

MAG075 MagneDrive® Series

At A Glance

Average Static Torque:	7-16 inch-lbs (0.79 to 1.8 N-m)
Material of Construction:	316 Stainless Steel or Hastelloy C-276
MAWP:	6000 psi @ 650 °F (414 bar @ 343 °C)

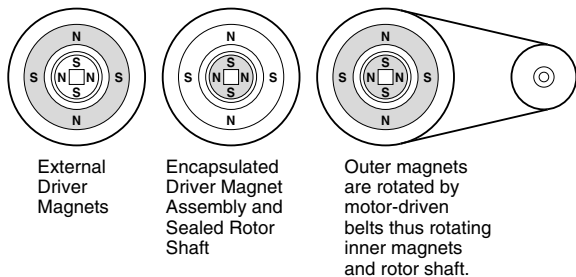


Figure 1- The MagneDrive® Principle

The MagneDrive® Principle

MagneDrive® agitators use rare earth magnets, permitting packless mixing at higher speeds in larger vessels 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.

MAG075 Series MagneDrive® Specification

Base Model-Size	Maximum Speed (RPM) ¹	Average Static Torque inch-lbs (N-m)	HP @ Maximum Speed (RPM) ^{2,3}
MAG075-01	3300	7 (0.79)	0.36 @ 3300
MAG075-02	3300	16 (1.8)	0.86 @ 3300

Material of Construction: All wetted parts 316 SS or Hastelloy C-276. For information on other materials, please consult factory.

Bearing Material: Purebon® 658RCH.⁴

Maximum Allowable Working Pressure (MAWP) at Connection: 6,000 psi @ 650° F (414 bar @ 343° C)

Minimum Metal Design Temperature: -20° F @ 6000 psi (-29° C @ 414 bar)

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

Maximum Temperature at Connection: 650° F (343 °C)⁶

Cover Connection: 1"-14 NF with 5/16" Drill.

Purge Connection: 075 Series MagneDrives® are provided with a 0.125" (3 mm) gas purge connection (top).

Tachometer Pick-up: Magnetic proximity sensor.

Shaft and Impeller: 075 Series 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. 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.

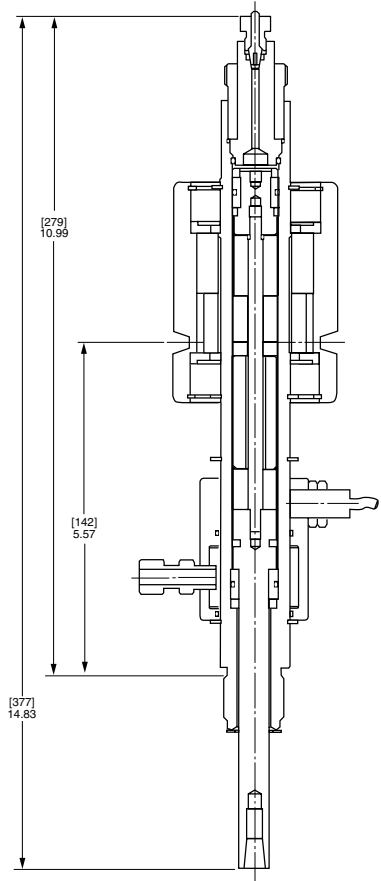
⁵ The magnets are stabilized at 300° F (149° C). When the temperature of the magnets exceeds the stabilizing temperature for an extended period, loss of magnetic torque will occur. Some of this loss is reversible and torque will regenerate; however, the problem is avoided by using adequate cooling to limit the magnet temperature to 300° F (149° C). A cooling jacket with two NPT connections is provided for water cooling, if necessary. Additional information on cooling requirements can be obtained in the Operation and Maintenance manual.

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



MagneDrive® MAG075 Series Ordering Guide

Base Model	Options
MAG --- 075 ---	---
Material	
SS - 316 Stainless Steel	
HC - Hastelloy C-276	
Size	
01 - 7 in-lbs (0.79 N-m)	
02 - 16 in-lbs (1.8 N-m)	
Bearings	
1 - *Purebon® 658RCH (Carbon Graphite)	
Drive Type	
0 - Belt Driven (no motor included)	
Speed Sensors	
0 - None	
1 - General Purpose	
2 - Intrinsically Safe (IS Barrier not provided)	
Approvals Available	
0 - None Required	
C - CE Mark Compliance	



Example: MAG075SS-011010 is a 075 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.

Caution: Particulate matter (solids) in the process fluid can settle into the bearing area greatly reducing the bearing life. While liquid purging through the SW250 connection at the bottom can minimize the settling of particulate into the bottom bearing area, it does not eliminate the problem. Therefore, Autoclave Engineers does not warrant internal bearings or any damage to the drive components resulting from excessive bearing wear for inverted MagneDrive® applications.

*Purebon® is a registered trademark of Pure Carbon.

8325 Hessinger Drive
 Erie, Pennsylvania 16509-4697 USA
 PH: 814-860-5700 FAX: 814-860-5811
 email: aeclave_sales@snap-tite.com
 www.autoclaveengineers.com



Division of Snap-tite, Inc.

8325 Hessinger Drive
 Erie, Pennsylvania 16509-4679 USA
 PH: 814-860-5700 FAX: 814-860-5811
 email: aeclave_sales@snap-tite.com
 www.autoclaveengineers.com

ISO-9001:2000 Certified

06-0028SE-0500



! WARNING !
 FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND/OR PROPERTY DAMAGE.
 This document and other information from Snap-tite, Inc., its subsidiaries and authorized distributors, provides product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operation conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.
 The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Snap-tite, Inc. and its subsidiaries at any time without notice.