

Product Range

SOLUTIONS

AERIAL LIFTS &
WORK PLATFORMS



OIL & GAS



DEFENSE



ROBOTICS



FOOD PROCESSING
& PACKAGING



SATELLITE
COMMUNICATION



METALS



SOLAR ENERGY



Torque density



Customization

Customer support

High precision
and accuracy



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HIGH PERFORMANCE RIGHT ANGLE DRIVE - NEMA

High Performance - NEMA

FEATURES

- DOUBLE ENVELOPING WORM GEARING
- 5 YEAR WARRANTY
- 300% OVERLOAD
- FAN AND WATER COOLING OPTIONS

SPECS

CENTER DISTANCES	1.5" - 24"
OUTPUT TORQUE	Up to 2.9 million lb. in.
GEAR RATIOS	5:1 to 70:1 in single reduction, Up to 3600:1 in double reduction
INPUT OPTIONS	Solid, Single or Double extended, NEMA adaptor
OUTPUT OPTIONS	Solid, Hollow, Shrink Disc
BACKLASH OPTIONS	Standard, Low, Absolute Zero

HIGH PERFORMANCE RIGHT ANGLE DRIVE - SERVO

High Performance - Servo

FEATURES

- DOUBLE ENVELOPING WORM GEARING
- 5 YEAR WARRANTY
- 300% OVERLOAD
- EXACT RATIOS

SPECS

CENTER DISTANCES	3.00", 3.50", 4.00", 5.00", 6.00", 7.00", 8.00"
OUTPUT TORQUE	Up to 120,000 lb. in.
GEAR RATIOS	5:1 to 70:1 in single reduction, Up to 4900:1 in double reduction
INPUT OPTIONS	Fits any servo motor
OUTPUT OPTIONS	Solid, Hollow, Shrink Disc
BACKLASH OPTIONS	Zero to 15 arc minutes



FEATURES

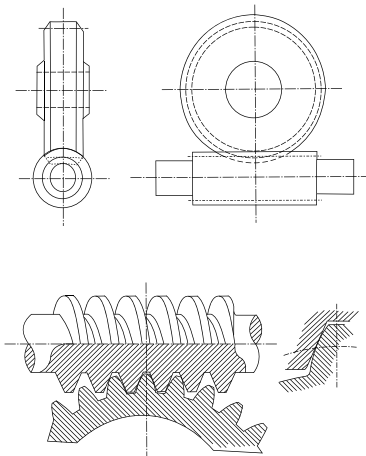
- SUPPLIED IN MATCHING SETS
- GREATER DURABILITY AND RELIABILITY
- 300% SHOCK LOAD
- 5 YEAR WARRANTY
- CUSTOM RATIOS AVAILABLE
- INCH OR METRIC SIZES

SPECS

SIZES	From 1.50" - 54"
GEAR RATIOS	From 5:1 to 70:1
INPUT OPTIONS	Single or Double Extended and Custom Designed
OUTPUT OPTIONS	Solid, Hollow, or Flange Type
MATERIAL OPTIONS	Gears available in standard tin bronze or aluminum bronze. Worms are hardened steel or optional stainless.

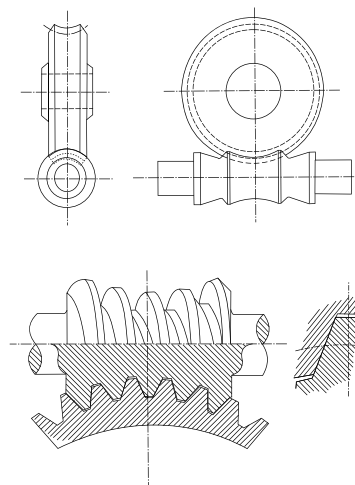


Cylindrical worm gearing



The mesh of common straight worm gearing provides one to 1½ gear teeth in contact with the worm.

Double-enveloping worm gearing



The Cone Drive double-enveloping design provides more tooth contact - up to **eight times** more than straight worms.



FEATURES

- NEMA AND SERVO MOTOR ADAPTATION
- NO LEAK DRY WELL DESIGN
- DIRECT DIMENSIONAL REPLACEMENT AGAINST RENOLD, RADICON, AND FLENDER
- 5 YEAR WARRANTY
- FAN COOLING
- FLANGE MOUNT

SPECS

CENTER DISTANCES	100, 125, 160, 200
OUTPUT TORQUE	Up to 78,600 lb. in.
GEAR RATIOS	5:1 to 70:1 in single reduction,
INPUT OPTIONS	Solid, NEMA or SERVO, Single or Double extended
OUTPUT OPTIONS	Solid, Hollow, Standard dry well option





PRECISION RIGHT ANGLE DRIVE

FEATURES

- DOUBLE ENVELOPING WORM GEARING
- DOUBLE SEALS THROUGHOUT
- 5 YEAR WARRANTY
- IP 65 RATED
- VENT-FREE AND SEALED FOR LIFE
- ALUMINUM CONSTRUCTION

SPECS

SIZES	38, 51, 64, 76, 89mm
OUTPUT TORQUE	Up to 7,800 lb-in
GEAR RATIOS	5, 6, 7, 8, 9, 10, 15, 20, 25, 30, 40, 50, 60
INPUT OPTIONS	Solid Shaft, Servo Motor Mount
OUTPUT OPTIONS	Solid Shaft, Keyed Hollow Shaft, Shrink Disc Hollow Shaft, Direct Mount
BACKLASH OPTIONS	Standard, Low, Absolute Zero



MIDRANGE RIGHT ANGLE DRIVE

FEATURES

- DOUBLE ENVELOPING WORM GEARING
- 5 YEAR WARRANTY
- DOUBLE SEALS THROUGHOUT
- VENT-FREE AND SEALED FOR LIFE
- IP 65 RATED
- FLANGE MOUNT
- CAST IRON CONSTRUCTION

SPECS

SIZES	1.50", 2.00", 2.50", 3.00", 3.50"
OUTPUT TORQUE	Up to 7,800 lb-in
GEAR RATIOS	5, 6, 7, 8, 9, 10, 15, 20, 25, 30, 40, 50, 60
INPUT OPTIONS	Any Servo or Stepper Motor
OUTPUT OPTIONS	Solid Shaft, Keyed Hollow Shaft, Shrink Disc Hollow Shaft
BACKLASH OPTIONS	Standard or Low





RIGHT ANGLE DRIVE - NEMA

FEATURES

- HOLLOW BORE STANDARD FOR MAXIMUM FLEXIBILITY
- GUARANTEE MOTOR REMOVAL WITH PATENTED FRET FREE MOTOR BUSHING
- COMPLETE MOUNTING ACCESSORIES
- DIMENSIONALLY INTERCHANGEABLE WITH OTHER MANUFACTURERS
- LIGHTWEIGHT ALUMINUM CONSTRUCTION
- CONEX® DOUBLE ENVELOPING WORM GEARING

SPECS

SIZES	1.33" - 3.54"
OUTPUT TORQUE	Up to 4,500 lb-in
GEAR RATIOS	Up to 3600:1 in double reduction
INPUT OPTIONS	Solid shaft, NEMA
OUTPUT OPTIONS	Solid or Hollow Shaft

NEMA



RIGHT ANGLE DRIVE - SERVO

FEATURES

- LIGHTWEIGHT ALUMINUM CONSTRUCTION
- VERSATILE MOUNTING OPTIONS
- TROUBLE-FREE SERVO MOTOR MOUNTING
- DOUBLE SEALED INPUT
- 2 YEAR WARRANTY
- CONEX® DOUBLE ENVELOPING GEARING

SPECS

CENTER DISTANCES	1.33", 1.54", 1.97", 2.38", 3.00", 3.54"
SERVO MOTOR CAPACITY	Up to 7.5 KW
GEAR RATIOS	5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60
OUTPUT OPTIONS	Solid or Hollow Shaft (single or double)

Servo





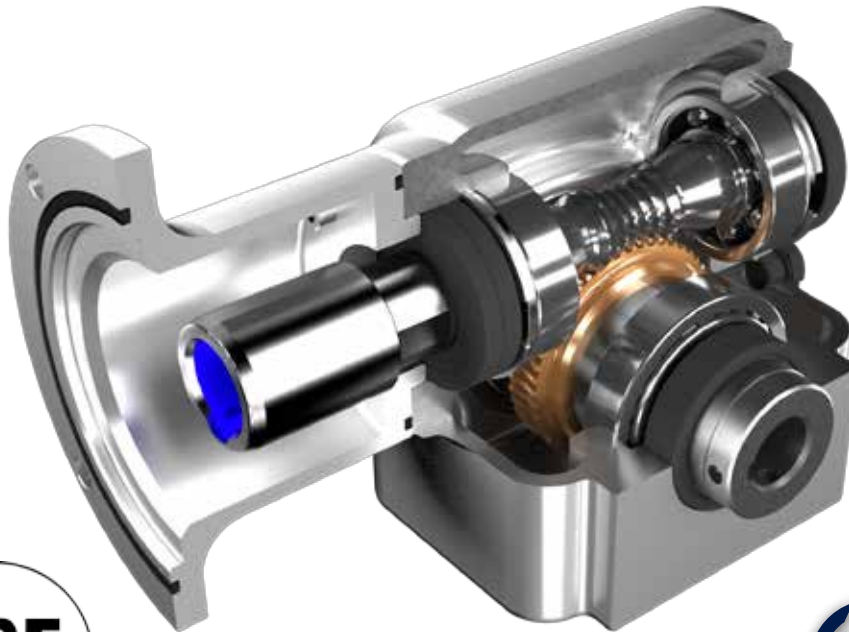
STAINLESS STEEL RIGHT ANGLE DRIVE

FEATURES

- IP69K RATED
- LIFE-TIME LUBRICATION WITH FOOD-GRADE OIL
- DOUBLE-ENVELOPING WORM GEARING
- INCH OR METRIC SHAFTS
- DOUBLE INPUT & OUTPUT SEALS
- ASEPTIC DESIGN
- GUARANTEE MOTOR REMOVAL WITH PATENTED FRET-FREE MOTOR BUSHING
- DOUBLE WORM BEARINGS
- NSF & A3 CERTIFIED
- 5 YEAR WARRANTY
- LASER ETCHED NAMEPLATE

SPECS

CENTER DISTANCES	1.54", 1.75", 1.97", 2.38", 3.00"
NEMA FRAMES	Up to 184TC frame
OUTPUT TORQUE	Up to 6,660 lb-in
GEAR RATIOS	From 5:1 to 60:1, single reduction
OUTPUT OPTIONS	Solid or Hollow Shaft in inch or metric sizes
MATERIAL	316 Stainless Steel

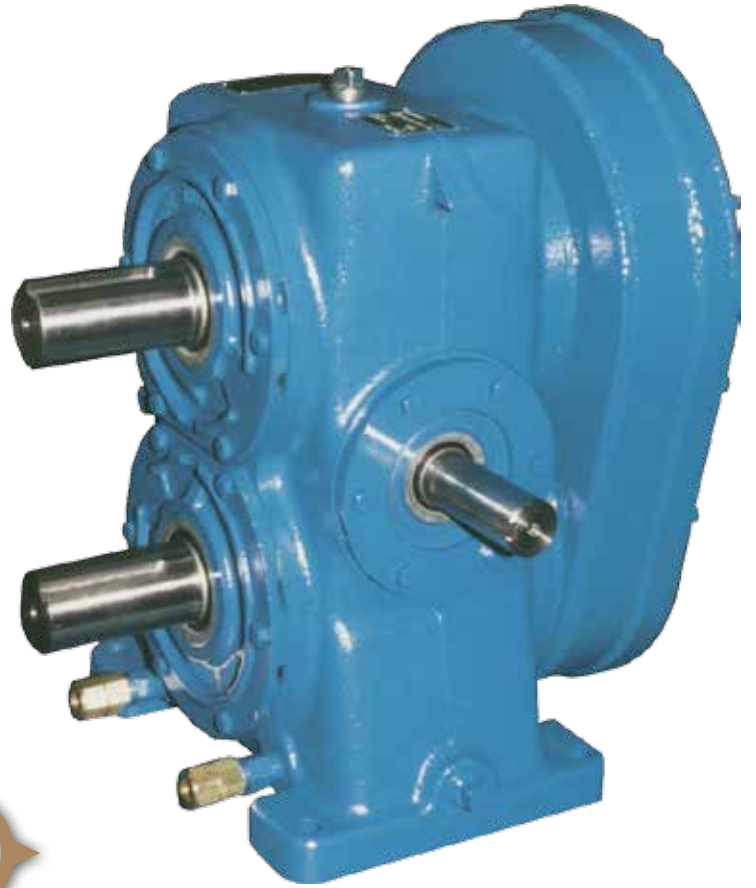


FEATURES

- HIGH TORQUE CAPACITY WITH NO INCREASE IN SIZE
- ABILITY TO WITHSTAND HIGH STARTING AND STOPPING LOADS
- 5 YEAR WARRANTY
- 300% SHOCK LOAD
- FAN OR WATER COOLING OPTIONS

SPECS

CENTER DISTANCES	2" - 24"
OUTPUT TORQUE	Up to 2,900,000 lb-in
GEAR RATIOS	Up to 4,900:1 Unequal ratio Pinch Roll available
INPUT OPTIONS	Solid shaft (single or double extended), NEMA flange (56C - 256TC)
OUTPUT OPTIONS	Solid or Hollow Shaft in inch or metric sizes





FEATURES

- DOUBLE ENVELOPING WORM GEARING
- 5 YEAR WARRANTY
- 300% OVERLOAD
- WATER COOLING OPTION

SPECS

CENTER DISTANCES	2.50" - 10"
OUTPUT TORQUE	Up to 175,000 lb-in
GEAR RATIOS	From 5:1 up to 280:1
INPUT OPTIONS	Solid shaft, Standard NEMA C-face, D-flange, or Sugar Scoop
OUTPUT OPTIONS	Solid or Hollow Shaft, Shrink Disc, Flange Mount, and Torque Arm



FEATURES

- MOTOR ADAPTATION
- ULTRA-LOW TO ZERO BACKLASH
- STANDARD & CUSTOM RATIOS
- CONE DRIVE OPTIMIZED TOOTH PROFILES
- HIGH EFFICIENCY/ HIGH RATIOS
- BACK-DRIVEABLE
- DIRECT DEMENSIONAL REPLACEMENT AGAINST INDUSTRY STANDARDS
- MADE IN THE USA

SPECS

SIZES	14-100, Custom
INPUT ADAPTERS	Servo, Stepper, AC, Air, Hydraulic, Manual
GEAR RATIOS	30, 50, 80, 100, 120, 160, Custom
OUTPUT OPTIONS	Solid, Hollow, or Custom

HARMONIC COMPONENT SETS



HARMONIC GEARHEAD





PRECISION INLINE DRIVE

Precision Inline Drive

FEATURES

- COMPACT DESIGN & UNIVERSAL HOUSING
- PRECISION BEARINGS AND PRECISION GROUND GEARING
- 3 ARC-MINUTE BACKLASH
- 5 YEAR WARRANTY

SPECS

SIZES (TYPE S)	60, 90, 115, 140, 180, 220
(TYPE N)	60, 75, 100, 140, 180, 210, 240
OUTPUT TORQUE	
(TYPE S)	Up to 13,275 lb-in
(TYPE N)	Up to 21,240 lb-in
GEAR RATIOS	Up to 100:1 in two stages
INPUT OPTIONS	Fits any servo motor
OUTPUT OPTIONS	Output with or without keyway



INLINE DRIVE

Inline Drive

FEATURES

- UNIVERSAL HOUSING
- QUIET & SMOOTH
- FAST AND ERROR FREE MOTOR ASSEMBLY
- 5 ARC-MINUTE BACKLASH
- 5 YEAR WARRANTY

SPECS

SIZES	50, 70, 90, 120, 155, 205, 235
OUTPUT TORQUE	Up to 13,275 lb-in
GEAR RATIOS	From 3:1 in a single stage to 100:1 in two stages
INPUT OPTIONS	Fits Servo or Stepper motors





SLEWING DRIVE

FEATURES

- LOW PROFILE DESIGN
- OPTIONAL PLANETARY OR WORM GEAR DRIVEN SPUR ROTATION DRIVE
- CAPABLE OF COMBINED TITLTING, RADIAL AND AXIAL LOADS
- STRONG SHOCK RESISTANCE, LONG LIFE PERFORMANCE
- SMOOTH ROTATION, HIGHLY ADAPTABLE
- COST EFFICIENT & RELIABLE
- SEALED DRIVE OPTIONS

SPECS

SIZES	7", 9", 12", 14", 17", 21", 25"
RATIO	47, 62, 79, 86, 104, 90, 104
OUTPUT TORQUE	Up to 60 kNm (44,220 lb-ft)
HOLDING TORQUE	Up to 158 kNm (116,535 lb-ft)
OVERTURNING MOMENT	Up to 310 kNm (228,644 lb-ft)
OUTPUT OPTIONS	Standard bolt circle diameters published for each size
HOUSING OPTIONS	Open, Closed, High Strength



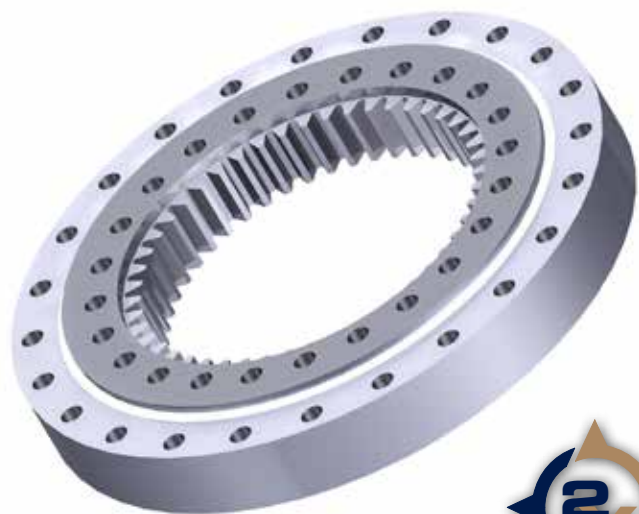
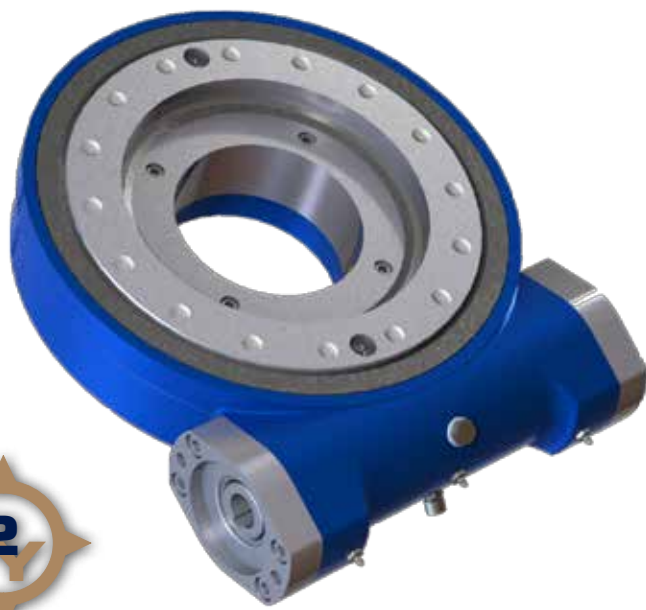
SLEWING BEARING

FEATURES

- LOW PROFILE DESIGN
- CAPABLE OF COMBINED TILTING, RADIAL, AND AXIAL LOADS
- STRONG SHOCK RESISTANCE, LONG LIFE PERFORMANCE
- SMOOTH ROTATION
- HIGHLY ADAPTABLE
- COST EFFICIENT & RELIABLE
- PROTECTED BEARING

SPECS

SIZES	224mm (8.82") - 800mm (31.5") ball pitch diameter bearing
STYLES	Slew Ring, Slew Ring External Teeth, Slew Ring Internal Teeth





CUSTOM ASSEMBLY

Capabilities

We recognize that ready-made products are not always the best solution. Our product range is engineered to enable a high degree of flexibility. From product modifications to full customization services, our experienced engineering and application support teams are available to work with you. Our engineers can recommend the best possible gearing solution to minimize the total cost of ownership.

Customizable Options Include:

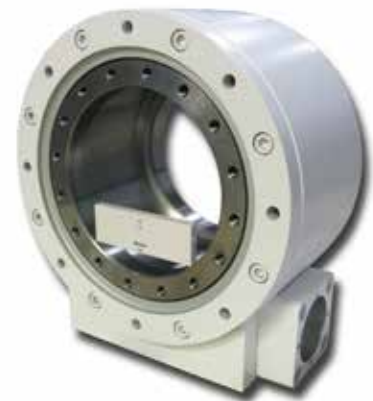
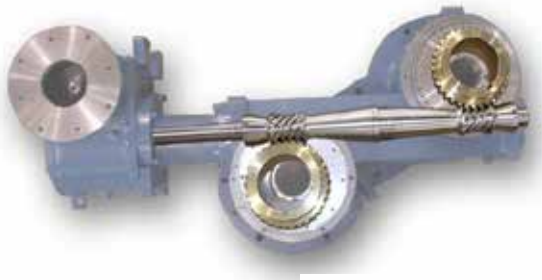
- Ratio
- Shaft Diameters
- Shaft Lengths
- Materials
- Bearings
- Housings
- Design to Specification



CUSTOM GEAR SETS

Capabilities

SIZES	Custom sizes ranging from 1.25" CD - 54" CD
GEAR RATIOS	Custom ratios available from 3:1 to 300:1 in a single stage
BACKLASH	As low as Absolute Zero
MATERIALS	Gears available in tin bronze, aluminum bronze, or ductile iron. Worms available carbon steel, stainless, and plastics.





GLOBAL LOCATIONS



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