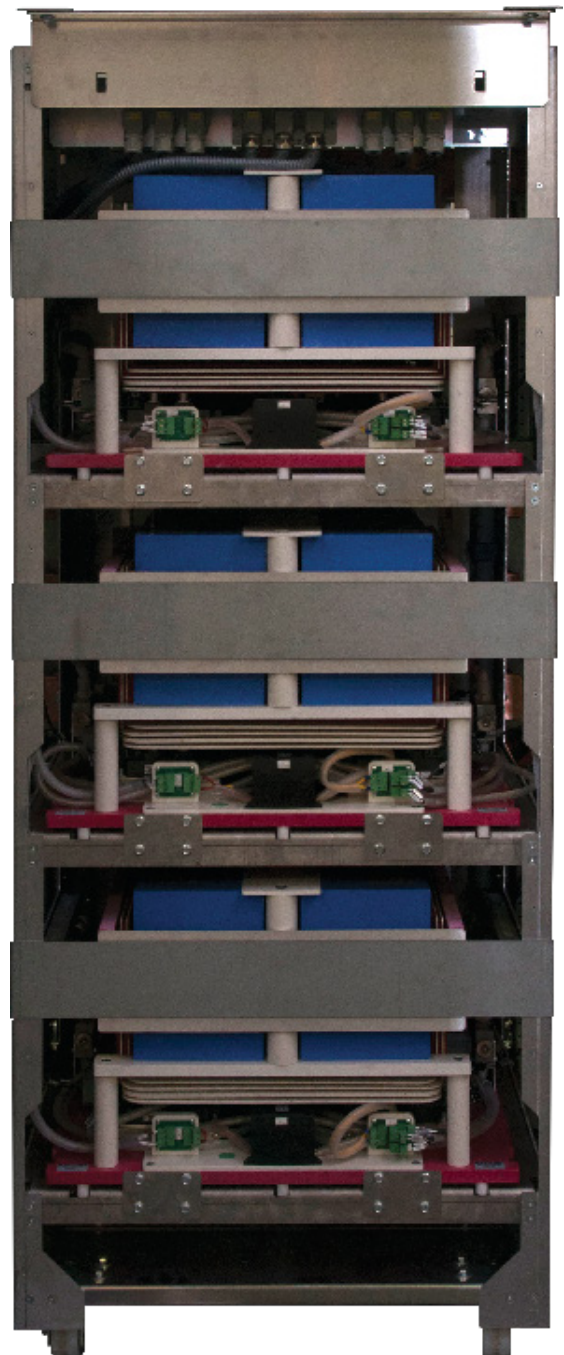
The line side and motor-side converters use IGBT modules in a range from 4 MVA to 8 MVA.

The IGBT power Stack is a complete 3-phase Inverter solution in a unique wheel stand module and each phase is on a single removable drawer.

The following converter provides a different and new answers for all AC applications where an Inverter should be used.

Typical applications:

- Pumps, fans and compressors;
- Main drives of Rolling Mills, Mill Stands, Winders;
- Mills for ceramic and cement industry;
- Marine propulsion and Thrusters.

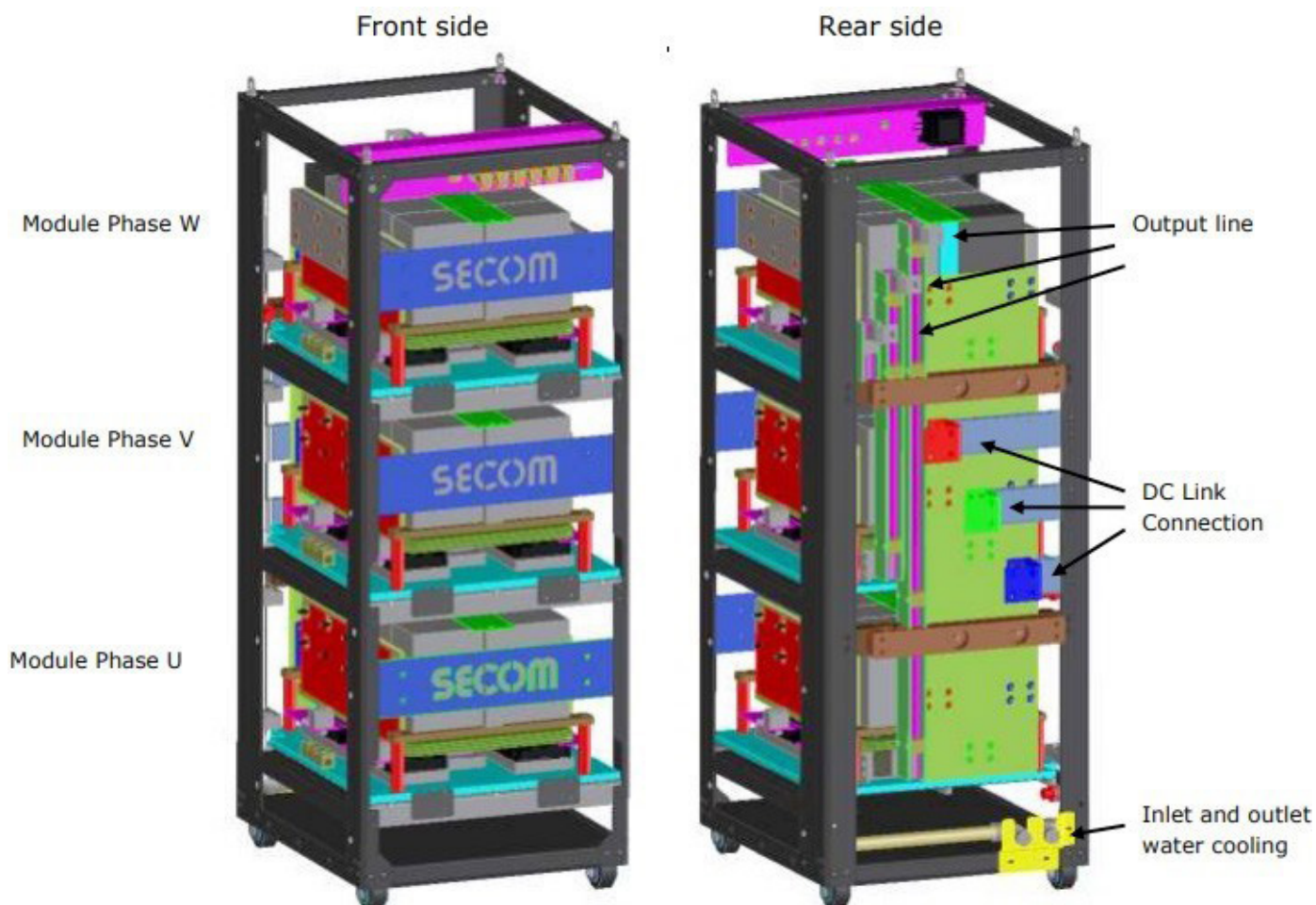


# EQUIPMENT DESCRIPTION

---

SECOMDRIVE MV IGBT converter consists of a NPC type, voltage source, IGBT Inverter. The power module is based on a modular structure.

The system is designed aiming to reliable operations, with simplified maintenance due to the wheeled IGBTs phase modules for easy servicing, with state of the art control structure and user friendly interface. The design is focused on easy maintenance and quick phase module replacement.



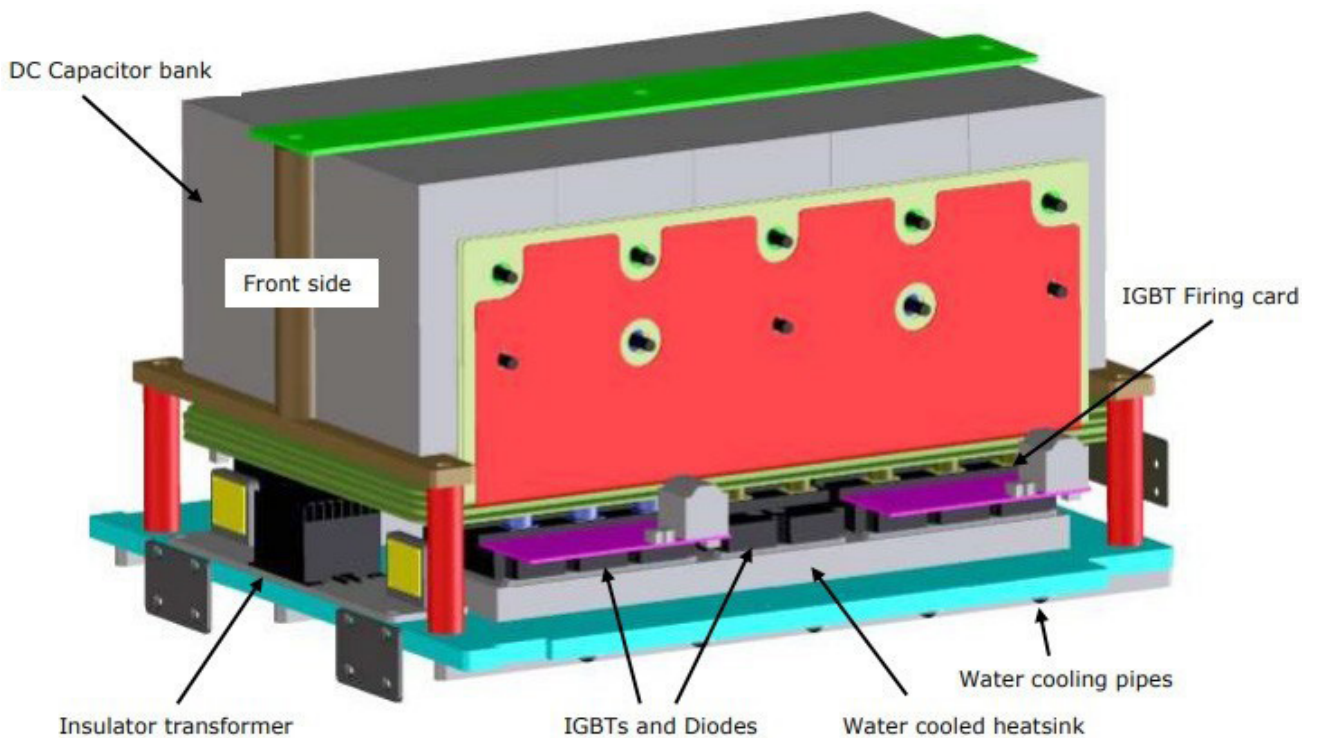
# EQUIPMENT DESCRIPTION

---

The phase module is designed to guarantee the best solution in terms of easy and fast maintenance and troubleshooting.

The Inverter Power Module is an assembly with IGBTs and FWD, Clamping Diodes, capacitors, heatsink, firing cards and Bus bar.

The heatsink is cooled by deionized water and is electrically connected to M, central point of the DC link circuit.

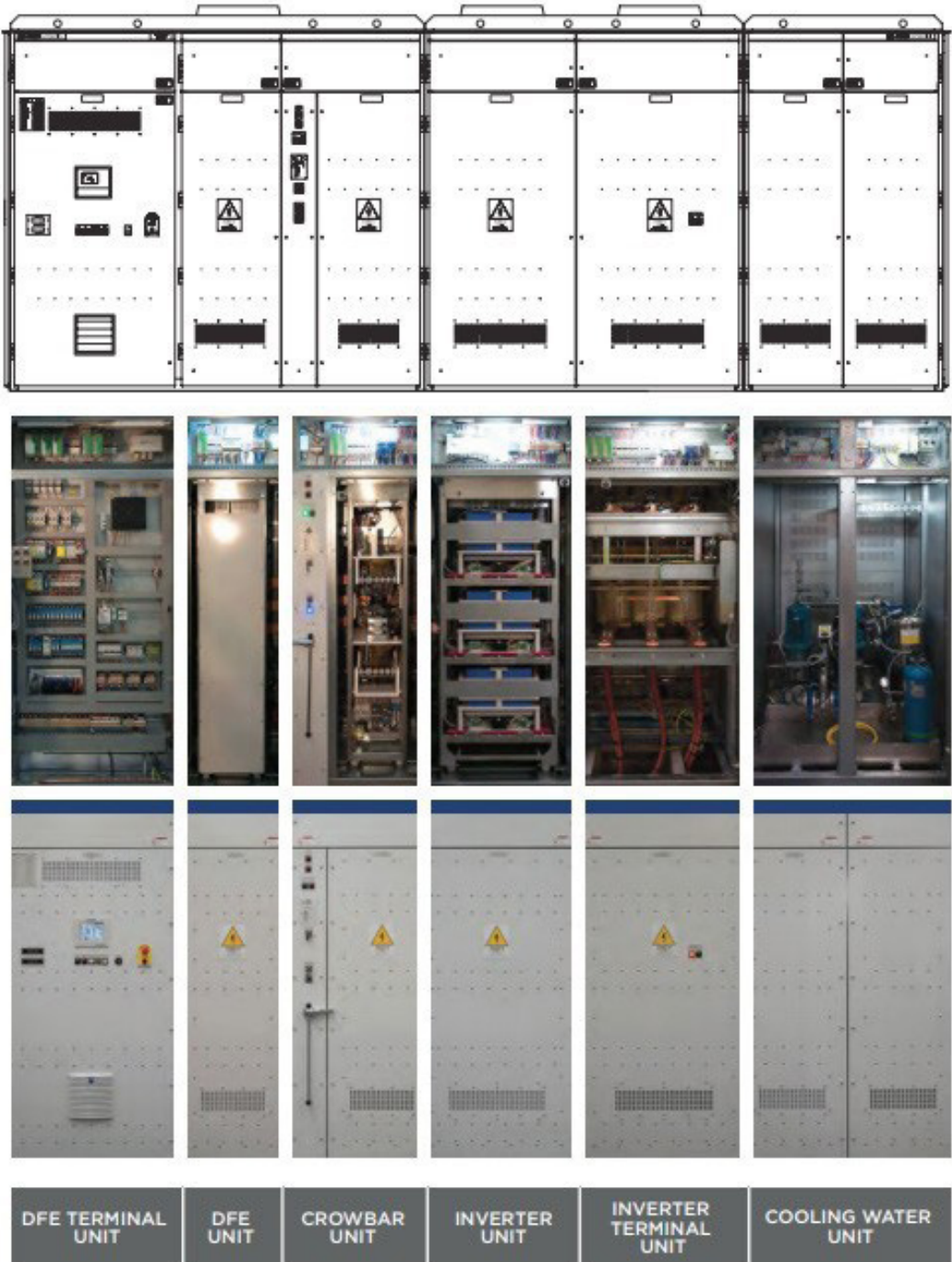


# TECHNICAL DATA

| Technical data                 |  |
|--------------------------------|--|
| Line side converter            | Diode DFE rectifier or 4Q - AFE module                             |
| Motor side converter           | IGBT INV module  |
| Unit power ratings             | 4 MVA ÷ 8 MVA  |
| Rated output current (In)      | 870 A ÷ 1400 A continuously (rms value)                            |
| Rated output voltage           | 3150 V <sub>AC</sub>   |
| Efficiency                     | > 98%  |
| Motor type                     | Induction or synchronous   |
| Main supply voltage (50/60 Hz) | 3160 V <sub>AC</sub> ± 10%   |
| Inverter output frequency      | Up to 65 Hz  |
| Input power factor             | ≥ 0.93   |
| Cooling                        | Water cooled type only   |
| Auxiliary voltages range       | 380 ÷ 480 V <sub>AC</sub> 50/60 Hz                                 |
| Protection degree              | IP00 (module)  |
| Overall module dimensions      | 697mm (W) * 750mm (D) * 1735mm (H)                                 |
| Single module weight           | 300 ÷ 450 kg   |
| Applicable standards           | IEC 60146 - IEC 61800-3/4/5<br>IEC 60204-11 - IEC 62103 - EN 62271 |



# IGBT CONVERTER CABINET LAYOUT





# IGBT CONVERTER CABINET LAYOUT

---



*Copyright Danieli Automation SpA, 2021 - Tutti i diritti riservati*

**SECOM**  
Power Electronic Equipment & Components

---

Via Archimede 18  
Sesto San Giovanni (MI), 20099

CONTACT INFO

T: +39 02.26.22.40.54  
Fx: +39 02.24.06.945

[info@secompower.com](mailto:info@secompower.com)  
[commerciale@secompower.com](mailto:commerciale@secompower.com)  
[www.secompower.it](http://www.secompower.it)