

MG-2000 and MG-2000-D Electric Direct Drives

Provide reliable, economic solutions for a variety of PCP applications, including heavy to light oil, coalbed methane, and water source wells

Applications

- PCP applications driven by electric or hydraulic motors

Features and Benefits

- The small footprint is especially useful for height-restricted areas and aesthetically sensitive environments.
- Standard features include a hinged guard for easy sheave and belt inspection or replacement and a three-point lifting system for ease of handling.
- The optional two-motor mounting configuration adds flexibility and balances the load in high-horsepower applications.
- The centrifugal braking system provides a resistive torque that is proportional to speed, for a safe release of the backspin energy. The brake shoes automatically engage and retract based on speed, which results in a quick, complete, and controlled fluid dump, enabling production to resume quickly.
- The braking system is enclosed and immersed in synthetic oil to manage a wide range in operating temperatures and to lubricate all moving parts for a long service life.

Tool Description

The Weatherford MG-2000 and MG-2000-D drives are electric, belt-driven drives with a torque capacity of 2,000 lbf-ft. Both drives are compatible with Weatherford stuffing boxes and various wellhead connections.

Specifications

| Drive type | Belt direct drive | |
|-----------------------------------|---|------------------------------|
| Prime mover type | Electric or hydraulic (with optional adapter) | |
| Braking mechanism | Centrifugal braking system | |
| Bearing configuration | Standard | Optional |
| Dynamic bearing capacity | 220,313 lbf (980,000 N) | 350,702 lbf (1,560,000 N) |
| Bearing Ca90 capacity | 57,117 lbf (25,908 kgf) | 90,921 lbf (41,241 kgf) |
| Torsional rating | 2,000 lbf-ft (2,712 N•m) | |
| Maximum polished rod speed | 500 rpm | |
| Polished rod size | 1-1/4 and 1-1/2 in. | |
| Maximum sheave ratio ¹ | 5:1 | |
| Main shaft type | Hollow | |

¹May vary by motor frame size



The MG-2000 and MG-2000-D electric direct drives are built with a unique centrifugal wet-braking system that provides reliable, controlled backspin protection to enhance operational safety.

Options

- Integral and booth-mounted stuffing boxes*
 - Conventional, I-PAK®, and DuraSeal® stuffing box types
 - CE/ATEX-certified model available*
 - ISO 15163-2 model available
 - Polished-rod speed indicator
 - Polished-rod lock-out tool
 - Support arms
- * Some conditions may apply



MG-2000 and MG-2000-D Electric Direct Drives

Specifications

| Configuration | Standard | | | | Optional | | | |
|--|---|--------|-----------|----------|-------------------------------------|-------|----------|----------|
| Maximum axial load | 19 tonne (15.5 tonne for ATEX) | | | | 30 tonne (15.5 tonne for ATEX) | | | |
| PR drive clamp type | 8 bolt | | | | Dual 8 bolt, stacked | | | |
| Available stuffing box (SB) mounting | 33.6 T standard booth, bolt-on SB | | | Integral | 33.6 T standard booth, bolt-on SB | | | Integral |
| Available stuffing box type | Conv. | I-PAK® | DuraSeal® | DuraSeal | Conv. | I-PAK | DuraSeal | DuraSeal |
| Available stuffing box wellhead connection API compatible | 3-1/8 3M Flange | | | | | | | |
| | 4-1/16 2M or 3M Flange | | | | | | | |
| | 5-1/8 2M or 3M Flange | | | | | | | |
| Motor mounting | Single or Dual | | | | | | | |
| Maximum motor frame size | 445T (Optional 505T), IEC 280S/M (Optional IEC 315S/M) | | | | | | | |
| Maximum motor weight ¹ | 3,000 lb (1,361 kg) each | | | | | | | |
| Maximum mountable motor | 150 hp, 1,800 rpm (Optional 200 hp, 1,800 rpm) | | | | | | | |
| | 125 hp, 1,200 rpm (Optional 150 hp, 1,200 rpm) | | | | | | | |
| Height (SB mounting) | Booth mounted stuffing box | | | | Integral stuffing box | | | |
| - Top of PR guard | 103 in. (2,611 mm) | | | | 87 in. (2,202 mm) | | | |
| - Top of PR clamp (std./opt.) | 68 in. (1,733 mm)/76 in. (1,930 mm) | | | | 52 in. (1,324 mm)/60 in. (1,524 mm) | | | |
| Approximate weight ² | 1,780 lb (807 kg) | | | | 1,600 lb (726 kg) | | | |
| Width (single/dual motor) | 35 in. (889 mm)/41 in. (1,043 mm) | | | | | | | |
| Length (single/dual motor) | 61 in. (1,538 mm)/76 in. (1,927 mm) | | | | | | | |
| Input shaft orientation | Vertical | | | | | | | |
| Input shaft diameter | 2.75 in. (70 mm) | | | | | | | |
| Maximum driven sheave diameter | 31.5 in. (800 mm) | | | | | | | |
| Maximum driver sheave diameter | Single motor: 14 in. (351 mm) Dual motor: 13 in. (330 mm) | | | | | | | |
| Maximum number of belts | Single motor: 7 ea. Type C, 10 ea. Type 5V, 1 ea. Synchronous Dual motor: 8 ea. Type C, 12 ea. Type 5V | | | | | | | |
| Minimum center distance ³ | 17 in. + D (432 mm + D) | | | | | | | |
| Maximum slant angle from vertical | 45° (0° for ATEX) | | | | | | | |
| Ambient operating temperature range | -40 to 122°F (-40 to 50°C) -4 to 104°F (-20 to 40°C) for ATEX | | | | | | | |
| Minimum start-up temperature | -4°F (-20°C) | | | | | | | |
| Operating temperature range | -4 to 248°F (-20 to 120°C) | | | | | | | |

¹ Including motor, belts, sheaves, and bushings

² Not including motor, belts, sheaves, and bushings

³ D = distance from the base of selected motor to its centerline

* I-PAK is a registered trademark of Weatherford in the US and Canada. DuraSeal is a registered trademark of Weatherford in the US.

