Blade Runner™

High Volume, Low Speed Fan Motors

Nidec MOTION & DRIVES

High-Performance Brushless Direct-Drive Upgrade for HVLS Fans

Experience the innovation of Nidec's Blade Runner™ direct-drive motor series, which delivers efficient, quiet and reliable operations in a compact design, providing the torque you need without the noise, weight and maintenance associated with gear-driven motors. Plus, it's easily integrated into your application as an "as-is" drop-in assembly or custom-designed with your requirements in mind.

Blade Runner™

Improved Performance, Reliability & Cost Reduction Versus a Gear-Driven Solution

Direct-Drive Gearless Design

- High Reliability
- Low Maintenance
- Quiet Operation

Brushless Permanent Magnet

- High Efficiency
- Exceptional Torque Density

Air Management Solutions

- Agricultural
- Commercial & Industrial Buildings
- Entertainment & Sporting Venues
- Warehousing

Product Features

- *Available in both 1 & 2 HP Variations*
- *Variable Speed and Variable Output when paired with OEM variable frequency control*
- *ODE and DE mounting capabilities*
- *Standard and Hollow Shaft design options*
- *High torque-to-weight ratio*
- *Advanced sensorless field orientated control*
- *Ultra-smooth, high-precision motion quality*
- *Rigorous testing for performance and reliability*
- *High efficiency - low energy, max air movement*
- *Customizable for drop-in applications*
- *Long life ball bearing system*
- *High ingress protection for harsh environments*
- *Quiet operation and reduced motor cogging*
- *Performance in high ambient conditions (50°C)*
- *Hollow shaft available for lighting and accessories*
- *Variability to meet specific application needs*
- *UL Class F insulation system (155°C)*
- *Over-current protection*
- *RoHS and REACH compliant*
- *Nidec Limited Warranty*
- *Manufactured on newly automated production line in USA*

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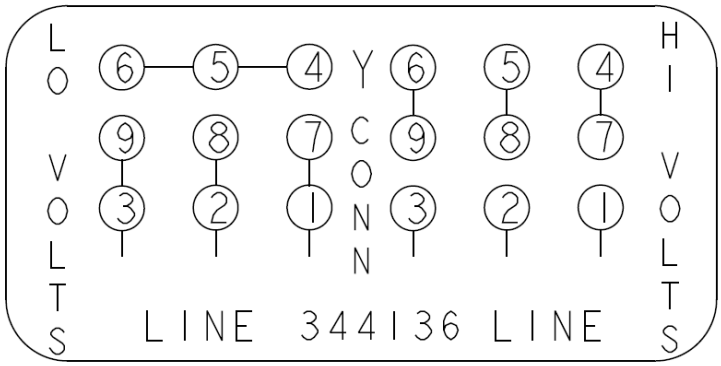
Superior engineering, world-class manufacturing and responsive, timely product fulfillment are just some of the many benefits you get with Nidec's HVLS Blade Runner™ direct-drive motor series. As the world's most comprehensive manufacturer of electric motors, you could say Nidec wrote the book on high volume – with over one million motors produced per day. We do this while passionately aiming to deliver the highest level of customer support and satisfaction in the industry. We're the partner you're looking for – and Blade Runner™ is the fearless, gearless solution for your needs.

Available Model Numbers – Designed for use in both 230VAC/460VAC Systems

VARIATION	HORSE POWER (REF)	MODEL NUMBER	A (in)	B (in)	SHAFT TYPE	PHYSICAL CONFIGURATION	CONNECTION TYPE	WEIGHT (lbs)	ROTOR INERTIA ($kg*m^2$)
000	1 HP	M105EMC1020015H	13.42	9.82	SOLID SHAFT	STANDARD ENDSHIELD w/ STANDARD BOLT	WAGO CONNECTOR	77.9	0.0273
001	2 HP	M105EMC1021015H	14.67	11.07	SOLID SHAFT	STANDARD ENDSHIELD w/ STANDARD BOLT	WAGO CONNECTOR	116.0	0.0538
002	1 HP	M105DDD0000015H	13.42	9.82	SOLID SHAFT	STANDARD ENDSHIELD w/ EXTENDED BOLT	FLYING LEADS	77.9	0.0273
003	2 HP	M105DDD1019015H	14.67	11.07	SOLID SHAFT	STANDARD ENDSHIELD w/ EXTENDED BOLT	FLYING LEADS	116.0	0.0538
004	2 HP	M105NRT1022015H	14.22	11.07	HOLLOW SHAFT	DUAL ENDSHIELD w/ EXTENDED BOLT	FLYING LEADS	116.0	0.0538

Connections

WIRE	WIRE COLOR
1	RED
2	WHITE
3	BLUE
4	BLACK
5	BROWN
6	ORANGE
7	YELLOW
8	PURPLE
9	GRAY



Loading: Bearing Load Rating

BEARING	DYNAMIC LOAD *(N)*	STATIC LOAD *(N)*
6310 Drive-End	68,100	45,500
6207 Opposite Drive-End	25,700	15,300

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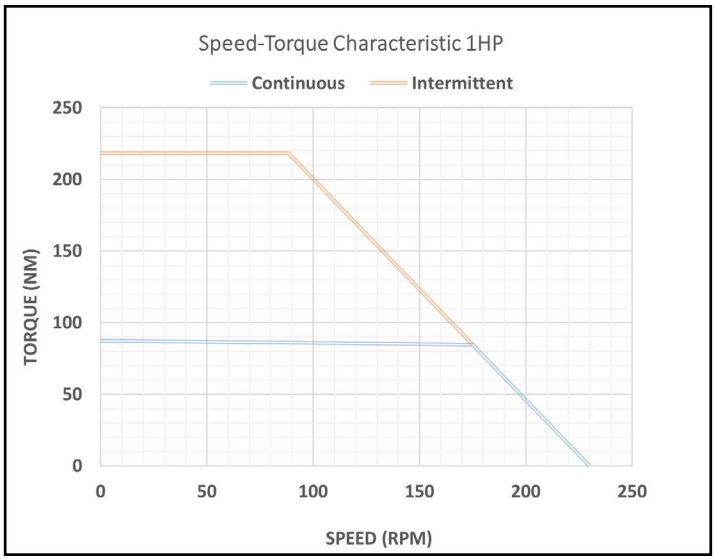
Electrical Parameters

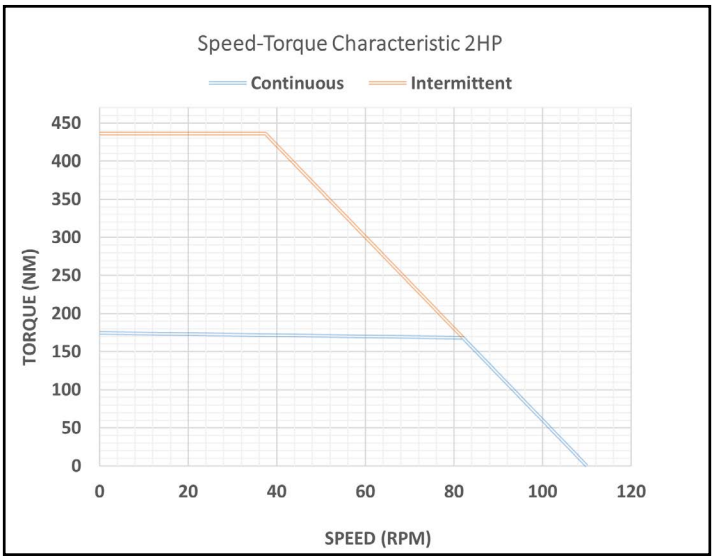
28 Poles, Class F Insulation System

DESCRIPTION	1HP – 230VAC	1HP – 460VAC	2HP – 230VAC	2HP – 460VAC
K_t *(Nm/Arms) @ (Rated Torque/Speed) ± 10%*	13.71	27.42	28.80	57.60
K_e *(Vrms/kRPM) ± 10%*	940	1880	1880	3600
Resistance *(L-L) ± 10%, (Ohms)*	3.03	10.24	4.40	16.55
Inductance *(mH @ 1kHz) ± 10%*	89.29	314	145.88	567
Drive System Input Voltage	230VAC	460VAC	230VAC	460VAC
Rated Torque *(Nm)*	86	86	170	170
Rated Speed *(RPM)*	90	90	60	60
Motor Rated Input Current *(Amps)*	6	3	6	3
Motor Rated Power *(kW)*	0.8 kW	0.8 kW	1.2 kW	1.2 kW
Efficiency at Rated *Torque/Speed ± 5%*	82%	82%	80%	80%

**Performance may vary slightly depending on the Variable Frequency Drive used for testing*

Speed-Torque Charateristics





**Speed-Torque curve with respect to Class F insulation limits*

Environment

Operating Temperature – 50° C Max

Regulatory Certifications

ROHS, REACH, UL and CE

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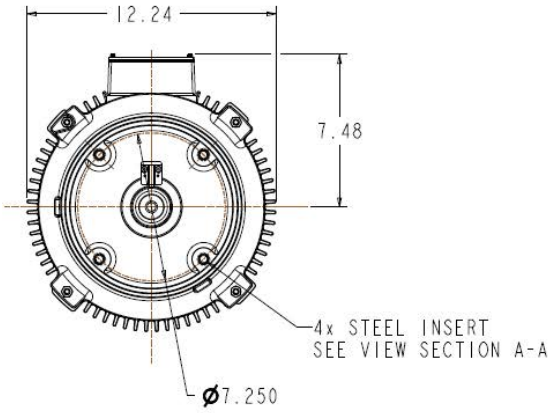
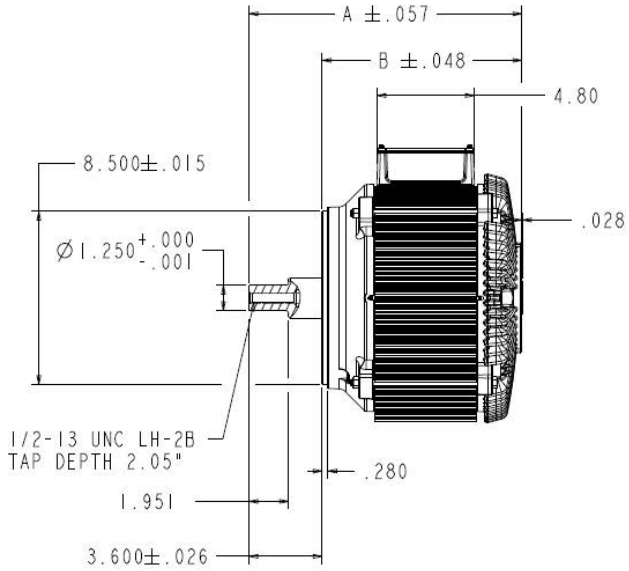
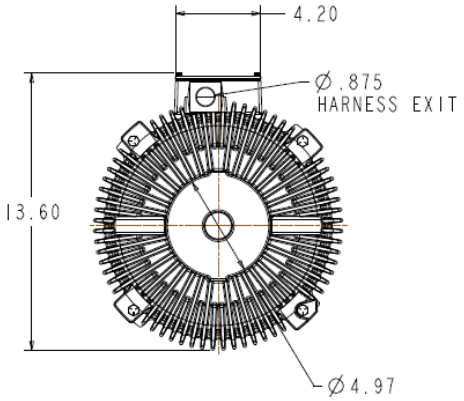
Physical Parameters

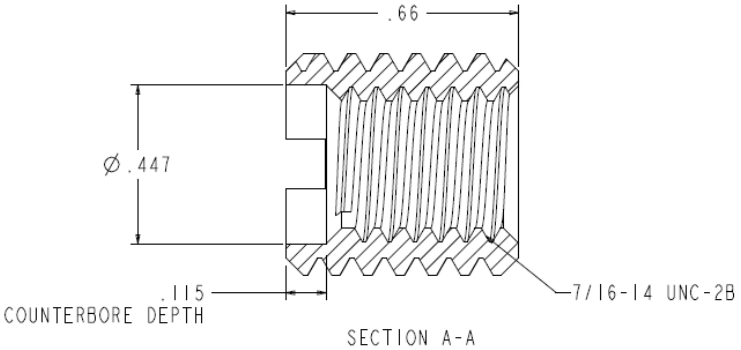
Variation 001 and 002

VARIATION	HORSE POWER (REF)	MODEL NUMBER	A (in)	B (in)	SHAFT TYPE	PHYSICAL CONFIGURATION	CONNECTION TYPE	WEIGHT (lbs)	ROTOR INERTIA ($kg*m^2$)
000	1 HP	M105EMC1020015H	13.42	9.82	SOLID SHAFT	STANDARD ENDSHIELD w/ STANDARD BOLT	WAGO CONNECTOR	77.9	0.0273
001	2 HP	M105EMC1021015H	14.67	11.07	SOLID SHAFT	STANDARD ENDSHIELD w/ STANDARD BOLT	WAGO CONNECTOR	116.0	0.0538









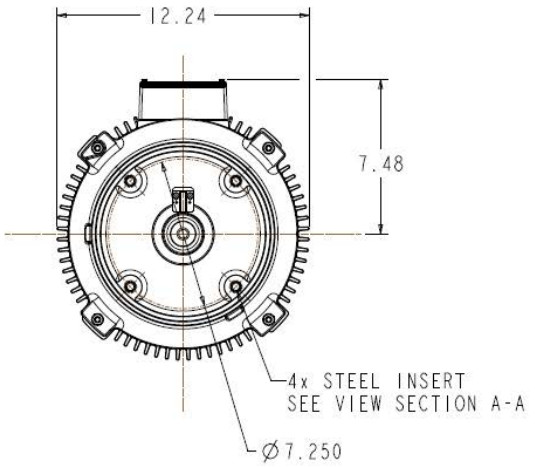
Blade Runner™

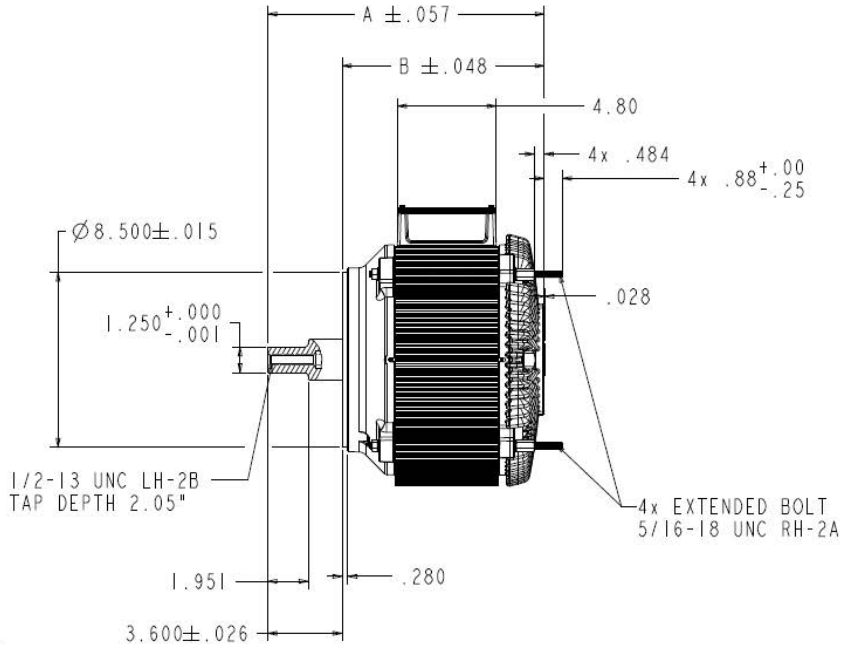
High Volume, Low Speed Fan Motors

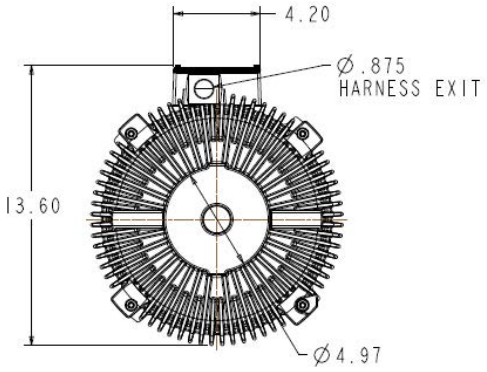
Physical Parameters

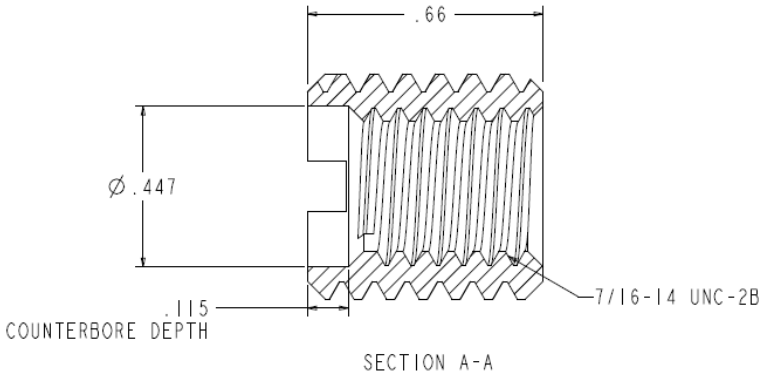
Variation 002 and 003

VARIATION	HORSE POWER (REF)	MODEL NUMBER	A (in)	B (in)	SHAFT TYPE	PHYSICAL CONFIGURATION	CONNECTION TYPE	WEIGHT (lbs)	ROTOR INERTIA ($kg*m^2$)
002	1 HP	M105DDD0000015H	13.42	9.82	SOLID SHAFT	STANDARD ENDSHIELD w/ EXTENDED BOLT	FLYING LEADS	77.9	0.0273
003	2 HP	M105DDD1019015H	14.67	11.07	SOLID SHAFT	STANDARD ENDSHIELD w/ EXTENDED BOLT	FLYING LEADS	116.0	0.0538









Blade Runner™

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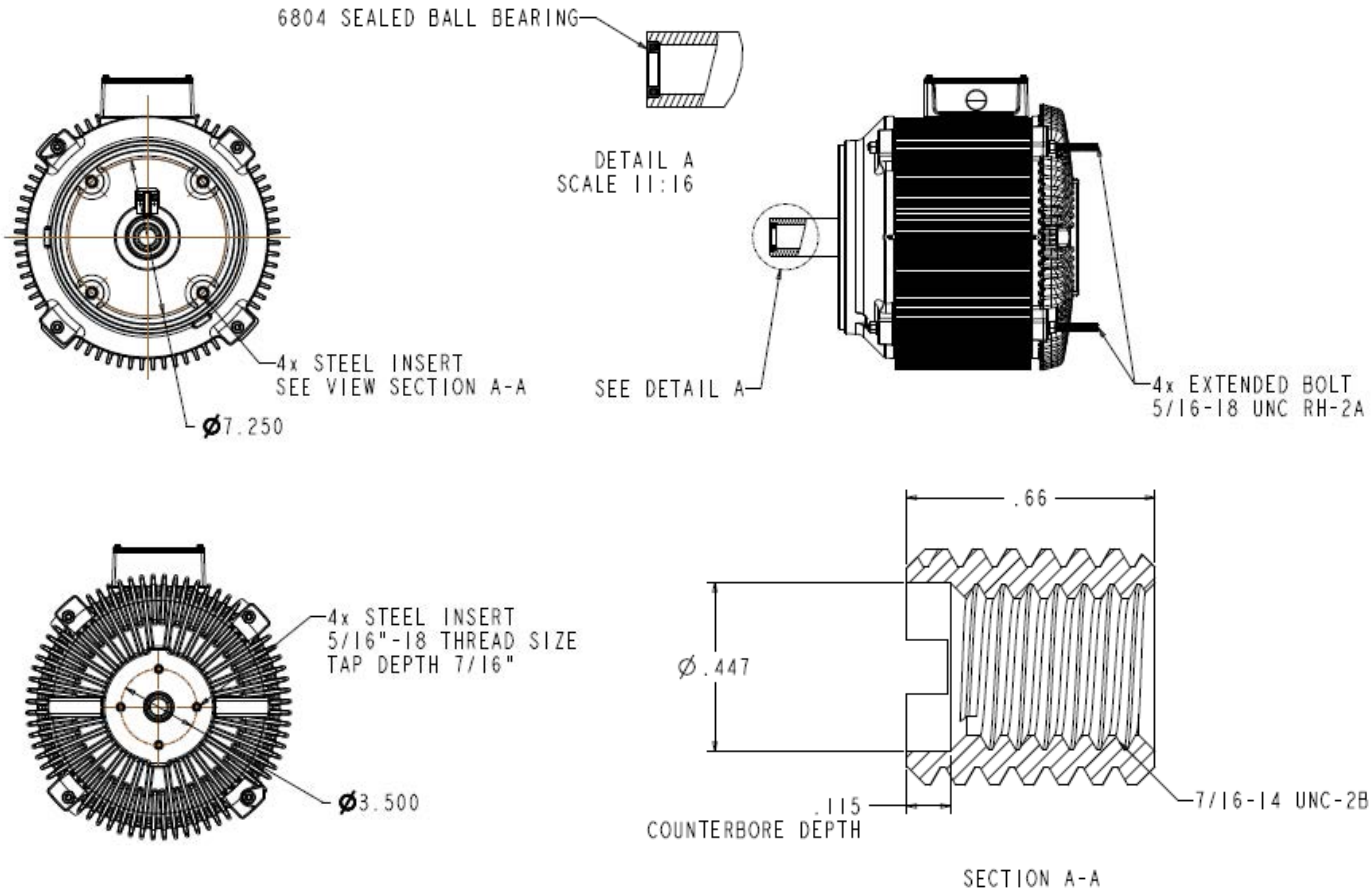
Physical Parameters

Variation 004

VARIATION	HORSE POWER (REF)	MODEL NUMBER	A (in)	B (in)	SHAFT TYPE	PHYSICAL CONFIGURATION	CONNECTION TYPE	WEIGHT (lbs)	ROTOR INERTIA ($kg*m^2$)
004	2 HP	M105NRT1022015H	14.22	11.07	HOLLOW SHAFT	DUAL ENDSHIELD w/ EXTENDED BOLT	FLYING LEADS	116.0	0.0538



Packaging Options

Motor Type	Packaging Dimensions	Weight	Pack
1 HP	22" x 45" x 46" (H/W/L)	457 lbs	*Order quantities of 6 or more, in multiples of 6, includes ALL 1 HP Variations
2 HP	22" x 45" x 46" (H/W/L)	671 lbs	*Order quantities of 6 or more, in multiples of 6, includes ALL 2 HP Variations

**Non-standard pack quantities may be available upon request*

About Nidec Corporation

Nidec Corporation is an international conglomerate originally known for having the most significant global market share of small precision motors. Exponential growth through mergers and acquisitions over the past few decades means that Nidec now manufactures motors spanning the spectrum from those original tiny motors to much larger motors powering heavy commercial and industrial equipment. This is one of the reasons it's said that Nidec specializes in “everything that spins and moves.”

Headquartered in Kyoto, Japan, Nidec started with only four employees in 1973 and has grown to include more than 330 subsidiary companies with over 112,000 workers in over 40 countries across the globe.

Corporate Head Office
Kyoto, Japan

About Nidec Motor Corporation

Nidec Motor Corporation (NMC), a major subsidiary of Nidec Corporation, was formed in 2010 when Nidec Corporation acquired the motors and controls business of Emerson Electric Company. Headquartered in St. Louis, Missouri U.S.A., Nidec Motor Corporation produces a vast array of motors and controls for the appliance, commercial, and industrial sectors. NMC has 10 manufacturing facilities in the U.S., Mexico, the UK and China. Additionally, there are 15 technology, administration and distribution locations in the U.S., Canada, Mexico, Venezuela, Columbia, China and the Philippines.

Nidec Motor Corporation
St. Louis, Missouri U.S.A.

About Nidec Motion and Drives

Nidec Motion and Drives is a business unit within NMC specializing in standard and custom brushless DC motors, AC and DC servo motors, frameless motors, and brushed PMDC motors, to name a few. Motion and Drives designs and mass manufactures sophisticated electric motors and drives/controllers for AGVs, robotics, HVLS fans, marine applications, and many more. Our customer-centric approach is to serve as a developmental partner, providing innovative solutions for some of the world's most challenging and demanding motor, gearmotor and drive applications.

Nidec Motion and Drives strives for personalized service with dedicated project teams that lead and collaborate from concept to design, and from rapid prototyping to production. These teams focus on delivering the right mechanical package for the application, either by leveraging diverse standard platforms or providing a customized solution. Backed by the global network of Nidec expertise and experience, the end result is a quality product that meets customer requirements on time and at the right price.

Nidec®
All for dreams™

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