

HBG Clutches

One-Way Clutches for Hydro-Dynamic Drilling Rigs



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

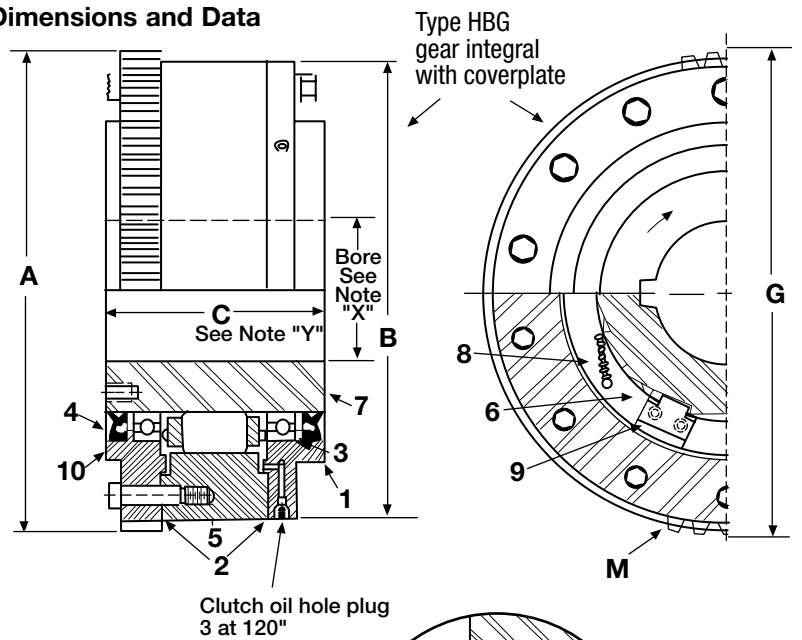
Rollers are contained in a spring-actuated cage. The parts will not spill or drop if field disassembly should be required.

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.

Design Features

Type HBG & HBF Size	Rated Torque lb. ft.	Max. Bore & Keyway		Dimensions in inches						No. Holes & Sizes	No. Teeth & Pitch	Oil Cap Pints	Shipping Weight in Pounds	
		Straight Bore	Keyway at Max. Bore	A	B	C	G	H	J				L	M
12 MA	12,000	4.50	1 x .375	11.75	11.06	5.86	11.90	14.25	13.25	$\frac{14}{17/32}$	$\frac{69}{6/8}$	5/8	130	150
18 MA	18,000	5.438	1.25 x .438	13.58	12.94	6.25	13.74	16.25	15	$\frac{14}{21/32}$	$\frac{80}{6/8}$	7/8	180	210
27 MA*	27,000	6.50	1.50 x .50	13.59	13.03	7	14.30	16.25	15	$\frac{14}{21/32}$	$\frac{40}{3/6}$	1	265	300
45 MA	45,000	7	1.75 x .563	17.65	16.69	8	17.85	20.25	18.75	$\frac{14}{25/32}$	$\frac{69}{4/5}$	1-5/8	390	440
63 MA**	63,000	8	2 x .688	17.92	17.34	8.75	18.62	23	21.25	$\frac{16}{29/32}$	$\frac{53}{3/6}$	2	515	555
90 MA	90,000	9	2.50 x .75	21.90	20.81	9	22.11	26.75	24.75	$\frac{16}{1-1/32}$	$\frac{86}{4/5}$	2-3/4	700	840
135 MA***	135,000	10	2.50 x .875	24.70	23.81	10	25.11	32	29.50	$\frac{18}{1-9/32}$	$\frac{98}{4/5}$	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	$\frac{20}{1-3/32}$	$\frac{110}{4/5}$	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.

Marland Clutch Facilities

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