

# Healthcare Transformers



**MEDIGO transformers**  
A segment of BC Impregol product line

By BCV Technologies



## Our global offer

### 2 dry-type technologies



## 3 product families

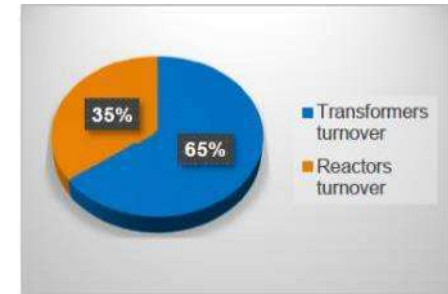
BC Imprego  
Impregnated  
transformers



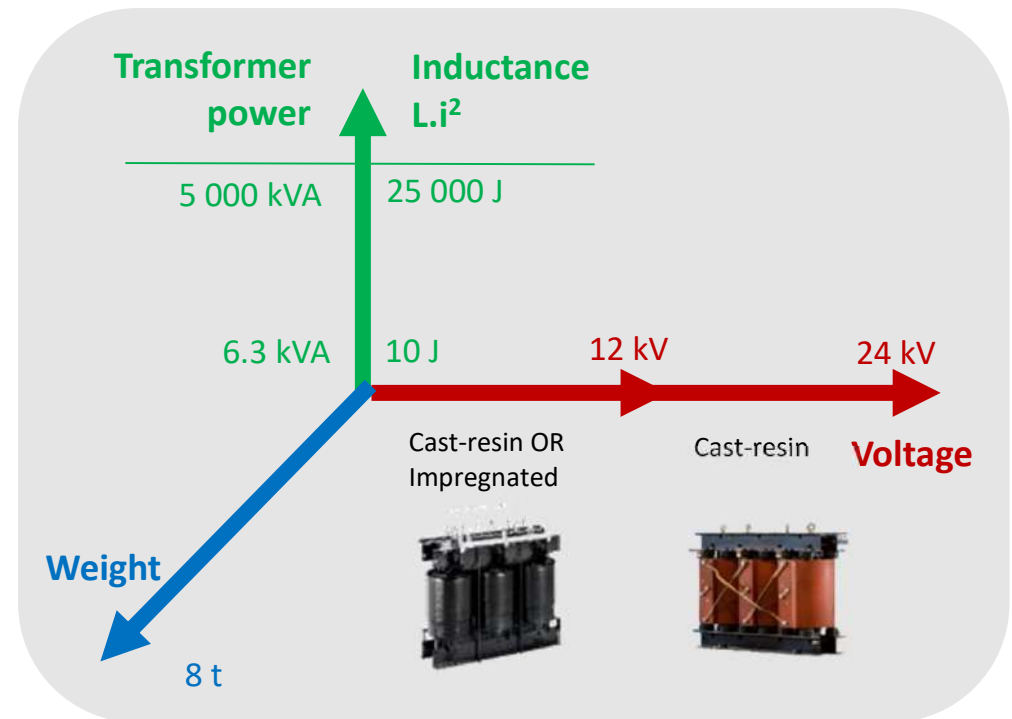
BC Strongo  
Cast resin  
transformers



BC Indugo  
dry-type  
reactors



- **Know-how:** 70-year experience
- **Expertise:** engineering, design (R&D)
- **Flexibility** and adaptability
- **Quality** → Optimized OPEX



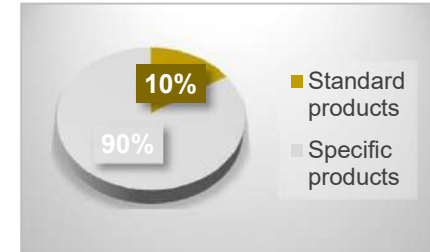
# BC Imprego – Sub-family: standard transformers

**UNITS IN STOCK (MTS)**

➔ Available in **1 or 2 DAYS**

**PARTS IN STOCK (MTO)**

➔ Available in **1 or 2 WEEKS**



## BC Imprego

### Single-phase Transformer

- Power: 6.3 to 20 kVA
- Voltage ratio: 231/115V, 231/231V, 400/115V or 400/231V



### BC Imprego (Medigo) Healthcare single-phase / Three-phase Transformer

- Power: 6.3 to 10 kVA
- Voltage ratio: 230/115-230V (single-phase) or 400/230V (three-phase transformer)



✓ **NF EN 61558-2-15**

## BC Imprego

### Three-phase Autotransformer

- Power: 10 to 400 kVA
- Voltage ratio: 231/400V or 400/231V



## BC Imprego

### Three-phase Transformer

- Power: 8 to 400 kVA
- Voltage ratio: 400/400V or 400/231V

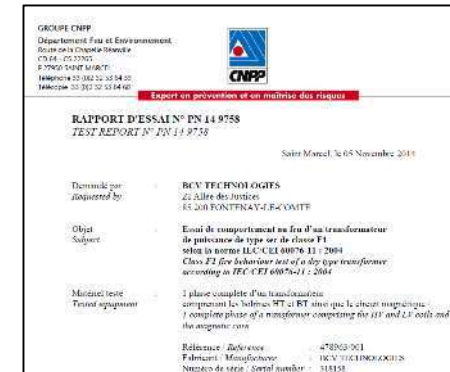


# BC Imprego - MEDIGO

## Isolation transformers for healthcare applications

### Our experience

- Ask a **referent temperature rise TYPE TEST**, proving supplier seriousness and product quality (any info required by IEC 61558-2-15 missing or erroneous - rating plates info, missing notice book... - can raise suspicion)
- Require **F1 certification** (self-extinguishing ability), crucial for such a **CRITICAL application**



- For aluminum windings, **do request** a certificate showing **APPROVAL & SAFETY of the design FROM THE TERMINALS SUPPLIER.**  
Favor **IP2x screw clamp terminals** for safety and practical reasons





# BC Imprego - MEDIGO

## Isolation transformers for healthcare applications

BC Imprego solution for medical applications

12 references, with or without enclosure  
Dry-type transformers for operating theatres:

230/115-230 V – **Single-phase transformers**

Power kVA	Catalog references	
	Without enclosure	With enclosure
6.3	IMDTR6S00	IMDTR6S21
8	IMDTR8S00	IMDTR8S21
10	IMDTR10S00	IMDTR10S21

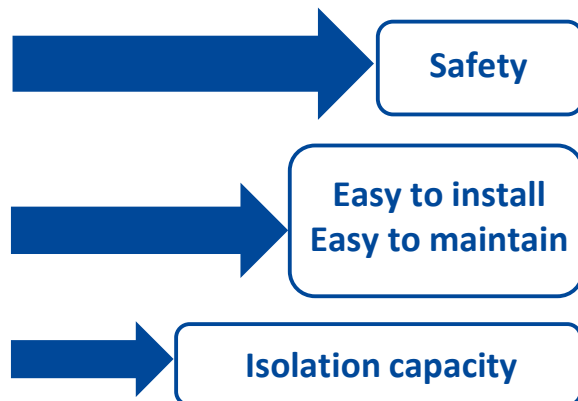
400/230 V – **Three-phase transformers**

Power kVA	Catalog references	
	Without enclosure	With enclosure
6.3	IMDTR6T00	IMDTR6T21
8	IMDTR8T00	IMDTR8T21
10	IMDTR10T00	IMDTR10T21



...so  
*you can expect &  
we provide*

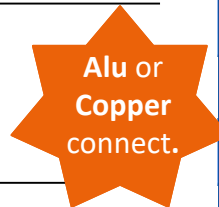
You require...



IEC 61558–2 15 compliance  
Proven low heating + **F1 cert.**

Compact design  
Easy connections  
Easy access

Electrostatic screen



# BC Imprego - MEDIGO

## Technical characteristics

- Custom-made dry single-phase and 3-phase LV/LV transformers compliant with IEC 61558-2-15
- Voltage ratio :
  - 230/115-230V with load (single-phase transformers)
  - 400/230V with load (three-phase transformers)
  - U<sub>max</sub> in the secondary 250V
- Frequency : 50/60 Hz
- Insulation level : 1,1 kV
- Insulation class : H
- Heating class: F
- Voltage drop < 5%

### Benefits:

- ✓ **Service continuity & Quality** of electrical signal, thanks to the electrostatic separation
- ✓ **Extra Safety** (F1 certif., IP2x terminals...)



- Magnetizing current < 3 %
- In-rush current < 12 I<sub>n</sub>
- Leakage current < 0,5 mA
- 1 earthing
- 2 or 4 lifting points
- Equipped with heat protection to warn of any risk of damage to the equipment (1 thermostatic plug per column: alarm level at 160°C)

# BC Imprego - MEDIGO

Two possibilities of protection



**IP00**

will be included in an isolated panel system



**IP21**

will be outside of the isolated panel system



# Schneider Electric solution

Exemple with Prisma electrical cabinet

Secure electric power distribution solution for operating theatres

## An electrical distribution switchboard designed with the best equipment from Schneider Electric

Organized by zones for efficient servicing operations and to prevent electromagnetic disturbances.

### Prisma Plus switchboard

- Physical separation between zones.
- Pivoting front panels.
- Separation of data currents and power currents.
- Power distribution by distribution blocks with spring terminals.

### 1 Connection zone for outgoing and incoming cables

- The terminals are grouped together in 3 zones identified by labels.



- Servicing operations on connections limited to a single zone.
- Clear markings for maintenance operations.

### 2 TNS system feeder zone

- Isolation switch-disconnector for maintenance operations.
- Modular circuit breakers with magnetic trip units for non-critical feeders with failsafe contact for electrical fault detection.
- 24 VDC power supply.
- When the voltage at the main distribution board drops, a safety power supply source assumes the supply automatically.



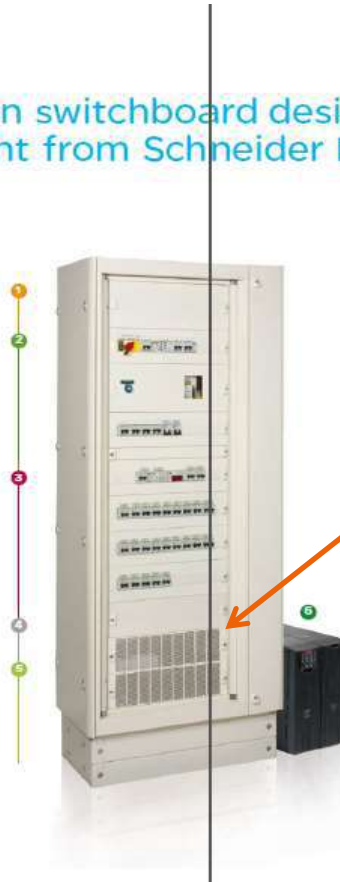
- Reliable fault detection on feeders.



- Protection of operators against direct contact.
- Servicing operations limited only to the zones concerned.
- Continuity of service and long service life with high-quality electrical contacts.



- Protection from electromagnetic disturbances, in accordance with IEC 60364-4-44 and IEC 61000-6-2 and -3 thanks to:
  - Physical separation of sensitive and interfering components, and of low and high current cables.
  - Metal screen separation between functional units.
  - Linking of exposed conductive parts to reduce the common impedance between the devices.
  - Low emissions and high immunity of the devices.



### Vigilorm HRP signaling panel

- Simple and efficient.
- Audible and visual alarm for an insulation or electrical fault (transformer overvoltage, circuit breaker tripping).
- Testing of the insulation monitoring system.
- Audible alarm stoppage.

### 3 IT system feeder zone and insulation monitoring

- Insulation monitor in compliance with the IEC 61557-8 standard and the requirements of the IEC 60364-7-710 standard.
- Modular circuit breakers with magnetic trip units for critical feeders with failsafe contact for electrical fault detection.



- No power cutoff on first fault.
- Permanent digital display of insulation impedance.
- Fault indication by failsafe contact.

### 4 Reserved panel space

- For future evolution.

### 5 Isolation transformer zone

- 6.3/0.23 and 10 kVA
- Isolation transformer for IT system in compliance with IEC 61558-2-15:
  - Strengthened galvanic isolation between primary and secondary.
  - Low leakage current between secondary and frame.
  - Limited inrush current.
  - Low no-load current and reduced voltage drop under load.
- Temperature monitoring by bimetallic strip and overload monitoring by thermal relay.



- No electric shock for patients.
- Stability of medical instrumentation power supply.
- No switchboard ventilation, no noise.

### 6 Uninterruptible power supply\*

- Protects the switchboard against mains power cuts, voltage dips, and overvoltages.
- Filters slight current fluctuations and isolates the switchboard from major mains disturbances.
- Ensures a continuous supply of power until the mains supply returns to normal.



- Quality of electric power supply.
- Continuity of service.

\* For local application only.

Medigo





# BC Imprego – MEDIGO in the world

More than **1500** HC transformers  
installed since 2011\*,

Of which:

- **75%** integrated in isolated panel

Of which:

- **89%** single-phase transformers
- **11%** three-phase transformers

Or by power:

- **36%** 10kVA
- **28%** 8kVA
- **36%** < 8kVA

\* Until mid-2019

Data not available before 2011

Installed base



Main distribution centers and destinations

CROATIA Spain France Switzerland GREAT BRITAIN HUNGARY LETTONIA Netherlands SWEDEN E.A.U Thailand INDONESIA TAIWAN VIETNAM Singapore Turkey ALGERIA

# Our quality commitments

## Certifications :



ISO 9001 - version 2015:  
until July 30<sup>th</sup>, 2023



ISO 14001 - version 2015:  
until July 30<sup>th</sup>, 2023



ISO 45001 : 2018\*  
until July 30<sup>th</sup>, 2023

\* Replaces OHSAS 18001:2007



Contact us :

[bcv-technologies@sgb-smit.group](mailto:bcv-technologies@sgb-smit.group) - Tel. +33 (0)2 51 53 22 00