

# GROVE GEAR IRONMAN HIGH EFFICIENCY HELICAL-INLINE GEAR REDUCERS & GEAR+MOTOR™ SOLUTIONS

## R SERIES FEATURES AND BENEFITS



Helical - In-line  
Gear Reducers

**ALL GEARING IS HARDENED AND GROUND**  
(AGMA class 10 or better) for enhanced efficiency and noise reduction. Double reduction units are 96-97% efficient.

### MODULAR DESIGN

Innovative design includes double reduction, triple reduction and quad reduction reducers assembled from standard components.

### LUBRICATION

All Ironman reducers are filled with high quality gear oil at the factory.

### STANDARD DOUBLE LIP SEALS

provide extra protection against entry of contaminants or loss of lubrication.

### BEARING SPANS OPTIMIZED

to allow for maximum overhung load capacity, enhanced durability and reliability—while minimizing shaft deflection.

### ROBUST OUTPUT SHAFT

Oversized steel output shaft of high strength steel alloy provides superior overhung load and torque capacities.

### INTEGRAL MOUNTING BASE

designed to interchange with dozens of competitive units.

### INTEGRAL OUTPUT FLANGE

also available to allow interchange with many industry standard sizes.

### OVERSIZED BALL BEARINGS

on both input and output shafts for long life and high ratings.

### HOUSING

Precision machined rugged cast iron housings give you the industrial strength and durability you've come to expect from Grove Gear.

### CAST IRON INPUT FLANGE

(motorized quill input styles) with machined fits for precision alignment of motor and bearings.

### MOUNTING DIMENSIONS

allow interchange with many popular reducers including SEW, David Brown, Nord and Dodge.

### PERMANENTLY MARKED NAMEPLATE

with output torque, ratio and maximum input horsepower.

**GEAR+  
MOTOR™**

### STOCK GEAR+MOTORS™

Start with a Grove Gear IRONMAN reducer and add a LEESON or Lincoln industrial-duty NEMA C face motor to produce a GEAR+MOTOR™.



# LeCENTRIC REDUCERS & GEAR+MOTOR™ SOLUTIONS

## P SERIES FEATURES AND BENEFITS



**LeCENTRIC™ REDUCERS ARE FILLED WITH MOBILGEAR SHC 320 SYNTHETIC OIL** (or equivalent) as standard. All sizes are considered “lubed for life.” Specify mounting position at time of order. Refer to page 478 for available positions.

**REMOVABLE INSPECTION COVER** allows periodic inspection of gearing during routine maintenance.

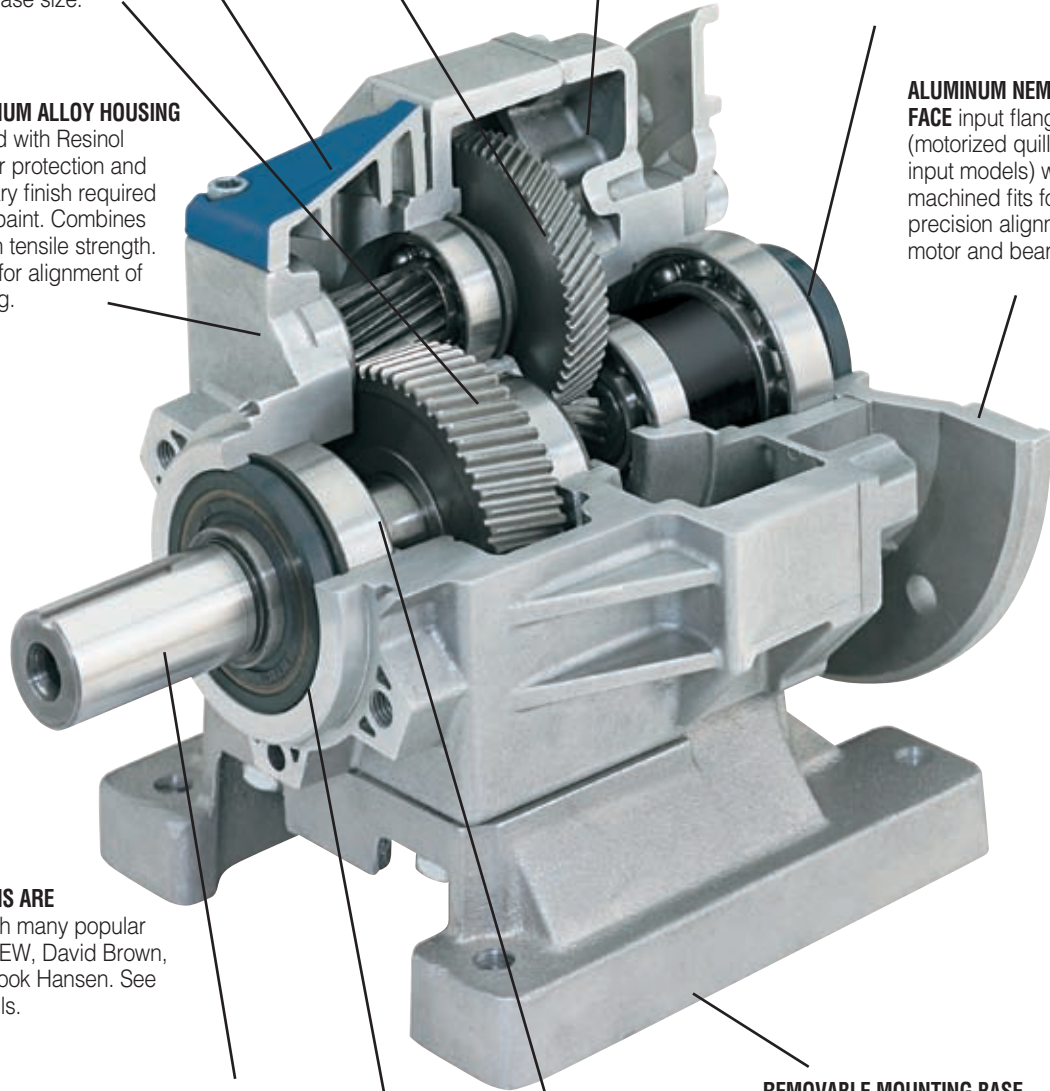
**RATIOS UP TO 63:1** in two-stage units and up to 278:1 in three-stage units to maximize efficiency and reduce overall case size.

**SINGLE-PIECE ALUMINUM ALLOY HOUSING** vacuum impregnated with Resinol RT (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint. Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing.

**ALL GEARING IS HARDENED AND GROUND** (AGMA Class 10 or better), for enhanced efficiency and noise reduction. Double reduction units are 96 – 97% efficient.

**BEARING SPANS OPTIMIZED** to allow for maximum overhung load capacity, enhanced durability and reliability—while minimizing shaft deflection.

**ALUMINUM NEMA C FACE** input flange (motorized quill input models) with machined fits for precision alignment of motor and bearings.



**MOUNTING DIMENSIONS ARE INTERCHANGEABLE** with many popular reducers, including SEW, David Brown, Nord, Dodge, and Brook Hansen. See pages 54-55 for details.

**ROBUST OUTPUT SHAFT** of high strength steel alloy for superior torque and overhung load capacities.

**PREMIUM VITON® SEALS** provide extra protection against entry of contaminants or loss of lubrication. Tandem seals available on input and output.

**REMOVABLE MOUNTING BASE** allows interchange with dozens of competitive units.

**BOLT-ON OUTPUT FLANGE** also available to allow interchange with many industry-standard sizes.

**PERMANENTLY MARKED NAMEPLATE** with output torque, ratio and maximum input horsepower.

**OVERSIZED BALL BEARINGS** on both input and output shafts.

Helical - Inline  
Gear Reducers



## STYLE SELECTION

R SERIES & P SERIES HELICAL-INLINE

**GROVE GEAR**



### WIDE RANGE OF STYLES:

### Double or Triple Reduction, Base or Flange Mount!

Grove Gear Helical-Inline reducers are available in a wide range of styles to meet the ever increasing needs of the market place. To start the selection process, choose between the rugged IRONMAN cast iron designs or the lightweight LeCentric™ aluminum reducers. Choose between a motorized or non-motorized basic design. Then select either a base mount or an output flange mount model.

To make your job even easier, you can order your Grove Gear reducers ready-to-run by selecting from any of the power-matched LEESON motors from the Quick Selection Guide starting on page 392. Or create your own combination by selecting from hundreds of LEESON and Lincoln motors available in LEESON catalog 1050 or at [www.leeson.com](http://www.leeson.com). Your GEAR+MOTOR™ package can come with the motor mounted to the reducer or ready to install.

### DIRECT INTERCHANGE CHARTS

LeCENTRIC™ reducers serve as dependable, bolt-in replacements for many popular brands. See page 458 for specific information about interchangeability.

	FOOT MOUNT	FLANGE MOUNT		FOOT MOUNT	FLANGE MOUNT
SEW	✓	✓	Hansen	✓▲	✓
Bonfiglioli	✓▲	✓	Lenze	✓	✓
Brook Hansen	✓	✓	Leroy Somer	✓	✓
Browning	✓	✓	Motovario	✓▲	✓
David Brown	✓	✓	Nord	✓	✓
Dodge Quantis	✓	✓	Stober	✓▲	✓
Falk	✓	✓	Sterlin	✓	✓
Flender/Motox	✓	✓	Sumitomo	✓▲	✓

▲ Only LeCentric Series offers direct bolt-in replacement.

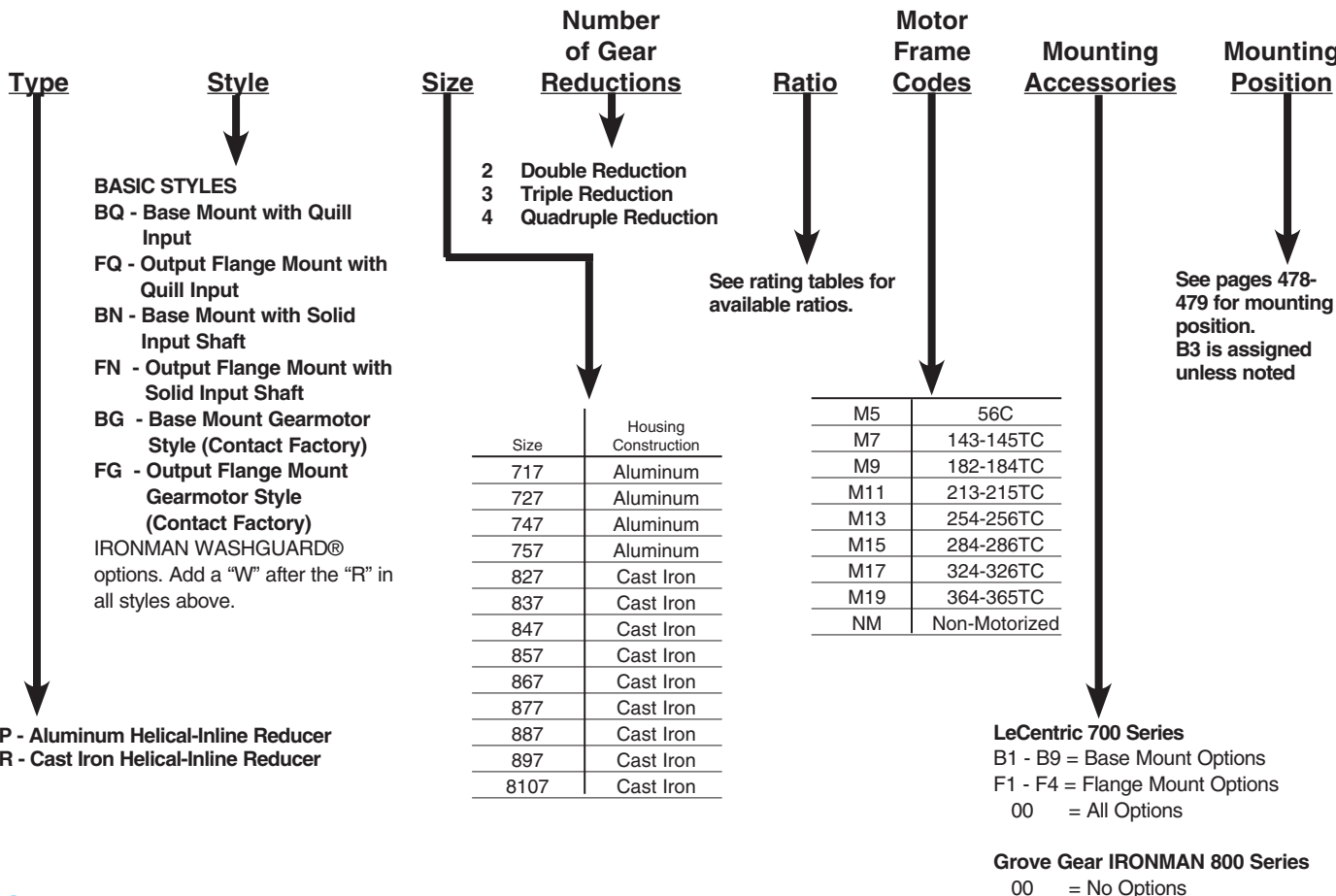
# MODEL NUMBER SYSTEM

## R SERIES & P SERIES HELICAL-INLINE



### Grove Gear IRONMAN Helical-Inline Model Number System

The Mounting position must be specified on all orders, and included in the reducer description. To order Motorized Reducers, simply specify the reducer, indicate the motor description or catalog number and specify "Motorized Assembly". To order Integral Gearmotors, simply specify the reducer, motor horsepower and "Integral Gearmotor". Integral Gearmotors in this catalog are supplied with 3 phase 230/460v totally enclosed 1750 rpm general purpose motors.



Helical - Inline Gear Reducers

### Sample Model Numbers

Cast iron, size 27 base mount unit with quill input, 32.53:1 ratio, 56C motor frame

<b>R</b>	-	<b>BQ</b>		<b>827</b>	-	<b>32.53</b>	-	<b>M5</b>	-	<b>B3</b>
Type		Style		Size		Ratio		Motor Frame		Mounting

**Cast Iron Styles page 390.**  
**Aluminum Styles page 458.**



# SELECTION GUIDE

R SERIES HELICAL-INLINE • CAST IRON

Aluminum Styles page 458.

## Stock Styles

## Modified Stock Styles

Using off-the-shelf accessories, any stock reducer can be field or Factory modified into a wide range of styles.

Base Mount  
Quill "C" Face Input

Output Flange Mount  
Quill Input Shaft

Base Mount  
Solid Input Shaft

Style RBQ

Style RFQ

Style RBN

**DOUBLE  
REDUCTION**



Ratings Pages 429-443  
Dimension Page 444

Ratings Pages 429-443  
Dimension Page 447

Ratings Pages 429-443  
Dimension Page 450

**TRIPLE  
REDUCTION**



Ratings Pages 429-443  
Dimension Page 445

Ratings Pages 429-443  
Dimension Page 448

Ratings Pages 429-443  
Dimension Page 451

**QUADRUPLE  
REDUCTION**



Ratings Pages 429-443  
Dimension Page 446

Ratings Pages 429-443  
Dimension Page 449

Ratings Pages 429-443  
Dimension Page 452

Helical - In-line  
Gear Reducers



**Output Flange Mount  
Solid Input Shaft**

**Style RFN**



Ratings Pages 429-443  
Dimension Page 453

**Base Mount  
Gearmotor Style**

**Style RBG**



Ratings Pages Contact Factory  
Dimension Pages Contact Factory

**Output Flange  
Gearmotor Style**

**Style RFG**



Ratings Pages Contact Factory  
Dimension Pages Contact Factory

Helical - Inline  
Gear Reducers



Ratings Pages 429-443  
Dimension Page 454



Ratings Pages Contact Factory  
Dimension Pages Contact Factory



Ratings Pages Contact Factory  
Dimension Pages Contact Factory



Ratings Pages 429-443  
Dimension Page 455



Ratings Pages Contact Factory  
Dimension Pages Contact Factory



Ratings Pages Contact Factory  
Dimension Pages Contact Factory