Heavy Duty Worm Gear Products

Delroyd® Worm Gear
An Altra Industrial Motion Company

CALL NOW 800-985-6929
http://www.automatedpt.com
Email: charles@automatedpt.com
Worm Gear Products

Applications
- Hoists, mechanical jack and screw drives
- Log handling and debarking machines
- Grinding and threading machines
- Steel and paper mill machinery
- Sewage treatment equipment
- Chemical processing equipment
- Machine tools, elevators and pumps
- Mining machinery
- Drilling equipment
- Coal handling and pulverizers
- Cement mixers
- Winch drives
- Mixers and agitator drives
- Cable tensioners

Advantages of Delroyd® Worm Gearing

Compactness and High Ratio Reduction
Single reduction worm gearing offers high ratio reduction with few moving parts in a close-coupled compact drive. Compact right angle input and output shaft arrangements can be extended in horizontal or vertical arrangements adaptable to any mounting requirement.

Double reduction units give a wider ratio range beyond practical single reduction limits. Compact right angle or parallel shaft arrangements are provided with the same versatility of shaft extensions.

Triple reduction units provide ultra-slow output speeds and high torques.

Long, Quiet Life
All worm gears incorporated in DELROYD® reducers are made from phosphor bronze. They also incorporate a hardened, ground and polished alloy steel worm which develops a smooth, work hardened surface on the bronze. For this reason worm gears wear in and improve with prolonged service versus other gear configurations which wear out with prolonged service.

Two or more teeth are in contact with the worm at all times, transmitting power by a continuous, quiet and shockless action. As a result, the flow of torque is smooth and free from angular velocity changes, thus eliminating vibration, pulsation, chatter, and other customary gear noises.

High Shock Load Capacity
The DELROYD® worm gear tooth form is designed such that the gear teeth operate under a crushing, rather than a bending load. For this reason, extremely high momentary and shock loads, damaging to many forms or gearing, can be successfully withstood. Also high momentary overloads will seldom cause failure, as worm gear ratings are figured on the wear resistance of the gear teeth.

Safety and Ease of Maintenance
The few moving components are completely enclosed, thus avoiding the hazards of exposed parts. Reducers operate with minimum attention even under the most adverse conditions.

Interchangeability of Components
All parts are manufactured to be interchangeable by the use of limit gages retained as reference standards to assure precision and uniformity. The need for matched gearing is thus avoided. Worms and gears of different ratios can be readily interchanged if revision of speeds becomes necessary.

For whatever the application, DELROYD® has the model, configuration, size, ratio, input and output to meet your power transmission need reliably and efficiently.

Worm Gear Sets

Standard Components
The lowest cost and shortest delivery schedule are normally achieved through the use of standard worm and gear described in this catalog.

In addition to using standard shaft center distances, ratios and bearing mounting parts, designs should also include standard bores, flanges and bolt circles where possible. Since the use of non-standard hubs is not uncommon to the worm gear industry, DELROYD® provides for this by having a flanged rim design available for mounting on any adaptable center.

Refer to DELROYD® Worm and Gear Set Catalog P-7001-DWG for complete selection, ratings and dimensions. **Additional ratios available.
**Helical Worm Speed Reducer**

- Hardened, shaved or ground helical gears
- Hollow & solid output shafts
- Vertical & horizontal mountings
- Fan cooled (standard)
- Motor mounts
- Cast iron or steel housing available

**Single Worm Speed Reducers**

- Ratios 15:1 to 355:1**
  - Cast iron or steel housing available
  - Motor mounts
  - Fan cooled (standard)
  - Vertical & horizontal mountings
  - Hollow & solid output shafts

**Double Worm Speed Reducers**

- Ratios 75:1 to 4900:1**
  - Right angle & parallel shaft arrangement
  - Hollow & solid output shafts
  - Vertical & horizontal mountings
  - Fan cooled (standard)
  - Motor mounts
  - Cast iron or steel housing available

**Triple Worm Speed Reducer**

- Ratios 5000:1 to 175,000:1**
  - HP from 0.09 to 6.25
  - Output torque to 583,000 in. lbs.
  - Output RPM as low as 0.01 with a 1750 RPM input
  - Ideal for ultra-slow speed, high torque application

DELROYD® DDVM series triple-reduction worm gear speed reducers are available in ratios from 5000:1 to 175,000:1 and center distance from 7 to 20 in. (larger sizes are available on request). Output torque ranges from 33,000 in. lbs. for the 7-in. CD DDVM-70 to 582,900 in. lbs. for the 175,000:1 7-in. CD reducer to 6.24s for the 5000:1 20-in. CD unit.

These reducers are available in any four configurations: horizontal, vertical, shafted and shaft-mounted.

They are ideal for water/wastewater equipment drive applications such as thickeners and clarifiers which require a vertical downshaft. Other available configurations also make DELROYD® triple reduction reducers perfect for use on mixers, elevators, solar panels, astronomical telescopes, indexing tables, hoist, conveyors or other process or material handling systems where large torques/slow speeds are needed.

These reducers are also available with a helical primary reduction stage and termed the HDVM series.

Refer to DELROYD® Worm and Gear Set Catalog P-7001-DWG for complete selection, ratings and dimensions. **Additional ratios available
Altra Industrial Motion

All Customer Service phone numbers shown in bold

Electromagnetic Clutches and Brakes

Warner Electric
Electromagnetic Clutches and Brakes
New Hartford, CT - USA
1-800-825-6544
For application assistance: 1-800-825-9050
St Barthelemy d’Anjou, France
+33 (0) 2 41 21 24 24
Precision Electric Coils and Electromagnetic Clutches and Brakes
Columbia City, IN - USA
1-260-344-6183

Matrix International
Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes
Brechin, Scotland
+44 (0) 1356 602000
New Hartford, CT - USA
1-800-825-6544

Inertia Dynamics
Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes
New Hartford, CT - USA
1-800-800-6445

Linear Products

Warner Linear
Linear Actuators
Belvidere, IL - USA
1-800-825-6544
For application assistance: 1-800-825-9050
St Barthelemy d’Anjou, France
+33 (0) 2 41 21 24 24

Coulplings

Ameridrives Couplings
Mill Spindles, Ameriflex, Ameridisc
Erie, PA - USA
1-814-480-5000
Gear Couplings
San Marcos, TX - USA
1-800-458-0887

Bibby Turboflex
Disc, Gear, Grid Couplings, Overload Clutches
Dewsbury, England
+44 (0) 1924 468001
Boksburg, South Africa
+27 11 918 4270

TB Wood’s
Elastomeric Couplings
Chambersburg, PA - USA
1-888-629-6637 - Press #5
For application assistance: 1-888-629-6637 - Press #7
General Purpose Disc Couplings
San Marcos, TX - USA
1-888-449-9439

Ameridrives Power Transmission
Universal Joints, Drive Shafts, Mill Gear Couplings
Green Bay, WI - USA
1-920-593-2444

Huc Dynatork
Precision Couplings and Air Motors
Hertford, England
+44 (0) 1992 501900
Chambersburg, PA - USA
1-800-829-6637

Lamiflex Couplings
Flexible Couplings, Bearing Isolators, and Coupling Guards
Sao Paulo, SP - Brasil
(11) 5697-6533

Heavy Duty Clutches and Brakes

Wichita Clutch
Pneumatic Clutches and Brakes
Wichita Falls, TX - USA
1-800-964-3262
Bedford, England
+44 (0) 1234 350311

Tiwflex Limited
Caliper Brakes and Thrusters
Twickenham, England
+44 (0) 20 8894 1161

Industrial Clutch
Pneumatic and Oil Immersed Clutches and Brakes
Waukesha, WI - USA
1-262-547-3357

Gearing

Boston Gear
Enlosed and Open Gearing, Electrical and Mechanical P.T. Components
Charlotte, NC - USA
1-800-825-6544
For application assistance: 1-800-816-5608

Bauer Gear Motor
Geared Motors
Esslingen, Germany
+49 (711) 3518-0

Nuttall Gear and Delroyd Worm Gear
Worm Gear and Helical Speed Reducers
Niagara Falls, NY - USA
1-716-298-4100

Overrunning Clutches

Formsprag Clutch
Overrunning Clutches and Holdbacks
Warren, MI - USA
1-800-348-0881 - Press #1
For application assistance: 1-800-348-0881 – Press #2

Marland Clutch
Roller Ramp and Sprag Type Overrunning Clutches and Backstops
South Beloit, IL - USA
1-800-216-3515

Stieber Clutch
Overrunning Clutches and Holdbacks
Heidelberg, Germany
+49 (0) 621 30 47 0

Belted Drives and Sheaves

TB Wood’s
Belted Drives
Chambersburg, PA - USA
1-888-829-6637 - Press #5
For application assistance: 1-888-829-6637 – Press #7

Engineered Bearing Assemblies

Killian Manufacturing
Engineered Bearing Assemblies
Syracuse, NY - USA
1-315-432-0700

Call Our Toll-Free Application Hotline:
800-432-0121

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