Nidec
Global Appliance

Nidec
Global Appliance
Company Profile

Nidec at a Glance

Making the World Move

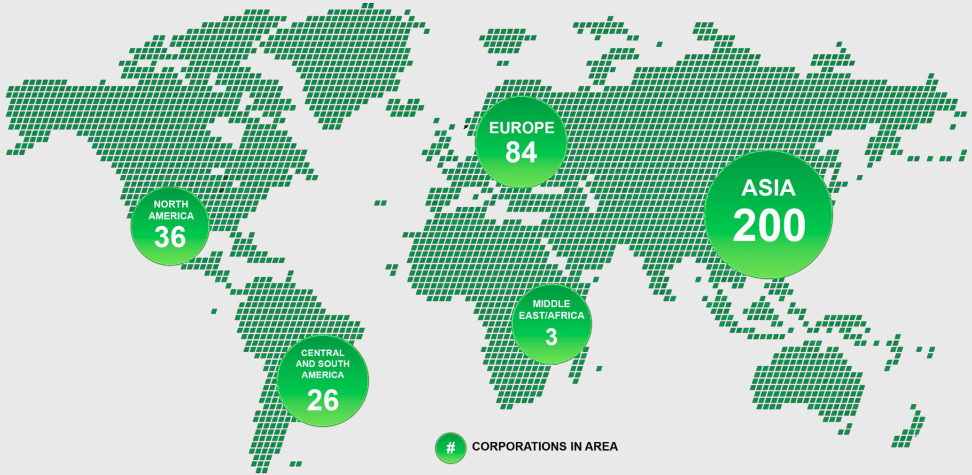
Nidec Global Appliance

The vibration in your phone, the elevator rising smoothly, the data center that runs uninterrupted, the robots that never stop, the car that glides silently, and the electricity that runs them all – **they have the power within: Nidec.**

No. 1

We are the world's leading manufacturer of electric motors and controls

1973	$17.1B	$20.9B
FOUNDED	FY2024 REVENUE	MARKET CAPITALIZATION



Diverse Portfolio, One Focus

Making the World Move

Nidec Global Appliance

25%*		**AUTOMOTIVE MOTORS & ELECTRONIC CONTROLS**	Innovating to help improve safety, environmental protection and comfort required for automobiles	Pumps	Brake motors	Steering motors
21%*		**APPLIANCE, COMMERCIAL & INDUSTRIAL MOTORS**	High performance motor and drive technology for commercial, industrial, and home appliances	Refrigeration compressors	HVAC motors	Industrial pumps
20%*		**MOTION & ENERGY**	Motors, generators, drives, and solutions for renewables, automation, infrastructure, and mobility	Power conversion system	Drive	Axial flux motor
18%*		**SMALL PRECISION MOTORS**	DC motors for all industries and applications including HDD motors	Hard disk drive (HDD)	Haptic motor	
13%*		**MACHINERY**	Machines, factory automation equipment, and measuring & testing devices	Cutting tools		
3%*		**OTHER**				

* The percentages presented here refer to Nidec consolidated totals

Diverse Portfolio, One Focus

Making the World Move

Nidec Global Appliance

AAD

13%* — **AUTOMOTIVE MOTORS & ELECTRONIC CONTROLS**

Innovating to help improve safety, environmental protection and comfort required for automobiles

Pumps

Brake motors

Steering motors

21%* — **APPLIANCE, COMMERCIAL & INDUSTRIAL MOTORS**

High performance motor and drive technology for commercial, industrial, and home appliances

Refrigeration compressors

HVAC motors

Industrial pumps

MOEN

20%* — **MOTION & ENERGY**

Motors, generators, drives, and solutions for renewables, automation, infrastructure, and mobility

Power conversion system

Drive

Axial flux motor

$8.7B in FY24 Sales
50% of Group Revenue

43,000 employees
across 3 group companies

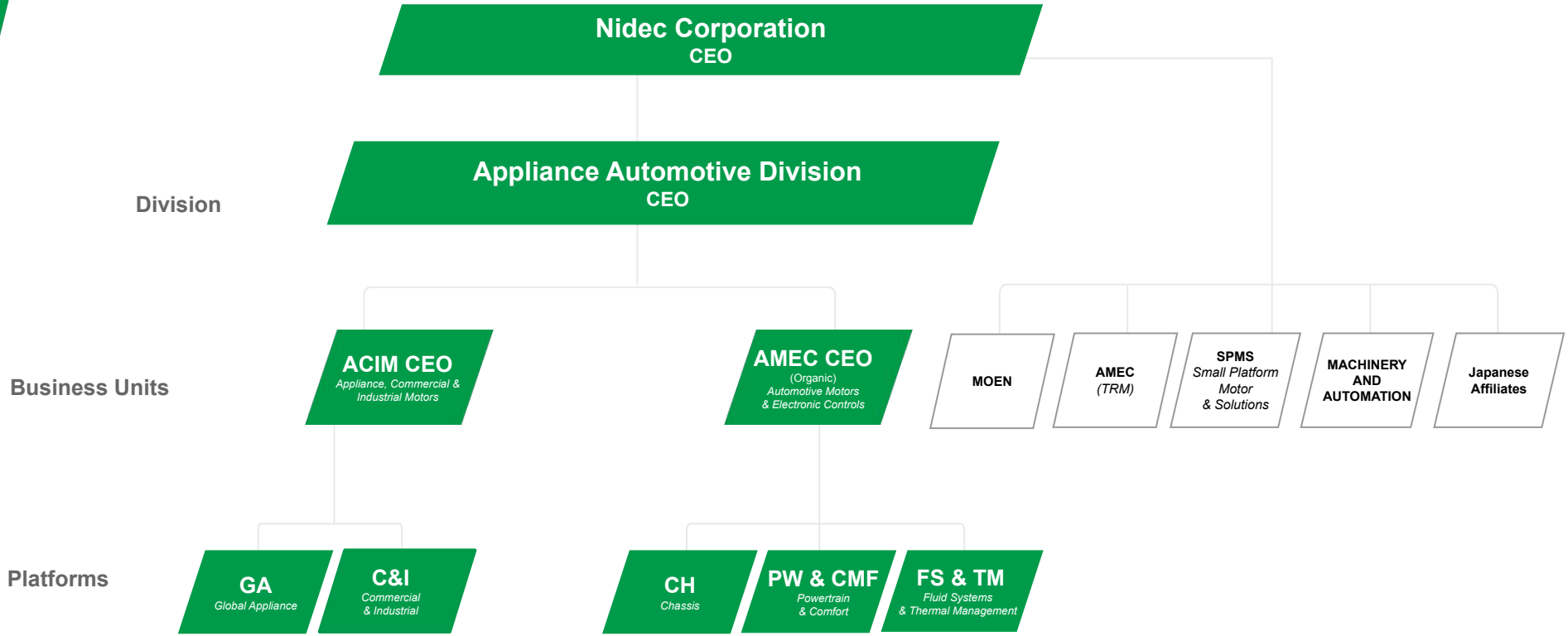
30+ countries

50+ facilities

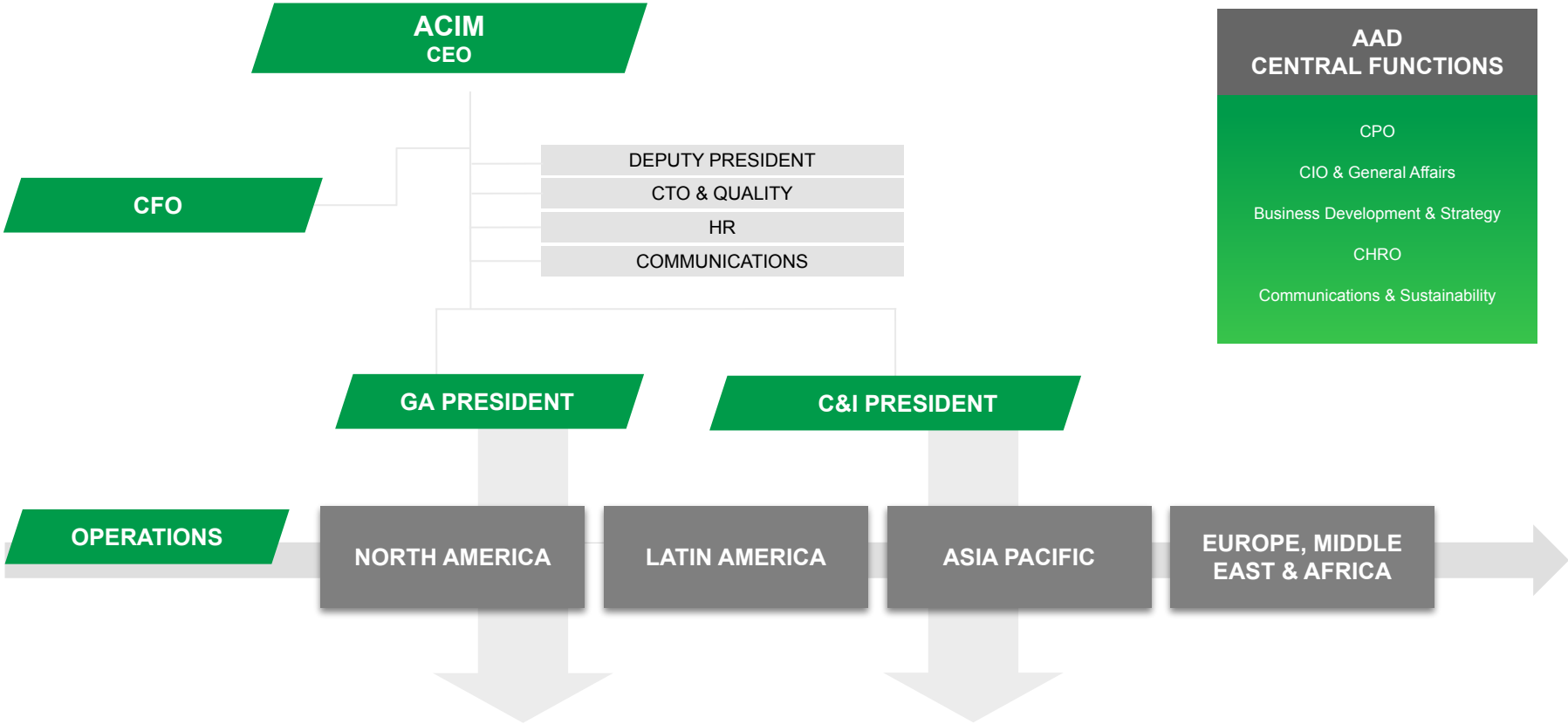
* Percentage in comparison to Nidec totals for the Appliance, Automotive (Organic), and Motion & Energy segments

Appliance Automotive Division Structure

Nidec
Global Appliance



ACIM Structure



ACIM at a glance

Nidec
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We develop highly-efficient solutions

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

32
manufacturing sites

+30
business offices

+25
countries

+ 17,000
people

Headquarters
in Pordenone
(Italy)

$3B
Net Sales (FY 24)

70,000,000
products sold/year

+ 4k
customers worldwide

Nidec
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ABOUT NIDEC GA

NIDEC GLOBAL APPLIANCE

About Nidec GA

Nidec
Global Appliance

HQs: Joinville (Brazil)

+12,400 employees

19 manufacturing plants and **5** business offices across **9** countries

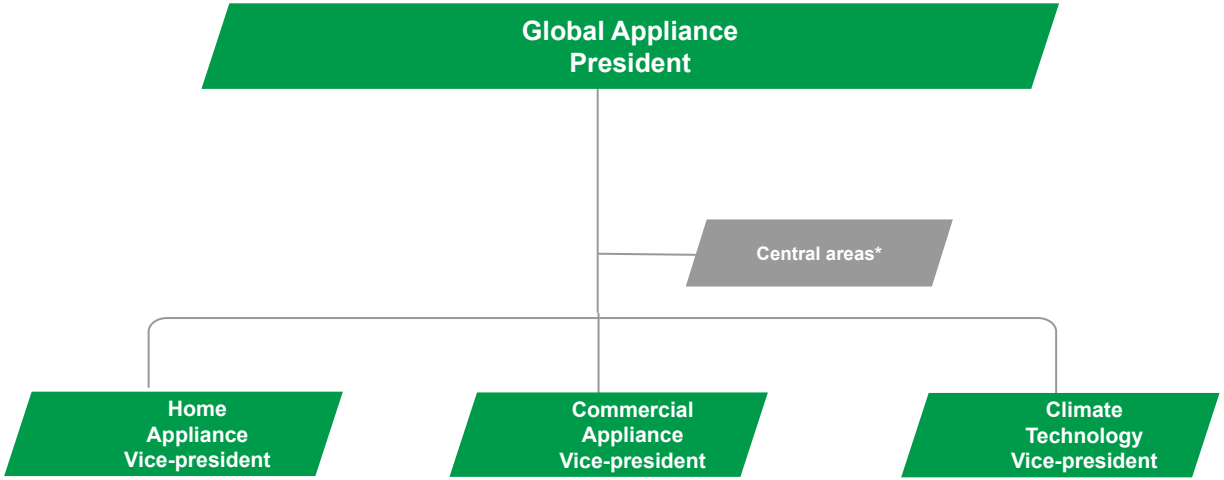
Annual production capacity of **+90 million** motors and compressors

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

90 countries served by our products

$2.1B (FY 24)
sales/year

GA Structure



AAD
CENTRAL FUNCTIONS

- CPO
- CIO & General Affairs
- Business Development & Strategy
- CHRO
- Communications & Sustainability

ACIM
CENTRAL FUNCTIONS

- Operations

*Finance, Central R&D, Quality, Human Resources, MarCom, Institutional Relations, Business Expansion & Investments and S&OP

Global Appliance Platform

Nidec Global Appliance

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.

Home Appliance

Commercial Appliance

Climate Technology

OUR BRANDS

Nidec | embraco Nidec | FIR Nidec | embraco Nidec | embraco Nidec | US MOTORS | RESCUE

GA Global Presence

Nidec Global Appliance

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

GA Innovation Drivers

Nidec Global Appliance

Energy efficiency

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

Low noise

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

Natural Refrigerants

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

Electronics

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

Miniaturization

Size reduction combined with **embedded technology.**

.

Motors

Integrated Motors & Drives with Synchronous Technology

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 9 Research & Development Centers

Partnerships with Universities
in different regions of the world

Local engineering support teams
with labs and application engineers available worldwide

+500 valid patents and +4,800 in the history
Innovation is a continuous process

Nidec
Global Appliance

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 Nidec

Commercial Appliances

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

embraco Nidec

Climate Technology

Solutions for heating, ventilation and air conditioning

US MOTORS | RESCUE | embraco Nidec

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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.

FIR Nidec

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

embraco Nidec

Compressors for refrigerators and freezers.

Nidec
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HOME APPLIANCES BUSINESS SEGMENT

PORTFOLIO FOR RESIDENTIAL LAUNDRY AND KITCHEN

Solutions for Residential Laundry and Kitchen Appliances

Nidec Global Appliance

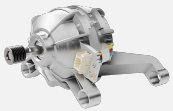
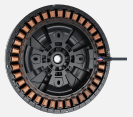
We offer innovation through a complete portfolio of motors for washing machines, dryers and dishwashers

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

Portfolio for Washing Machines, Dryers and Dishwashers

Nidec Global Appliance

- ✔ 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

Nidec Global Appliance

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.

Products For Washing Machines

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

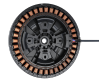
Universal

CIM

CIM - IMAC

BPM

BPM - IMAC



DD

DDM

DDM gear drive

PSC

Products For Dryers

From classic solutions **to second generation BPM models**

DRY
Tumble
dryer

PSC

Split-Phase

BPM

BPM -
IMAC

Products For Dishwashers

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

Electronic Drives

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

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HOME APPLIANCES BUSINESS SEGMENT

PORTFOLIO FOR PROFESSIONAL APPLIANCES AND MEDICAL APPLICATIONS

Solutions For Professional Appliances

Nidec Global Appliance

FIR Nidec

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

Motors for **food processors**

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

Single Phase Motor for slicers

Gear motor for ice nuggets

Single phase motor for coffee grinders

Solutions For Professional Kitchens

Pumps for **professional dishwashers**

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

Three Phase Pumps

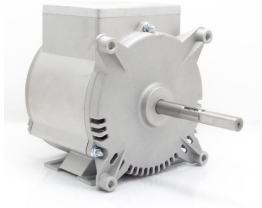
PSC Pumps

Integrated Pump

Solutions For Professional Kitchens

Motors for **professional ovens**

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



Synchronous Single-phase motor

BPM Motor

PSC Motor

Solutions For Medical Applications

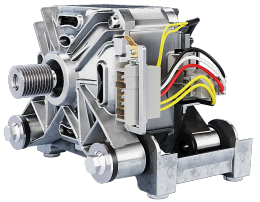
State of the art **motors for disinfection machines** used in hospitals, dental clinics and laboratories.

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

Dual-stage High Pressure Pump with PSC Motor

Solutions For Professional Laundries

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



BPM Motor

Asynchronous motor

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HOME APPLIANCES BUSINESS SEGMENT

PORTFOLIO FOR RESIDENTIAL REFRIGERATION

Solutions For Residential Refrigeration

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embraco
Nidec

- **High-quality** and **high-performance**
- **Efficiency** through **constant innovation**
- **Low noise**
- **Small size** solutions
- Cost **Competitive**

Portfolio For Home Appliances

An **innovative** and **efficient** portfolio

FIXED-SPEED

Reliability: *Extended product life*

VARIABLE-SPEED

Highest efficiency *standards and world class* ***low noise***

FUTURE:
High performance with portfolio simplification

Standardization *to cover all applications' range*

Fixed-speed Portfolio

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

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

Variable-speed Portfolio

Extra efficiency and temperature stability for refrigeration

Lower energy consumption

Up to **50%*** reduction

Fast Cooling

Target temperature reached faster, ensuring **better food preservation**

Miniaturization

Small on size

but large on its application range

Low noise

*in comparison to conventional on-off compressors from the market versus our most premium product family (VES). Efficiency indexes based on internal tests.

Miniaturization Journey

Discover The Versatility:

Comparing dimensions across our products

50% smaller and 60% lighter*

VES

Weight ~6.8kg

FMS

Weight ~3.5kg

ATOM

Weight ~2.5kg

*comparison to VES

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GA BUSINESS SEGMENT

COMMERCIAL APPLIANCES

Solutions For Commercial Appliances

- **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

embraco

Nidec 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

Providing Everything To Be Everywhere

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Compressors Highlights: EM Series

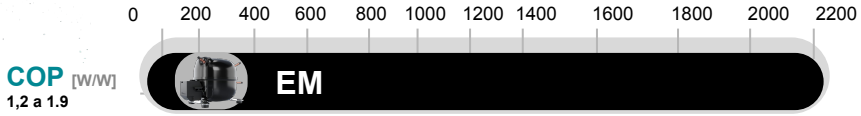
The World's Best Selling Compressors

Ideal for several applications

High efficiency: The most efficient reciprocating compressor in the market

Wide envelope: L/MBP Working range -35°C / +10°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

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

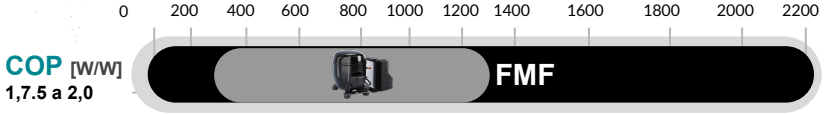
**Versus previous families*

Compressors Highlights: FMF Series

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

R290

Made in Brazil

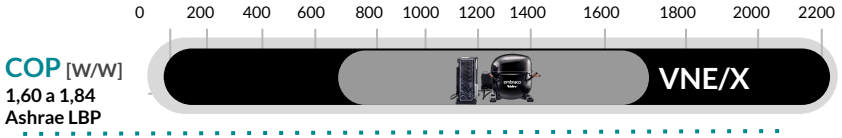
*Smart Drop In **Power Factor Correction

VNEX Series

The largest reciprocating variable speed compressor in the market

Ideal for supermarkets and special applications

- 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

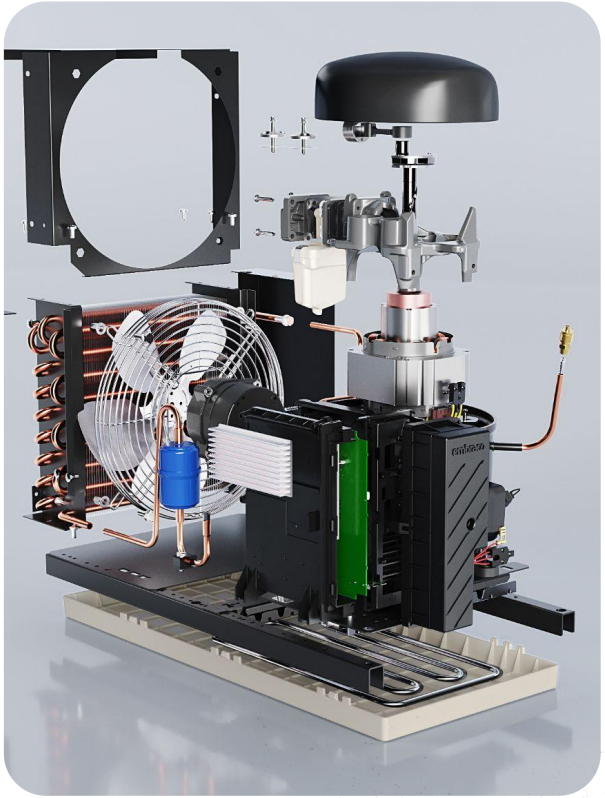


Available in

R290

Made in Slovakia

Embraco Original Cooling Solutions



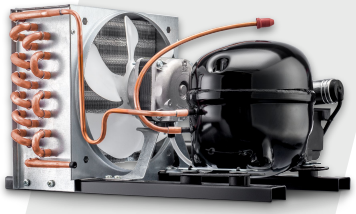
- **Complete portfolio** for a diverse range of applications
- **Customization** possibilities according to customer needs
- Optimized condenser and compressor project for **improved performance and reliability**
- With approved options for the use of **natural refrigerants**

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

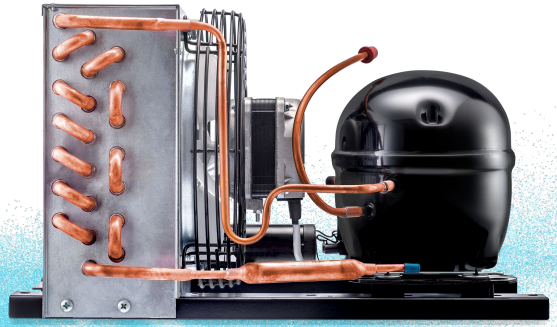
EDP Portfolio

Monoblock

Bioma

Condensing Units: Standard Portfolio

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.

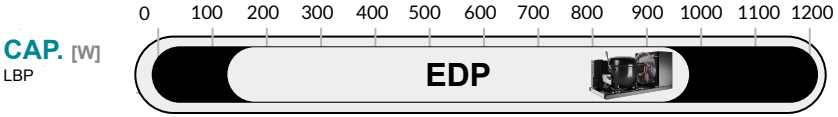
Approved for natural refrigerants use

Condensing Units: EDP Portfolio

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



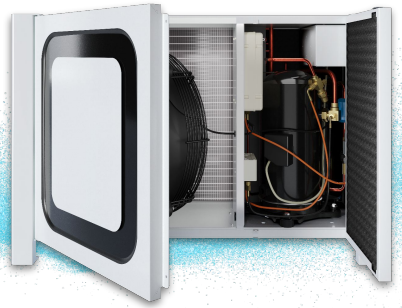
Available in

- R290
- R134a
- R404A

Made in Brazil

Condensing Units: Bioma

The world's quietest condensing unit in its capacity range



Main applications

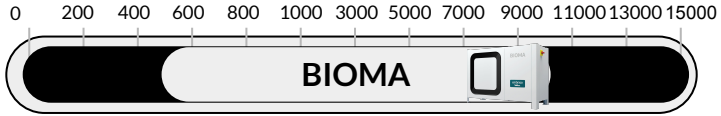
Silent: with a robust design that absorbs vibrations (models emit from 36 to only 28 dB)

Robust design: Stackability and longitudinal airflow

Easy access to all internal components

High-efficiency compressors with multiple refrigerant implementation

REF. CAP. [W]



Available in

☑ R452A ☑ R449A ☑ R513A

Made in Slovakia

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

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.

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

Scroll For Refrigeration

Main applications

Food Storage

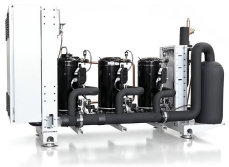
Cold Rooms

Multi deck reach ins

Cooling Tanks

Milk Cooling Tank

Remote Systems



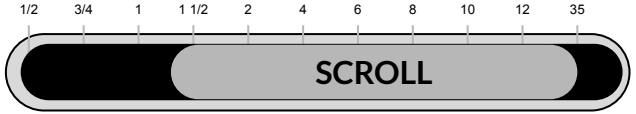
Racks

Multi refrigerant platform
HFC: R404A, R448A, R449A, R452A, R134a, R450A, R513A

Released options for **new low GWP options: R290 and A2Ls** (R455A, R454C, R454B, R32) & backward compatibility with HFCs

Versatile solution: Liquid and vapor injection for low temperature applications for improved performance.

Comm. Ref [HP]



Nidec
Global Appliance

GA BUSINESS SEGMENT

Climate Technology

U.S. Motors® Brand

Nidec
Global Appliance

One of the oldest and most trusted brands in the motor industry, recognized worldwide as the mark of leadership and technological innovation

U.S. MOTORS brand encompasses a complete line of general and special purpose residential and commercial motors for a wide variety of applications.

Residential

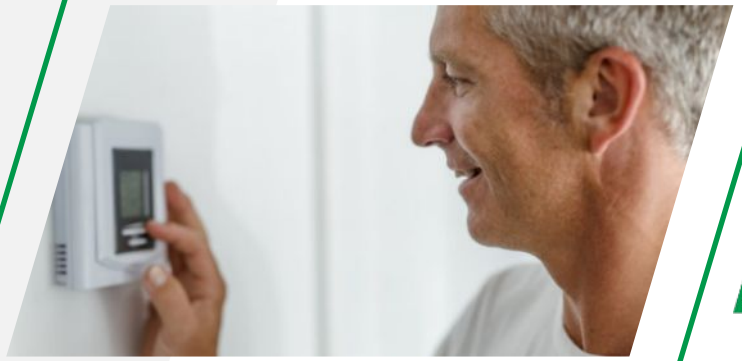
Commercial

Background

Nidec
Global Appliance

HVAC
Tradition and Experience

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.



Main Attributes

Heating, Ventilation and Air Conditioning (HVAC)

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

- Technology & Innovation
- Reliability
- Low lead time

Rely on US

Rescue® Motors Brand

Nidec
Global Appliance

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

Portfolio To Serve All OEM Motor Needs

Nidec Global Appliance

	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 SelecTech Constant Torque EcoApex 48 EcoApex 56 Frame
Heat Pump & Condensing Unit	4.8" PSC 5.5" PSC PEP High Eff. PSC	EcoApex 48
Furnace	Draft Inducer	PerfectSpeed Constant CFM SelecTech Constant Torque Ecotech
Air Handler		PerfectSpeed Constant CFM SelecTech Constant Torque RESCUE Ecotech

Nidec
Global Appliance

CLIMATE TECHNOLOGY BUSINESS SEGMENT

SCROLL COMPRESSORS FOR REFRIGERATION, HEATING AND AIR-CONDITIONING

Scroll Portfolio Main Features

Wide range of capacities, from **1.2HP to 35Hp**, for all main applications: **refrigeration, air conditioning and heating**

High reliability: **Internal overload protector (OLP)** & **dual scroll compliance** for better liquid management and performance

High energy efficiency: Liquid & vapor injection for wider LBP (low back pressure) envelope & improved system performance

Multi-refrigerant: platform approved for multiple HFCs (**R410A, R404A and others)** and ready for new solutions - R290 & A2L (R455A, R454C, R454B, R32)

Scroll For Refrigeration

Main applications

Food Storage

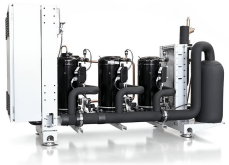
Cold Rooms

Multi deck reach ins

Cooling Tanks

Milk Cooling Tank

Remote Systems



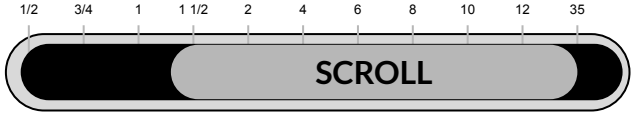
Racks

Multi refrigerant platform
HFC: R404A, R448A, R449A, R452A, R134a, R450A, R513A

Released options for **new low GWP options: R290 and A2Ls** (R455A, R454C, R454B, R32) & backward compatibility with HFCs

Versatile solution: Liquid and vapor injection for low temperature applications for improved performance.

Comm. Ref [HP]



Scroll For Air-Conditioning

Main applications

Residential

Large Splits

Ducted / Central

Commercial

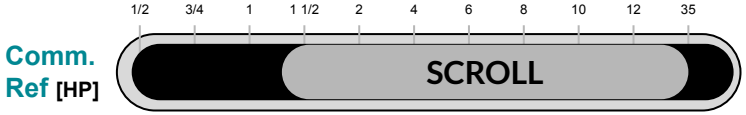
Packaged systems (rooftop)

Chiller

Available for Air cooled and water cooled applications in R410A

Released options for **new low GWP options: R32, R454B and R290**

Vapor injection available for improved system performance



Scroll For Heating

Main applications

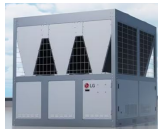
Residential

Space heating
- Air to Air (direct)
- Air to Water

Pool heating

Commercial

Agriculture (dryers and maturing chambers)



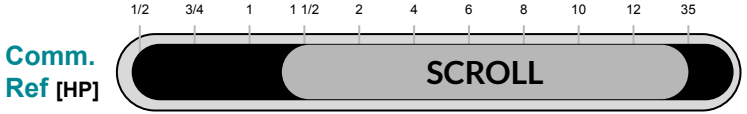
Air Chiller

Available for R134a and R410A

Released options for **new low GWP options R290**

Available for **high temperature applications (R515B & R1233zd)**

Vapor injection available for improved system performance



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

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