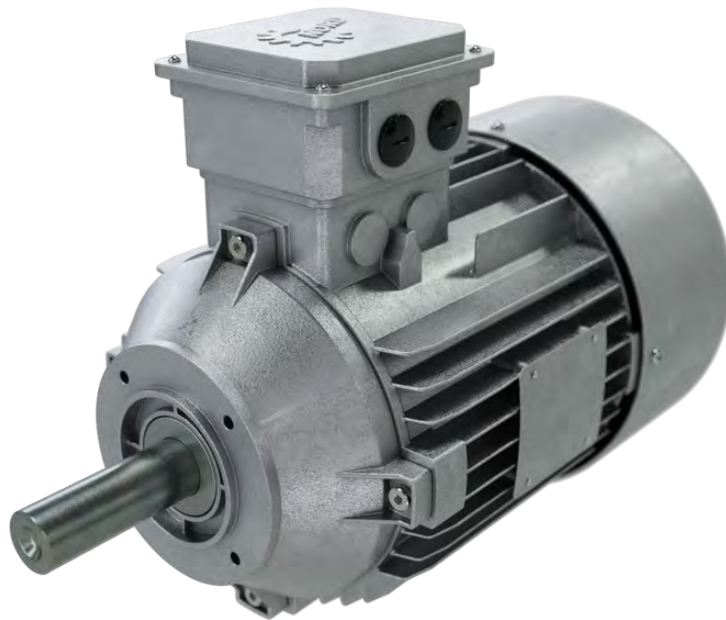


REPLACEMENT & AFTERMARKET

ASYNCHRONOUS AC MOTORS



Collaborate / Create / Convey

TABLE OF CONTENTS

Asynchronous Ac Motors	02	Product specifications	05
Applications	03	The Engineering Advantage	06
Key Features	04	Contact Information	07

© 2026 Fluent Conveyor. All rights reserved.

All content, including text, graphics, and product specifications, is the property of Fluent Conveyor and may not be reproduced, distributed, or transmitted in any form without prior written permission.

ASYNCHRONOUS AC MOTORS



Asynchronous Ac Motors

Industrial conveyor systems operating on intermittent duty cycles or broad serviceability profiles require reliable rotational force to drive belts and roller chains. Without properly specified asynchronous induction motors, systems face premature component failure, thermal overload, and significant operational downtime due to inefficient load handling. Undersized or mismatched drive configurations result in excessive current draw, excessive vibration, and immediate production losses.

Constructed to meet NEMA MG 1 and IEC 60034 standards, these motors utilize induced rotor currents that lag the stator field to generate necessary torque via intentional slip mechanics. Physical configurations accommodate standard indoor settings, hazardous zones, and washdown environments with enclosures ranging from TEFC IP55 up to smooth-surface IP69K. Designed for standalone replacement or direct integration into pre-engineered gearmotor assemblies, units mounted via standard footed, IEC footed, NEMA C-flange, or direct flange connections. Drive packages arrive factory-verified for thermal capacity, mechanical ratings, and starting torque against exact CEMA-calculated material loads.

APPLICATIONS



Recycling And Material Recovery

Material recovery facilities subject drive components to severe airborne particulate and highly unpredictable shock loads from irregular material streams. Asynchronous AC motors deliver the necessary starting torque to handle sudden loaded startups, utilizing IP55 or IP66 enclosures to isolate internal electrical components from external contamination.



Packaging And Sortation

Slider bed and flat idler conveyors managing varied unit loads experience shifting weight profiles and intermittent cycles. Asynchronous AC motors generate requisite starting torque through rotor slip to reliably drive material across low-runtime operating schedules.



Metering Operations

Tumble-back conveyors require controlled material regulation and handle frequent startup conditions. Induced rotor currents adapt to dynamic load variations while maintaining necessary output torque without requiring complex continuous-duty specifications.



Food Processing

Sanitization protocols expose moving components to high-pressure, high-temperature steam and rigorous chemical washdowns. IP69K smooth surface motor enclosures resist moisture ingress and prevent bacterial accumulation during direct steam cleaning.



Hazardous Locations

Airborne particulate and explosive gas environments present critical ignition risks during sustained electrical operations. Explosion-proof enclosure configurations meet ATEX Directive 2014/34/EU and NEC Article 500 requirements to ensure facility safety.



Variable Speed Handling

Material transport lines requiring controlled acceleration and operational flexibility run across 5:1 or 10:1 constant torque ranges. Inverter-duty winding specifications allow integration with variable frequency drives without thermal derating during low-speed operation.

KEY FEATURES

01

NEMA C-Flange Mounting Interface:

Facilitates direct structural coupling to North American gearboxes without requiring supplementary alignment hardware.



02

Factory-Installed Motor Brake:

Applies direct mechanical holding torque to the drive unit to prevent material rollback on inclined tracks or during emergency stops.



03

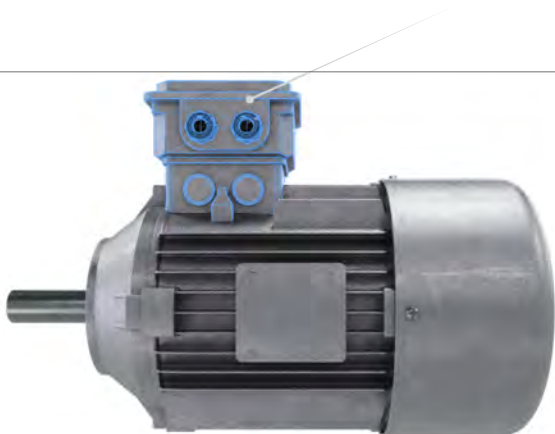
Independent External Cooling Fan:

Forces continuous ambient airflow across the motor housing to regulate internal temperatures during prolonged low-frequency operation below 30 Hz.

04

Sealed Terminal Box Interface:

Isolates critical electrical wiring connection points from dust, water, and atmospheric contaminants.



05

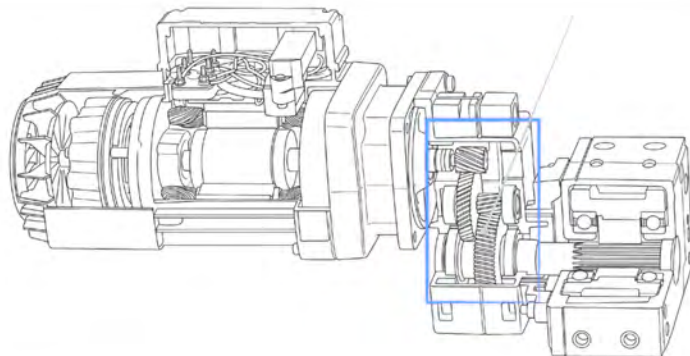
PTC/RTD Temperature Sensor Array:

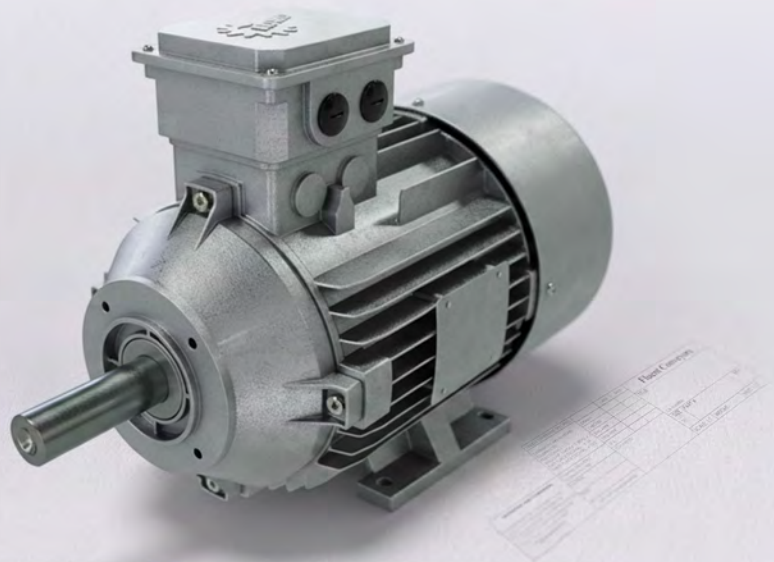
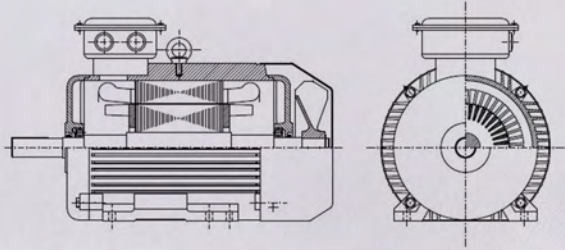
Monitors internal thermal parameters and winding heat levels to trigger early system warnings before thermal failure thresholds are reached.

06

Pre-Engineered Gearmotor Assembly:

Arrives mechanically matched and aligned with helical bevel, inline, parallel shaft, or worm drives to eliminate field assembly errors.





ASYNCHRONOUS AC MOTORS SPECIFICATIONS

Parameter	Standard Specification
Motor Type	Three-phase asynchronous (induction)
Motor Variants	Standard motors, universal motors, smooth surface motors, single-phase motors, two-speed motors
Power Range	0.16–75 HP (0.12–55 kW)
Efficiency Classes	IE1, IE2, IE3, IE4
Operating Voltage	230/460V, 575V, 208/360V, 332/575V
Frequency	50/60 Hz
Enclosure Ratings	TEFC, IP55, IP66, IP69K (smooth surface), explosion-proof
Mounting Configurations	NEMA footed (B3), IEC footed, NEMA C-flange, flange (B5/B14), shaft-mounted with torque arm
Speed Control	Fixed speed, VFD-compatible (5:1, 10:1, and wider constant torque ranges)
Certifications	CE, UL, CSA, ATEX, NEC Article 500, EISA 2007

Mounting & Protection

Specification	Primary Configurations	Operational Environment
Enclosure Rating	TEFC, IP55	Standard indoor / Dust prevention
Washdown / Severe	IP66, IP69K (Smooth Surface)	Outdoor, Food processing, Steam cleaning
Hazardous Duty	Explosion-Proof	ATEX / NEC Article 500 Classified Zones
Mounting Style	NEMA footed (B3), IEC footed	Standard flat surface integration
Direct Drive Mounting	NEMA C-flange, Flange (B5/B14)	Direct gearbox coupling

THE ENGINEERING ADVANTAGE

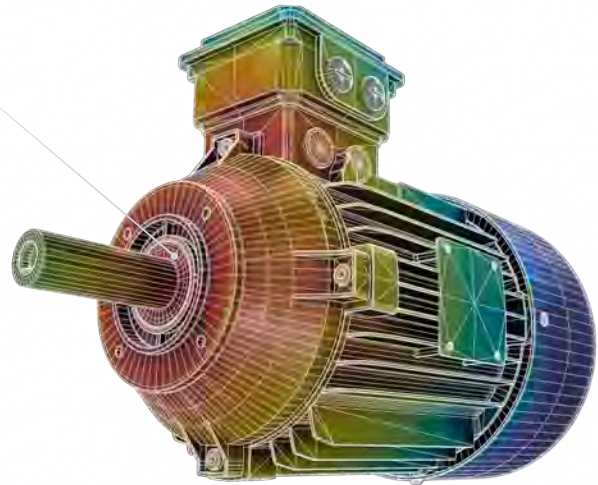
This section outlines the core mechanical methodology behind asynchronous AC motors, covering structural design principles and integration standards to ensure verified system compatibility.

Application-Verified Thermal Rating:

Validates starting torque, mechanical limits, and continuous thermal capacity against specific CEMA-calculated belt speeds, friction, and loaded startup conditions prior to assembly.

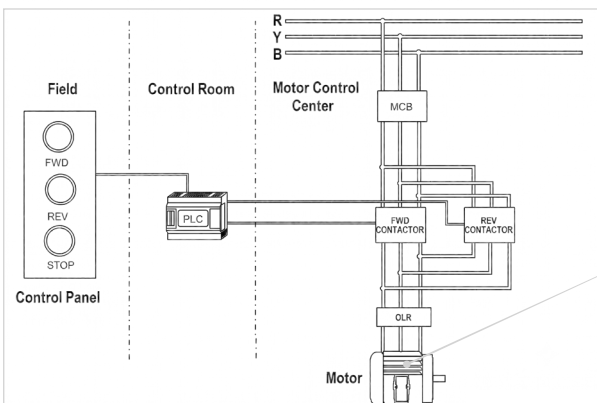
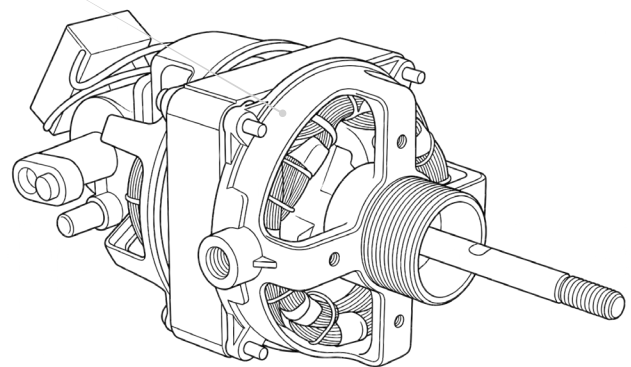
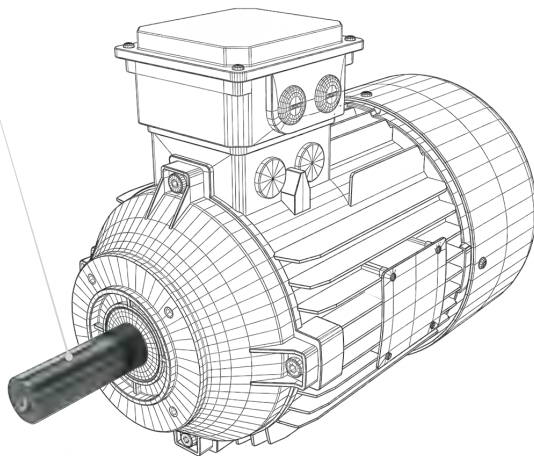
Integrated Shaft-Mounted Output:

Connects the entire gearmotor assembly directly to the driven equipment shaft utilizing a torque arm, eliminating external couplings and intermediate drivetrain components.



Inverter-Duty Winding Insulation:

Accommodates variable frequency drive electrical stresses without requiring standard motor derating protocols for frequent speed changes or operation below 30 Hz.



Pre-Configured System Control Logic:

Packages control panels, soft starters, and logic controllers programmed specifically for the selected motor and gearbox assembly.

CONTACT INFORMATION

OUR ENGINEERS WILL SPEC THE EXACT PART FOR YOUR SYSTEM

For product specifications, engineering support, or order inquiries, please contact our team using the information provided below. Our specialists are available to ensure accurate recommendations and efficient service for your application requirements.

Reach Us Directly

Email

Send us your questions or requests, and we'll respond promptly.

sales@fluentconveyors.com

Phone

Call us for immediate assistance and technical support.

[+1\(866\) 764-2980](tel:+18667642980)

Business Hours

Monday - Friday

8:00 AM – 5:00 PM MST

Departments

Sales & Quoting

Product pricing, availability, and order placement.

sales@fluentconveyors.com

Customer Service

Product pricing, availability, and order placement.

[+1 \(303\) 390-1228](tel:+13033901228)

Engineering

Technical specs, application review, custom configurations.

engineering@fluentconveyors.com