

## Company Profile



# WHO WE ARE

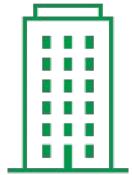
# We are part of Nidec Corporation



Founded in 1973



HQ: Kyoto, Japan



**330+**  
Companies



Mergers & Acquisitions (M&A) are the  
driving power behind growth.  
*So far, there have been over 60 M&As.*



**40+**  
Countries



**\$1 B**  
2019 Group Operating Profit



**120,000**  
Employees Worldwide



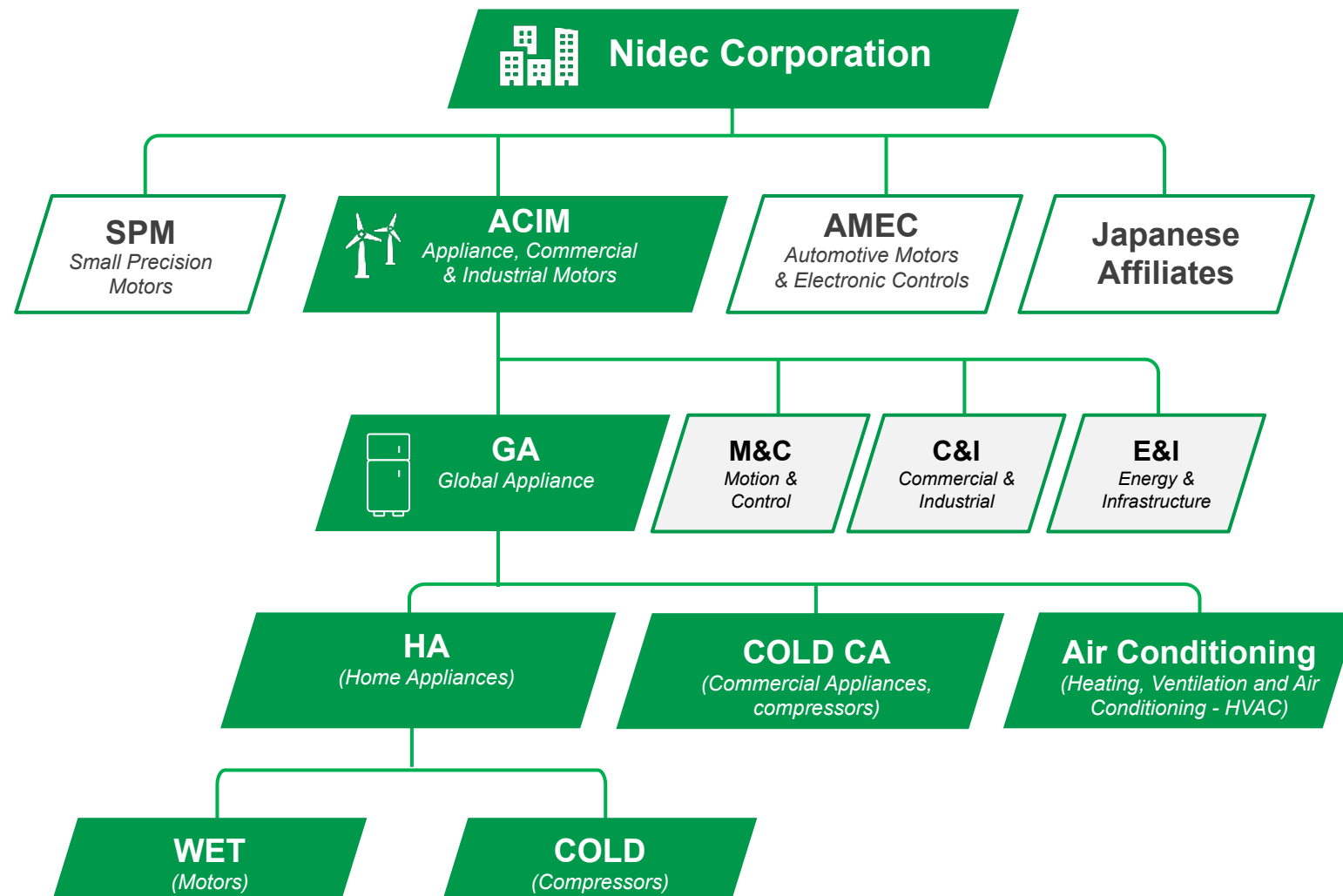
**\$14.4 B**  
2019 Group Turnover



**Shigenobu Nagamori**

Founder, Chairman of  
the Board & CEO  
at Kyoto HQ

## Business structures



Nidec Global Appliance is part of ACIM, a Nidec business division focused on appliance, commercial and industrial motors.



# We are Nidec Global Appliance, a global partner for home and commercial appliances industries



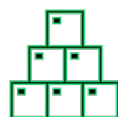
**HQs:** Joinville (Brazil) and Pordenone (Italy).



**15,000+** employees.



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



Annual production combined capacity of **70 million** motors and compressors.



**9 R&D Centers** worldwide and **600+** engineers.



**80+ countries** served by our products.



# Nidec GA organizational history

## Timeline

**2014**

- Qingdao Wet is integrated into the Global Appliance division

**2017**

- First compressor business is acquired
- Reynosa plant integrated into the Global Appliance division

**2020**

- Incorporation of HVAC
- Acquisition of Delta's (Austria) compressors product line

**2010**

- Acquisition of ACC's household motors business

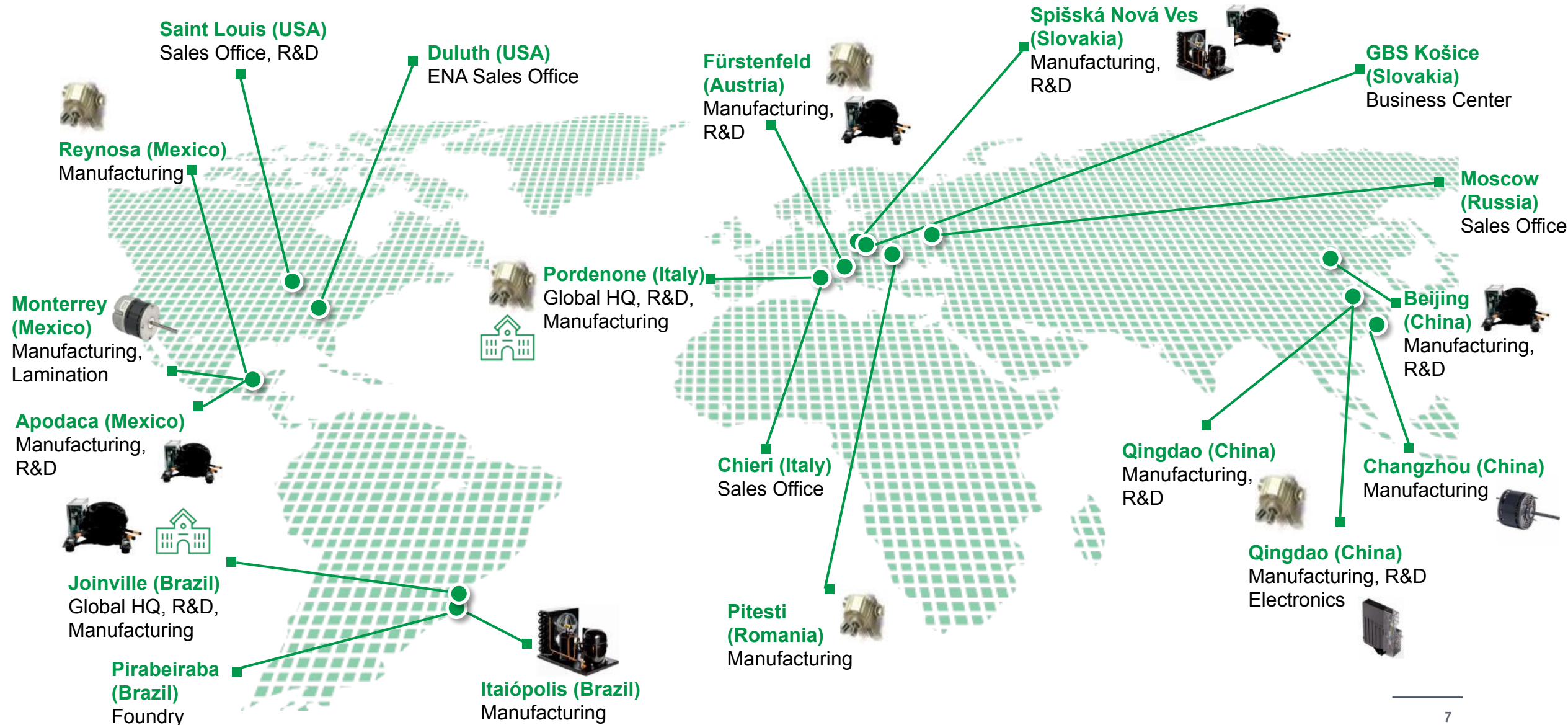
**2016**

- Acquisition of ANA IMEP, manufacturing plant located in Romania

**2019**

- Acquisition of Embraco, a global company of over 49 years
- New logo, brand architecture and brand portfolio

# Nidec GA Global Presence





## **Our purpose:** Why we exist

*To give life to essential appliances, turning people's day-to-day lives into healthier and more comfortable experiences.*

## **Our vision:** What we aim for

*To be the leading partner in Home & Commercial Appliances and Air Conditioning industries by 2025.*

## **Our culture:** How we do it everyday

*Challenge  
cost & grow  
for the future*

*Collaborate  
without  
barriers*

*Act with  
agility &  
correctness*

*Innovate  
ourselves for  
differentiation*

*Be active  
learners &  
developers*

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

## Innovation Drivers



**Energy efficiency**



**Natural Refrigerants**



**Miniaturization**

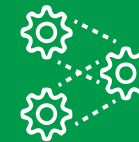
## R&D Capabilities



**9 Research & Development Centers.**



**Partnerships with universities worldwide.**



**Co-development together with our customers.**



**1500 valid patents under Nidec GA.**



# BUSINESS UNITS AND BRANDS

# Our Business Units and Brands

**Nidec**  
Global Appliance

**Nidec**  
Global Appliance

## Home Appliances

Solutions for Refrigerators  
Washing Machines,  
Dishwashers and Dryers.

**Nidec**

**embraco**  
*Nidec*

## Commercial Appliances

Compressors and Condensing  
Units for Refrigerators and  
Cooling Systems.

**embraco**  
*Nidec*

## Air Conditioning

Motors and Components for Heating,  
Ventilation and Air Conditioning  
systems (HVAC).



# HOME APPLIANCES

# Solutions for Home Appliances

**Nidec**  
Global Appliance

**Nidec**

**Motors** for washing machines,  
dryers and dishwashers.



**embraco**  
**Nidec**

**Compressors** for refrigerators.







**Motors for washing machines,  
dryers and dishwashers.**

**Recognized as energy-efficient and  
reliable**, we are differentiated by our  
co-development methodology, delivering  
technologies that are fit for the exact  
purpose of the customer.





# Complete Portfolio for Washing Machines, Dryers and Dishwashers

**Nidec motors meets a variety of customer's requirements** in terms of size, weight, low noise, efficiency, design and technology.

- Experts in the **OEM process**;
- Deep understanding of demands, characteristics and regulations of **different markets**;
- R&D area with sophisticated **testing and analysis** capabilities;
- Rapid **sample delivery**;
- **Tailored solutions**.



## Washing Machine motors to attend a wide range of market specifications

Our range for Washers covers the requirements for all Regions and type of Appliance. 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



PSC

## Different technologies for different needs



DRY  
Tumble  
dryer



PSC



Split-Phase



BPM



BPM - IMAC

## A truly global presence and highly advanced R&D

Integration of heater on motor pumps as well as electronic drive on our range of high efficient BPM solutions provides additional value to Nidec offer.

DW  
Dishwashers



PSC  
pump



PSC & integrated  
heater



BPM pump -  
IMAC



BPM  
& integrated heater

Count on our  
competence  
in electronic  
drives.



## WM drives



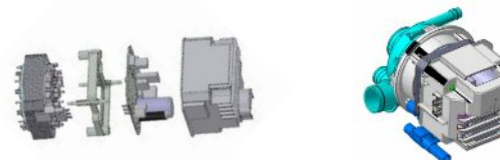
- Client dedicated communication HW/SW
- Proprietary unbalance control algorithm
- Potted

## Dryer motor drives



- Suitable for “explosive gas applications” environment (e.g. R290 – propane - in heat pump dryers)

## Dishwasher drives







## Compressors for Refrigerators



High-quality and high-performance



Efficiency through constant innovation



Low noise



More internal cabinet space



Cost Competitive



## An innovative and efficient portfolio



### Fixed Speed

- **Reliability:** Product life extension
- **Efficiency** and robustness



DELTA



ES



EM



EG

### Variable Speed

- **Highest efficiency** standards
- World class **low noise**
- Precise **temperature control**



FMS



FMX



VES



VEM

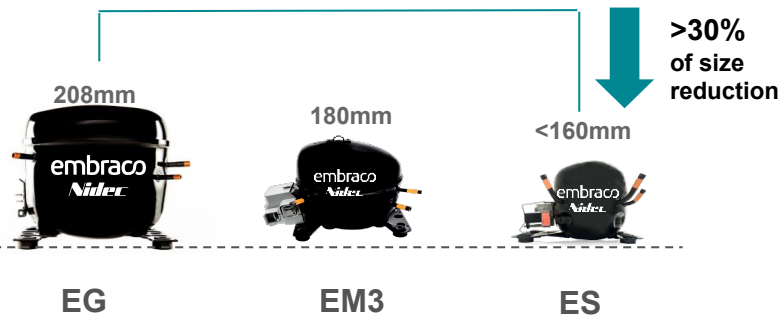


VEG

## Best Seller

Fixed speed portfolio is differentiated by low noise, reliability and high efficiency levels

### Platform Evolution



**LOW GWP SOLUTIONS: FOR 25 YEARS, THE PIONEER IN ANTICIPATING FUTURE CHALLENGES**



### Fixed Speed

#### Energy efficiency

30 – 40%\* increase over recent years

#### Best Seller

Years of expertise and non-stop evolution in more than 500M compressors sold



## Efficiency and temperature stability for refrigeration

### Variable Speed



**Lowest energy consumption** due to inverter technology, up to 45%\* lower energy consumption



**Miniaturization:** Platforms that are small on size, but large on its application range



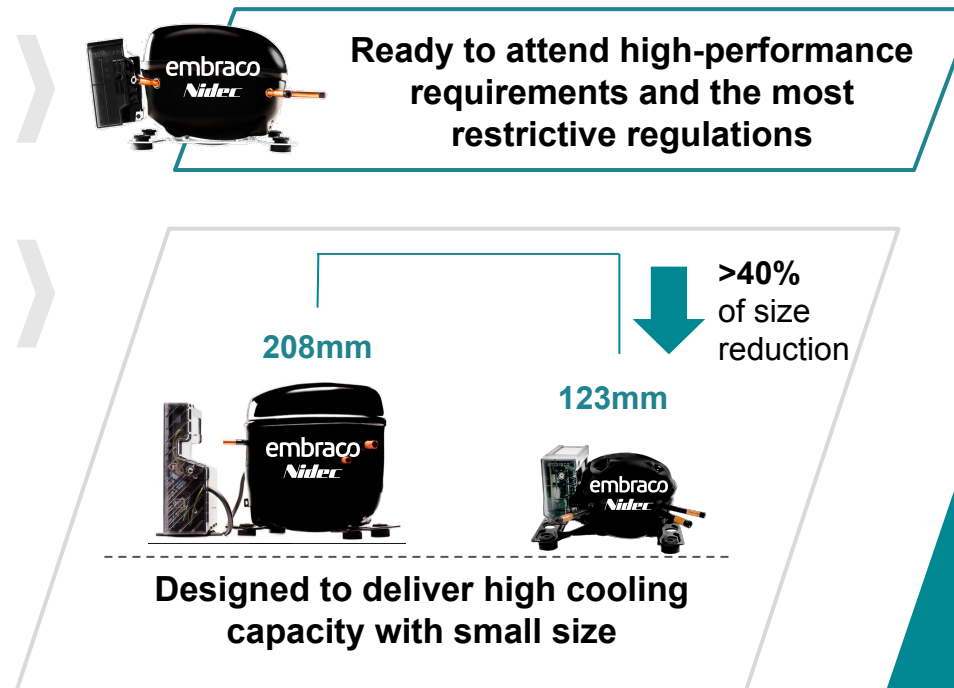
**Fast Cooling:** Target temperature reached faster, ensuring better food preservation



**Low noise**



**LOW GWP  
SOLUTIONS**



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



# COMMERCIAL APPLIANCES





## Solutions for Commercial Appliances



**Naturally Efficient:** ultra low GWP and better performance.



**Energy efficiency:** robust portfolio with low energy consumption



**Innovation:** tailor-made solutions for the system needs.



**Reliability:** product life extension



**High-quality and high performance**



# Embraco portfolio for commercial refrigeration



Merchandiser



Food service | food retail



Medical

Fixed  
Speed



EM



EH



F



NE



EM



EH



F



NE



NT



NJ



SCROLL



NE



NT



NJ

Variable  
Speed



FMF



FMX



VES



FMF



VNE



FMX



VNE



FMF

Condensing  
Units /  
systems



Cond. Unit



Cond. Unit



Plug n' cool



Falcon



Bioma



Cond. Unit

RECIPROCATING: 2-38CC | SCROLL: 2-13HP AVAILABLE FOR LBP, MBP, HBP APPLICATIONS

# Food Retail & Food Service: Products customized to the market's needs

## BIOMA

Easy maintenance, fast installation and easy cleaning  
for refrigeration professionals.



embraco  
**Nidec**

Designed for cold  
rooms and outdoor  
applications

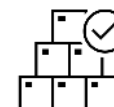


Up to **50% of noise  
reduction** versus  
next best alternative

Urban areas of the European  
market require a product that is:



**Silent**



**Stackable**

Smart design with  
**three access doors**



## Plug n' Cool

Easy maintenance for cold storage

A complete plug in (self-contained) solution designed for food retail, differentiated by a low total cost of ownership



embraco  
Nidec

Perfect fit  
for reach in



**Accelerates the installation process in 70%\***



**Energy efficient:** it reduces energy consumption by 30%\*



**Modular design,** it's great for small family business as well as large wholesalers



**LOW GWP SOLUTION:** for 25 year, the pioneer in anticipate market trends

*\*Efficiency indexes based on customer inputs.*



## Condensing Units

Reliable portfolio of cooling solutions

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



**embraco**  
**Nidec**

Covering multiple applications



Cold room



Display cases



Standard portfolio covering a wide range of applications. Embraco also has customization capabilities.



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



With options approved for natural refrigerants use

*All components rely on Embraco quality.*



## FMF series

**The most efficient compressor for the commercial segment.**

The variable speed technology keeps the temperature stable and modulates the capacity, according to the application demand.



Ideal for supermarkets and special applications



Reach-in



Medical refrigeration



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



High temperature stability



Low noise



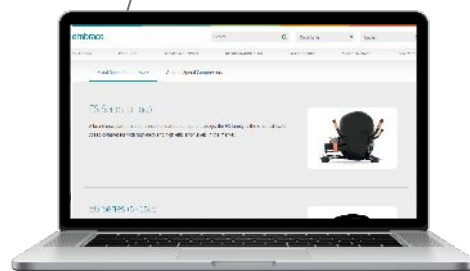
Dual-voltage (110V-220V / 50-60Hz).



Designed to operate with natural refrigerants (R290)

# Embraco Digital Tools for Refrigeration Market

## Website



[www.embraco.com](http://www.embraco.com)

**Website in 11 languages:**  
focused on product application.

## Technical Blog for refrigeration market



<http://refrigerationclub.com/>

**Refrigeration Club:**  
educational and technical content

## Product Selector Software



<http://products.embraco.com/>

**Product Selector (PSS):**  
online catalog

## Embraco Toolbox App



**Audience:**  
Free tool for installers  
**Main content:**  
7 features / 10  
languages available for  
Android and iOS.

**Social Media channels**



# AIR CONDITIONING (HVAC)



Rely on **US**

## Heating, Ventilation and Air Conditioning (HVAC)

With roots dating back to 1908, our motor brands are leaders in the North American market, offering a full complement of induction or EC motors designed for single or three phase applications.

**Get to know the main attributes** of our portfolio of components for the HVAC industry:



**Technology & Innovation**



**Reliability**



**Low lead time**





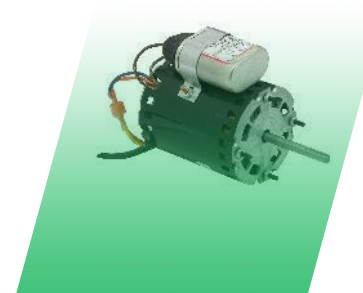
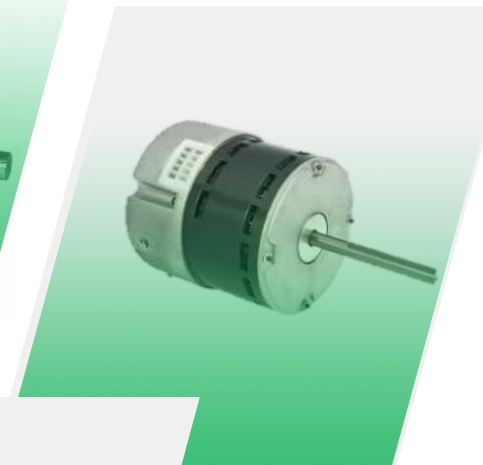
## The industry leader in reliability, distribution and support for Residential and Commercial applications

In an energy-conscious world, the U.S. MOTORS® brand continues to be a leader in innovation of new BLDC and other leading technology motors.

U.S. MOTORS® has stood for quality and innovation for more than a century. A broad product offering provides stock motors for most applications, but for specialized motors, our talented engineers will develop a specific solution for the customer.



Rely on **US**<sup>TM</sup>



Heating



Ventilation



Air Conditioning



Refrigeration



The **RESCUE®** line of HVAC motors is part of the **U.S. MOTORS®** brand product family. Ask for RESCUE®, The Ultimate Truck Stock Motor™.



**Premium brand**

## Different technologies:

**ECM: 85% EFFICIENCY**  
*higher cost / premium material inside*

**PSC: 60% EFFICIENCY**  
*price fighting motors*



## Applications



**Power Roof Ventilators**



**Air Filtration**



**Air Curtains/  
Air Doors**



**Commercial/  
Industrial Blowers**



**Prop Fans**



**Condenser Fan /  
Heat Pump**



**Energy Recovery Ventilators**





























**Air Handler**



**Furnace**

# Nidec Product Breadth in Position to Serve all OEM Motor Needs

	Induction Motors					ECM			
Commercial		 140 Frame & Larger   3-PH	 56 Frame 1-PH, 3-PH	 5.5" PSC	 PEP High Eff. PSC	 PerfectSpeed Constant CFM	 SelectTech Constant Torque	 EcoApex 48	 EcoApex 56 Frame
Heat Pump & Condensing Unit		 4.8" & 5.1" PSC	 5.5" PSC	 PEP High Eff. PSC		 EcoApex 48			
Furnace					 Draft Inducer	 PerfectSpeed Constant CFM	 SelectTech Constant Torque	 Rescue Ecotech	 FER-BPM (2020)
Air Handler		 5.5" PSC	 PEP High Eff. PSC			 PerfectSpeed Constant CFM	 SelectTech Constant Torque	 Rescue Ecotech	

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



***Nidec***

**Global Appliance**