

The World Leading Provider of High Pressure Equipment for Research and Industry since 1945!

MAG075

MagneDrive® II Series

At a Glance

Average Static Torque: 7-16 inch-lbs. (0.79 to 1.8 N-m)

Material of Construction: 316 Stainless Steel, Hastelloy C276, Titanium, Inconel 600

Maximum Pressure:

6000 psi @ 850° F (414 bar @ 459°C) - except Titanium
2200 psi @ 600° F (152 bar @ 316°C) - Titanium

Applications: Agitator recognized worldwide as a highly efficient method of promoting chemical reactions and catalyst testing among gases, liquids and solids in high pressure autoclaves.

Dispersimax® agitation available for gas dispersion through liquid during mixing.

Facilitating tomorrows requirements in a proven mixing package for **University** and **Research** facilities the world over.



External driver magnets

Encapsulated driver magnet assembly and sealed rotor shaft

Outer magnets are rotated by motor driven belt, thus rotating inner magnets and rotor shaft.

The MagneDrive® Principle



Principle of Operation

The MagneDrive® agitator uses rare earth magnets, permitting packless mixing at higher speeds and with higher viscosity fluids. Outer drive magnets, rotated by a motor driven belt exert powerful attraction on the encapsulated inner magnet assembly. As the outer drive magnets are rotated, the inner magnets are actuated, resulting in rotation of the agitator shaft.

Contamination-free mixing- Packless design eliminates shaft packing and need for lubrication.

Zero leakage to atmosphere- The MagneDrive® is a sealed system, closed to the atmosphere, so even sensitive fluids can be processed safely.

Continuous, high speed operation- No need to shut down in mid-reaction to change failed packing.

Features

- Capable of mixing vessel sizes from 50 ml up to 4000 ml.
- Capable of mixing at 3,600 rpm and 20,000 cp.
- Operating pressures as high as 6,000 psi @ 650° F (414 bar @ 343°C).
- Compact design with 7-16 in-lb (0.79 to 1.8 N-m) of static torque.
- Designed for simple disassembly and maintenance. Bearings can be replaced with minimal effort.
- Carbon graphite and fluoropolymer with carbon fiber bearings available.

General Specifications

Base Model HD	Maximum Speed (RPM)¹	Static Torque inch-lbs (N-m)
MAG075-01	3300	7 (0.79)
MAG075-02	3300	16 (1.8)

Material of Construction: All wetted parts 316 SS, Hastelloy® C-276, Titanium, Inconel 600 and Inconel 625. For information on other materials, please consult factory.

Bearing Material: Purebon® 658RCH⁴, Purebon® 3310⁴ or fluoropolymer with carbon fiber

Maximum Pressure at Connection: 6,000 psi @ 850° F (414 bar @ 454° C)- except Titanium

Maximum Temperature at Magnet Zone: 300° F (149°C)⁵

Maximum Temperature at Connection: 650° F (343°C)⁶ with Purebon® 658 RCH Bearings

Cover Connection: 10C-7227 (1"-14 NF)

Purge Connection: Provided with a 0.125" (3 mm) tube gas purge connection (top).

Tachometer Pick-up: Hall effect proximity sensor.

Shaft and Mag Impeller: Mag075 MagneDrives® are supplied without shafts or impellers, allowing for customization of shaft length and impeller style. A drive shaft, supplied separately, is screwed into the MagneDrive® encapsulation assembly. Parker Autoclave Engineers offers a wide selection of impellers, including the Dispersimax gas dispersion system. Please consult factory for more information.

¹ Maximum speeds may be limited by mixing requirements and shaft vibration, including critical speed.

² Motor horsepower should be sized at least 25% higher than the intended application requirement.

³ To determine horsepower at a certain speed, use the formula:

$$hp = \frac{T \times n}{63,025} \quad \text{where: } T = \text{torque in inch-lbs} \\ n = \text{speed in rpm}$$

⁴ Purebon is a registered Trademark of Pure Carbon.

⁵ The magnets are stabilized at 400° F (204° C). When the temperature of the magnets exceeds the stabilizing temperature for an extended period, loss of magnetic torque will occur. Some of this loss is reversible and torque will regenerate.

⁶ Maximum temperature at connection is reduced to 500° F (260° C) with the use of fluoropolymer with carbon fiber.

Supporting Information

Please refer to the following sections of the catalog for complimentary products and additional technical details. See the *MAG075 Ordering Guide on the back cover* to configure a drive for your specific application.

MAG075 Drawings

316 Stainless SteelDwg. 30A-9605

Hastelloy C-276Dwg. 30B-0382

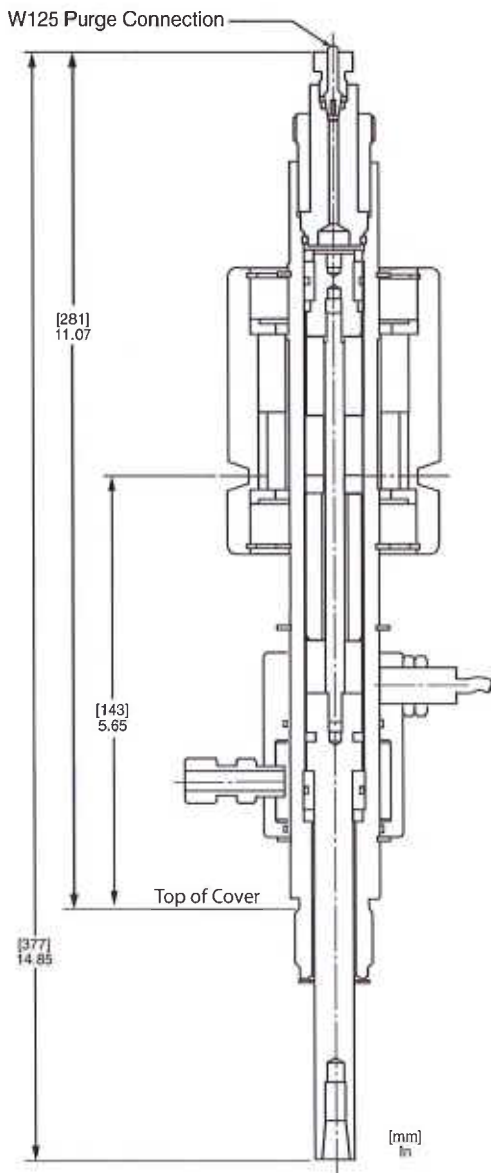
Hastelloy C-276Dwg. 40A-9356
(Sour Gas)

TitaniumDwg. 30B-1224

Inconel 600Dwg. 30B-0832

Inconel 625Dwg. 30B-1222

Consult factory for other connection requirements



Dimensional

Ordering Guide

MAG075

A A B B C D E F

AA - Material	
SS	316 Stainless Steel
HC	Hastelloy®1 C-276
HG	Hastelloy® C-276 (Sour Gas)
TI	Titanium
IN	Inconel 600
IG	Inconel 625
BB - Size	
01	7 In-lb Static Torque
02	16 In-lb Static Torque
C - Bearing	
1	Purebon® 658RCH
2	FPGL (Fluoropolymer with Carbon Fiber)
3	Purebon® 3310
D - Drive Type	
0	Belt Driven (No motor included)
E - Speed Sensor	
0	None
1	General Purpose
2	Intrinsically Safe (IS barrier not provided)
F - Approval	
0	None Required
2	CE Mark Compliance

! WARNING !

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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The items described in this document are available for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. Any sale contract entered by Parker will be governed by the provisions stated in Parker's standard terms and conditions of sale (copy available upon request).

Example: **MAG075SS-011010** is a Mag075 series MagneDrive® in 316 SS with 7 in-lbs of torque, Purebon® bearings, (no motor) belt driven, general purpose speed sensor, and no approvals required.

Note: Drive shafts and Impellers are not included with MagneDrive®, consult factory for availability.

Purebon® is a registered trademark of Pure Carbon.

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Bulletin ACT-MAG075

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