

HBG Clutches

One-Way Clutches for Hydro-Dynamic Drilling Rigs



 **Marland**[®]
Clutch

An Altra Industrial Motion Company

Design Features

Full-phased Cam and Rollers

Uniform Load Distribution is assured by full-phase true cylindrical rollers enclosed in a cage to act in unison on flat cam surfaces. The cage forces all the rollers to engage simultaneously, accurately maintaining their relative positions, thereby assuring that each roller will carry an equal share of the load.

Other designs utilize individual springs acting on each roller. This allows different energizing forces to cause one or more of the rollers to engage in the load carrying position prematurely, or to skew. This action will concentrate the full clutch load on one or just a few rollers causing destruction and failure of the rollers and clutch.

No Loose Parts

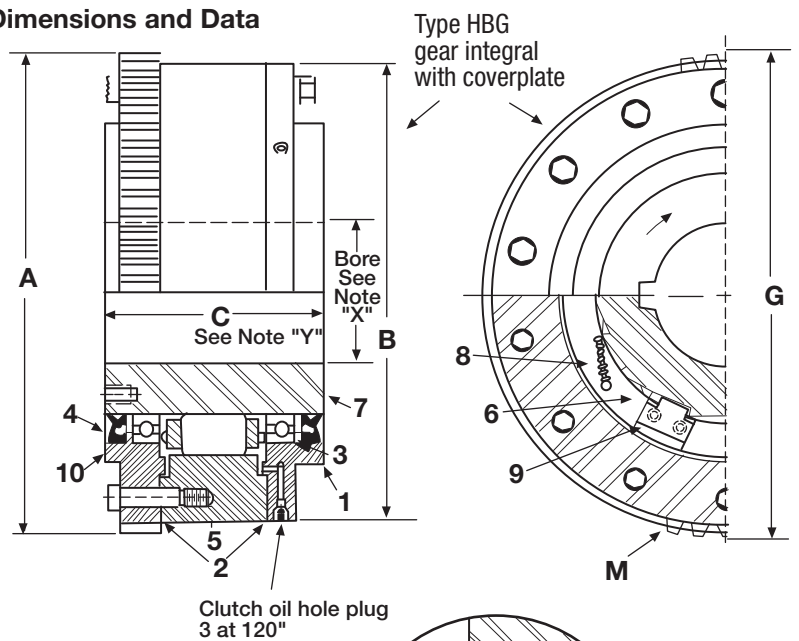
Rollers are contained in a spring-actuated cage. The parts will not spill or drop if field disassembly should be required.

No Backlash

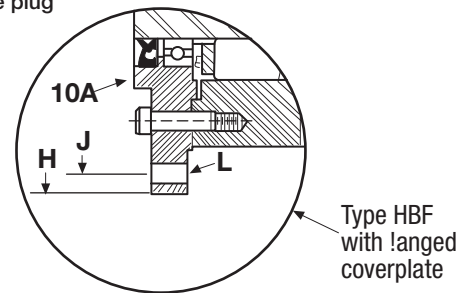
When the string is lowered and the drum shaft rotates the outer race of the clutch, the spring-actuated roller cage uniformly and instantaneously moves all of the rollers into the driving position.

Marland One-Way HB clutches the only one-way clutch for hydro-dynamic brakes on drilling rigs.

Dimensions and Data



Part	Description
1	Coverplate
2	Gasket
3	Ball Bearing
4	Oil Seal
5	Outer Race
6	Roller Assembly
7	Cam
8	Spring
9	Stop Lug
10	Geared Coverplate
10A	Flanged Coverplate



Notes:

X—Taper or straight bore furnished as required.

Y—Single or double keyway as specified.

Type HBG & HBF Size	Rated Torque lb. ft.	Max. Bore & Keyway		Dimensions in Inches						No. Holes & Sizes L	No. Teeth & Pitch M	Oil Cap Pints	Shipping Weight In Pounds	
		Straight Bore	Keyway at Max. Bore	A	B	C	G	H	J				HBG	HBF
	12 MA	12,000	4.50	1 x .375	11.75	11.06	5.86	11.90	14.25	13.25	14 17/32	69 6/8	5/8	130
18 MA	18,000	5.438	1.25 x .438	13.58	12.94	6.25	13.74	16.25	15	14 21/32	80 6/8	7/8	180	210
27 MA*	27,000	6.50	1.50 x .50	13.59	13.03	7	14.30	16.25	15	14 21/32	40 3/8	1	265	300
45 MA	45,000	7	1.75 x .563	17.65	16.69	8	17.85	20.25	18.75	14 25/32	69 4/5	1-5/8	390	440
63 MA**	63,000	8	2 x .688	17.92	17.34	8.75	18.62	23	21.25	16 29/32	53 3/8	2	515	555
90 MA	90,000	9	2.50 x .75	21.90	20.81	9	22.11	26.75	24.75	16 1-17/32	86 4/5	2-3/4	700	840
135 MA***	135,000	10	2.50 x .875	24.70	23.81	10	25.11	32	29.50	18 1-9/32	98 4/5	3-1/4	1100	1300
180 MA	180,000	11.75	3 x 1	27.90	26.96	10.75	28.05	34	31.50	20 1-3/32	110 4/5	4-1/2	1500	1700

* The standard type HBG-27MA is interchangeable with a NOV "C-2" unit. Marland also offers a variation of the standard type HBG-27MA which is interchangeable with a NOV "C" unit.

** The standard type HBG-63MA is interchangeable with a NOV "A" unit.

*** Marland also offers a variation of the standard type HBG-135MA which is interchangeable with a NOV "D-1" unit.

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
1-260-244-6183

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

Couplings

Ameridrives Couplings

Mill Spindles, Ameriflex, Amerisc

Erie, PA - USA
1-814-480-5000

Gear Couplings

San Marcos, TX - USA
1-800-458-0887

Bibby Transmissions

Disc, Gear, Grid Couplings, Overload Clutches

Dewsbury, England
+44 (0) 1924 460801

Boksburg, South Africa
+27 11 918 4270

TB Wood's

Elastomeric Couplings

Chambersburg, PA - USA
1-888-829-6637 – Press #5

For application assistance:
1-888-829-6637 – 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

Huco Dynatork

Precision Couplings and Air Motors

Hertford, England
+44 (0) 1992 501900
Charlotte, NC - USA
1-800-825-6544

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

Twiflex 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

Enclosed 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) 6221 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

Kilian Manufacturing

Engineered Bearing Assemblies

Syracuse, NY - USA
1-315-432-0700

For information concerning our sales offices in Asia Pacific check our website
www.altramotion.com.cn



www.marland.com

449 Gardner Street
South Beloit, IL 61080 - USA
815-389-7797
Fax: 815-389-7628