

# **RXC Mechanical Adjustable Speed Drive**



**NIDEC-SHIMPO CORPORATION** 

## Letter from the President

The NIDEC-SHIMPO CORPORATION was originally founded in Kyoto Japan in 1952. Since our inception, we have made every possible effort to improve our manufacturing skill and capabilities, including the advancement of power transmission products to support new technologies and markets. NIDEC-SHIMPO initially established an industry-wide leadership position in the area of mechanical variable speed drives. We are very proud of our storied past with mechanical drive technology, through which NIDEC-SHIMPO helped contribute to the growth of the emerging industries that are now the cornerstone of our world economy today.

Over time, within the field of power transmission engineering, NIDEC-SHIMPO has maintained the highest level of skill and production quality throughout the industry. We have earned a reputation as a long term dependable partner to our customers, and this solid reputation is firmly supported by the many industrial awards we hold, such as the Japanese Machinery Society Award, and Deming Award, among others.

Today, the growing global market for motion control has focused a significant share of our time and energy towards providing higher precision solutions for our customers. This effort has led to the development of our ABLE product line, a complete offering of high-precision planetary speed reducers specific to servo-motor applications. This catalog provides indepth technical details and specifications for the full ABLE product line.

NIDEC-SHIMPO promises to continue to provide high precision power transmission products at unmatched value, which solve the new requirements of our customer base and allow them to be competitive in an increasingly tough global market. Within our company, we have coined this promise as "Enduring Process of SHIMPO" - a pledge by our employees to approach all of their day-to-day work activities with full effort, full dedication, and full energy to support the evolving needs of our customers.

Your continued support and loyal patronage to our company is highly appreciated. Thank you for your time.

Best Regards, President T. Nishimoto

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## **Table of contents**

2-5
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#### **RXC Series**

Features & Benefits	
RXC Model Code	
Operating Principles	
Selection Procedures	
Load Classification Table	
Rating Tables	

#### Dimensions

Input Shaft
Base Mount, Input C-Face, No Speed Reducer
Flange Mount, Input C-Face, No Speed Reducer
Base Mount, Input C-Face, Planetary Reducer
Flange Mount, Input C-Face, Planetary Reducer
Base Mount, Input C-Face, Circulute Reducer
Flange Mount, Input C-Face, Circulute Reducer
With Pilot Motor

Applications
Electric Remote Control Options

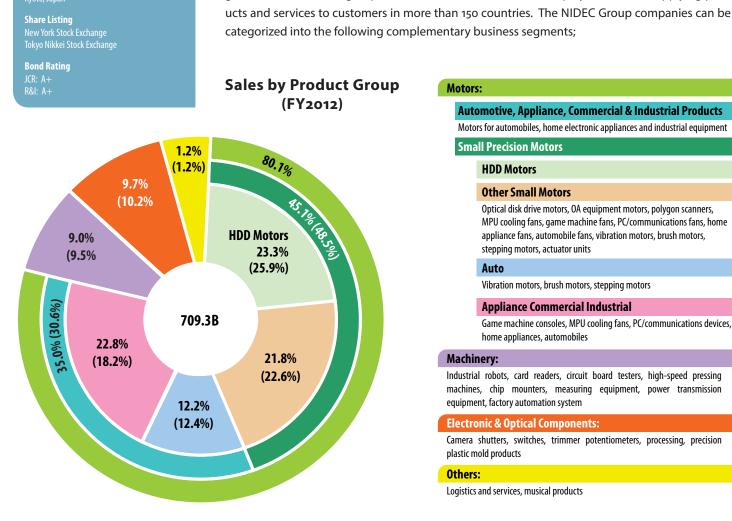
#### **Commercial Information**

Customer Service and Support
Warranty
Standard Terms and Conditions
Locations and Contact Information

## **NIDEC** Corporation

**Corporate Headquarters** 

With annual sales exceeding \$8 Billion for the fiscal year 2011, the NIDEC Corporation has become the world's dominant provider of small precision, mid-size motors and related drive technologies. Founded in 1973 by current Chairman of the Board and CEO, Shigenobu Nagamori, the NIDEC Corporation has built a portfolio of motor variety that is far reaching and impacts all of us during our daily routine. Regardless if its hard disk drive motors, fan motors for appliances, or automotive related, NIDEC Corporation provides the motor and drive technology that help keep our world moving forward.



The NIDEC Group has numerous manufacturing plants across the globe including their own industrial park near Shanghai, China where many of the group companies have located their primary production operations. NIDEC Corporation maintains motor research laboratories in Kyoto, Shiga, and Nagano Japan in order to remain in the forefront of precision and midsize motor technology.

The NIDEC Corporation continues to expand its portfolio in "all types of motors" and maintain its leadership position through aggressive product development and global acquisitions. The corporate slogan – All for Dreams - coined by founder Shigenobu Nagamori himself, epitomizes the NIDEC Group spirit and the promise to continue to deliver on the high value products and technologies that make our dreams possible.

#### Motors:

Under the NIDEC Group umbrella there are more than 150 corporate subsidiaries spanning the

globe. A consolidated group would total more than 100,000 employees that are supplying prod-

Automotive, Appliance, Commercial & Industrial Products Motors for automobiles, home electronic appliances and industrial equipment

#### **Small Precision Motors HDD Motors**

#### **Other Small Motors**

Optical disk drive motors, OA equipment motors, polygon scanners, MPU cooling fans, game machine fans, PC/communications fans, home appliance fans, automobile fans, vibration motors, brush motors, stepping motors, actuator units

#### Auto

Vibration motors, brush motors, stepping motors

#### **Appliance Commercial Industrial**

Game machine consoles, MPU cooling fans, PC/communications devices, home appliances, automobiles

#### Machinery:

Industrial robots, card readers, circuit board testers, high-speed pressing machines, chip mounters, measuring equipment, power transmission equipment, factory automation system

#### **Electronic & Optical Components:**

Camera shutters, switches, trimmer potentiometers, processing, precision plastic mold products

#### **Others:**

Logistics and services, musical products

Dreams are our future. The world's dreams, people's dreams, our dreams. Technology and products that were only dreams become reality. All for dreams Dreams challenge and the Nidec-Group will continue to meet the challenge. For the world's tomorrow, we will develop the world's first technologies and provide the world's best

## NIDEC-SHIMPO

NIDEC-SHIMPO has established itself over time as a leading supplier of drive technology and precision power transmission solutions to the industrial marketplace. Created in 1952, SHIMPO located its corporate headquarters and main production facility in Kyoto, Japan. With traditional roots that began imbedded in the development of mechanical variable speed powertrains, SHIMPO grew into a more diverse manufacturer of high precision and heavy duty power transmission products.

In 1994 the company was acquired by the NIDEC Corporation, and became formally known as NIDEC-SHIMPO. NIDEC-SHIMPO began to focus on the higher volume production needs that industry demanded as the global motion control and servo motor market grew at an accelerated rate. Soon after that ground was broken for NIDEC-SHIMPO's state-of-the-art manufacturing facility in Ping Hu China, approximately two hours outside of Shanghai.

Today NIDEC-SHIMPO is producing more than 30,000 servo motor speed reducers per month out of its Ping Hu facility. More impressive than the volume put forth is the consistent level of high quality attained. With the marketplace continuing to demand higher levels of precision, NIDEC-SHIMPO continues to push forward in the development of high quality, dependable products to meet those specifications, and at a price point that allows customers to be competitive in the global arena.

#### **Sales and Distribution Network**

NIDEC-SHIMPO has distribution channels that span the globe with stocking and service locations throughout Asia-Pacific, Europe, and the Americas – in total more than 30 locations. Within the Americas, NIDEC-SHIMPO has established its main headquarters in the Chicago, Illinois area. This location has been supporting the North America market for more than 30 years.

Recently, NIDEC-SHIMPO America implemented a kit build assembly program within its Chicago, Illinois location. The kit build program allows NIDEC-SHIMPO to provide a large variety of frame sizes and ratios within 48 hours for customers. The kit build program provides product variety, availability, and flexibility (minor customization of product) that are unmatched within the industry.

New offices and stocking points have been added in Mexico (Monterrey, Queretaro), and a subsidiary established in Brazil (Sao Paulo) to serve the expanding motion control needs of emerging markets in Latin and South America.

NIDEC-SHIMPO America has built a solid engineering and customer support infrastructure, sales and distribution network, and inventory program that have it poised to grow aggressively in the next few years. The goal, to obtain a level of brand awareness and a dominant marketshare position similar to that established by the SHIMPO brand name in the Asia Pacific region, looks very well within reach.



NIDEC-SHIMPO'S ultimate goal is to provide the highest quality of products and level of service to our customers throughout the world. To support the needs of a constantly expanding and evolving global economy, we continue to invest heavily in extending the footprint of our support network and distribution channels.

Today, NIDEC-SHIMPO has more than 2,000 employees with a presence across five continents. We continue to expand and improve our global capabilities in order to better serve the needs of our OEM customer in an increasingly competitive environment.



# **Global Connections**

#### Americas

- \* Chicago
- Monterrey
- Querétaro
- São Paulo

#### Asia-Pacific

- \* Kyoto (Headquarters)
- Taiwan
- Seoul
- Beijing
- Shanghai
- Pinghu
- Xianggang
- Singapore
- India-Bangalore

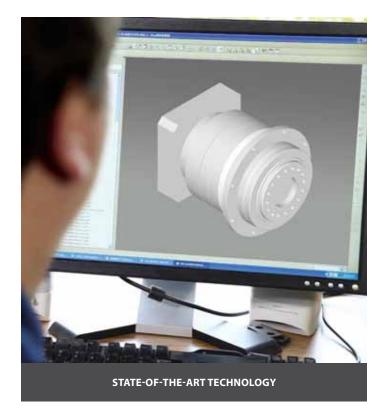
## **Total Quality Management**

The spirit of challenge is basic to the NIDEC-SHIMPO culture, influencing all aspects of product development, manufacturing, and servicing our customers. All of us at NIDEC-SHIMPO, as a team, swiftly start taking action toward our goals. The practice of challenging each individual employee has helped drive and cultivate the creative ideas behind the state-of-the-art technology within our power transmission products. NIDEC-SHIMPO and its employees place quality control on a pedestal and consider it to be the ultimate goal – an ongoing challenge, where we seek continuous improvement at levels previously thought unattainable.

In 1969 NIDEC-SHIMPO received "The Deming Award" for our outstanding quality control based on the Total Quality Management (TQM) Method. Since that time, NIDEC-SHIMPO's desire to avoid causing any inconvenience to our customers, due to inferior product or service, has steered us towards internalizing a unique statistical Quality Control procedure across all departments and functional teams. Our rigid Quality Control program influences all aspects of production such as the sales and order processing activities, the design and resource allocation stages, manufacturing, and logistics. By instilling the Deming Cycle – *Plan, Do, Check, Act* – deep within our company culture, NIDEC-SHIMPO is manufacturing products that exceed our customer's needs and specifications at a lower cost, faster delivery, and better service when benchmarked against any of our major competitors.



Regardless if the reducer is manufactured at our main facility in Asia or assembled at our Kit Build Center in the United States, all products will be tested with the same stringent quality control procedures and tests. Lot testing a few samples, like some of our competitors do, was never an option for NIDEC-SHIMPO.



NIDEC-SHIMPO holds certification for ISO 9001 and 14001. We took the certification process very seriously, realizing that NIDEC-SHIMPO must achieve global ISO standards in order to build our brand awareness and establish credibility abroad where our presence in the local market is still fairly undeveloped. Our ISO Registration is the following;

#### ISO 9001 Compliance in the following activities

Design, development, manufacturing, and service (repair) of the following products,

- Planetary Speed Reducers
- Mechanical Variable Speed Drives
- Handheld Instrumentation (Digital Tachometers, Stroboscopes)
- Digital Controllers



#### ISO 14001 Compliance in the following activities

All design, development, manufacturing, and repair services at our main manufacturing facility, and at our Corporate headquarters.

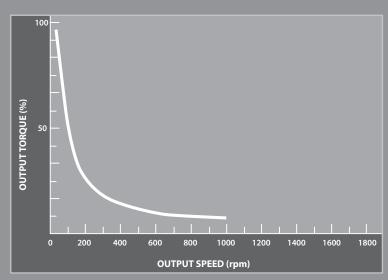
In conclusion, NIDEC-SHIMPO will continue to challenge itself and our individual employees while striving for greater levels of product quality and services. It is a daunting challenge, as the incremental gains in quality become smaller and smaller and much harder to achieve. However, the challenge is ingrained within the spirit of each NIDEC-SHIMPO employee. This **Do It Now!** and **Follow Through!** attitude exhibited by our employees helps create superior products for the global marketplace.

# **RXC-SERIES**

The NIDEC-SHIMPO Ring-cone has a strong advantage over the common electronic variable speed drives in certain performance aspects. The Ring-cone is a mechanical adjustable speed drive utilizing a ring and cone friction power train – hence the name. The internal drive assembly consists of an input disc, a set of planetary cones, a control ring, the cam disc and a pressure control cam. The Ring-cone has different sizes to handle motor power ranging between 1/4HP – 20HP, and nominal output torque ratings spanning 15 – 130,000 in-lbs. This unique drive provides a speed range of o – 800 RPM, and a cam mechanism that adjusts to the environment downstream and can withstand a certain amount of shock load.

With a variable frequency drive, the output torque remains constant from base speed down to the lower limit, whatever it may be for the application. However, with the Ring-cone mechanical variable speed drive the output torque increases as the speed drops. At the low speed range, the output torque approaches 500% of the motor rating providing large breakaway torque values. The mechanical drive is also capable of handling a 200% overload capacity throughout the entire speed range. This performance advantage allows the user to set a low speed that can help the drive package push through difficult areas.

Although VFDs have become the default solution for industry and rightfully so, the mechanical variable speed drives has its niche in specific applications – such as extreme pumping, mixing, recycling, etc. – where its mechanical advantage and low maintenance requirements are an excellent fit. It is ideally suited for rugged, trouble free service in the worst environments including explosion proof, chemical processing, and washdown applications.



**Ring-cone Torque Curve** 

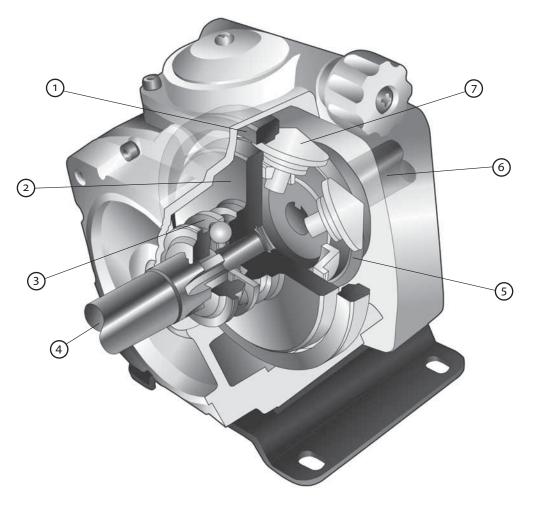


#### **RXC-SERIES**

- Infinite Speed Range: Easily accelerates high speed loads. Smoothly starts delicate equipment. Provides high starting torque without shock
- Oil-Filled Mechanical Design: Rugged and reliable operation. Case seals out the environment. Inherently explosion proof with appropriate motor
- Low Speed Torque up to 285%: Ideal for mixers, extruders or other machines with excessive low speed torque requirements. Easily starts screw conveyors, positive displacement pumps, or any heavy load
- NEMA C-face In and Out Available: Simplify mounting of unit, attachment of motor. Mix and match to nearly any motor type
- Electronic Speed Control Available: Provides speed regulation better than 1%. Allows easy integration into a complete control system. Easy switchover to manual control when necessary. Low-power control generates no electrical noise

# **RXC SERIES** Mechanical Adjustable Speed Drive

### **RXC Series Features**



- 1 Control ring
- 2 Cam disk
- 3 Pressure control cam
- (4) Output shaft
- 5 Planetary cone
- 6 Input shaft
- 7 Input disc

# IIDEC-SHIMPO

#### **RXC Series Model Code**

	NMA	1 0	B 1	0	3 1	Α	A A	0	3	0
In	put Code	Size Code	Reducer Code	Mounting Code	Speed Control Code	Main Motor	Motor Specification	Factory Use	Speed Adjust- ment	Environ- mental
	Α	В	С	D	E	F	G	Н	I	J

#### Input Code ^ . doring Cod

Ordering Code A				
RMA 1X C-Face Input				
RXA	1X Shaft-In			
NMC	2X C-Face Input			
NXC	2X Shaft-In			
NMA	3X-7X C-Face Input			
NXA	3X-7X Shaft-In			

.

#### Size Code

Ordering Code <b>B</b>				
90	90 1X, 0.125HP			
02	2X, 0.25HP			
04	2X, 0.5HP			
05	3X, 0.75HP			
07	3X, 1HP			
10	4X, 1.5HP			
15	4X, 2HP			
22	5X, 3HP			
37	6X, 5HP			
55	7X, 7.5HP			
75	7.5X, 10HP			
91	8X, 15HP			
95	8X, 20HP			

#### **Reducer Code** Ordering Code

00	00 No Reducer				
	See each Rating Table for detail				

C

Note: Built-in Planetary or Built-in Cycloidal

Note:

#### \* Consult Factory

Mounting Code
Ordering Code

Ordering Code			
0	Horizontal with Base		
1	Output Shaft Down w/Flange		
2	Output Shaft Up w/Flange		
4	Output Shaft Down w/Base		
5	Output Shaft Up w/Base		
6	Horizontal with Flange		
L	Wall Mount Left, Viewing from Output Shaft		
R	Wall Mount Right, Viewing from Output Shaft		
*	Special, please specify		

#### **Motor Speed Control Code** (Bolt Circle of motor in mm)

Ordering Code E				
00	Manual Handwheel			
10	Manual Handwheel w/MGS			
11	Open Loop, PM 115VAC			
12	Open Loop, w/MGS PM 115VAC			
14	Open Loop, w/Auxillary Handwheel, PM 115VAC			
15	Open Loop, w/MGS and Auxillary Handwheel, PM 115VAC			
31	Closed Loop, w/MGS PM 115VAC			
32	Closed Loop, w/MGS and Auxillary Handwheel, PM 115VAC			
33	Closed Loop, w/Pot Feedback PM 115VAC			
35	Closed Loop, w/Pot Feedback and Auxillary Handwheel PM 115VAC			
40	Open Loop, EXP PM 115VAC			
41	Open Loop, w/EXP MGS EXP PM 115VAC			
42	Closed Loop, w/EXP MGS EXP PM 115VAC			
43	Hand Wheel w/EXP MGS			
*	Special, please specify			
Note:				

Note: PM: Pilot Motor

MGS: Magnetic Sensor EXP: Explosion Proof

#### **Worm Position Code** Codes 1-6 are for the R\_A-90 unit w/integral worm reducer only

	w/integral worm reducer only							
0	Right angle reducer not used							
1	Vertical up on left							
2	Vertical down on left							
3	Vertical up on right							
4	Vertical down on right							
5	Horizontal on left, worm under							
6	Horizontal on right, worm under							
В	Horizontal on right, worm over							
С	Horizontal on left, worm under							
9	Special, requires description							

#### **Main Motor** Oudauin . ...

Orderii	ng Code F
Α	No Motor
В	1ph, 115/230VAC, 60Hz
С	3ph, 230/460VAC, 60Hz
*	Other, please specify

## Motor Specification Ordering Code

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i.

Motor AA through AE are C-Face connected, 1750rpm								
AA	No Motor							
AB	TEFC							
AC	Wash Down							
AD	Explosion Proof							
AE	Brake Motor							
	Brake Motor CB through CE are Top-mounted, 1750rpm							
Motor	CB through CE are Top-mounted, 1750rpm							
Motor	CB through CE are Top-mounted, 1750rpm TEFC							
Motor CB CC	CB through CE are Top-mounted, 1750rpm TEFC Wash Down							

### Speed Adjustment Ordering Code

Orderi	ng Code
0	800rpm top speed
U	533rpm w/1165rpm Input
3	600rpm top speed
5	400rpm w/1165rpm Input
4	1000rpm Top speed
*	Other, please specify

#### Environmental

Ordering Code						
0	Standard					
2	Washdown protection for Handwheel unit, includes Wahdown Breather, V-Ring, Stainless Steel Sleeve under Oil Seal, and White Epoxy Painting					
4	Washdown Breather only					
5	Washdown protection for Electric Remote Control unit, includes Wahdown Breather, V-Ring, Stainless Steel Sleeve under Oil Seal, and NEMA4 at PM, and White Epoxy Painting					
6	NEMA 4 at PM					
*	Other, please specify					

#### **Operating Principles**

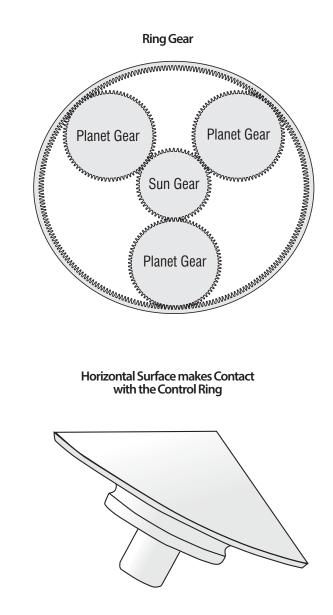
Planetary speed reducers are popular due to the way they transmit a great deal of power through a relatively small package. The central "sun gear" is surrounded by a number of "planet gears" which engage both the sun gear and outer ring gear. Due to the large number of gear teeth always in contact, a great deal of torque is transmitted.

A ring cone traction drive is very similar. The sun gear is replaced by an Input Disc, the planet gears by Cones, and the ring gear by a Control Ring. There are no gear teeth. Torque is transmitted through contact with the rolling edges of the cones.

If this were the complete system, and the Cone retainer were tied to the output shaft, it would operate as a simple speed reducer. In fact, SHIMPO does manufacture such speed reducers, for applications which cannot tolerate the speed ripple that results from engaging and disengaging gear teeth. No gears, no ripple.

However, the RXC variable speed system separates the cones from the output shaft, and adds another contact element, the Cam Disc, to allow output speed changes.

As shown in the diagram, the cones are somewhat "umbrella shaped," with a stem area. When placed in a retainer, the cones are held at such an angle that a portion of the cone surface is horizontal. This horizontal surface makes contact with the Control Ring.

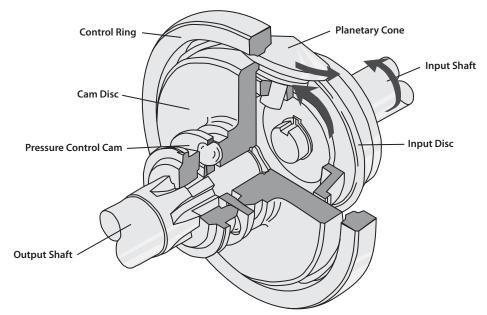


The Input Disk is tied to the input shaft, usually rotating at motor speed, and contacts the Cones under the "umbrella," on a machined shoulder. The Cam Disc is tied to the output shaft, and contacts the Cones on the underside of their outer edge. The Control Ring is tied to the body of the drive, so it does not rotate. It makes contact with the Cones along the horizontal surface, and can slide from near the outer edge to near the center of the Cones.

The Control Ring is the variable speed element in the RXC system. When moved toward the center of the Cones, it causes them to rotate faster, as they orbit the Input Disc. Moved toward the outer edge, the Control Ring causes the Cones to rotate more slowly. As the outer edges of the Cones change speed, the Cam Disc (and therefore output shaft) also changes speed.

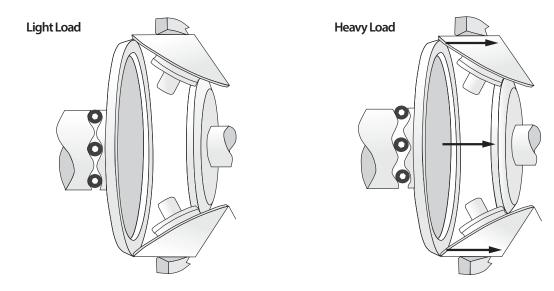
### **Operating Principles**

As the Cones spin, they are also orbiting the Input Disk, as with a typical planetary gear system. If the Control Ring is adjusted such that the orbit speed and Cone edge speed cancel each other, the output shaft will remain stationary under power. This is a unique feature of the RXC system.



The RXC system is essentially a variable speed reducer. It's output speed is the result of a changing reduction ratio, which means torque increases as the output speed decreases. This is what makes the RXC system superior to the common AC variable frequency drive, a constant torque system.

To further take advantage of the low speed/high torque relationship, the RXC design adds a spring-loaded cam system which forces the friction components more tightly together as the load increases. This action also causes the Cones to move relative to the Control Ring, slowing the output speed momentarily. The combination both prohibits slip between components, and automatically increases the output torque, two actions which may resolve the increased load.



The result is a system that will stall the properly sized input motor before it will slip. When the load decreases, the spring pressure on the components relaxes, reducing system stress and allowing the output speed to return to normal. Again, a unique feature which makes the RXC system ideal for the toughest applications, especially those subject to wild fluctuations in load.

#### **Selection Procedure**

The standard selection procedure for RXC drives is fairly simple. It assumes that the required output torque and speed range have already been determined. If the torque figure does not already include a Service Factor for difficult applications or long hours of use, start at item 1. Otherwise, skip to item 4.

- 1. Find the application in the Load Classification Table located on page 13. Determine whether the application is a Uniform load, Moderate load, or Heavy shock load.
- 2. In the table below, find the correct column for the Load Classification, and the correct line for the Duration of Service. The intersection of these parameters contains the Service Factor.
- 3. Multiply the initial required torque by the Service Factor, to determine the necessary rating torque.
- 4. In the tables on pages 14 through 27, find the page that includes the speed range required for this application.
- 5. On that page, locate a torque rating that fits the rating torque as determined above.
- 6. From the Model Number column of that page, copy the partial Model Number displayed for that unit.
- 7. Use the Model Number chart on page 9 to complete the Model Number (replace the dashes in the partial Model Number), considering any options required for this application.

	Load Classification								
Duration of Service	Unifo	rm (U)	Moderate	Shock (M)	Heavy Shock (H)				
	AGMA Circulute		AGMA	Circulute	AGM	Circulute			
Occasional: 1/2 hour per day	0.50	0.50	0.80	0.80	1.25	1.20			
Intermittent: 3 hours per day	0.80	0.80	1.00	1.00	1.50	1.35			
Up to 10 hours per day	1.00	1.00	1.25	1.20	1.75	1.50			
24 hours per day	1.25	1.20	1.50	1.35	2.00	1.60			

Note: AGMA service factors shown are the American Gear Manufacturers' recommendations for conventional gear reducers.

## **IDEC-SHIMPO**

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#### **Load Classification Table**

#### U - Uniform Load

AGITATORS
Pure LiquidsU
Liquids and SolidsM
Liquids - Variable DensityM
Semi-liquids Variable Density M*
BLOWER
CentrifugalU
LobeM
VaneU
BREWING and DISTILLING
Bottling MachineryU
Brew Kettles - Continuous DutyU
Cookers - Continuous Duty
Mash Tubs - Continuous DutyU
Scale Hopper Frequent StartsM
CAN FILLING MACHINES
CANE KNIVES
CAR DUMPERS
CAR PULLERS - Intermittent Duty
CLARIFIERS
CLASSIFIERSM
CLAY WORKING MACHINERY
Brick Press
Briquette MachineH
Clay Working Machinery
Pug MillM
COMPRESSORS
Centrifugal
Lobe
Reciprocating
Multi-CylinderM*
Single CylinderH*
CONVEYORS - UNIFORMLY
LOADED OR FED
ApronM
AssemblyM
Belt
Bucket M
BucketM
ChainU
ChainU FlightU
ChainU FlightU OvenU
Chain         U           Flight         U           Oven         U           CONVEYORS – HEAVY DUTY NOT
Chain         U           Flight         U           Oven         U           CONVEYORS - HEAVY DUTY NOT         UNIFORMLY FED
Chain         U           Flight         U           Oven         U           CONVEYORS - HEAVY DUTY NOT         UNIFORMLY FED           Apron         M
Chain         U           Flight         U           Oven         U           CONVEYORS - HEAVY DUTY NOT         UNIFORMLY FED           Apron         M           Assembly         M
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Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M
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Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly.M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M
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Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M
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Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M*
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M*
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* CRUSHERS
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* CRUSHERS Ore H
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* Bridge Drive M* Bridge Drive M* Bridge Drive M*
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly.M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* Bridge Drive M* CRUSHERS Ore H Stone H DREDGES
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly.M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* CRUSHERS Ore H Stone H Stone H
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Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* Bridge Drive M* CRUSHERS Ore H Stone H DREDGES Cable Reels M Conveyors M Cutter Head Drives H
Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly. M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* Bridge Drive M* Bridge Drive M* CRUSHERS Ore H Stone H DEDGES Cable Reels M Conveyors M Cutter Head Drives H Jig Drives H
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Chain U Flight U Oven U CONVEYORS - HEAVY DUTY NOT UNIFORMLY FED Apron M Assembly.M Belt M Bucket M Chain M Flight M Live Roll (Package) M Oven M Reciprocating H Screw M Shaker H CRANES and HOISTS Main Hoists Heavy Duty H Medium Duty M Reversing M Skip Hoists M Trolley Drive M* Bridge Drive M* Bridge Drive M* Bridge Drive M* Bridge Drive M* CRUSHERS Ore H Stone H DREDGES Cable Reels M Conveyors M Cutter Head Drives H Jig Drives M

#### M - Moderate Load

H - Heavy Shock Load

#### **FI EVATORS**

Bucket - Uniform load	U
Bucket - Heavy load	
Bucket - Continuous	
Centrifugal Discharge	
Escalators	
Freight	M
Gravity Discharge	U
Man Lifts	**
Passenger	**
Service - Hand Lift	
FANS	
Centrifugal	M
Cooling Towers	**
Induced Draft	M
Forced Draft	
Induced Draft	
Large (Mine, etc.)	
Large Industrial	
Light (Small Diameter)	
FEEDERS	0
Apron	м
Belt	
Disc	
Reciprocating	
1 5	
Screw	IVI
FOOD INDUSTRY	
Beet Slicer	
Cereal Cooker	
Dough Mixer	
Meat Grinders	
GENERATORS - (Not Welding)	
HAMMER MILLS	H
LAUNDRY WASHERS	
Reversing	
LAUNDRY TUMBLERS	M
LINE SHAFTS	
Heavy Shock Load	
Heavy Shock Load Moderate Shock Load	M
Heavy Shock Load Moderate Shock Load Uniform Load	M
Heavy Shock Load Moderate Shock Load Uniform Load LUMBER INDUSTRY	M U
Heavy Shock Load Moderate Shock Load Uniform Load	M U
Heavy Shock Load Moderate Shock Load Uniform Load LUMBER INDUSTRY	M U
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical	M U M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor	M U M M H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw	M U M M H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer.	M U M H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer	M M M H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum	M M M H H H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed	M M M H H H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed	M M M H H H H M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Green Chain	M U M M H H H M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Green Chain Live Rolls	M U M H H H H M H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck	MU M M H H H M M M H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline	MU M M H H H M M H H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Gang Feed Live Rolls Log Deck Log Haul - Incline Log Haul - Well Type	M U M M M H H M M M H H H H H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer. Craneway Transfer. De-Barking Drum Edger Feed. Gang Feed. Gang Feed. Garen Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Tauring Device.	M W M H  H  M M  H  H  H  H H  H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Mell Type Log Turning Device Main Log Conveyor	M W M M H H H M M H H H H H H H H H H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Well Type Log Turning Device Main Log Conveyor Off Bearing Rolls	MU W MH HH HH HH HH HH HH M M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Incline Log Turning Device Main Log Conveyor Off Bearing Rolls Planer Feed Chains Planer Floor Chains	M U M M H H H H H H H H H H H H H M M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed. Gang Feed. Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Incline. Log Turning Device. Main Log Conveyor. Off Bearing Rolls. Planer Feed Chains	M U M M H H H H H H H H H H H H H M M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Gang Feed Gang Feed Log Deck Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Well Type Log Turning Device Main Log Conveyor Off Bearing Rolls Planer Fleor Chains Planer Floor Chains Planer Tilting Hoist Re-saw Merry-Go-Round	MU
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Incline Log Haul - Incline Cog Turning Device Main Log Conveyor Off Bearing Rolls Planer Feed Chains Planer Floor Chains Planer Tilting Hoist	M U M H H H H H
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Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Incline Log Haul - Well Type Log Turning Device Main Log Conveyor Off Bearing Rolls Planer Feed Chains Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist Re-saw Merry-Go-Round Conveyor Roll Cases Slab Conveyor	M U M H H H H H.
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor. Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed. Gang Feed. Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Incline. Cog Haul - Incline. Cog Haul - UNEI Type Log Turning Device. Main Log Conveyor. Off Bearing Rolls Planer Feed Chains Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist. Re-saw Merry-Go-Round Conveyor. Roll Cases Slab Conveyor. Small Waste Conveyor - Belt	M U M M H H H H.
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor. Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Incline. Log Haul - Nell Type Log Turning Device. Main Log Conveyor. Off Bearing Rolls. Planer Feed Chains. Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist. Re-saw Merry-Go-Round Conveyor Roll Cases. Slab Conveyor. Small Waste Conveyor - Belt Small Waste Conveyor - Chain.	M M M H H H H H H H H H H H H H H H H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor. Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Incline. Log Haul - Nell Type Log Turning Device. Main Log Conveyor Off Bearing Rolls. Planer Feed Chains. Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist. Re-saw Merry-Go-Round Conveyor Roll Cases Slab Conveyor. Small Waste Conveyor - Belt Small Waste Conveyor - Chain. Log Turning Device.	M W W H H H H H H H H H H H H H H H H H
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Nell Type Log Turning Device Main Log Conveyor Off Bearing Rolls Planer Feed Chains Planer Floor Chains Planer Floor Chains Planer Floor Chains Planer Tilting Hoist Re-saw Merry-Go-Round Conveyor Roll Cases Slab Conveyor - Belt Small Waste Conveyor - Belt Sorting Table	M W W H H H H H H H H H H H H H H M M M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Gang Feed Gang Feed Log Baul - Incline Log Deck Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Well Type Log Turning Device Main Log Conveyor Off Bearing Rolls Planer Fleor Chains Planer Floor Chains Planer Floor Chains Planer Tilting Hoist Re-saw Merry-Go-Round Conveyor Roll Cases Slab Conveyor - Belt Small Waste Conveyor - Belt Small Waste Conveyor - Chain Log Turning Device Sorting Table Tipple Hoist Conveyor	M W W H H H H H H H H H H H H H H H M M M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer Craneway Transfer De-Barking Drum Edger Feed Gang Feed Gang Feed Green Chain Live Rolls Log Deck Log Haul - Incline Log Haul - Incline Log Haul - Incline Log Haul - Well Type Log Turning Device Main Log Conveyor. Off Bearing Rolls Planer Feed Chains Planer Feed Chains Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist Re-saw Merry-Go-Round Conveyor Roll Cases Slab Conveyor - Belt Small Waste Conveyor - Belt Small Waste Conveyor - Chain Log Turning Device. Sorting Table Tipple Hoist Conveyor Tipple Hoist Drive	M U U M M H H H H H H H H H H M M M M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed. Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Incline. Main Log Conveyor. Off Bearing Rolls Planer Feed Chains Planer Feed Chains Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist Re-saw Merry-Go-Round Conveyor Roll Cases Slab Conveyor - Belt Small Waste Conveyor - Chain Log Turning Device. Sorting Table. Tipple Hoist Conveyor Tipple Hoist Drive. Transfer Conveyor	M U U M M H H H H H H H H M M M M M M M
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor. Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed. Gang Feed. Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Mell Type Log Turning Device. Main Log Conveyor. Off Bearing Rolls. Planer Feed Chains. Planer Floor Chains. Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist Re-saw Merry-Go-Round Conveyor. Small Waste Conveyor - Belt Small Waste Conveyor - Chain. Log Turning Device. Sorting Table. Tipple Hoist Cnive. Transfer Conveyor.	M U U U U U U U U U U U U U U U U U U U
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor. Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Incline. Log Haul - Nell Type Log Turning Device. Main Log Conveyor Off Bearing Rolls. Planer Feed Chains. Planer Floor Chains. Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist. Re-saw Merry-Go-Round Conveyor Small Waste Conveyor - Belt Small Waste Conveyor - Belt Small Waste Conveyor - Chain Log Turning Device. Sorting Table. Tipple Hoist Conveyor Transfer Rolls.	М
Heavy Shock Load Moderate Shock Load Uniform Load <b>LUMBER INDUSTRY</b> Barker - Hydraulic - Mechanical Burner Conveyor. Chain Saw and Drag Saw Chain Transfer. De-Barking Drum Edger Feed. Gang Feed. Gang Feed. Green Chain Live Rolls Log Deck Log Haul - Incline. Log Haul - Incline. Log Haul - Mell Type Log Turning Device. Main Log Conveyor. Off Bearing Rolls. Planer Feed Chains. Planer Floor Chains. Planer Floor Chains. Planer Floor Chains. Planer Tilting Hoist Re-saw Merry-Go-Round Conveyor. Small Waste Conveyor - Belt Small Waste Conveyor - Chain. Log Turning Device. Sorting Table. Tipple Hoist Cnive. Transfer Conveyor.	M U M U M U M U M H H H H H H M

MACHINE TOOLS	PULLERS
Bending Roll	
Notching Press - Belt Driven	
Plate Planer	
Punch Press - Gear Driven	H Proportioning
Tapping Machinesl	H Reciprocating
Other Machine Tools	Single Acting
Main Drives	A 3 or more Cylinders
Auxiliary Drives	J Double Acting
METAL MILLS	2 or more Cylinders
Draw Bench - Carriage	H Single Acting 1 or 2 Cylinders
Draw Bench - Main Drive	
Forming Machines	H Single Cylinder
Pinch Dryer & Scrubber Rolls,	Rotary - Gear Type
Reversing	* Rotary - Lobe, Vane
Slitters	
Table Conveyors	Mixer
Non-reversing	A Rubber Calendar
Reversing	
Wire Drawing & Flattening	Sheeter
Machine	A Tire Building Machines
Wire Winding Machine	Λ Tire & Tube Press Openers
MILLS, ROTARY TYPE	Tubers & Strainers
Ball	H SEWAGE DISPOSAL EQUIPMENT
Cement Kilns*	* Bar Screens
Dryers & Coolers	A Chemical Feeders
Kilns	A Collectors, Circuline or
PebbleI	H Straight Line
RodI	-
Tumbling Barrelsl	H Grit Collectors
MIXERS	Scum Breakers
Concrete Mixers, Continuous	A Slow or Rapid Mixers
Concrete Mixers, Intermittent	J Sludge Collectors
Constant Density	J Thickeners
Variable Density	A Vacuum Filters
OIL INDUSTRY	SCREENS
Chillers	
Oil Well Pumping*	<ul> <li>Rotary - Stone or Gravel</li> </ul>
Paraffin Filter Press	A Traveling Water Intake
Rotary Kilns	A SLABPUSHERS
PAPER MILLS	STEERING GEAR
Agitators (Mixers)	A STOKERS
Barker Auxiliaries, Hydraulic	TEXTILE INDUSTRY
Barker, Mechanical	A Batchers
Barking Druml	H Calendars
Beater & Pulper	
Bleacher U	J Cloth Finishing Machines,
Calendars	
Calendars - Superl	H calendars, etc.)
Converting Machines,	Dry Cans
except Cutters, Platers	A Dryers
Conveyors	, , ,
Couch	5
Cutters, Platers	H Looms
Cylinders	M Mangles
Dryers	
Felt Stretcher	
Felt Whipperl	5
Jordans	
Log Haull	
Presses	
Pulp Machines	A Tenter Frames
Reel	
Neel	
Stock Chests	M Washers
Stock Chests Suction Roll	M Washers M Winders (Other than Batchers) J Yarn Preparatory Machines(Cards
Stock Chests	M         Washers           M         Winders (Other than Batchers)           J         Yarn Preparatory Machines(Cards           M         Spinners, Slashers, etc.)
Stock Chests Suction Roll	M         Washers           M         Winders (Other than Batchers)           J         Yarn Preparatory Machines(Cards           M         Spinners, Slashers, etc.)

#### ingle Acting or more Cylinders ..... ..M ouble Acting or more Cylinders ...... ingle Acting 1 or 2 Cylinders..... ouble Acting..... ingle Cylinder..... ary - Gear Type..... н tary - Lobe, Vane ..... ..Н BER INDUSTRY œr... ..Н bber Calendar..... ...M bber Mill (2 or more) ...... М\* eter..... .M\* Building Machines ..... \*\* \*\* & Tube Press Openers ...... oers & Strainers ..... .Μ AGE DISPOSAL EQUIPMENT Screens..... .Н emical Feeders ..... ..Н lectors, Circuline or traight Line ..... н watering Screens..... M Collectors..... ..Н um Breakers..... .Μ w or Rapid Mixers..... Μ dge Collectors ..... . U ckeners..... M cuum Filters М ENS Washing ..... ..U ary - Stone or Gravel ..... .М veling Water Intake ..... ....U BPUSHERS ...... M RING GEAR..... M (**ERS** ...... U ILE INDUSTRY chers..... .Μ endars ..... ...M d Machines..... .M\* oth Finishing Machines, ashers, pads, tenters, dryers, lendars, etc.) .Μ / Cans ..... M vers..... .М eing Machinery..... ..M itting Machines (looms, etc.) .... \* oms..... .Μ M ngles..... opers ..... М ..M ls ... nge Drives..... shers..... .М pers... .M nners Μ iter Frames..... .Μ shers ... M nders (Other than Batchers)...... .М n Preparatory Machines(Cards, nners, Slashers, etc.) ...... .Μ DLASS .. .M\*

\* In view of varying load conditions, it is suggested that these applications be carefully reviewed before a final selection is made.

\*\*Check safety codes and refer to NIDEC-SHIMPO Customer Service.

#### Speed Range: o-800 RPM, Motor Speed: 1750 RPM, Reducer: None

	in-lbs		I	Rating at O	output RPM	Л		Model	Motor	OHL	k	Thrust
Size	HP	800	640	480	320	160	0	Number	НР	lbs	in	lbs
21/	Torque	15	19	22	26	32	44	N 00000 00	0.25	120		
2X	HP	0.19	0.19	0.17	0.13	0.08		N-B020000-	0.25	130	2.8	66
2X	Torque	30	36	43	51	65	87		0.5	120	2.0	
2X	HP	0.38	0.037	0.33	0.26	0.17		N-B040000-	0.5	130	2.8	66
21/	Torque	45	55	65	77	97	130	NL 4.0500 00	0.75	100	2.1	
3X	HP	0.57	0.56	0.50	0.39	0.25		N-A050000-	0.75	180	3.1	88
3X	Torque	60	73	87	102	130	174	N 40700 00	1	100		00
3X	HP	0.76	0.74	0.66	0.52	0.33		N-A070000-	1	180	3.1	88
4X	Torque	90	109	130	154	195	260	- N-A100000-	1.5	260	4.3	120
4X	HP	1.14	1.11	0.99	0.78	0.50						130
	Torque	120	146	173	205	260	347	N-A150000-	2	260	4.3	130
4X	HP	1.52	1.48	1.32	1.04	0.66						130
5X	Torque	180	219	260	307	390	521	N. 40000 00	3	400	4.3	200
27	HP	2.28	2.22	1.98	1.56	0.99		N-A220000-	3	400	4.5	200
6X	Torque	299	364	433	512	650	868	N-A370000-	5	420	4.9	210
ON	HP	3.80	3.70	3.30	2.60	1.65		N-A370000-	5	420	4.9	210
7X	Torque	449	547	650	768	975	1,300	N-A550000-	7.5	440	5.3	220
//	HP	5.70	5.55	4.95	3.90	2.48		N-A550000-	7.5	440	5.5	220
7.5X	Torque	599	729	867	1,020	1,300	1,740	N-A750000-	10	440	5.2	220
7.58	HP	7.60	7.40	6.60	5.18	3.30		N-A750000-	10	440	5.3	220
8X	Torque	898	1,090	1,300	1,540	1,950	2,600	N 40100 00	15	880	77	440
ολ	HP	11.4	11.1	9.90	7.82	4.95		N-A910000-	15	880	7.7	440
ov	Torque	1,200	1,460	1,730	2,050	2,600	3,470	N 40500 00	20			440
8X	HP	15.2	14.8	13.2	10.4	6.60		N-A950000-	20	880	7.7	440

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

# NIDEC-SHIMPO

### **Rating Table**

#### Speed Range: o-600 RPM, Motor Speed: 1750 RPM, Reducer: None

	in-lbs		F	Rating at O	utput RPM	Λ		Model	Motor	OHL	k	Thrust
Size	HP	600	480	360	240	120	0	Number	HP	lbs	in	lbs
27	Torque	19	22	25	28	34	44	N 00000 00	0.25	120		
2X	HP	0.18	0.17	0.14	0.11	0.06		N-B020003-	0.25	130	2.8	66
2X	Torque	38	43	49	56	68	87	N D0400 02	0.5	120	2.0	
	HP	0.36	0.33	0.28	0.21	0.13		N-B040003-	0.5	130	2.8	66
3X	Torque	58	65	74	85	102	130	N 40500 02	0.75	100	3.1	00
38	HP	0.55	0.50	0.42	0.32	0.19		N-A050003-	0.75	180	3.1	88
3X	Torque	77	87	98	113	137	174	N-A070003-	1	180	3.1	00
38	HP	0.73	0.66	0.56	0.43	0.26		N-A070003-		180	3.1	88
4X	Torque	115	130	147	169	205	260	- N-A100003-	1.5	260	4.3	120
47	HP	1.09	0.99	0.84	0.64	0.39						130
	Torque	153	173	196	226	273	347	- N-A150003-	2	260	4.3	130
4X	HP	1.46	1.32	1.12	0.86	0.52						130
5X	Torque	230	260	294	339	410	521	N 42200 02	3	400	4.3	200
37	HP	2.19	1.98	1.68	1.29	0.78		N-A220003-	5	400	4.5	200
6X	Torque	383	433	490	565	685	868	N-A370003-	5	420	4.9	210
07	HP	3.65	3.30	2.80	2.15	1.30		N-A370003-	5	420	4.9	210
7X	Torque	575	650	735	847	1,020	1,300	N-A550003-	7.5	440	5.3	220
//	HP	5.47	4.95	4.20	3.23	1.94		N-A330003-	7.5	440	5.5	220
7.5X	Torque	767	867	980	1,130	1,370	1,740	N-A750003-	10	440	F 2	220
7.5X	HP	7.30	6.60	5.60	4.30	2.61		N-A750003-	10	440	5.3	220
8X	Torque	1,150	1,300	1,470	1,690	2,050	2,600	N-A910003-	15	880	7.7	440
87	HP	10.9	9.90	8.40	6.44	3.90		N-A910003-	15	880	7.7	440
8X	Torque	1,530	1,730	1,960	2,260	2,730	3,470	N-A950003-	20	880	7.7	440
ολ	HP	14.6	13.2	11.2	8.61	5.20		N-A950003-	20	880	1.1	440

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

#### Speed Range: o-400 RPM, Motor Speed: 1150 RPM, Reducer: None

	in-lbs		l	Rating at O	output RPM	Λ		Model	Motor	OHL	k	Thrust
Size	HP	400	320	240	160	80	0	Number	HP	lbs	in	lbs
21	Torque	30	33	37	44	53	66	N D0400 02	0.25	120	2.0	
2X	HP	0.19	0.17	0.14	0.11	0.07		N-B040003-	0.25	130	2.8	66
21	Torque	59	65	73	87	104	131	NI 40500 02	0.5	120	2.0	
2X	HP	0.37	0.33	0.28	0.22	0.13		N-A050003-	0.5	130	2.8	66
٦V	Torque	89	98	110	131	157	195	N A 1000 02	0.75	100	2.1	88
3X	HP	0.56	0.50	0.42	0.33	0.20		N-A100003-	0.75	180	3.1	88
21	Torque	118	131	147	175	210	261	N-A100003-		100	21	
3X	HP	0.75	0.67	0.56	0.44	0.27		N-A100003-	1	180	3.1	88
4X	Torque	175	195	221	260	312	390	N 43300 03	1.5	260	4.2	120
48	HP	1.11	0.99	0.84	0.66	0.40		N-A220003-	1.5	260	4.3	130
AV	Torque	234	260	291	346	416	521	N 42200 02		260	4.2	120
4X	HP	1.49	1.32	1.11	0.88	0.53		N-A220003-	2	260	4.3	130
FV	Torque	351	390	437	520	624	782	N-A370003-	3	400	4.3	200
5X	HP	2.23	1.98	1.66	1.32	0.79		N-A370003-	5	400	4.5	200
6X	Torque	585	650	728	866	1,040	1,300	N-A550003-	5	420	4.9	210
OX	HP	3.71	3.30	2.77	2.20	1.32		N-A550005-	5	420	4.9	210
7X	Torque	877	975	1,092	1,300	1,560	1,950	N-A750003-	7.5	440	5.3	220
/X	HP	5.57	4.95	4.16	3.30	1.98		N-A750003-	7.5	440	5.3	220
7.5X	Torque	1,170	1,300	1,456	1,730	2,080	2,610	N 40100 02	10	440	5.2	220
7.5X	HP	7.43	6.60	5.54	4.39	2.64		N-A910003-	10	440	5.3	220
ov	Torque	1,760	1,950	2,210	2,540	3,120	3,920	N 40100 02	15			140
8X	HP	13.4	9.90	8.42	6.45	3.96		N-A910003-	15	880	7.7	440
ov	Torque	2,340	2,600	2,920	3,460	4,160	5,220	N 40500 02	20			140
8X	HP	14.9	13.2	11.1	8.78	5.28		N-A950003-	20	880	7.7	440

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

# NIDEC-SHIMPO

### **Rating Table**

#### Speed Range: 0-267 RPM, Motor Speed: 1750 RPM, Built-in Planetary Speed Reducer Ratio: 3:1

	in-lbs		I	Rating at O	utput RPM	Λ		Model	Motor	OHL	k	Thrust
Size	HP	267	213	160	107	53	0	Number	HP	lbs	in	lbs
ъv	Torque	43	54	63	74	91	125	N 00202 00	0.25	200	2.0	110
2X	HP	0.18	0.18	0.16	0.13	0.08		N-B028300-	0.25	260	2.9	110
27	Torque	86	103	123	145	185	248	N 00402 00	0.5	260	2.0	110
2X	HP	0.36	0.35	0.31	0.25	0.16		N-B048300-	0.5	260	2.9	110
27	Torque	128	157	185	219	276	371	N 40502 00	0.75	270	2.5	110
3X	HP	0.54	0.53	0.47	0.37	0.23		N-A050300-	0.75	370	3.5	110
27	Torque	171	208	248	291	371	496	N 40702 00		270	2.5	110
3X	HP	0.72	0.70	0.63	0.49	0.31		N-A070300-	1	370	3.5	110
	Torque	257	311	371	439	556	741	N 41002 00	1.5	400	47	200
4X	HP	1.09	1.05	0.94	0.74	0.47		N-A100300-	1.5	490	4.7	200
	Torque	342	416	493	584	741	989	N 41502 00		400	47	200
4X	HP	1.45	1.41	1.25	0.99	0.63		N-A150300-	2	490	4.7	200
EV.	Torque	513	624	741	875	1,110	1,480	N 42202 00		570	6.1	200
5X	HP	2.17	2.11	1.88	1.48	0.94		N-A220300-	3	570	6.1	290
6X	Torque	852	1,040	1,230	1,460	1,850	2,470	N 42702 00	5	0.40	67	420
OX	HP	3.61	3.52	3.12	2.47	1.57		N-A370300-	5	840	6.7	420
7X	Torque	1,280	1,560	1,850	2,190	2,780	3,710	N-A550300-	7.5	1 100	7.3	540
/X	HP	5.42	5.28	4.70	3.71	2.35		N-A550300-	/.5	1,100	7.3	540
7.5X	Torque	1,710	2,080	2,470	2,910	3,710	4,960	N 47502 00	10	1 100	7.2	540
7.58	HP	7.24	7.04	6.27	4.93	3.14		N-A750300-	10	1,100	7.3	540
ov	Torque	2,560	3,110	3,710	4,390	5,560	7,410	N 40102 00	15	2 000	2.0	1 100
8X	HP	10.8	10.5	9.42	7.43	4.71		N-A910300-	15	2,000	3.9	1,100
01	Torque	3,420	4,160	4,930	5,840	7,410	9,890	N 40502 00	20	2 000	2.0	1.100
8X	HP	14.5	14.1	12.5	9.88	6.27		N-A950300-	20	2,000	3.9	1,100

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

#### Speed Range: o-200 RPM, Motor Speed: 1750 RPM, Built-in Planetary Speed Reducer Ratio: 3:1

	in-lbs			Rating at O	utput RPM	Λ		Model	Motor	OHL	k	Thrust
Size	HP	200	160	120	80	40	0	Number	HP	lbs	in	lbs
27	Torque	54	63	71	80	97	125	N 00000 00	0.25	260	2.0	110
2X	HP	0.17	0.16	0.14	0.10	0.06		N-B028303-	0.25	260	2.9	110
27	Torque	108	123	140	160	194	248	N 00402 02	0.5	260	2.0	110
2X	HP	0.34	0.31	0.27	0.20	0.12		N-B048303-	0.5	260	2.9	110
27	Torque	165	185	211	242	291	371	N 40502 02	0.75	270	2.5	110
3X	HP	0.52	0.47	0.40	0.31	0.18		N-A050303-	0.75	370	3.5	110
27	Torque	219	248	279	322	390	496	N 40702 02		270	2.5	110
3X	HP	0.70	0.63	0.53	0.41	0.25		N-A070303-	1	370	3.5	110
4X	Torque	328	371	419	482	584	741	N A 1002 02	1.5	400	47	200
48	HP	1.04	0.94	0.80	0.61	0.37		N-A100303-	1.5	490	4.7	200
4X	Torque	436	493	559	644	778	989	N A1502 02		400	47	200
48	HP	1.38	1.25	1.06	0.82	0.49		N-A150303-	2	490	4.7	200
E.V.	Torque	656	741	838	966	1,170	1,480	N-A220303-	3	570	6.1	290
5X	HP	2.08	1.88	1.60	1.23	0.74		N-A220303-	3	570	0.1	290
6Х	Torque	1,090	1,230	1,400	1,610	1,950	2,470	N-A370303-	5	840	6.7	420
0A	HP	3.46	3.12	2.67	2.04	1.24		N-A370303-	5	040	0.7	420
7X	Torque	1,640	1,850	2,090	2,410	2,910	3,710	N-A550303-	7.5	1,100	7.3	540
/^	HP	5.20	4.70	3.98	3.06	1.85		N-A550505-	7.5	1,100	/.5	540
7.5X	Torque	2,190	2,470	2,790	3,220	3,900	4,960	N-A750303-	10	1,100	7.3	540
7.58	HP	6.95	6.27	5.31	4.09	2.48		N-A750505-	10	1,100	/.5	540
8X	Torque	3,280	3,710	4,190	4,820	5,840	7,410	N-A910303-	15	2,000	3.9	1,100
0	HP	10.41	9.42	7.98	6.12	3.71		N-A910303-		2,000	5.9	1,100
8X	Torque	4,360	4,930	5,590	6,440	7,780	9,890	N-A950303-	20	2,000	3.9	1,100
οΛ	HP	13.8	12.5	10.6	8.17	4.94		N-A950503-	20	2,000	5.9	1,100

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

Overhung load ratings are based on the load being applied at the center of the output shaft extension.

#### **Rating Table**

Cine	in-lbs		F	Rating at O	utput RPN	Λ		Model	Motor	OHL	k	Thrust
Size	HP	160	128	96	64	32	0	Number	HP	lbs	in	lbs
2X	Torque	71	90	105	124	152	209	N-B028500-	0.25	330	2.9	110
28	HP	0.18	0.18	0.16	0.13	0.08		N-DU28500-	0.25	530	2.9	110
2X	Torque	143	171	204	242	309	413	N-B048500-	0.F	220	2.0	110
28	HP	0.36	0.35	0.31	0.25	0.16			0.5	330	2.9	110
ov	Torque	4,270	5,180	6,180	7,320	9,260	12,400	N-A910500-	15	2 200	3.9	1 700
8X	HP	10.8	10.5	9.41	7.43	4.70		N-A910500-	15	3,300	3.9	1,700
8X	Torque	5,700	6,940	8,220	9,740	12,400	16,500	) N-A950500-	20	2 200	3.9	1 700
87	HP	14.5	14.1	12.5	9.89	6.30		N-A950500-	20	3,300	3.9	1,700

#### Speed Range: 0-160 RPM, Motor Speed: 1750 RPM, Built-in Planetary Speed Reducer Ratio: 5:1

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

C	in-lbs		F	Rating at O	utput RPN	Λ		Model	Motor	OHL	k	Thrust
Size	HP	133	107	80	53	27	0	Number	HP	lbs	in	lbs
٦V	Torque	257	314	371	439	553	741	N 40506 00	0.75	400	2.5	110
3X	HP	0.54	0.53	0.47	0.37	0.23		N-A050600-	0.75	490	3.5	110
2V	Torque	342	416	496	581	741	992	N-A070600-	1	490	2.5	110
3X	HP	0.72	0.70	0.63	0.49	0.31		N-A070600-	1	490	3.5	110
AV	Torque	513	621	741	878	1,110	1,480	N-A100600-	1.5	(20)	47	200
4X	HP	1.09	1.05	0.94	0.74	0.47		N-A100600-	1.5	620	4.7	200
AV	Torque	648	832	986	1,170	1,480	1,980	N-A150600-	2	(20)	47	200
4X	HP	1.45	1.41	1.25	0.99	0.63		N-A150600-	2	620	4.7	200
5X	Torque	1,030	1,250	1,480	1,750	2,220	2,970	N-A220600-	2	720	6.1	220
27	HP	2.18	2.12	1.88	1.48	0.94		N-A220600-	3	730	6.1	330
CV	Torque	1,700	2,070	2,470	2,920	3,710	4,950	N-A370600-	F	1 100	67	440
6X	HP	3.60	3.50	3.14	2.47	1.57		N-A370600-	5	1,100	6.7	440
JV	Torque	2,560	3,120	3,710	4,380	5,560	7,410	N-A550600-	7.5	1 400	7.3	690
7X	HP	5.42	5.28	4.71	3.71	2.35		N-A550600-	7.5	1,400	7.3	690
7 5 4	Torque	3,410	4,160	4,940	5,810	7,410	9,920		10	1 400	7.3	(00
7.5X	HP	7.21	7.04	6.27	4.92	3.14		N-A750600-	10	1,400	/.3	690

#### Speed Range: 0-133 RPM, Motor Speed: 1750 RPM, Built-in Planetary Speed Reducer Ratio: 6:1

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

Overhung load ratings are based on the load being applied at the center of the output shaft extension.

#### **Rating Table**

Cine	in-lbs		F	Rating at O	utput RPM	1		Model	Motor	OHL	k	Thrust
Size	HP	120	96	72	48	24	0	Number	HP	lbs	in	lbs
2X	Torque	90	105	119	133	162	209	N-B028503-	0.25	330	2.9	110
27	HP	0.17	0.16	0.14	0.10	0.06		М-БО28505-	0.25	530	2.9	110
2X	Torque	181	204	233	266	323	413	N-B048503-	0.5	330	2.9	110
27	HP	0.34	0.31	0.27	0.20	0.12			0.5	530	2.9	110
8X	Torque	5,460	6,180	6,980	8,030	9,740	12,400	N-A910503-	15	3,300	3.9	1,700
87	HP	10.4	9.40	8.00	6.10	3.71		N-A910503-	15	3,300	3.9	1,700
ov	Torque	7,270	8,220	9,310	10,700	13,000	16,500		20	2 200	2.0	1 700
8X	HP	13.8	12.5	10.6	8.10	4.95		0 N-A950503-	20	3,300	3.9	1,700

#### Speed Range: 0-120 RPM, Motor Speed: 1750 RPM, Built-in Planetary Speed Reducer Ratio: 5:1

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

#### Speed Range: 0-100 RPM, Motor Speed: 1750 RPM, Built-in Planetary Speed Reducer Ratio: 6:1

<i>c</i> .	in-lbs		1	Rating at O	output RPM	Λ		Model	Motor	OHL	k	Thrust
Size	HP	100	80	60	40	20	0	Number	HP	lbs	in	lbs
21	Torque	331	371	422	485	581	741	N 40506 02	0.75	100	2.5	110
3X	HP	0.52	0.47	0.40	0.31	0.18		N-A050603-	0.75	490	3.5	110
٦V	Torque	439	496	559	644	781	992	N-A070603-	1	400	2.5	110
3X	HP	0.70	0.63	0.53	0.41	0.25		N-AU70603-	1	490	3.5	110
4X	Torque	656	741	838	963	1,170	1,480	N-A100603-	1.5	(20)	47	200
48	HP	1.04	0.94	0.80	0.61	0.37		N-A100603-	1.5	620	4.7	200
AV	Torque	872	986	1,120	1,290	1,560	1,980	N-A150603-		(20)	47	200
4X	HP	1.38	1.25	1.07	0.82	0.50		N-A150603-	2	620	4.7	200
ΓV	Torque	1,310	1,480	1,680	1,930	2,340	2,970	N-A220603-	3	730	6.1	330
5X	HP	2.08	1.88	1.60	1.22	0.74		N-A220603-	3	/30	0.1	330
6X	Torque	2,180	2,470	2,790	3,220	3,900	4,950	N-A370603-	5	1,100	6.7	440
ON	HP	3.46	3.14	2.66	2.04	0.74		N-A370003-	5	1,100	0.7	440
77	Torque	3,280	3,710	4,190	4,830	5,810	7,410	N-A550603-	7.5	1 400	7.3	690
7X	HP	5.20	4.71	3.99	3.07	1.84		N-A550603-	/.5	1,400	/.3	690
7 5 7	Torque	4,370	4,940	5,590	6,440	7,810	9,220	N A7506 02	10	1 400	7.2	600
7.5X	HP	6.93	6.27	5.32	4.09	2.84		N-A750603-	10	1,400	7.3	690

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

# NIDEC-SHIMPO

### **Rating Table**

#### Speed Range: 0-73 RPM, Motor Speed: 1750 RPM, Built-in ER Speed Reducer Ratio: 11:1

	in-lbs		I	Rating at O	utput RPM	Λ		Model	Motor	OHL	k	Thrust
Size	HP	72.3	58.2	43.6	29.1	14.6	0	Number	НР	lbs	in	lbs
<b>.</b>	Torque	153	193	224	265	326	448	N 600.14 00	0.05	100		
2X	HP	0.18	0.18	0.15	0.12	0.08		N-C02A100-	0.25	480	2.5	240
27	Torque	305	366	438	519	521	521	N CO 11 1 00	0.5	400	2.5	240
2X	HP	0.35	0.34	0.30	0.24	0.12		N-C04A100-	0.5	480	2.5	240
27	Torque	305	366	438	519	521	521	N CO 101 00	0.5	700	2.0	400
2X	HP	0.35	0.34	0.30	0.24	0.15		N-C04B100-	0.5	790	2.9	400
27	Torque	458	560	661	783	987	1,323		0.75	700	2.0	400
3X	HP	0.53	0.52	0.46	0.36	0.23		N-A05B100-	0.75	790	2.9	400
27	Torque	611	743	885	1,040	1,320	1,740	NI 407D1 00		700	2.0	400
3X	HP	0.70	0.69	0.61	0.48	0.30		N-A07B100-	1	790	2.9	400
4X	Torque	916	1,110	1,320	1,570	1,980	2,650	NI A 10C1 00	1.5	1 400	2.7	700
4X	HP	1.06	1.02	0.91	0.72	0.46		N-A10C100-	1.5	1,400	3.7	700
aV	Torque	1,220	1,490	1,760	2,090	2,650	3,470	N A 15 C 1 00		1 400	27	700
4X	HP	1.41	1.38	1.22	0.96	0.61		N-A15C100-	2	1,400	3.7	700
εV	Torque	1,830	2,230	2,650	3,120	3,970	5,300	N 422D1 00	2	2,000		1 200
5X	HP	2.11	2.06	1.83	1.44	0.92		N-A22D100-	3	2,600	7.7	1,300
6X	Torque	3,040	3,700	4,410	5,210	6,610	7,810	N-A37D100-	5	2.600	7.7	1 200
07	HP	3.51	3.42	3.05	2.40	1.53		N-A37D100-	5	2,600	1.1	1,300
7X	Torque	4,570	5,570	6,610	7,810	9,920	13,200	N-A55E100-	7.5	4.600	0.7	2 200
/X	HP	5.27	5.14	4.58	3.60	2.29		N-A55E100-	7.5	4,600	9.7	2,300
7.5X	Torque	6,090	7,420	8,820	10,380	13,230	17,100	N-A75E100-	10	4.600	9.7	2 200
7.58	HP	7.03	6.85	6.11	4.79	3.05		N-A/SET00-	10	4,600	9.7	2,300
8X	Torque	9,140	11,100	13,200	15,700	19,800	26,500	N-A91F100-	15	6.700	11.6	2 200
ολ	HP	10.5	10.2	9.14	7.25	4.57		N-A91F100-	15	6,700	11.0	3,300
8X	Torque	12,200	14,900	17,600	20,900	26,500	35,300	N-A95F100-	20	6 700	11.6	3,300
07	HP	14.1	13.8	12.2	9.65	6.12		N-A93F100-	20	6,700	11.6	5,500

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

#### Speed Range: 0-47 RPM, Motor Speed: 1750 RPM, Built-in ER Speed Reducer Ratio: 17:1

<i>c</i> :	in-lbs		I	Rating at O	output RPM	Л		Model	Motor	OHL	k	Thrust
Size	НР	47.1	37.7	28.2	18.8	9.41	0	Number	НР	lbs	in	lbs
	Torque	236	299	346	409	503	692					
2X	HP	0.18	0.18	0.15	0.12	0.08		N-C02A200-	0.25	480	2.5	240
21/	Torque	472	566	676	730	730	730	N 60440 00	0.5	400		2.42
2X	HP	0.35	0.34	0.30	0.22	0.11		N-C04A200-	0.5	480	2.5	240
21/	Torque	472	566	676	802	1,020	1,370		0.5	700		
2X	HP	0.35	0.34	0.30	0.24	0.15		N-C04B200-	0.5	790	2.9	400
21/	Torque	708	865	1,020	1,210	1,530	2,040	N 405D0 00	0.75	700		100
3X	HP	0.53	0.52	0.46	0.36	0.23		N-A05B200-	0.75	790	2.9	400
21/	Torque	944	1,150	1,370	1,600	2,040	2,600	N 407D0 00		700		100
3X	HP	0.70	0.69	0.61	0.48	0.30		N-A07B200-	1	790	2.9	400
21/	Torque	944	1,150	1,370	1,600	2,040	2,740	N 40750 00				
3X	HP	0.70	0.69	0.61	0.48	0.30		N-A07C200-	1	1,600	3.7	820
4.74	Torque	1,420	1,710	2,040	2,420	3,070	4,090	N 44050 00				
4X	HP	1.06	1.02	0.91	0.72	0.46		N-A10C200-	1.5	1,600	3.7	820
AV	Torque	1,890	2,300	2,720	3,220	4,090	5,460	N 415C2 00		1.000	2.7	020
4X	HP	1.41	1.37	1.22	0.96	0.61		N-A15C200-	2	1,600	3.7	820
FV	Torque	2,830	3,440	4,090	4,830	6,130	8,190	N 422D2 00	_	2.000		1 500
5X	HP	2.11	2.05	1.83	1.44	0.92		N-A22D200-	3	2,900	7.7	1,500
CV	Torque	4,700	5,720	6,810	8,050	10,200	12,600	N 427D2 00	5	2 000		1 500
6X	HP	3.51	3.42	3.05	2.40	1.52		N-A37D200-	5	2,900	7.7	1,500
CV	Torque	4,700	5,720	6,810	8,050	10,200	13,600	NI 42752 00	_	4.600	0.7	2 200
6X	HP	3.51	3.42	3.05	2.40	1.52		N-A37E200-	5	4,600	9.7	2,300
71	Torque	7,060	8,600	10,200	12,100	15,300	20,400	NI 45552 00	7.5	4.600	0.7	2 200
7X	HP	5.27	5.14	4.57	3.61	2.28		N-A55E200-	7.5	4,600	9.7	2,300
//	Torque	9,420	11,500	13,600	16,000	20,400	21,700	N 47550 00				
7.5X	HP	7.03	6.85	6.11	4.79	3.05		N-A75E200-	10	4,600	9.7	2,300
ov	Torque	14,100	17,100	20,400	24,200	30,700	40,900	N 40152 00	15	7 500	11.6	2 700
8X	HP	10.5	10.2	9.14	7.23	4.58		N-A91F200-	15	7,500	11.6	3,700
0.1	Torque	18,900	23,000	27,200	32,200	40,900	52,100	N 40552 00	20	7 500	11.6	2 700
8X	HP	14.1	13.7	12.2	9.62	6.11		N-A95F200-	20	7,500	11.6	3,700

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

# NIDEC-SHIMPO

### **Rating Table**

#### Speed Range: 0-28 RPM, Motor Speed: 1750 RPM, Built-in ER Speed Reducer Ratio: 29:1

C:	in-lbs		F	Rating at O	utput RPA	Л		Model	Motor	OHL	k	Thrust
Size	HP	27.6	22.1	16.6	11	5.52	0	Number	HP	lbs	in	lbs
21	Torque	402	510	590	697	730	730	N 60040 00	0.05	400		2.42
2X	HP	0.18	0.18	0.15	0.12	0.06		N-C02A300-	0.25	480	2.5	240
27	Torque	402	510	590	697	858	1,180	NI CO2D2 00	0.25	700	2.0	400
2X	HP	0.18	0.18	0.15	0.12	0.08		N-C02B300-	0.25	790	2.9	400
ъv	Torque	805	966	1,150	1,370	1,740	2,330	N CO4P2 00	0.5	700	2.0	400
2X	HP	0.35	0.34	0.30	0.24	0.15		N-C04B300-	0.5	790	2.9	400
۶V	Torque	1,210	1,480	1,740	2,070	2,600	2,600		0.75	790	2.0	400
3X	HP	0.53	0.52	0.46	0.36	0.23		N-A05B300-	0.75	/90	2.9	400
ъv	Torque	1,610	1,960	2,330	2,600	2,600	2,600	N-A07B300-	1	790	2.0	400
3X	HP	0.70	0.69	0.61	0.46	0.23		N-AU7B300-	1	/90	2.9	400
ъv	Torque	1,610	1,960	2,330	2,740	3,490	4,670	N 407C2 00	1	1 700	2.7	840
3X	HP	0.70	0.69	0.61	0.48	0.31		N-A07C300-		1,700	3.7	840
4X	Torque	2,410	2,920	3,490	4,130	5,230	6,080	N-A10C300-	1.5	1,700	3.7	840
47	HP	1.05	1.02	0.92	0.72	0.46		N-A10C300-	1.5	1,700	3./	840
4X	Torque	3,220	3,920	4,640	5,500	6,080	6,080	N-A15C300-	2	1,700	3.7	840
4X	HP	1.41	1.37	1.22	0.96	0.53		N-ATSC300-	2	1,700	3.7	840
4X	Torque	3,220	3,920	4,640	5,500	6,970	9,310	N-A15D300-	2	3,100	7.7	1,500
47	HP	1.41	1.37	1.22	0.96	0.61		N-A15D500-	2	5,100	7.7	1,500
5X	Torque	4,830	5,870	6,970	8,240	10,460	12,600	N-A22D300-	3	3,100	7.7	1,500
57	HP	2.11	2.06	1.83	1.44	0.92		N-A22D300-	5	5,100	1.1	1,500
6X	Torque	8,020	9,760	11,600	12,600	12,600	12,600	N-A37D300-	5	3,100	7.7	1,500
0X	HP	3.51	3.42	3.05	2.21	1.10		N-A37D300-		5,100	1.1	1,500
6X	Torque	8,020	9,760	11,600	13,700	17,400	23,300	N-A37E300-	5	4,600	9.7	2,300
0A	HP	3.51	3.42	3.05	2.40	1.52		N-A37E300-		4,000	9.7	2,300
7X	Torque	12,000	14,700	17,400	20,600	26,200	31,200	N-A55E300-	7.5	4,600	9.7	2,300
//	HP	5.25	5.15	4.57	3.61	2.29		N-A33E300-	7.5	4,000	9.7	2,300
7.5X	Torque	16,100	19,600	23,300	27,400	31,200	31,200	N-A75E300-	10	4,600	9.7	2,300
7.58	HP	7.05	6.86	6.12	4.80	2.73		N-A75E500-	10	4,000	9.7	2,300
8X	Torque	24,100	29,200	34,900	41,300	52,300	65,100	N-A91F300-	15	7,500	11.6	3,700
οΛ	HP	10.5	10.2	9.17	7.23	4.58		N-A91F500-	15	7,500	11.0	5,700
8X	Torque	32,200	39,200	46,400	55,000	65,100	65,100	N-A95F300-	20	7 500	11.6	2 700
07	HP	14.1	13.7	12.2	9.63	5.70		N-A93F300-	20	7,500	11.6	3,700

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

#### Speed Range: 0-23 RPM, Motor Speed: 1750 RPM, Built-in ER Speed Reducer Ratio: 35:1

<i>c</i> :	in-lbs		1	Rating at C	output RPA	Л		Model	Motor	OHL	k	Thrust
Size	HP	22.9	18.3	13.7	9.14	4.57	0	Number	HP	lbs	in	lbs
21	Torque	486	615	712	730	730	730	N C0244 00	0.25	400	2.5	240
2X	HP	0.18	0.18	0.15	0.12	0.08		N-C02A400-	0.25	480	2.5	240
21	Torque	486	615	712	842	1,036	1,425	NI CO2D4 00	0.25	700	2.0	400
2X	HP	0.18	0.18	0.15	0.12	0.08		N-C02B400-	0.25	790	2.9	400
21	Torque	971	1,170	1,390	1,650	2,100	2,600	NI COADA DO	0.5	700	2.0	400
2X	HP	0.35	0.34	0.30	0.24	0.15		N-C04B400-	0.5	790	2.9	400
21	Torque	1,460	1,780	2,100	2,490	2,600	2,600		0.75	700	2.0	400
3X	HP	0.53	0.52	0.46	0.36	0.19		N-A05B400-	0.75	790	2.9	400
21/	Torque	1,460	1,780	2,100	2,490	3,140	4,210	N 40554 00	0.75	4 700		
3X	HP	0.53	0.52	0.46	0.36	0.23		N-A05C400-	0.75	1,700	3.7	840
21/	Torque	1,940	2,360	2,820	3,300	4,210	5,630	NERACE		4 700		
3X	HP	0.70	0.68	0.61	0.48	0.31		N-B07C400-	1	1,700	3.7	840
A)/	Torque	2,910	3,530	4,210	4,990	6,080	6,080	N 44054 00		4 700		
4X	HP	1.06	1.02	0.92	0.72	0.44		N-A10C400-	1.5	1,700	3.7	840
A)/	Torque	2,910	3,530	4,210	4,990	6,310	8,420	N 440D 4 00		2.400		1.500
4X	HP	1.06	1.02	0.92	0.72	0.46		N-A10D400-	1.5	3,100	7.7	1,500
A)/	Torque	3,890	4,730	5,600	6,080	6,080	6,080	N 44554		4 700		
4X	HP	1.41	1.37	1.22	0.96	0.61		N-A15C400-	2	1,700	3.7	840
AV	Torque	3,890	4,730	5,600	6,640	8,420	11,230	N 415D 4 00	_	2 1 0 0		1 500
4X	HP	1.41	1.37	1.22	0.96	0.61		N-A15D400-	2	3,100	7.7	1,500
= \/	Torque	5,830	7,090	8,420	9,940	12,600	12,600	N 4225 4		2.400		1.500
5X	HP	2.11	2.06	1.83	1.44	0.91		N-A22D400-	3	3,100	7.7	1,500
	Torque	9,680	11,800	14,000	16,600	21,000	28,100		_			
6X	HP	3.51	3.42	3.05	2.41	1.52		N-A37E400-	5	4,600	9.7	2,300
	Torque	14,500	17,700	21,000	24,900	31,600	31,200					
7X	HP	5.26	5.14	4.57	3.61	2.29		N-A55E400-	7.5	4,600	9.7	2,300
	Torque	19,400	23,600	28,100	33,000	42,100	56,300					
7.5X	HP	7.04	6.85	6.11	4.79	3.05		N-A75F400-	10	7,500	11.6	3,700
	Torque	29,100	35,300	42,100	49,900	63,100	65,100					
8X	HP	10.6	10.2	9.16	7.24	4.58		N-A91F400-	15	7,500	11.6	3,700
<b>a</b> ¥	Torque	38,850	47,268	56,009	65,100	65,100	65,100					
8X	HP	14.1	13.7	12.2	9.44	4.72		N-A95F400-	20	7,500	11.6	3,700
<b>a</b> ¥	Torque	38,850	47,268	56,009	66,369	84,175	112,000				45.5	
8X	НР	14.1	13.7	12.2	9.63	6.11		N-A95G400-	20	15,000	15.0	7,300

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

# NIDEC-SHIMPO

### **Rating Table**

#### Speed Range: 0-17 RPM, Motor Speed: 1750 RPM, Built-in ER Speed Reducer Ratio: 47:1

<i>c</i> .	in-lbs		I	Rating at O	output RPM	Л		Model	Motor	OHL	k	Thrust
Size	НР	17	14	10	7	3	0	Number	НР	lbs	in	lbs
21/	Torque	652	826	956	1,130	1,390	1,910	N DOODS OO	0.05			
2X	HP	0.18	0.18	0.15	0.12	0.08		N-B02B500-	0.25	790	2.9	400
21	Torque	1,300	1,570	1,870	2,220	2,600	2,600	N 00405 00	0.5	700	2.0	400
2X	HP	0.35	0.34	0.30	0.24	0.14		N-B04B500-	0.5	790	2.9	400
21	Torque	1,960	2,390	2,600	2,600	2,600	2,600		0.75	700	2.0	400
3X	HP	0.53	0.52	0.42	0.28	0.14		N-A05B500-	0.75	790	2.9	400
٦V	Torque	1,960	2,390	2,830	3,350	4,220	5,650		0.75	1 700	2.7	0.40
3X	HP	0.53	0.52	0.46	0.36	0.23		N-A05C500-	0.75	1,700	3.7	840
٦V	Torque	2,610	3,170	3,780	4,430	5,650	6,080		1	1 700	2.7	0.40
3X	HP	0.70	0.68	0.61	0.48	0.31		N-A07C500-	1	1,700	3.7	840
AV	Torque	3,910	4,740	5,650	6,080	6,080	6,080		1.5	1 700	2.7	0.40
4X	HP	1.06	1.02	0.92	0.66	0.33		N-A10C500-	1.5	1,700	3.7	840
4X	Torque	3,910	4,740	5,650	6,700	8,480	11,300	N-A10D500-	1.5	2 100		1 500
4X	HP	1.06	1.02	0.92	0.72	0.46		N-A10D500-	1.5	3,100	7.7	1,500
4X	Torque	5,220	6,350	7,520	8,910	11,300	12,600		2	2 100		1 500
47	HP	1.41	1.37	1.22	0.96	0.61		N-A15D500-	2	3,100	7.7	1,500
5X	Torque	7,830	9,520	11,300	12,600	12,600	12,600	N-A22D500-	3	3,100	7.7	1 500
37	HP	2.11	2.06	1.83	1.44	0.92		N-A22D300-	5	5,100	7.7	1,500
5X	Torque	7,830	9,520	11,300	13,300	17,000	22,700	N-A22E500-	3	4,600	9.7	2,300
37	HP	2.11	2.06	1.83	1.44	0.92		N-A22E300-	5	4,000	9.7	2,500
6X	Torque	13,000	15,800	18,800	22,300	28,300	31,200	N-A37E500-	5	4.600	9.7	2,300
0A	HP	3.51	3.41	3.05	2.41	1.53		N-A37E300-		4,000	9.7	2,300
7X	Torque	19,500	23,800	28,300	31,200	31,200	31,200	N-A55E500-	7.5	4,600	9.7	2,300
//	HP	5.27	5.14	4.59	3.61	2.29		N-A33E300-	7.5	4,000	9.7	2,300
7X	Torque	19,500	23,800	28,300	33,400	42,400	56,500	N-A55F500-	7.5	7,500	11.6	3,700
//	HP	5.27	5.14	4.59	3.61	2.29		N-A55F500-	7.5	7,500	11.0	3,700
7.5X	Torque	26,000	31,700	37,700	44,300	56,500	65,100	N-A75F500-	10	7,500	11.6	3,700
7.57	HP	7.02	6.85	6.11	4.79	3.05		N-A75F500-	10	7,500	11.0	3,700
8X	Torque	39,000	47,400	56,500	65,100	65,100	65,100	N-A91F500-	15	7 500	11.6	2 700
0	HP	10.5	10.2	9.16	7.03	3.52		N-A91F500-	15	7,500	11.0	3,700
8X	Torque	52,200	65,100	65,100	65,100	65,100	65,100	N-A95F500-	20	7 500	11.6	2 700
01	HP	14.1	14.1	10.5	7.03	3.52		N-A93F300-	20	7,500	11.0	3,700

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

#### Speed Range: 0-14 RPM, Motor Speed: 1750 RPM, Built-in ER Speed Reducer Ratio: 59:1

	in-lbs		1	Rating at C	output RPM	Λ		Model	Motor	OHL	k	Thrust
Size	HP	14	11	8	5	3	0	Number	HP	lbs	in	lbs
2.1	Torque	819	1,040	1,200	1,420	1,750	2,400	N DOOD C	0.05	700	2.0	400
2X	HP	0.18	0.18	0.15	0.12	0.08		N-B02B600-	0.25	790	2.9	400
21/	Torque	1,640	1,960	2,350	2,600	2,600	2,600	N DO AD C DO	0.5	700	2.0	400
2X	HP	0.35	0.34	0.30	0.22	0.11		N-B04B600-	0.5	790	2.9	400
27	Torque	2,460	3,000	3,550	4,200	5,290	6,080	N 40555 00	0.75	1 700	27	0.40
3X	HP	0.53	0.52	0.46	0.36	0.23		N-A05C600-	0.75	1,700	3.7	840
27	Torque	3,270	3,980	4,750	5,570	6,080	6,080	N 40766 00		1 700	27	0.40
3X	HP	0.70	0.69	0.61	0.48	0.26		N-A07C600-	1	1,700	3.7	840
<b>A Y</b>	Torque	4,910	5,950	7,090	8,400	10,600	12,600	N 410DC 00	1.5	2 100		1 500
4X	HP	1.06	1.02	0.92	0.72	0.46		N-A10D600-	1.5	3,100	7.7	1,500
<b>A Y</b>	Torque	6,550	7,970	9,440	11,200	12,600	12,600			2 100		1 500
4X	HP	1.41	1.37	1.22	0.96	0.54		N-A15D600-	2	3,100	7.7	1,500
FV	Torque	9,820	12,000	14,200	16,800	21,300	28,400	N 42256 00		4.600	0.7	2 200
5X	HP	2.11	2.07	1.83	1.45	0.92		N-A22E600-	3	4,600	9.7	2,300
6X	Torque	16,300	19,900	23,600	27,900	31,200	31,200	N-A37E600-	5	4.600	9.7	2 200
07	HP	3.51	3.43	3.05	2.40	1.34		N-A37E000-	5	4,600	9.7	2,300
77	Torque	24,500	29,900	35,500	41,900	53,200	65,100		7.5	7 500	11.0	2 700
7X	HP	5.27	5.15	4.58	3.61	2.29		N-A55F600-	7.5	7,500	11.6	3,700
7.5X	Torque	32,700	39,800	47,300	55,700	65,100	65,100		10	7 500	11.0	2 700
7.58	HP	7.04	6.85	6.11	4.79	2.80		N-A75F600-	10	7,500	11.6	3,700
ov	Torque	49,000	59,500	65,100	65,100	65,100	65,100		15	7 500	11.0	2 700
8X	HP	10.5	10.2	9.15	7.23	4.56		N-A91F600-	15	7,500	11.6	3,700
ov	Torque	49,000	59,500	70,900	84,000	106,000	130,000	N 40166 00	15	15.000	15.0	7 200
8X	HP	10.5	10.2	9.15	7.23	4.56		N-A91G600-	15	15,000	15.0	7,300
8X	Torque	65,500	79,700	94,400	112,000	130,000	130,000	N-A95G600-	20	15.000	15.0	7,300
ολ	HP	14.1	13.7	12.2	9.64	5.59		N-A95Go00-	20	15,000	15.0	7,300

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

# NIDEC-SHIMPO

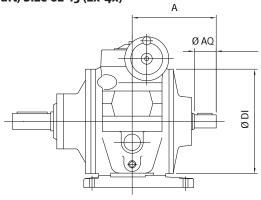
### **Rating Table**

#### Speed Range: o-11 RPM, Motor Speed: 1750 RPM, Built-in ER Speed Reducer Ratio: 71:1

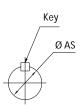
	in-lbs		I	Rating at O	utput RPN	Λ		Model	Motor	OHL	k	Thrust
Size	HP	11	9	7	5	2	0	Number	HP	lbs	in	lbs
2X	Torque	985	1,250	1,440	1,710	2,100	2,600	N 00007 00	0.05	700	2.0	400
28	HP	0.18	0.18	0.15	0.12	0.08		N-B02B700-	0.25	790	2.9	400
27	Torque	1,970	2,360	2,600	2,600	2,600	2,600	N 00407 00	0.5	700	2.0	400
2X	HP	0.35	0.34	0.28	0.19	0.09		N-B04B700-	0.5	790	2.9	400
зх	Torque	2,960	3,610	4,270	5,060	6,080	6,080	N D0567 00	0.75	1 700	2.7	0.40
38	HP	0.53	0.52	0.46	0.36	0.22		N-B05C700-	0.75	1,700	3.7	840
зх	Torque	3,940	4,790	5,710	6,080	6,080	6,080	N-B07C700-	1	1 700	3.7	840
38	HP	0.70	0.69	0.61	0.43	0.22		N-B0/C/00-	1	1,700	3./	840
4X	Torque	5,910	7,160	8,540	10,100	12,600	12,600	N-A10D700-	1.5	2 100	7.7	1,500
48	HP	1.06	1.02	0.92	0.72	0.45		N-ATOD700-	1.5	3,100	7.7	1,500
4X	Torque	7,880	9,590	11,400	12,600	12,600	12,600	N-A15D700-	2	2 100	7.7	1,500
47	HP	1.41	1.37	1.22	0.90	0.45		N-A13D700-	2	3,100	7.7	1,500
5X	Torque	11,800	14,400	17,100	20,200	25,600	31,200	N-A22E700-	3	4.600	9.7	2,300
27	HP	2.11	2.06	1.83	1.44	0.92		N-A22E700-	5	4,600	9.7	2,500
6X	Torque	19,600	23,900	28,400	31,200	31,200	31,200	N-A37E700-	5	4,600	9.7	2,300
0A	HP	3.50	3.42	3.05	2.23	1.12		N-A37E700-	5	4,000	9.7	2,300
7X	Torque	29,500	35,900	42,700	50,400	64,000	65,100	N-A55F700-	7.5	7,500	11.6	3,700
/^	HP	5.27	5.13	4.58	3.60	2.29		N-A33F700-	7.5	7,500	11.0	5,700
7.5X	Torque	39,300	47,900	56,900	65,100	65,100	65,100	N-A75F700-	10	7,500	11.6	3,700
7.58	HP	7.03	6.85	6.10	4.66	2.33		N-A73F700-	10	7,500	11.0	5,700
8X	Torque	59,000	71,600	85,400	101,000	128,000	130,000	N-A91G700-	15	15,000	15.0	7,300
0	HP	10.5	10.2	9.16	7.22	4.58		N-A91G700-	15	15,000	15.0	7,500
8X	Torque	78,800	95,900	114,000	130,000	130,000	130,000	N-A95G700-	20	15,000	15.0	7,300
0	HP	14.1	14.1	10.5	7.03	3.52		N-A95G700-	20	13,000	13.0	7,300

Specifications are subject to change without notice. See page 28 - 42 for dimensions.

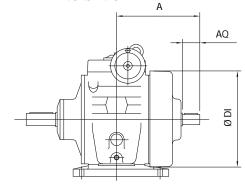
Input Shaft, Size 02-15 (2x-4x)



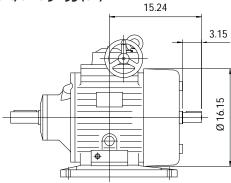
**INPUT SHAFT** 



Input Shaft, Size 22-75 (5x-7.5x)



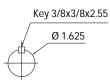
Input Shaft, Size 91-95 (8x)



**INPUT SHAFT** 



**INPUT SHAFT** 



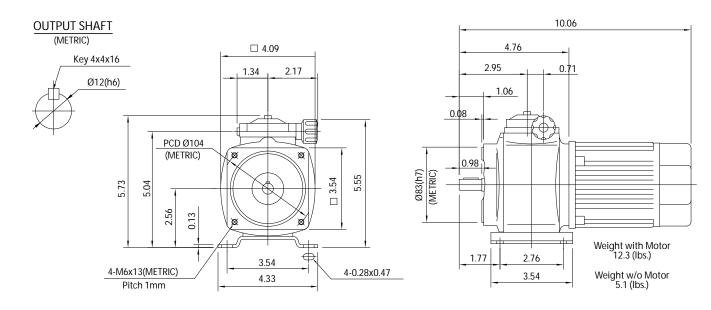
Weight (lbs.) 495 Lube Qty (gal.) \* 1.32

#### Input Shaft, Size 02-95 (2x-8x)

Size	RX Model Number	Α	AQ	AS	DI	Input Key	Weight (lbs.)	Lube Qty (gal,) *
2X	NXC02 & NXC04	4.66	1.00	0.625	5.36	3/16x3/16x0.50	24	0.05
зХ	NXC02 & NXC04	5.12	1.19	0.625	6.54	3/16x3/16x0.78	45	0.13
4X	NXA10 & NXA15	6.02	1.57	0.938	7.48	1/4x1/4x0.98	65	0.21
5X	NXA22	8.86	2.00	0.938	10.16	1/4x1/4x1.37	106	0.48
6X	NXA37	10.04	2.00	1.125	12.21	1/4x1/4x1.37	171	0.66
7X	NXA55	11.30	2.36	1.375	13.19	3/16x5/16x1.77	225	0.74
7.5X	NXA75	11.30	2.36	1.375	14.18	3/16x5/16x1.77	235	0.58

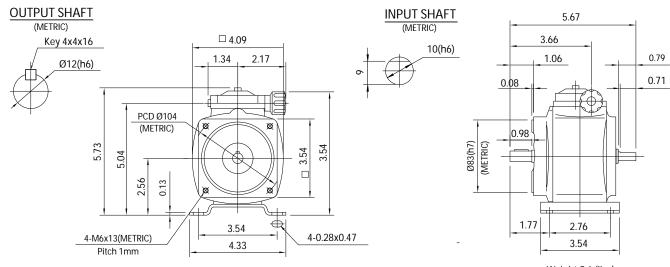
\* For horizontal mounting

#### **Rating Table & Dimensions**



Base Mount, Input C-Face, No Speed Reducer, Size 90 (1x)

#### Base Mount, Input Shaft, No Speed Reducer, Size 90 (1x)



Weight 5.1 (lbs.)

#### Speed Range: 0-1000 rpm, Motor Speed: 1750 rpm, Adjustable Speed Selection Speed Range: 0-1000 rpm, Built-in Speed Reducer Ratio: None

Sine	in-lbs HP		I	Rating at C	output rpm	ı	
Size	IN-IDS HP	1000	800	600	400	200	0
11	T	5.2	6.5	8.7	13	22	36
1X	Torque HP	0.08	0.08	0.08	0.08	0.07	

#### Base Mount, Input C-Face, No Speed Reducer, Sizes 02-95 (2x-8x)

Size	RX Model Number	с	D	DF	E	F	G	н	НС	НН	I
2X	NMB0200 & NMB0400	3.54	5.36	N/A	3.54	4.33	0.56	7.96	6.89	8.19	3.06
зх	NMA0500 & NMA0700	4.17	6.66	N/A	4.72	6.10	0.56	9.45	8.23	9.80	3.85
4X	NMA1000 & NMA1500	4.72	8.27	N/A	5.51	6.69	0.63	10.4	9.22	10.8	5.70
5X	NMA2200	6.06	10.0	N/A	6.30	9.06	0.79	12.8	11.5	13.8	5.31
6X	NMA3700	6.89	11.8	N/A	8.27	10.2	0.87	15.2	13.3	15.7	6.53
7X	NMA5500	7.72	12.8	13.2	9.06	10.6	0.99	16.9	15.0	17.4	7.55
7.5X	NMA7500	7.72	14.7	14.2	9.06	10.6	0.99	16.9	15.0	18.2	7.55

Size	RX Model Number	K1	K2	LK	м	N	Q	R	S	т	z
2X	NMB0200 & NMB0400	3.63	2.17	9.28	4.73	5.52	1.88	5.15	0.625	0.71	0.36
зх	NMA0500 & NMA0700	4.80	2.92	11.6	5.91	7.29	1.88	6.48	0.625	1.05	0.36
4X	NMA1000 & NMA1500	4.80	2.92	14.7	6.70	7.88	2.75	8.58	1.125	1.05	0.36
5X	NMA2200	6.15	4.09	16.5	7.88	10.6	2.75	9.25	1.125	1.22	0.44
6Х	NMA3700	6.89	4.84	19.3	10.2	12.2	3.38	11.3	1.375	1.54	0.59
7X	NMA5500	6.89	4.84	22.7	11.0	13.0	4.00	12.3	1.625	1.54	0.59
7.5X	NMA7500	9.02	4.84	22.7	11.0	13.0	4.00	12.3	1.625	1.54	0.59

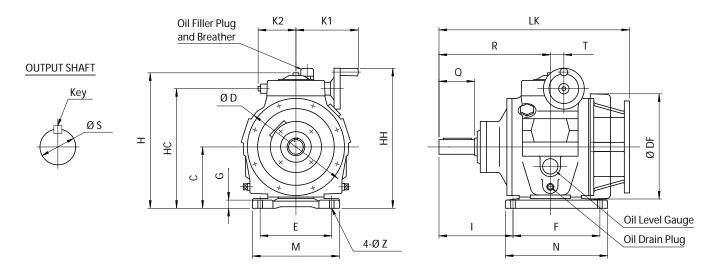
Size	RX Model Number	Output Key	Hand-Wheel Dia.	Hand-wheel Turns	Motor (lbs.)	Lube Qty (gal.)	Input C-Face
2X	NMB0200 & NMB0400	.188x.188x1.37	2.56	18	24	0.05	56C
зх	NMA0500 & NMA0700	.188x.188x1.37	3.15	18	45	0.13	56C
4X	NMA1000 & NMA1500	.250x.250x2.16	3.15	19	65	0.21	140TC
5X	NMA2200	.250x.250x2.16	4.72	23	106	0.48	180TC
6X	NMA3700	.313x.313x2.75	4.72	20	171	0.66	180TC
7X	NMA5500	.375x.375x3.14	4.72	23	242	0.74	210TC
7.5X	NMA7500	.375x.375x3.14	6.30	23	252	0.58	210TC

\* For horizontal mounting

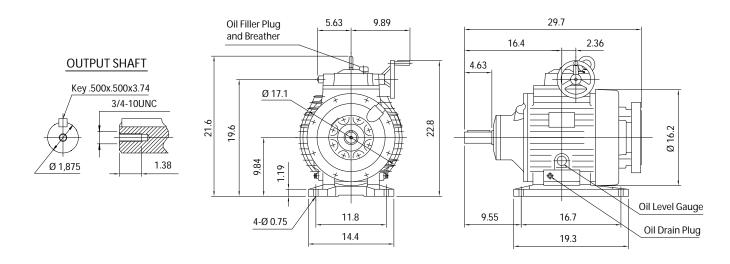
Units are shipped factory lubricated.

Dimensions are subject to change without notice. Contact NIDEC-SHIMPO for certified drawings for installation purposes.

#### Base Mount, Input C-Face, No Speed Reducer, Sizes 02-75 (2x-7.5x)



#### Base Mount, Input C-Face, No Speed Reducer, Sizes 91-95 (8x)



#### Flange Mount, Input C-Face, No Speed Reducer, Sizes 02-95

Size	RX Model Number	DF	FA	FB	FC	HL	но	ко	K1	K2
2X	NMB0200 & NMB0400	N/A	5.88	4.50	6.50	3.35	6.3	N/A	3.63	2.17
3Х	NMA0500 & NMA0700	N/A	5.88	4.50	6.50	4.06	7.21	4.93	4.80	2.92
4X	NMA1000 & NMA1500	N/A	7.25	8.50	9.00	4.49	7.64	6.38	4.80	2.92
5X	NMA2200	N/A	7.25	8.50	9.00	5.39	9.65	6.19	6.15	4.09
6X	NMA3700	N/A	7.25	8.50	9.00	6.42	11.0	7.68	6.89	4.84
7X	NMA5500	13.19	7.25	8.50	9.13	7.28	12.0	8.31	6.89	4.84
7.5X	NMA7500	14.18	7.25	8.50	9.13	7.28	12.0	8.31	9.02	4.84

Size	RX Model Number	LE	LG	LK	LR	LZ	Q	R	S	т
2X	NMB0200 & NMB0400	0.13	0.39	9.28	2.06	3/8-16UNC	1.88	5.15	0.625	0.71
3X	NMA0500 & NMA0700	0.13	0.47	11.56	2.06	3/8-16UNC	1.88	6.48	0.625	1.05
4X	NMA1000 & NMA1500	0.23	0.40	14.68	2.37	1/2-13UNC	2.75	8.58	1.125	1.05
5X	NMA2200	0.25	0.54	16.45	2.37	1/2-13UNC	2.75	9.25	1.125	1.22
6X	NMA3700	0.25	N/A	19.32	2.87	1/2-13UNC	3.38	11.25	1.375	1.54
7X	NMA5500	0.25	N/A	22.67	3.51	1/2-13UNC	4.00	12.3	1.625	1.54
7.5X	NMA7500	0.25	N/A	22.67	3.51	1/2-13UNC	4.00	12.3	1.625	1.54

Size	RX Model Number	Output Key	Hand-wheel Dia.	Hand-wheel Turns	Weight w/o Motor (lbs.)	Lube Qty (gal.)	Input C-Face
2X	NMB0200 & NMB0400	.188x.188x1.37	2.56	18	22	0.11	56C
3X	NMA0500 & NMA0700	.188x.188x1.37	3.15	18	56	0.26	56C
4X	NMA1000 & NMA1500	.250x.250x2.16	3.15	19	74	0.50	140TC
5X	NMA2200	.250x.250x2.16	4.72	23	122	0.71	180TC
6X	NMA3700	.313x.313x2.75	4.72	20	219	1.23	180TC
7X	NMA5500	.375x.375x3.14	4.72	23	296	1.43	210TC
7.5X	NMA7500	.375x.375x3.14	6.30	23	308	1.43	210TC

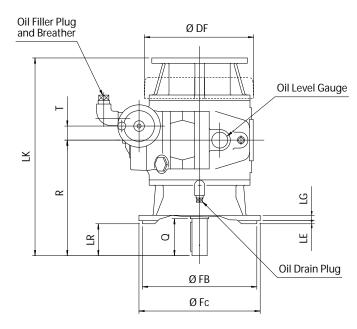
\* For vertical down mounting

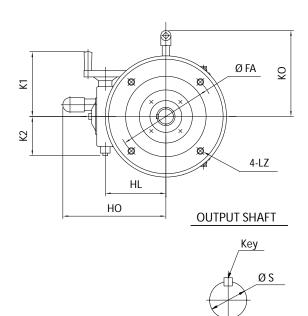
Units are shipped factory lubricated.

Unless otherwise noted, all lengths are in inches.

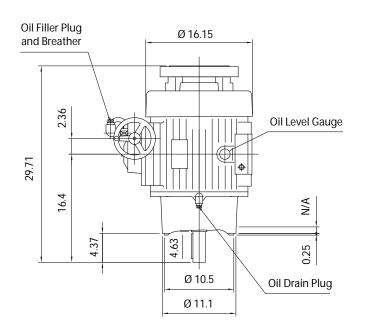
Dimensions are subject to change without notice. Contact NIDEC-SHIMPO for certified drawings for installation purposes.

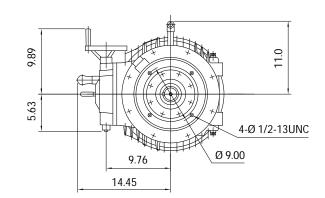
#### Flange Mount, Input C-Face, No Speed Reducer, Sizes 02-75 (2x-7.5x)



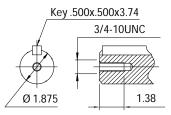


#### Flange Mount, Input C-Face, No Speed Reducer, Sizes 91-95 (8x)





#### OUTPUT SHAFT



#### Base Mount, Input C-Face, Planetary Reducer, Sizes 02-95 (2x-8x)

Size	RX Model Number	с	D	DF	E	F	G	н	НС	нн	I
27	NMB0283 & NMB0285	2.54	5.26	N1/A	F F 1	6.10	0.67	7.00	6.00	0.10	2.76
2X	NMB0483 & NMB0485	3.54	5.36	N/A	5.51	6.10	0.67	7.96	6.89	8.19	2.76
3X	NMA0503 & NMA0506	4 1 7	6.66	N1/A	7.00	7.05	0.67	0.45	8.23	0.00	2.74
38	NMA0703 & NMA0706	4.17	0.00	N/A	7.09	7.95	0.67	9.45	8.23	9.80	3.74
4X	NMA1003 & NMA1006	4.70	8.27	N/A	7.80	10.0	0.70	10.4	9.22	10.8	4.33
4X	NMA0503 & MNA1506	4.72	8.27	N/A	7.80	10.0	0.79	10.4	9.22	10.8	4.33
5X	NMA2203 & NMA2206	6.06	10.0	N/A	9.45	11.6	1.19	12.8	11.5	13.8	4.72
6X	NMA3703 & NMA3706	6.89	11.8	N/A	11.81	13.8	1.26	15.2	13.3	15.7	5.31
7X	NMA5503 & NMA5506	7.72	12.8	13.2	13.0	14.2	1.46	16.9	15.0	17.4	5.91
7.5X	NMA7503 & NMA7506	7.72	14.7	14.2	13.0	14.2	1.46	16.9	15.0	18.2	5.91

Size	RX Model Number	к	K1	K2	LK	м	N	Q (mm)	R	S (mm)	т	Z
2X	NMB0283 & NMB0285	1.42	2.62	2.16	11.9	6.70	7.52	40	7.76	24	0.71	0.43
2X	NMB0483 & NMB0485	1.42	3.63	2.10	11.9	6.70	7.52	40	7.76	24	0.71	0.43
3X	NMA0503 & NMA0506	1.58	4.80	2.92	15.0	8.67	9.53	50	9.92	24	1.05	0.43
27	NMA0703 & NMA0706	1.56	4.60	2.92	15.0	0.07	9.55	50	9.92	24	1.05	0.45
4X	NMA1003 & NMA1006	1.97	4.80	2.92	18.5	9.45	12.0	55	12.4	28	1.05	0.51
47	NMA0503 & MNA1506	1.97	4.60	2.92	10.5	9.45	12.0	55	12.4	20	1.05	0.51
5X	NMA2203 & NMA2206	2.37	6.15	4.09	21.0	11.42	14.0	60	13.8	32	1.22	0.59
6X	NMA3703 & NMA3706	3.35	6.89	4.84	23.9	13.8	17.1	70	15.8	35	1.54	0.71
7X	NMA5503 & NMA5506	3.55	6.89	4.84	27.3	15.0	17.7	80	16.9	42	1.54	0.79
7.5X	NMA7503 & NMA7506	3.55	9.02	4.84	27.3	15.0	17.7	80	16.9	42	1.54	0.79

Size	RX Model Number	Output Key (mm)	Hand-wheel Dia.	Hand-wheel Turns	Weight w/o Motor (lbs.)	Lube		Input
						Adj. Spd. (gal.)	Reducer (gal.)	C-Face
2X	NMB0283 & NMB0285	8x7x25	2.56	18	25	0.05	grease	56C
	NMB0483 & NMB0485							
3X	NMA0503 & NMA0506	- 8x7x35	3.15	18	58	0.13	0.10	56C
	NMA0703 & NMA0706							
4X	NMA1003 & NMA1006	8x7x40	3.15	19	101	0.21	0.13	140TC
	NMA0503 & MNA1506							
5X	NMA2203 & NMA2206	10x8x40	4.72	23	118	0.48	0.26	180TC
6X	NMA3703 & NMA3706	10x8x50	4.72	20	242	0.66	0.40	180TC
7X	NMA5503 & NMA5506	12x10x60	4.72	23	327	0.74	0.48	210TC
7.5X	NMA7503 & NMA7506	12x10x60	6.30	23	301	0.58	0.48	210TC

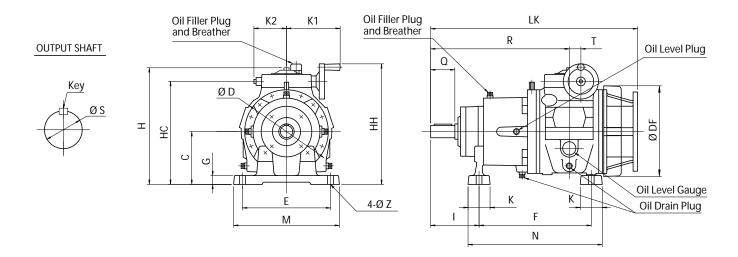
\* For horizontal mounting

Units are shipped factory lubricated.

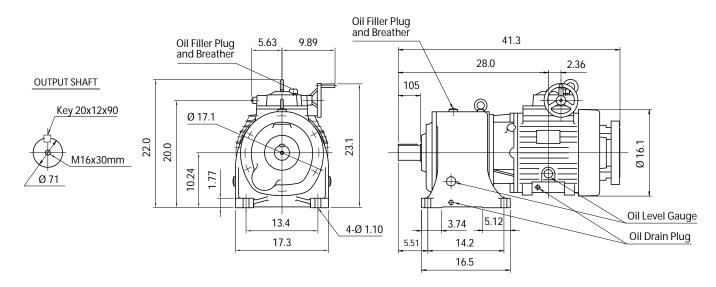
Unless otherwise noted, all lengths are in inches.

Dimensions are subject to change without notice. Contact NIDEC-SHIMPO for certified drawings for installation purposes.

#### Base Mount, Input C-Face, Planetary Reducer, Sizes 02-75 (2x-7.5x)



#### Base Mount, Input C-Face, Planetary Reducer, Sizes 91-95 (8x)



#### Flange Mount, Input C-Face, Planetary Reducer, Sizes 02-95 (2x-8x)

Size	RX Model Number	DF	FA	FB	FC	HL	НО	HP	КО	K1
2X	NMB0283 & NMB0285	N/A	6.50	F 12	7.88	3.35	6.30	N/A	N1/A	3.63
28	NMB0483 & NMB0485	N/A	0.50	5.12	7.00	5.55	6.30	IN/A	N/A	3.03
3X	NMA0503 & NMA0506	N/A	8.47	7.09	9.85	4.06	7.21	4.73	4.97	4.80
27	NMA0703 & NMA0706	N/A	0.47	7.09	9.65	4.00	7.21	4.75	4.97	4.60
4X	NMA1003 & NMA1006	N/A	10.43	9.06	11.8	4.49	7.64	5.32	5.83	4.80
47	NMA0503 & MNA1506	N/A	10.45	9.00	11.0	4.49	7.04	5.52	5.65	4.60
5X	NMA2203 & NMA2206	N/A	11.8	9.84	13.8	5.40	9.65	6.50	6.03	6.15
6Х	NMA3703 & NMA3706	N/A	13.8	11.81	15.75	6.42	11.0	7.29	7.88	6.89
7X	NMA5503 & NMA5506	13.19	13.8	11.8	15.8	7.29	12.0	8.27	8.39	6.89
7.5X	NMA7503 & NMA7506	14.18	13.8	11.8	15.8	7.29	12.0	8.27	8.39	9.02

Size	RX Model Number	K2	LK	LE	LG	LR	LZ	Q(mm)	R	S (mm)	т
2X	NMB0283 & NMB0285	2.16	11.00	0.16	0.56	1.50	0.47	40	7.76	24	0.71
28	NMB0483 & NMB0485	2.16	11.89	0.16	0.50	1.58	0.47	40	7.70	24	0.71
3X	NMA0503 & NMA0506	2.92	15.0	0.24	0.63	1.97	0.59	50	9.92	24	1.05
27	NMA0703 & NMA0706	2.92	15.0	0.24	0.05	1.97	0.59	50	9.92	24	1.05
4X	NMA1003 & NMA1006	2.92	18.5	0.24	0.79	2.17	0.59	55	12.4	28	1.05
47	NMA0503 & MNA1506	2.92	10.5	0.24	0.79	2.17	0.59	55	12.4	20	1.05
5X	NMA2203 & NMA2206	4.09	21.0	0.31	0.79	2.36	0.75	60	13.8	32	1.22
6X	NMA3703 & NMA3706	4.84	23.9	0.31	0.79	2.76	0.75	70	15.8	35	1.54
7X	NMA5503 & NMA5506	4.84	27.33	0.31	0.99	3.16	0.75	80	16.9	42	1.54
7.5X	NMA7503 & NMA7506	4.84	27.33	0.31	0.99	3.15	0.75	80	16.9	42	1.54

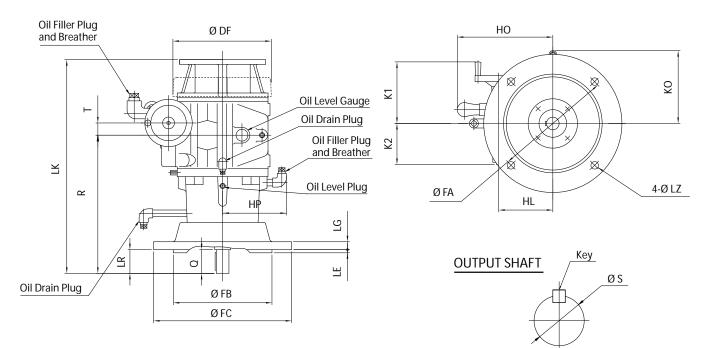
Ci	RX Model Number	Output Key (mm)	Hand-wheel	Hand-wheel	Weight w/o	Lu	be	Input	
Size	KX Model Number	Output Key (mm)	Dia.	Turns	Motor (lbs.)	Adj. Spd. (gal.)	Reducer (gal.)	C-Face	
2X	NMB0283 & NMB0285	8x7x25	2.56	18	24	0.11	grosco	56C	
27	NMB0483 & NMB0485	0X/X25	2.50	10	24	0.11	grease	50C	
3X	NMA0503 & NMA0506	8x7x35	3.15	18	60	0.26	0.11	56C	
27	NMA0703 & NMA0706	0X7X33	5.15	10	00	0.20	0.11	500	
4X	NMA1003 & NMA1006	8x7x40	3.15	19	102	0.50	0.21	140TC	
47	NMA0503 & MNA1506	027240	5.15	19	102	0.50	0.21	14010	
5X	NMA2203 & NMA2206	10x8x40	4.72	23	115	0.72	0.34	180TC	
6X	NMA3703 & NMA3706	10x8x50	4.72	20	225	1.27	0.61	180TC	
7X	NMA5503 & NMA5506	12x10x60	4.72	23	283	1.43	0.71	210TC	
7.5X	NMA7503 & NMA7506	12x10x60	6.30	23	257	1.19	0.71	210TC	

\* For vertical down mounting

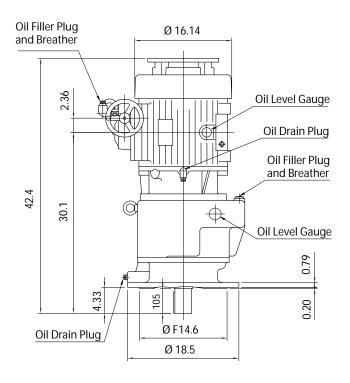
Units are shipped factory lubricated. Unless otherwise noted, all lengths are in inches.

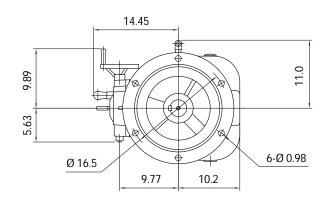
Dimensions are subject to change without notice. Contact NIDEC-SHIMPO for certified drawings for installation purposes.



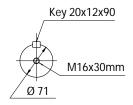


#### Flange Mount, Input C-Face, Planetary Reducer, Sizes 91-95 (8x)





#### OUTPUT SHAFT



#### Base Mount, Input C-Face, ER Reducer, Sizes 02-95 (2x-8x)

Size	RX Model Number	с	D	DF	E	F	G	н	НС	нн	I
21	NMB02A	3.54	5.79	N/A	5.71	3.54	0.63	7.96	6.89	8.19	2.57
2X	NMB02B & NMB04B	4.53	5.91	N/A	5.71	4.72	0.63	8.94	7.88	9.18	3.34
21	NMA05B & NMA07B	4.53	5.91	N/A	5.71	4.72	0.63	9.81	8.59	10.2	3.34
3X	NMA05C & NMA07C	5.51	7.48	N/A	7.09	5.91	0.87	10.8	9.57	11.2	4.10
AV	NMA10C & NMA15C	5.51	7.48	N/A	7.09	5.91	0.87	11.2	10.0	11.6	4.10
4X	NMA10D & NMA15D	6.50	9.26	N/A	8.86	7.09	1.03	12.2	11.0	12.6	5.33
EV.	NMA22D	6.50	9.26	N/A	8.86	7.09	1.03	13.2	11.9	14.3	5.33
5X	NMA22E	7.28	11.8	N/A	11.8	9.84	1.19	14.0	12.7	15.0	5.95
CV	NMA37D	6.50	9.26	N/A	8.86	7.09	1.03	14.8	12.9	15.3	5.33
6X	NMA37E	7.28	11.8	N/A	11.81	9.84	1.19	15.6	13.7	16.1	5.95
71	NMA55E	7.28	11.8	13.2	11.81	9.84	1.19	16.4	14.6	16.9	5.95
7X	NMA55F	8.27	14.2	13.2	13.78	11.6	1.38	17.4	15.6	17.9	7.67
7.57	NMA75E	7.28	11.8	14.2	11.8	9.84	1.19	16.4	14.6	17.6	5.95
7.5X	NMA75F	8.27	14.2	14.2	13.8	11.6	1.38	17.4	15.6	18.6	7.67
ov	NMA91F & NMA95F	8.27	14.2	16.1	13.8	11.6	1.38	20.0	18.0	21.2	7.67
8X	NMA91G & NMA95G	10.63	18.9	16.1	17.7	15.8	1.58	23.4	20.4	23.6	10.3
Size	RX Model Number	K1	K2	LK	м	N	Q	R	S	т	Z
21	NMB02A	3.63	2.16	13.2	6.89	4.73	1.19	9.07	0.875	0.71	0.48
2X	NMB02B & NMB04B	3.63	2.16	15.3	6.89	5.91	1.96	11.1	1.375	0.71	0.48
21	NMA05B & NMA07B	4.80	2.92	17.2	6.89	5.91	1.96	12.1	1.375	1.05	0.48
3X	NMA05C & NMA07C	4.80	2.92	19.0	8.67	7.48	2.52	13.9	1.750	1.05	0.59
AV	NMA10C & NMA15C	4.80	2.92	20.6	8.67	7.48	2.52	14.5	1.750	1.05	0.59
4X	NMA10D & NMA15D	4.80	2.92	21.8	10.8	9.06	3.75	15.7	2.500	1.05	0.75
EV.	NMA22D	6.15	4.09	24.3	10.83	9.06	3.75	17.1	2.500	1.22	0.75
5X	NMA22E	6.15	4.09	26.7	14.18	11.8	4.38	19.5	2.875	1.22	0.87
CV	NMA37D	6.89	4.84	26.2	10.8	9.06	3.75	18.1	2.500	1.54	0.75
6X	NMA37E	6.00	4.84	28.5	14.2	11.8	4.38	20.4	2.875	1.54	0.87
	INIVIAS/E	6.89		20.5	1			i	i	i	
	NMA57E NMA55E	6.89	4.84	32.0	14.2	11.8	4.38	21.6	2.875	1.54	0.87
7X	-				14.2 16.7	11.8 14.4	4.38 5.50	21.6 23.8	2.875 3.625	1.54 1.54	0.87
	NMA55E	6.89	4.84	32.0							
7X 7.5X	NMA55E NMA55F	6.89 6.89	4.84 4.84	32.0 34.2	16.7	14.4	5.50	23.8	3.625	1.54	0.99
	NMA55E NMA55F NMA75E	6.89 6.89 9.02	4.84 4.84 4.84	32.0 34.2 32.0	16.7 14.2	14.4 11.8	5.50 4.38	23.8 21.6	3.625 2.875	1.54 1.54	0.99 0.87

Units are shipped factory lubricated.

Unless otherwise noted, all lengths are in inches.

Dimensions are subject to change without notice. Contact NIDEC-SHIMPO for certified drawings for installation purposes.

# NIDEC-SHIMPO

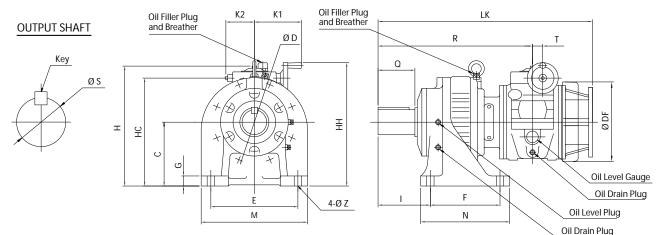
# Dimensions

			Hand-wheel	Hand-wheel	Weight w/o	Lu	be	Input
Size	RX Model Number	Output Key	Dia.	Turns	Motor (lbs.)	Adj.Spd. (gal.)	Reducer (gal.)	C-Face
21	NMB02A	.188x.188x0.98	2.56	18	35	0.05	grease	56C
2X	NMB02B & NMB04B	.313x.313x1.77	2.56	18	55	0.05	grease	56C
21	NMA05B & NMA07B	.313x.313x1.77	3.15	18	71	0.13	grease	56C
3X	NMA05C & NMA07C	.375x.375x2.16	3.15	18	102	0.13	grease	56C
AV	NMA10C & NMA15C	.375x.375x2.16	3.15	19	142	0.21	grease	140TC
4X	NMA10D & NMA15D	.625x.625x2.95	3.15	19	193	0.21	grease	140TC
FV	NMA22D	.625x.625x2.95	4.72	23	221	0.48	0.25	180TC
5X	NMA22E	.750x.750x3.74	4.72	23	325	0.48	0.48	180TC
CV	NMA37D	.625x.625x2.95	4.72	20	317	0.66	0.25	180TC
6X	NMA37E	.750x.750x3.74	4.72	20	429	0.66	0.48	180TC
71	NMA55E	.750x.750x3.74	4.72	23	547	0.74	0.48	210TC
7X	NMA55F	.875x.875x4.53	4.72	23	660	0.74	0.85	210TC
7.57	NMA75E	.750x.750x3.74	6.30	23	521	0.58	0.48	210TC
7.5X	NMA75F	.875x.875x4.53	6.30	23	634	0.58	0.85	210TC
ov	NMA91F & NMA95F	.875x.875x4.53	6.30	21	973	1.32	0.85	250TC
8X	NMA91G & NMA95G	1.250x.875x6.50	6.30	21	1,323	1.32	1.72	250TC

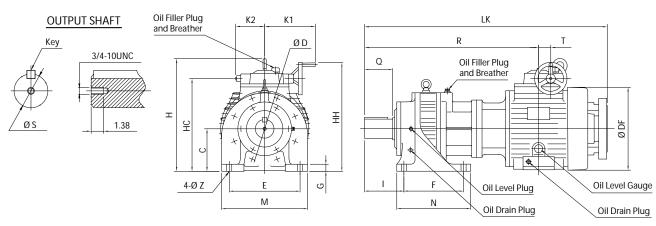
#### Base Mount, Input C-Face, ER Reducer, Sizes 02-95 (2x-3x)

\* For horizontal mounting

#### Base Mount, Input C-Face, ER Reducer, Sizes 02-75 (2x-7.5x)



#### Base Mount, Input C-Face, ER Reducer, Sizes 91-95 (8x)



Flange Mount, Input C-Face, ER Reducer, Sizes 02-95 (2x-8x)

Size	RX Model Number	DF	FA	FB	FC	HL	но	ко	K1	K2	LE
21/	NMB02A	N/A	5.12	4.33	6.30	3.35	6.30	N/A	3.63	2.16	0.16
2X	NMB02B & NMB04B	N/A	6.50	5.12	7.88	3.35	6.30	N/A	3.63	2.16	0.16
21/	NMA05B & NMA07B	N/A	6.50	5.12	7.88	4.06	7.21	4.96	4.80	2.92	0.16
3X	NMA05C & NMA07C	N/A	8.47	7.09	9.85	4.06	7.21	4.96	4.80	2.92	0.16
AV	NMA10C & NMA15C	N/A	8.47	7.09	9.85	4.49	7.64	5.83	4.80	2.92	0.16
4X	NMA10D & NMA15D	N/A	10.4	9.06	11.82	4.49	7.64	5.83	4.80	2.92	0.20
EV.	NMA22D	N/A	10.4	9.06	11.8	5.40	9.65	6.63	6.15	4.09	0.20
5X	NMA22E	N/A	13.8	11.8	15.8	5.40	9.65	6.63	6.15	4.09	0.32
CV	NMA37D	N/A	10.4	9.06	11.82	6.42	11.0	7.87	6.89	4.84	0.20
6X	NMA37E	N/A	13.8	11.8	15.75	6.42	11.0	7.87	6.89	4.84	0.32
71/	NMA55E	13.2	13.8	11.8	15.75	7.29	12.0	8.39	6.89	4.84	0.32
7X	NMA55F	13.2	15.8	13.8	17.72	7.29	12.0	8.39	6.89	4.84	0.32
	NMA75E	14.2	13.8	11.8	15.8	7.29	12.0	8.39	9.02	4.84	0.32
7.5X	NMA75F	14.2	15.8	13.8	17.7	7.29	12.0	8.39	9.02	4.84	0.32
o.v	NMA91F & NMA95F	16.1	15.8	13.8	17.7	9.77	14.45	10.1	9.89	5.63	0.32
8X	NMA91G & NMA95G	16.1	19.7	17.7	21.7	9.77	14.45	10.1	9.89	5.63	0.32

Size	RX Model Number	LG	LK	LR	n-LZ	Q	R	S	т	Output Key
2X	NMB02A	0.56	13.2	1.19	4-0.48	1.19	9.07	0.875	0.71	.188x.188x0.98
28	NMB02B & NMB04B	0.56	15.3	2.00	4-0.48	1.96	11.1	1.375	0.71	.313x.313x1.77
3X	NMA05B & NMA07B	0.56	17.2	2.00	4-0.48	1.96	12.1	1.375	1.05	.313x.313x1.77
27	NMA05C & NMA07C	0.71	19.0	2.50	4-0.59	2.52	13.9	1.750	1.05	.375x.375x2.16
4X	NMA10C & NMA15C	0.71	20.6	2.50	4-0.59	2.52	14.5	1.750	1.05	.375x.375x2.16
47	NMA10D & NMA15D	0.87	21.8	3.75	8-0.59	3.75	15.7	2.500	1.05	.625x.625x2.95
5X	NMA22D	0.87	24.3	3.75	8-0.59	3.75	17.1	2.500	1.22	.625x.625x2.95
27	NMA22E	0.99	26.7	4.38	8-0.75	4.38	19.5	2.875	1.22	.750x.750x3.74
6X	NMA37D	0.87	26.2	3.75	8-0.59	3.75	18.1	2.500	1.54	.625x.625x2.95
07	NMA37E	0.99	28.5	4.38	8-0.75	4.38	20.4	2.875	1.54	.750x.750x3.74
7X	NMA55E	0.99	32.0	4.38	8-0.75	4.38	21.6	2.875	1.54	.750x.750x3.74
//	NMA55F	0.99	34.2	5.50	8-0.75	5.50	23.8	3.625	1.54	.875x.875x4.53
7.57	NMA75E	0.99	32.0	4.38	8-0.75	4.38	21.6	2.875	1.54	.750x.750x3.74
7.5X	NMA75F	0.99	34.2	5.50	8-0.75	5.50	23.8	3.625	1.54	.875x.875x4.53
ov	NMA91F & NMA95F	0.99	47.2	5.50	8-0.75	5.50	33.9	3.625	2.36	.875x.875x4.53
8X	NMA91G & NMA95G	1.38	53.8	7.50	8-0.95	7.54	40.4	5.000	2.36	1.250x.875x6.50

Size	RX Model Number	Hand-wheel	Hand-wheel	Weight w/o	Lu	be	Input
Size	KX Model Number	Dia.	Turns	Motor (lbs.)	Adj. Spd. (gal.)	Reducer (gal.)	C-Face
2X	NMB02A	2.56	18	28	0.11	grease	56C
27	NMB02B & NMB04B	2.56	18	44	0.11	grease	56C
3X	NMA05B & NMA07B	3.15	18	60	0.26	grease	56C
27	NMA05C & NMA07C	3.15	18	89	0.26	grease	56C
4X	NMA10C & NMA15C	3.15	19	129	0.50	grease	140TC
47	NMA10D & NMA15D	3.15	19	173	0.50	0.40	140TC
5X	NMA22D	4.72	23	197	0.72	0.40	180TC
57	NMA22E	4.72	23	300	0.72	0.63	180TC

#### Flange Mount, Input C-Face, ER Reducer, Sizes 02-95 (2x-8x)

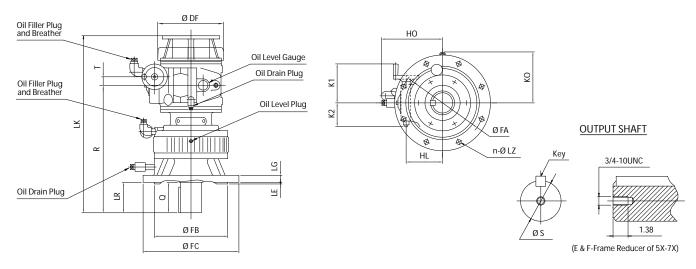
Size	RX Model Number	Hand-wheel	Hand-wheel	Weight w/o	Lu	be	Input
Size	KX Model Number	Dia.	Turns	Motor (lbs.)	Adj. Spd. (gal.)	Reducer (gal.)	C-Face
6X	NMA37D	4.72	20	255	1.27	0.40	180TC
07	NMA37E	4.72	20	357	1.27	0.63	180TC
7X	NMA55E	4.72	23	477	1.43	0.63	210TC
/X	NMA55F	4.72	23	589	1.43	1.14	210TC
7.57	NMA75E	6.30	23	451	1.43	0.69	210TC
7.5X	NMA75F	6.30	23	563	1.43	1.14	210TC
ov	NMA91F & NMA95F	6.30	21	943	3.95	1.14	250TC
8X	NMA91G & NMA95G	6.30	21	1,313	3.95	1.85	250TC

Units are shipped factory lubricated.

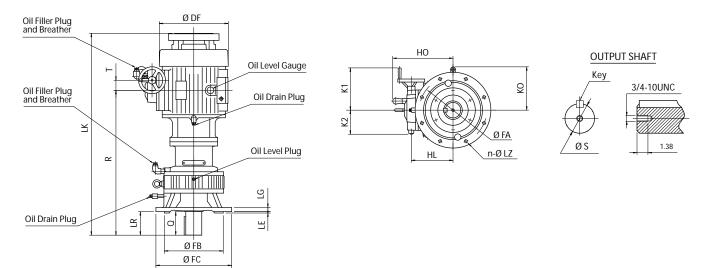
Unless otherwise noted, all lengths are in inches.

Dimensions are subject to change without notice. Contact NIDEC-SHIMPO for certified drawings for installation purposes

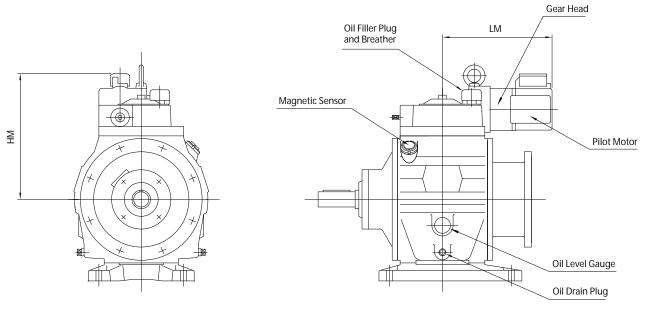
#### Flange Mount, Input C-Face, ER Reducer, Sizes 02-75 (2x-7.5x)



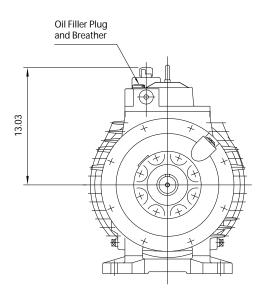
#### Flange Mount, Input C-Face, ER Reducer, Sizes 91-95 (8x)

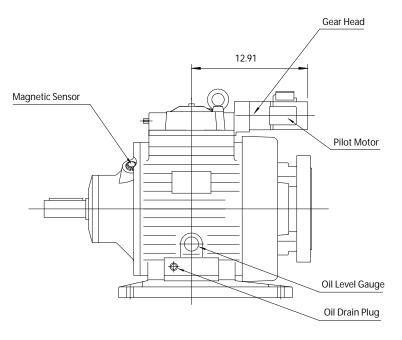


### With Pilot Motor, Size 02-75 (2x-7.5x)



#### With Pilot Motor, Size 91-95 (8x)

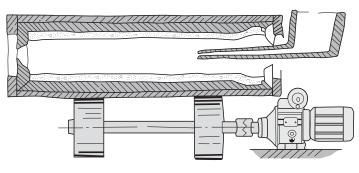




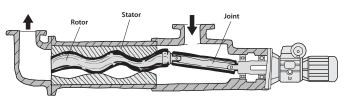
#### With Pilot Motor, Size 02-95 (2x-7.5x)

Size	RX Model Number	нм	LM
2X	NMC02 & NMC04	6.90	7.44
3X	NMA05 & NMA07	7.37	7.17
4X	NMA10 & NMA15	7.80	7.17
5X	NMA22	9.37	8.15
6Х	NMA37	10.24	8.94
7X	NMA55	11.10	10.83
7.5X	NMA75	11.10	10.83

# Applications

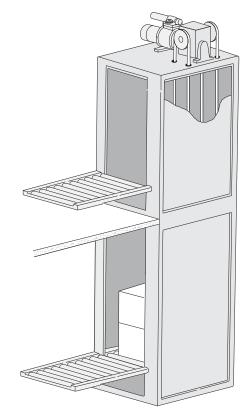


**Centrifugal Casting Machine** 



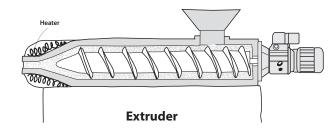
#### **Positive Displacement Pump**

A perfect application. The RXC loves to pump thick lumpy solutions. The internal cam disc automatically compensates for clogs and jams by applying more torque. A well-known problem solver in the oilfield industry.



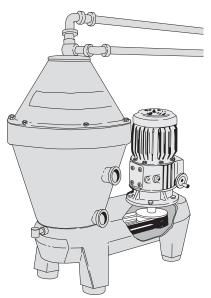
#### **Material Handling Elevator**

Simple and foolproof. No issues with lightning storms or poor signal grounding. It just runs whenever you need it.



#### **Ingredient Mixer**

Mixing lumpy solutions, wet or dry, from rocks to powders to chemicals, is easily handled by the RXC. The drive is inherently non-sparking and commonly used in explosive areas, when driven by an XP motor.



# **Electric Remote Control Options**

The SHIMPO RXC Traction Drive is normally supplied with a simple Handwheel to control the output speed. Electric Remote Control (ERC) options are also available.

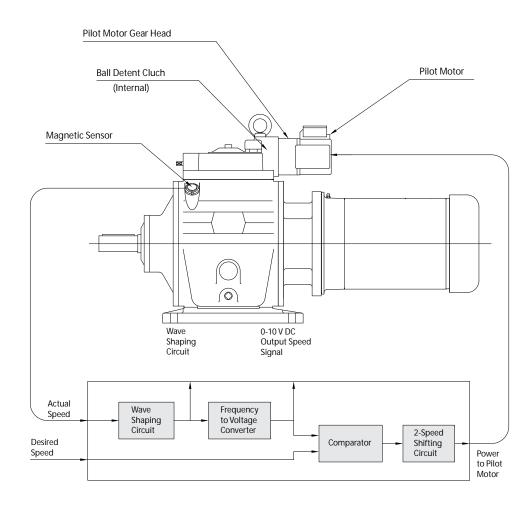
For this option, a small electric gearmotor is mounted to the speed control hardware to adjust the speed. In a simple open-loop configuration, this motor would run in a forward or reverse direction based upon a pair of pushbuttons, or PLC outputs (120VAC). This type of arrangement would normally be used if the object was to simply control the speed from a remote location. To order, request the ERC pilot motor option.

If the application requires that the set speed be maintained within 0.8% of Maximum, a closed-loop configuration is required (pictured below). For this configuration, an electronic controller accepts a set speed command (voltage or current) and monitors a pulse feedback signal from a magnetic sensor, using this information to control the movement of the electric gearmotor.

From the electronic controller, open collector electronic outputs are available which indicate an Alarm condition or an At-Speed condition. An analog voltage signal is also available, relative to actual output speed. To order, request the ERC pilot motor option and add a closed-loop controller.

Additional signal follower options are available upon request.

The following page describes the closed-loop controller hardware and features.



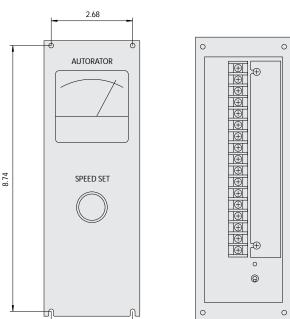
# **Electric Remote Control Options**

LAB-3A-2-RXC-7 Closed-Loop Control (door mounted)

# LUB-3A-2-RXC-7 Closed-Loop Control

(chassis mounted)

SHIMPO's LAB and LUB closed-loop controllers provide the intelligence needed to maintain a set speed within very close tolerances (o.8% of Max speed). Both styles use the same electronics, but the LAB is door mounted and includes a speed potentiometer and analog speed meter. The LUB is "chassis" or panel mounted, and includes terminals for a potentiometer and meter (not included).



**Electric Speed Controls** 

**Door/ Chassis Mount** 

Door Mount Model LAB-3...

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Chassis Mount	
Model LUB-3	

**Specifications** 

Input Power	110 VAC 10%, 60/50 Hz, 100V-A
Speed Control Signal	1 k-ohm potentiometer o - 10 V DC, 10 k-ohm input impedance optional 4 - 20 mA DG, 250 ohm input impedance
Speed Control Accuracy	o.8% of maximum speed (5 rpm dead band at the adjustable speed portion)
Controlled Speed Range	80:1 typical (10 rpm min. speed at the adjustable speed section)
Speed Output Signals	60 pulse per revolution of the adjustable speed section (TTL voltage or open collector: 28 V DC, 20 mA max.) o - 10 V DC, 5 mA max., proportional to output speed
Other Output Signals (optional)	ALARM - open collector, 28 V DC, 20 mA max. SPEED ARRIVAL - open collector, 28 V DC, 20 mA max.
Speed Shift Time • Size o2 through 75 • Size 91 through 96 • Size 97 and 98	4.1 sec at 60 Hz (5 sec at 50 Hz) 8.2 sec at 60 Hz (10 sec at 50 Hz) 12 sec at 60 Hz (15 sec at 50 Hz)
Front Panel Devices (LAB style)	SPEED SET potentiometer analog speed meter

# **Distinction in Service and Support**

NIDEC-SHIMPO has invested heavily in the past few years in building a global customer service and application support network that will meet the evolving needs of our customers. By leveraging our global infrastructure, our OEM customers maintain their competitiveness and profitability at home while able to expand into emerging markets abroad without any drop-off of service and support.

NIDEC-SHIMPO pledges that we will continue to expand our service and support network footprint globally, and continuously strive for perfection as a dependable partner to our customers. In this section you will learn about our service and support capabilities that we will leverage in order to provide you peace of mind.

# **Online and Phone Support**

**Resolve your technical issues quickly and accurately, without disrupting your business.** With the NIDEC-SHIMPO OEM Partner Service Program, your company and your customers have immediate access to our global network of support centers and resources. Whether you need help designing, installing, and maintaining equipment or diagnosing an operating issue, NIDEC-SHIMPO will deliver the tools and information that you need in order to insure that your equipment is running to perfection.

Contact your local sales office for immediate support either over the phone or in the field. A list of locations can be found on the back cover of this catalog. All OEM accounts in North America have a dedicated Technical Support Engineer, knowledgeable about your business, on-standby ready to support you and your customers. If you do not know who to contact, please call our 1-800 number in order to get properly directed to the right person for help.

For online support, please visit our website in order to download any drawings, instruction manuals, or technical performance specifications that you require. All catalogs and brochures will also be easily downloadable on the website. If you prefer to inquire about an issue or for more information, please do not hesitate to submit your request online or start a dialogue with our Info address.

# **Training Services**

Investing our time in you, so together we build better, more competitive product for your customer. As the industrial world becomes increasingly competitive, new technologies are introduced every year requiring manufacturers to constantly rationalize and update existing designs. As a result, successful manufacturers realize the absolute need for product training.

NIDEC-SHIMPO has a network of engineers that are factory trained and authorized to provide your workforce solid training on our products and basic power transmission concepts. The main objective of our standard program and materials is to better empower your workforce to size and select gear reducers and motors for any motion control applications. We provide this service at no cost to our customers, because we see the value in building a more knowledgeable customer and helping them more quickly react to equipment design revisions when needed.

Some other gear reducer manufacturers are not as forthcoming with sharing information with their customers, an attempt to hide their higher manufacturing costs or to use unreleased performance data as a "product differentiator". NIDEC-SHIMPO views their customers as a long-term partnership, and we train and share information with our customers freely based on that vision.

Training classes can be conducted online, at any of our sales branches or offices, or at key distributor branches when requested. NIDEC-SHIMPO can also bring the training session to your facility in order to make better use of your time and costs. A thorough hands-on training seminar can be provided at our Itasca, IL build facility, where customers can get the opportunity to completely assemble and test one of our Able units.

The NIDEC-SHIMPO training program options provide support for any budget. Our training programs improve your employees' skill and knowledge competencies in the areas of power transmission and motion control while addressing any location, time, travel and productivity constraints. Contact your local sales office today in order to get a power transmission refresher on your calendar.



**NIDEC-SHIMPO Hotline:** 

Toll-free: (800) 842-1479 Email: drives@nidec-shimpo.com 1. STANDARD WARRANTY. With the exception of shaft seals, which is a normal wear item, Seller warrants that the products manufactured by the Seller to be free from defects in materials and workmanship under normal use and proper maintenance for:

RXC sizes 91 – 98 (excluding electrical products) ......1-year

- a. If within such period any product shall be proved to the Seller's reasonable satisfaction to be defective, such product shall be repaired or replaced at our option. The Seller's obligation and Buyer's exclusive remedy will be limited to such repair or replacement and shall be conditioned upon the Seller receiving written notice of any alleged defect no later than thirty (30) days after its discovery within the warranty period.
- b. Shipping terms for any repaired or replaced product will be FOB shipping point unless negotiated otherwise. If necessary, Seller reserves the right to inspect the product claimed to be defective at Buyer's location or place of installation. Travel time and expenses for any Seller service personnel provided to Buyer's premises to affect such repair or replacement will be at the Buyer's expense. Seller reserves the right to satisfy our warranty obligation in full by reimbursing the Buyer for all payments made to Seller and Buyer shall thereupon return the product to Seller.
- c. These warranties shall not be effective if the product has been subject to overload, misuse, negligence, or accident, or if the product has been repaired or altered outside of Seller's factory or authorized control in any respect which, in our judgment, adversely affects its condition or operation. Buyer shall establish, to our satisfaction, that the product has at all times, been properly assembled, installed, serviced, maintained, tested, operated and used in accordance with the current maintenance and operating instructions of Seller and has not been altered or modified in any manner without our prior written consent.
- d. The Seller's warranty obligation shall not be effective for components or products hereunder where the product 1) is consumed by normal wear and tear, 2) is consumed by an application that was above the rated capacity, and 3) has a normal life that is fundamentally shorter in the length of time than the standard warranty as outlined, hereunder.
- e. No extended warranty will be offered on wear items unless otherwise agreed to in writing by NIDEC-SHIMPO management at the time of the sale.
- f. Descriptions or representations of the products provided by the Seller's employees, sales representatives, and distributors, regardless written or verbal, should not be construed as an expressed or implied warranty that would supersede any element of this standard warranty. Expressed or implied warranties are acceptable but only on a case-by-case basis as determined necessary by the Seller. A separate expressed or implied warranty must be provided in writing and confirmed by NIDEC-SHIMPO management in order to be valid at the time of sale.
- g. THE STANDARD WARRANTY AS DESCRIBED HEREIN SHALL BE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED RELATED TO THE SELLER'S PRODUCTS, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS, AND SHALL BE IN LIEU OF ANY OBLIGA-TIONS OR LIABILITY ON THE SELLER'S BEHALF.

# STANDARD TERMS AND CONDITIONS

- 1. SHIPPING AND PAYMENT TERMS. Unless otherwise specified, shipping terms are FOB shipping point, and payment terms are net 30 days. All payments are to be made in United States funds.
- 2. TAXES AND SECURITY INTEREST. Unless otherwise specified, the prices stated do not include any taxes which may now or hereafter be applicable to the products or performance of any services by Seller. Buyer agrees to pay or reimburse Seller for any such required taxes and all connected penalties and interests, or in lieu thereof, Buyer shall provide Seller with tax exemption documents acceptable to the tax-ing authorities involved. Buyer, by acceptance of the goods ordered, represents and warrants that Buyer is solvent and able to pay for the goods in accordance with the terms of sale. As security for payment of the purchase price for the products and all other amounts due from the Buyer under these Terms, Buyer hereby grants Seller a security interest in the products and agrees to execute and permit Seller to file and record all documents which may be requested by Seller in order to create, perfect, evidence and establish the foregoing security interest. If Buyer fails to pay any amount when due, or, prior to payment of all amounts due, removes all or any part of the products from Buyer's premises, we shall exercise any or all of the rights and remedies given to secured parties under the UCC of the State of Illinois, and under similar laws of any other state, if applicable.
- 3. RETURN GOODS. No product will be accepted for return unless authorized with appropriate returned goods number assigned. In all cases, freight charges must be prepaid. Buyer will be responsible for any damages incurred in transit to goods being returned. Title shall pass to Seller upon Seller's acceptance of return goods.
- 4. CANCELLATION. Terms, once accepted and approved by Seller, shall not be canceled or altered by Buyer, and Buyer shall not otherwise cause the work or shipment to be delayed, except with the consent of and upon the terms and conditions approved by Seller in writing. Orders canceled or suspended with our consent are subject to cancellation and/ or other charges as determined by Seller.
- 5. DELAY IN DELIVERIES. In no event shall Seller be liable for nondelivery or delays in delivery of products, or in the performance of any other obligations, arising directly or indirectly from acts of God, acts (including delay or failure to act) of any governmental authority (de jure or de facto), war (declared or undeclared), riot, fires, floods, weather, labor disputes, sabotage, epidemics, factory shutdowns or alterations, embargoes, delays, shortages or inability to procure transportation, labor, manufacturing facilities or materials, failure to obtain timely instructions or information from Buyer, or inability due to causes of any other kind beyond our control. The foregoing provisions shall apply even though such cause may occur after performance of our obligations has been delayed for other causes.
- 6. INDEMNIFICATION. Buyer shall notify Seller promptly in writing and in all events within ten (10) days after its occurrence, of any accident or malfunction involving the products which results in injury to or death of any persons, property damage or economic loss of any kind, and Buyer shall cooperate fully with Seller in investigating and determining the cause of any such accident or malfunction. Buyer further agrees to indemnify and hold Seller harmless from and against all claims and damages imposed upon Seller or incurred arising, directly or indirectly, from Buyer's failure to perform or satisfy any of the Terms described herein.
- 7. GENERAL PROVISIONS. These Terms shall be governed, construed and enforced in accordance with the laws of the State of Illinois, and shall be binding upon and inure to the benefit of any successors, assigns, and legal Distributors of Seller and Buyer. The Terms are not assignable without Seller's prior written approval. A judicial or administrative declaration in any jurisdiction of the invalidity of any one or more of the provisions of the Terms in any jurisdiction, nor shall such declaration have any effect on the validity of interpretation of the Terms outside that jurisdiction.

- 8. MINIMUM ORDER CHARGE. The minimum charge on an order will be \$60.00.
- **9. BOXING ORDER CHARGE**. No charge is made for standard boxing or crating required by transportation companies for domestic shipments. Cost of special boxing, export boxing, cartage to steamer or transfer expenses will be added to the invoice unless charges are shown to be included in the prices.

Any and all Terms are subject to change prior to Buyer's acceptance of these Terms.

### **PROPERTY AND PATENT RIGHTS**

- 1. Seller retains for itself any and all property rights, including but not limited to all patent, copyright, and trade secret rights, to any software materials and to all designs, engineering details, documentation, and other data pertaining to any product designed in connection here-with and to all right of discovery, invention or patent rights arising out of the work done in connection herewith. Buyer expressly agrees that it will not assert any property rights herein, except the right for itself and subsequent owners to use the product.
- 2. Buyer acknowledges that any software materials constitute valuable trade secrets of Seller and are unpublished works on which Seller holds the sole and exclusive copyright. Buyer agrees to maintain and protect the confidentiality of these trade secrets and agrees not to disclose them or use them for any purpose not contemplated by this Agreement. Buyer agrees to formulate and adopt appropriate safeguards in light of its own operating activities, to insure protection of the confidentiality of these trade secrets. Buyer shall immediately notify Seller of any information which comes to its attention which indicates that there has been any loss of confidentiality of Seller trade secret information.

### SUBMISSION AND ACCEPTANCE OF ORDERS

- 1. All orders and contracts are subject to acceptance or rejection by an officer of Seller or any individual authorized by Seller in writing, at the main offices of Seller, which approval or rejection shall in all cases be in writing to the Buyer, and no order or contract shall be binding until so accepted. Seller reserves the right to refuse any business originating in the Territory of the Buyer, for any reason which in the considered judgment of Seller is sufficient grounds for refusal.
- 2. On orders and contracts of a deferred-payment nature, all such payment and credit extensions are subject to final review and approval by Seller. Seller may accept such orders or contracts, withhold shipment after initial acceptance if for any reason the Buyer's credit has become impaired.

#### SHIPMENTS AND SHIPPING INFORMATION

- 1. All shipments, from whatever source, shall be contingent upon prior approval of the order or contract by Seller, and after such prior approval, upon the effect of strikes, accidents, embargoes, priorities, or any cause natural or otherwise, beyond the control of this Seller. Seller, in effect, assumes no liability hereunder for its failure to make shipment on any order or contract.
- 2. All Products are prepared by Seller for North American land shipment only under this Agreement. Any special preparations, for water shipment or foreign trade outside of the North Americas, must be arranged for as a special consideration.

# **Graph Template**


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# **Graph Template**


# **Locations and Contact Information**

# Americas



#### NIDEC-SHIMPO AMERICA CORPORATION 1701 Glenlake Avenue

Itasca, IL 60143 USA

Sales & Customer Service Engineering & Product Support

Toll-free: (800) 842-1479 Local: (630) 924-7138 Fax: (630) 924-7382

drives@nidec-shimpo.com www.drives.nidec-shimpo.com

**NIDEC-SHIMPO MEXICO** 

km. 9.5 Apodaca

Blvd. Carlos Salinas de Gortari

Nuevo León, 66600, México

**NIDEC-SHIMPO MEXICO** 

Parque Industrial El Marques

# Asia-Pacific







NIDEC-SHIMPO (SHANGHAI) Trading Company Ltd. Shanghai, China

#### NIDEC-SHIMPO CORPORATION

Corporate Headquarters 1 Terada, Kohtari Nagaokakyo-City Kyoto Japan 617-0833

#### NIDEC-SHIMPO (ZHEJIANG) CORPORATION

288 Ping Cheng Street Pinghu Economic Development Zone Zhejiang, China

NIDEC-CORPORATION Corporate Headquarters 338 Tonoshiro-cho Kuze Minami-ku Kyoto 601-8205, Japan

#### NIDEC-SHIMPO (KOREA) CORPORATION Seoul, Korea

NIDEC-SHIMPO (TAIWAN) CORPORATION Taichung City, China NIDEC-SHIMPO (HONG KONG) COMPANY, LTD. Hong Kong, China







**Circuito El Marques** 

Av. Paulista, 2073 - Ed. Horsa II, 17º andar, Conj. 1702 São Paulo - SP, Brasil CEP 01311-000

> NIDEC-SHIMPO (SINGAPORE) CORPORATION Singapore

NIDEC-SHIMPO INDIA SALES AND TRADING Bangalore, India

Many other satellite sales office locations throughout Asia-Pacific. Please contact NIDEC-SHIMPO for more information. www.drives.nidec-shimpo.com



NIDEC-SHIMPO CORPORATION 1701 Glenlake Avenue, Itasca, IL 60143 USA Phone: (800) 842-1479 • Fax: (630) 924-7382

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