

Nidec

Global Appliance

**Nidec
Global Appliance
Company Profile**



We are part of Nidec Corporation



Founded in
1973



HQ:
Kyoto, Japan



340+
Companies



40+
Countries



Over 70 M&A
(Mergers & Acquisitions)



110,000+
Employees
worldwide



\$16.2B
Net Sales (FY 23)



Information Technology



Vehicles



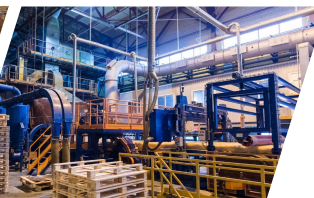
Robotics



Power Generation



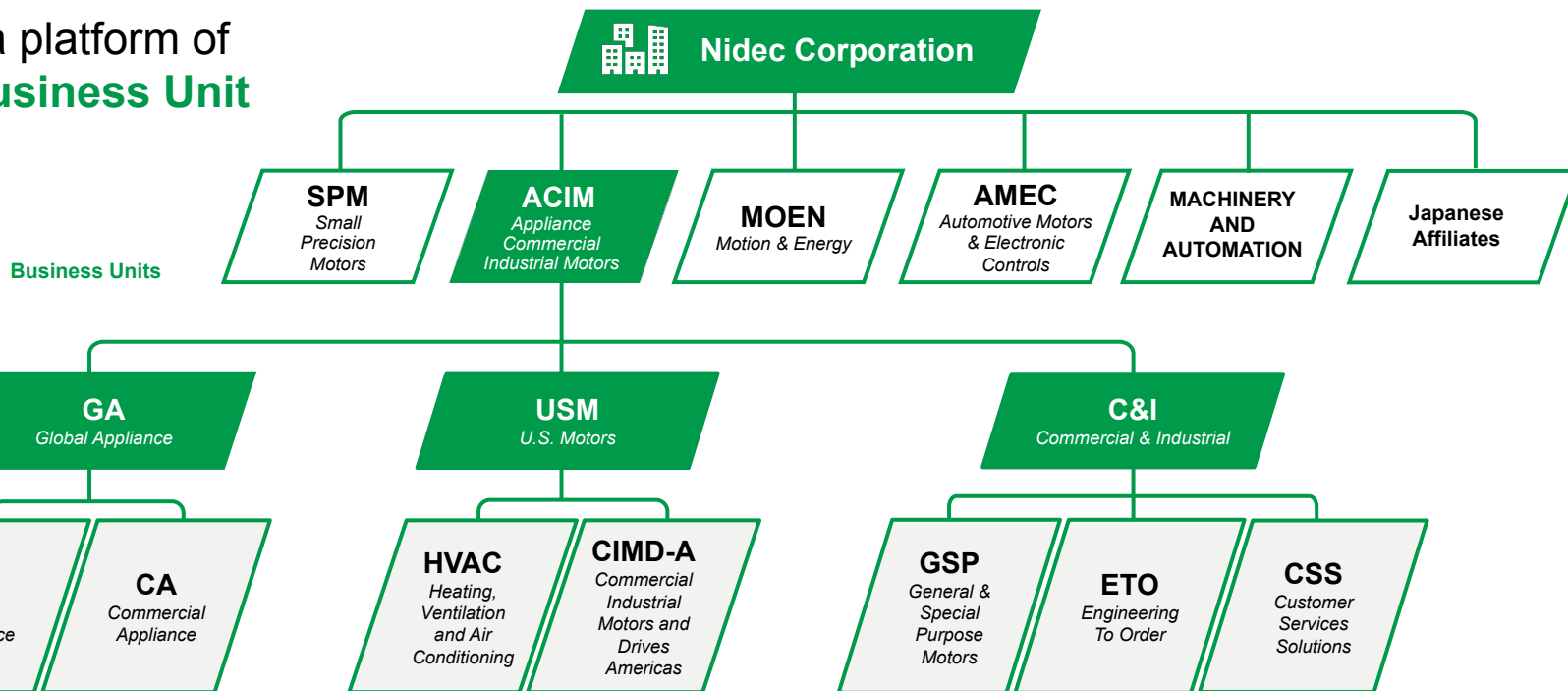
Appliances



Industry

NIDEC CORPORATION STRUCTURE

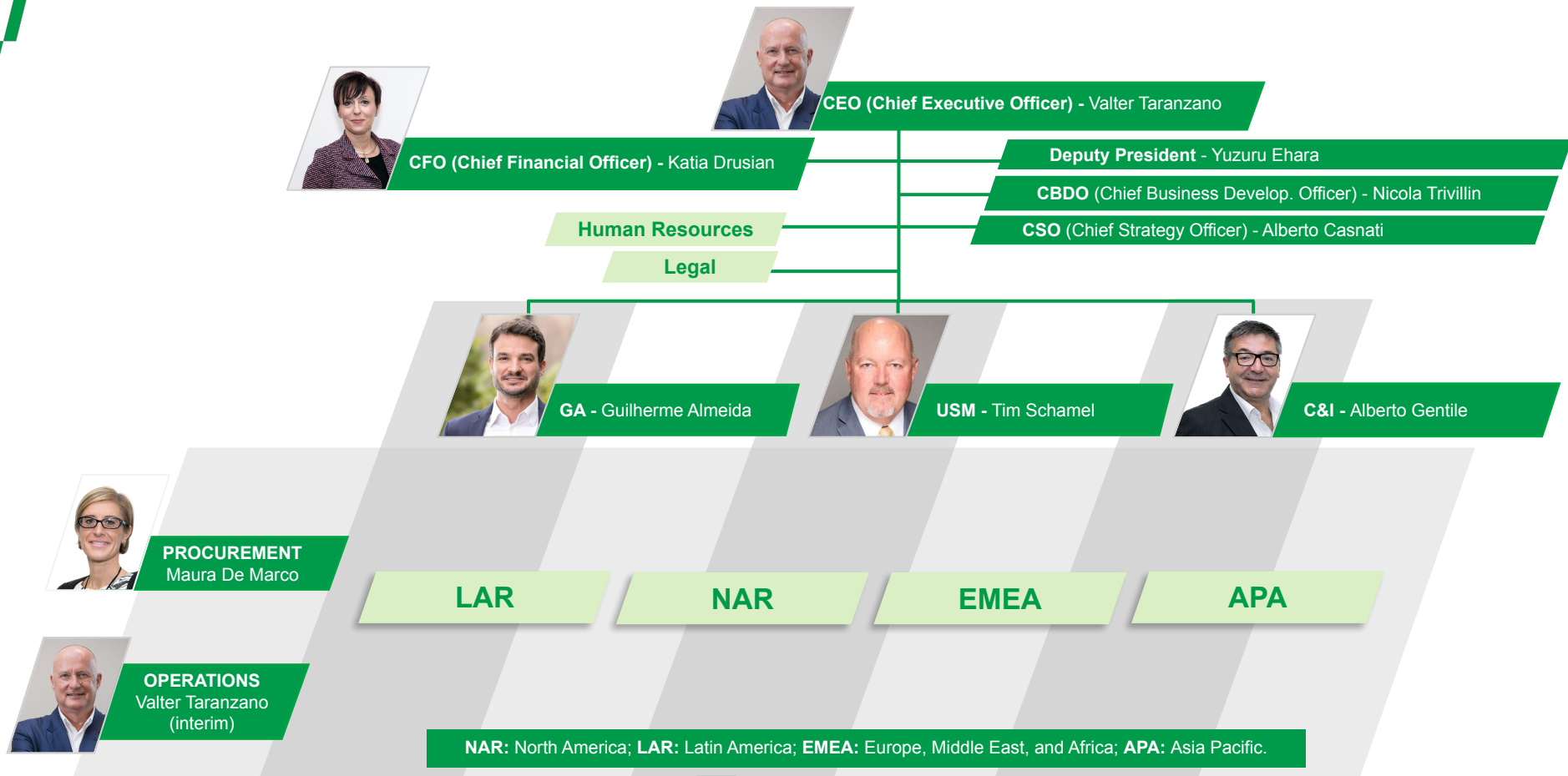
We are a platform of
ACIM Business Unit



Business Segments



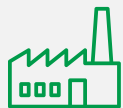
ACIM STRUCTURE



ACIM AT A GLANCE

We develop highly-efficient solutions

that empower people and industries to move towards a more sustainable world.



37
manufacturing sites



~30
business offices



+25
countries



+18,000
people



Headquarters
in Pordenone
(Italy)



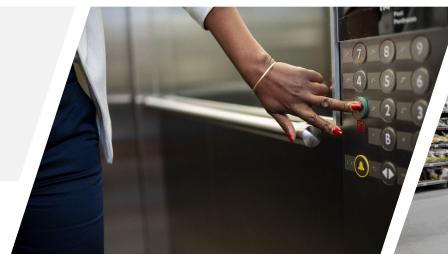
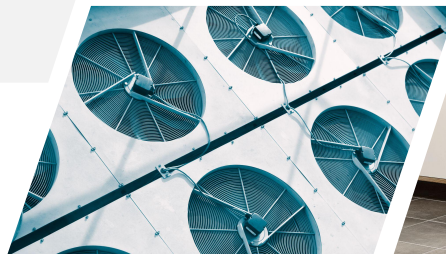
\$3B
Net Sales (FY 23)



70,000,000
products sold/year



+4,000
customers worldwide



ABOUT NIDEC GA

NIDEC GLOBAL APPLIANCE

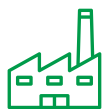
ABOUT NIDEC GA



HQs: Joinville (Brazil)



9,700 employees



14 manufacturing plants and **4** business offices across **9** countries



Annual production capacity of **80 million** motors and compressors



8 R&D Centers worldwide and around **500 engineers**



90 countries served by our products



\$1.5B
sales/year



GLOBAL APPLIANCE PLATFORM

Home and Professional Appliances



Commercial Appliances



We are a global partner for **home and commercial** appliances industries

Complete portfolio of motors, compressors, condensing units and electronics designed to deliver the best-in-class performance, differentiated by **high energy efficiency, low noise and reliability.**



OUR BRANDS

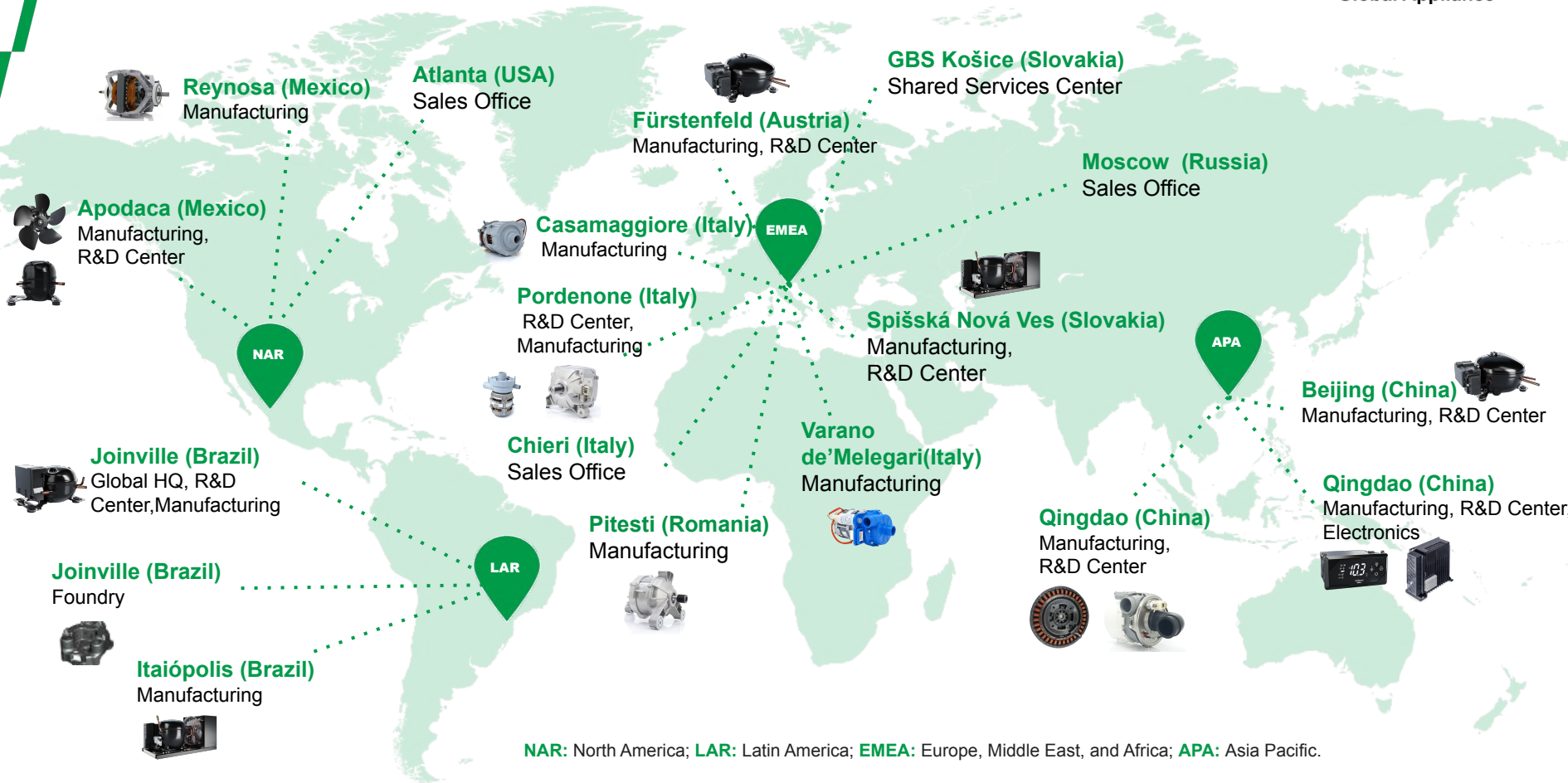
Nidec

embraco
Nidec

FR

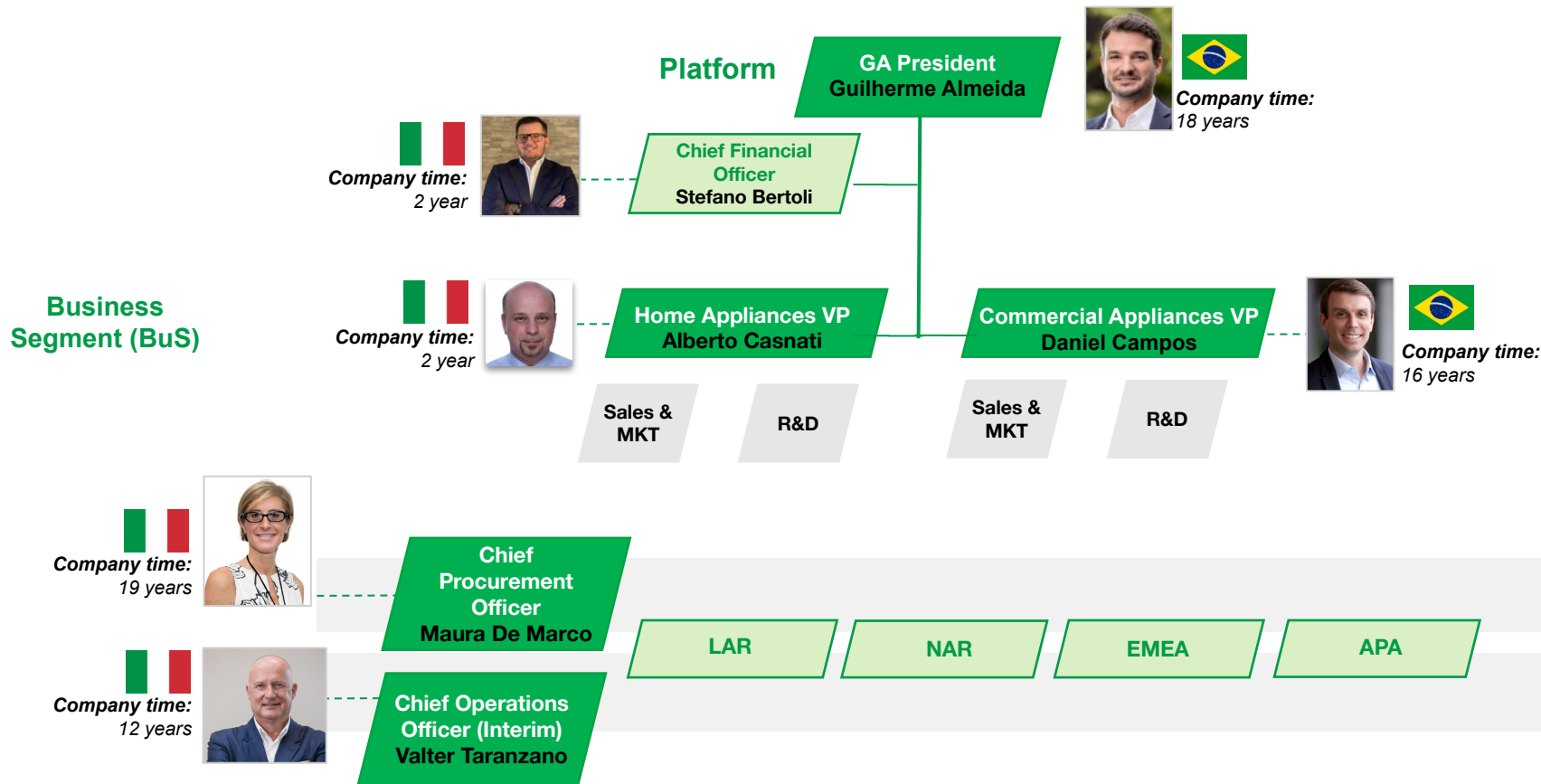
embraco
Nidec

GA GLOBAL PRESENCE



NAR: North America; **LAR:** Latin America; **EMEA:** Europe, Middle East, and Africa; **APA:** Asia Pacific.

GA STRUCTURE



GA INNOVATION DRIVERS



Energy
efficiency

Technology that enables **reduction of energy** consumption.



Natural
Refrigerants

Portfolio designed to deliver the **best in class performance**, under the safest conditions with natural refrigerants.



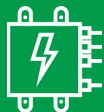
Miniaturization

Size reduction combined with **embedded technology**.



Low noise

Low noise in motors and compressors is key to **keep the consumer experience positive**.



Electronics

Design and production of inverters, controllers and EC fans **for better performance and optimized total cost of ownership**.

GA RESEARCH & DEVELOPMENT

We are differentiated by a **deep expertise in Research & Development**, capable of **delivering technology and innovation** that anticipates trends.



Robust structure for innovation

with 8 Research & Development Centers



Partnerships with Universities

in different regions in the world



Local engineering support teams

with labs and application engineers available worldwide



+570 valid patents and +4,500 in the history

Innovation is a continuous process

ABOUT GA

BUSINESS SEGMENTS AND BRANDS

GA Business Segments and Brands

Nidec
Global Appliance

Nidec
Global Appliance

Home Appliances

Compressors and motors for residential and professional appliances.

Nidec

embraco
Nidec

FIR



Commercial Appliances

Compressors, condensing units, monoblocks and electronics for commercial refrigeration.

embraco
Nidec



GA BUSINESS SEGMENT

HOME APPLIANCES

HOME APPLIANCES SEGMENT

Nidec
Global Appliance

Two steps ahead of the trends to drive appliances to a more sustainable future



Nidec

Motors for residential washing machines, dryers and dishwashers.



FR

Motors and pumps for food service, professional appliances and medical applications.



embraco
Nidec

Compressors for refrigerators and freezers.

HOME APPLIANCES BUSINESS SEGMENT

**PORTFOLIO FOR RESIDENTIAL
LAUNDRY AND KITCHEN**

SOLUTIONS FOR RESIDENTIAL LAUNDRY AND KITCHEN APPLIANCES

Nidec
Global Appliance

Nidec

We offer innovation through a complete portfolio of **motors for washing machines, dryers and dishwashers**

Excelling in technologies for **low noise, compact and energy efficient solutions**



PORTFOLIO FOR WASHING MACHINES, DRYERS AND DISHWASHERS

- ✓ Experts in the **OEM process**
- ✓ Deep understanding of the **market regulations worldwide**
- ✓ Highly advanced R&D
- ✓ **Tailored solutions**

Washing Machines

Dryer

Dishwasher

Traditional Motors



BPM Motors



THE RIGHT SOLUTION FOR EACH CUSTOMER'S NEED

We are differentiated by our **co-development** methodology with customers, which means:

- **Cost savings and improvements** in the customer's production line.
- **Working closely with customers** in the product development process to **provide proposals** with high added value.
- Formulate the **best solution** for each of our customers' products.



Washing machine motors in all types of technologies

Our range of motors for washers covers the requirements for all regions and types of appliances.

Available also as IMAC (Integrated Motor and Control).



HAWM
Horizontal axis washing machine



VAWM
Vertical axis washing machine



Universal



CIM



CIM - IMAC



BPM



BPM -
IMAC



DD



DDM



DDM gear
drive



PS
C

PRODUCTS FOR DRYERS

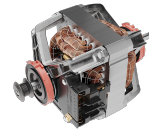
From classic solutions to second generation BPM models



DRY
Tumble
dryer



PSC



Split-Phase



BPM



BPM -
IMAC

Complete portfolio of motors for dishwashers

Also available with
electronic board and
integrated heater

DW
Dishwashers



PSC
pump



PSC & integrated
heater



BPM
with integrated heater and
electronics

Deep expertise in **electronic drives**



WM drives



- Client dedicated communication HW/SW
- Proprietary unbalance control algorithm
- Integrated or modular



Dryer motor drives



- Modular version



Dishwasher drives



- Integrated on pump

HOME APPLIANCES BUSINESS SEGMENT

**PORTFOLIO FOR PROFESSIONAL APPLIANCES
AND MEDICAL APPLICATIONS**

SOLUTIONS FOR PROFESSIONAL APPLIANCES

Nidec
Global Appliance



Traditional brand of **motors and pumps** for professional appliances with worldwide presence.

Products marked by **energy-efficiency, reliability, high performance and customization.**



SOLUTIONS FOR PROFESSIONAL KITCHENS



Nidec
Global Appliance

Low noise,
customized and
thermally optimized
**motors for food
machines** (slicers,
coffee grinders etc).



Food **Machines**



PSC
pump



PSC
pump



PSC
pump



PSC
pump



PSC
pump

SOLUTIONS FOR PROFESSIONAL KITCHENS



Nidec
Global Appliance

Compact and energy efficient **pumps for professional dishwashers**, with optimized hydraulic performances.



Professional Dishwashers



SOLUTIONS FOR PROFESSIONAL KITCHENS

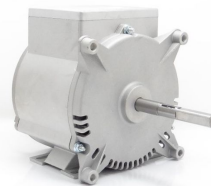


Nidec
Global Appliance

Energy efficient
**motors for
professional ovens**
developed for the best
ventilation
performance.



Professional **Ovens**



SOLUTIONS FOR MEDICAL APPLICATIONS

State of the art **motors**
for disinfection
machines used in
hospitals, dental
clinics and laboratories.

High **reliability** to
withstand aggressive
cleaning chemicals.



Adicionar **Aplicação**



SOLUTIONS FOR PROFESSIONAL LAUNDRY

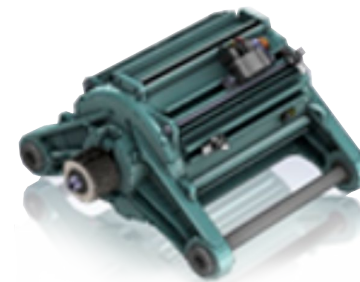


Nidec
Global Appliance

High efficiency and low noise **motors for professional washing machines:** high reliability.



Adicionar **Aplicação**



HOME APPLIANCES BUSINESS SEGMENT

PORTFOLIO FOR RESIDENTIAL REFRIGERATION

SOLUTIONS FOR RESIDENTIAL REFRIGERATION

Nidec
Global Appliance



embraco
Nidec

- ★ **High-quality and high-performance**
- ⚡ **Efficiency through constant innovation**
- 🔊 **Low noise**
- 🗨️ **Small size solutions**
- 💰 **Cost Competitive**

PORTFOLIO FOR HOME APPLIANCES

embraco
Nidec

Nidec
Global Appliance

An innovative and efficient portfolio



FIXED-SPEED

Reliability: Extended product life



EL



ES



EM



EG

VARIABLE-SPEED

Highest efficiency standards and world class low noise



FMS



FMX



VES



VEM



VEG

FUTURE:
High performance with portfolio simplification

Standardization to cover all applications' range



FMS



FMX



VES

Renowned fixed-speed

Portfolio differentiated by low noise, reliability and high efficiency levels

EM FAMILY



EM3: wide performance range

Best Seller

Years of expertise and non-stop evolution in more than

100M compressors sold in natural refrigerants

ENERGY EFFICIENCY

30 – 40%* increase over recent years

Size reduction journey with fixed-speed compressors



EG



EM3



ES



>30% of size reduction



LOW GWP SOLUTIONS:
SINCE 1994, THE PIONEER
IN ANTICIPATING FUTURE
CHALLENGES

Extra efficiency and temperature stability for refrigeration



Lowest energy consumption:
up to 50%* reduction



Miniaturization: small on size, but large on its application range



Fast Cooling: target temperature reached faster, ensuring better food preservation



Low noise

Ready to meet the most restrictive regulations on energy consumption and noise

208mm



VEG

123mm



FMS

>40%
of size
reduction

Designed to deliver high cooling capacity with small size



**in comparison to conventional compressor.
Efficiency indexes based on internal tests.*

MINIATURIZATION JOURNEY

embraco
Nidec

Nidec
Global Appliance

Discover the Versatility:

Comparing dimensions across our products

50% smaller
and 60% lighter*

VES



Weight
~6.8kg

FMS



Weight
~3.5kg

FUTURE: ATOM



Weight
~2.5kg

*comparison to VES

GA BUSINESS SEGMENT

COMMERCIAL APPLIANCES

SOLUTIONS FOR COMMERCIAL APPLIANCES

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Global Appliance



Naturally efficient: solutions with ultra low GWP



Energy efficiency: robust portfolio with low energy consumption



Innovation: tailor-made solutions for the system needs.



Reliability: extended product life



High-quality and high performance

WIDE APPLICATION RANGE FOR COMMERCIAL REFRIGERATION

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Global Appliance



Naturally
Efficient



Energy
Efficiency



Reliability

FIXED-SPEED

*Extended cooling
capacity*



EL



EM



EH



EG / F



NE



NT



NJ



SCROLL

VARIABLE-SPEED

*Excellence in
energy efficiency*



FMX



VES



FMS



VEM



FMF



VEH



VNE



VNEX

**CONDENSING
UNITS**

*Optimized design
for better
performance*



Standard portfolio



Customized solutions



BIOMA



Monoblock

ELECTRONICS

*Controllers and EC
fans*



Controller



Fan motor

COMPRESSORS HIGHLIGHTS: EM SERIES

embraco
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Nidec
Global Appliance

The World's Best Selling Compressors



Ideal for several applications



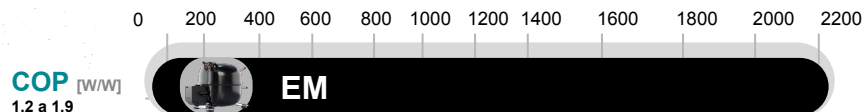
High efficiency: The most efficient reciprocating compressor in the market



Wide envelope: L/MBP Working range ^{embraco} -35°C / $+10^{\circ}\text{C}$



Smaller size: less use of raw materials & optimized space for transportation



Available in



R290



R134a



R404A



R600a

Made in
Brazil



Made in
China



COMPRESSORS HIGHLIGHTS: NEX SERIES

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Nidec

Nidec
Global Appliance

Robustness in smaller design



Ideal for several applications



High efficiency: Up to 10% more efficient*



Smaller size: 10% less height and 30% less weight*



+ 24%* cooling capacity



Lower noise level

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200

COP [W/W]
1,20 - 1,62
Ashrae LBP



Available in



R290



R134a



R404A

Made in Slovakia



Made in China



*Versus previous families

COMPRESSORS HIGHLIGHTS: FMF SERIES

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Nidec

Nidec
Global Appliance

The most efficient compressor for the commercial segment



Ideal for supermarkets and special applications



Reduces energy consumption by up to 40 % in comparison to fixed (on-off) compressors



Extended cooling capacity allows reducing the quantity of SKUs



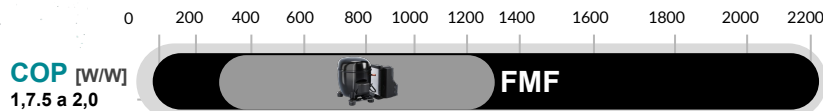
SDI*, Dual Voltage and PFC** ready



Low noise



High temperature stability



Available in

Made in Brazil



*Smart Drop In **Power Factor Correction

VNEX Series

The largest reciprocating variable speed compressor in the market



Ideal for supermarkets and special applications



embraco
Nidec

Nidec
Global Appliance



Enhanced cooling capacity covering up to 30cc fixed speed



Pioneers in the creation of large VCC reciprocating compressors



SDI, Dual Voltage, PFC and GFCI ready



Low noise



High temperature stability

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200

COP [W/W]
1,60 a 1,84
Ashrae LBP



Available in



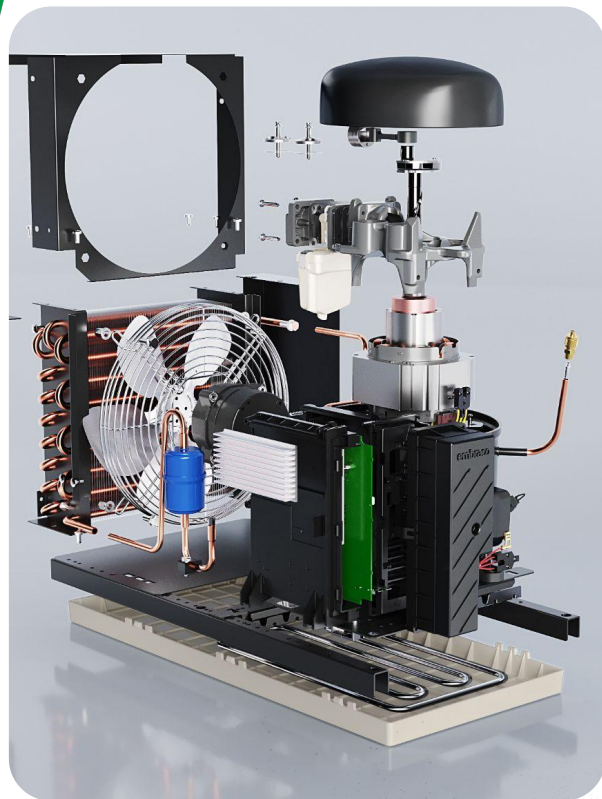
Made in Slovakia



EMBRACO ORIGINAL COOLING SOLUTIONS

embraco
Nidec

Nidec
Global Appliance



Complete portfolio for a diverse range of applications



Customization possibilities according to customer needs



Optimized condenser and compressor project for **improved performance and reliability**



With approved options for the use of **natural refrigerants**



All components feature Embraco quality

CONDENSING UNITS AND MONOBLOCKS

Complete compressor range to meet every solutions need



Power (HP)

1/10 HP

2 HP

13 HP



Standard
portfolio



Customized
units



EDP Portfolio



Monoblock



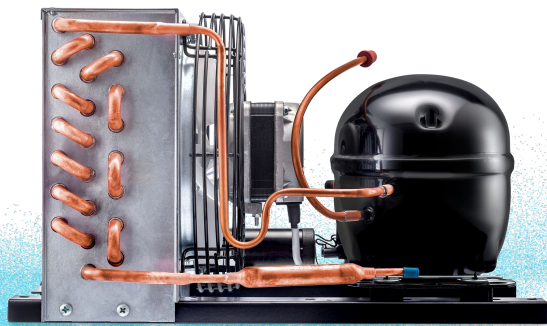
Bioma

CONDENSING UNITS: STANDARD PORTFOLIO

embraco
Nidec

Nidec
Global Appliance

Reliable portfolio of cooling solutions



Covering multiple applications



Cold room



Display cases

LESS COMPLEXITY: complete pre-assembled high pressure side solution simplifies production process and maintenance.



Customization capabilities: standard portfolio covering a wide range of applications.



Optimized condenser-compressor design leading to improved performance and reliability.



Approved for natural refrigerants use

CONDENSING UNITS: EDP PORTFOLIO

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Nidec

Nidec
Global Appliance

EDP units: high efficiency in a compact and modular design



Main applications: Food Service



Removable evaporation tray with stainless steel hot-loop to speed up evaporation



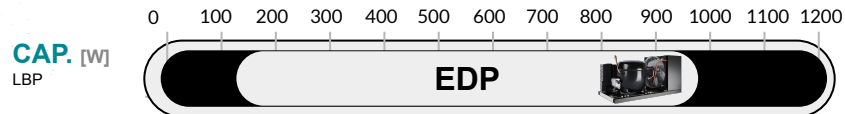
Designed for easy replacement of components



Easy mounting of the compressor using snap-on fasteners



Customizable: compact, inverter and plus versions



Available in



R290



R134a



R404A

Made in Brazil



CONDENSING UNITS: BIOMA

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The world's quietest condensing unit in its capacity range



Main applications



Silent: with a robust design that absorbs vibrations (models emit from 36 to only 28 dB)



Robust design: Stackability and longitudinal airflow

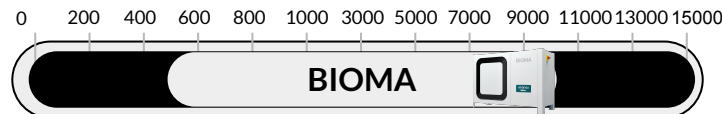


Easy access to all internal components



High-efficiency compressors with multiple refrigerant implementation

REF.
CAP. [kW]



Available in

R452A R449A R513A

Made in Slovakia



NEW: SYNC IT ALL PORTFOLIO

No one controls Embraco better than Embraco

Embraco Sync

It works **connected to You Control** and **manages the whole system** for an **optimized performance**.

Variable Speed

The compressor **saves energy by adapting** its rotation speed to the cooling demand

Optimized performance, less energy consumption and set up time reduction from weeks to days.



Embraco AIR

With an electronic motor, the fan is **energy efficient** and works with **single, multi or variable speed**.

The exclusive design allows **flexible assembly and fixation**.

YouControl

An easy interface that allows **you** to define the system's parameters, with an automatic tuning feature.



**For an in-depth look about
our company and solutions,
follow our pages:**



The Nidec logo is rendered in a bold, italicized, green sans-serif font. The letters are closely spaced, and the 'i' has a distinct dot. The entire logo is centered horizontally on the page.

Nidec

Global Appliance