MAGNUM grippers are universally applicable "out-of-the-box". The use of third-generation technology and the selection of super tough, corrosive resistant materials allows the MAGNUM to efficiently serve day-to-day as well as tough, nearly impossible applications. Examples of the range of MAGNUM application environments include welding, grinding, machining, clean room, epitaxial wafer fabrication, hard disk fabrication, D.I. water and food processing.

**Patented Synchronous Technology – Extended Life**

The synchronous MAGNUM utilizes U.S. patent numbers 4,591,199; 5,657,973 and 5,755,475. The force and synchronizing double helix are independent systems. The double helix works only to center the part to ±0.025 mm (±0.0010"). All of the gripping force is provided by two pistons that are driven pneumatically. The independence of the force and synchronization systems provides precision over the typical 10,000,000+ cycle life of the unit. In non-abusive applications the technology may deliver 20,000,000 or more cycles.
Parallel Opening/Closing Type Gripper

MAGNUM® Series

2 Finger 130N, 450N

Double Sealed For Superior Integrity

The magnum mechanism is double sealed to assure that the mechanism is isolated from the environment. In clean rooms and food processing this ensures environmental integrity. In harsh environments the double seals protect the MAGNUM from contamination that could lead to failure.

Clean and Dirty Purge System

Another patented (U.S. 5,755,475) feature of the MAGNUM family is a dual usage purge system (patent pending) that is part of every gripper. The purge system facilitates use in up to Class One clean rooms (An independent lab report is available) and very dirty environments.

The Ultimate Materials

Force/Weight >200

All materials of the MAGNUM gripper are designed to eliminate maintenance and assure that the gripper functions in harsh environments.

There are two material versions of the MAGNUM gripper: The MAGNUM-AL and the MAGNUM-PET. Each was developed to extend the out-of-the-box applicability of the MAGNUM technology. The design and material selection allow the MAGNUM to provide Force/Weight ratios in excess of 200.

The "AL" version of the MAGNUM is intended for use in very dirty and explosive environments. All of the materials are chosen to be corrosion resistant as well as tough.

The PET unit is de-ionized (D.I.) water tolerant for use in hard disk and epitaxial fabrication. All materials used in the "PET" version of the MAGNUM comply with FDA requirements for food handling.

MAGNUM-AL

MAGNUM-PET
Parallel Opening/Closing Type Gripper

**MAGNUM® Series**

2 Finger 130N, 450N

**Torque and Force Unmatched**

The MAGNUM system uses a linear bearing concept. However, to minimize weight and size, advanced polymers are utilized rather than ball bearing rails. The torque and force capabilities of the MAGNUM family are maintained over the life of the gripper due to the length of the bearing surface over which the loads are distributed.

**Lifetime Lubrication**

The universal application of the MAGNUM grippers is made possible with the use of a lifetime lubricant. This allows the use of “dry air” and compliance with new and proposed regulations that forbid the use of lubricants in air lines. With an FDA rating of H1, this lifetime lubricant is also people and food “friendly”.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Ma : Nm (in-lbs.)</th>
<th>Mb : Nm (in-lbs.)</th>
<th>Mc : Nm (in-lbs.)</th>
<th>F1 : kg (lbs.)</th>
<th>F2 : kg (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAGNUM-AL-130</td>
<td>24 (212)</td>
<td>20 (177)</td>
<td>16 (141)</td>
<td>25 (55)</td>
<td>20 (44)</td>
</tr>
<tr>
<td>MAGNUM-PET-130</td>
<td>10 (88)</td>
<td>10 (88)</td>
<td>10 (88)</td>
<td>20 (44)</td>
<td>15 (33)</td>
</tr>
<tr>
<td>MAGNUM-450-26</td>
<td>100 (840)</td>
<td>80 (700)</td>
<td>60 (530)</td>
<td>56 (123)</td>
<td>68 (150)</td>
</tr>
</tbody>
</table>
Parallel Opening/Closing Type Gripper

MAGNUM® Series

2 Finger 130N, 450N

Gripper Ordering Information

Note: All grippers and seals are lubricated for life. All hardware is stainless steel. The standard lifetime lubricant is FDA rated H1 for food contact. All PET units are clean room ready and AL units are harsh environment ready via the use of the purge port system.

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Body</th>
<th>Force, Each Jaw</th>
<th>Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAGNUM-AL-130-13</td>
<td>Aluminum</td>
<td>130N (29lbs.)</td>
<td>13mm (.512&quot;)</td>
</tr>
<tr>
<td>MAGNUM-AL-130-26</td>
<td>Aluminum</td>
<td>130N (29lbs.)</td>
<td>26mm (1.02&quot;)</td>
</tr>
<tr>
<td>MAGNUM-PET-130-13</td>
<td>PET</td>
<td>130N (29lbs.)</td>
<td>13mm (.512&quot;)</td>
</tr>
<tr>
<td>MAGNUM-PET-130-26</td>
<td>PET</td>
<td>130N (29lbs.)</td>
<td>26mm (1.02&quot;)</td>
</tr>
<tr>
<td>MAGNUM-AL-450-26</td>
<td>Aluminum</td>
<td>450N (100lbs.)</td>
<td>26mm (1.02&quot;)</td>
</tr>
</tbody>
</table>

Gripper Accessory Kit Ordering Information

Note: Each kit includes a sensor and/or hardware to sense one position. Two kits are needed to handle both open and close.

<table>
<thead>
<tr>
<th>Accessory Kit (Field Installable)</th>
<th>Description</th>
<th>Applicable Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-KIT-IND-SOUR</td>
<td>Inductive-LED, DC Sourcing-PNP</td>
<td>All Models</td>
</tr>
<tr>
<td>M-KIT-IND-SINK</td>
<td>Inductive-LED, DC Sinking-NPN</td>
<td>All Models</td>
</tr>
<tr>
<td>M-KIT-REED</td>
<td>Reed-LED, MOV Protection</td>
<td>All Models</td>
</tr>
<tr>
<td>M-KIT-HALL-SINK</td>
<td>Hall Effect, DC Sinking-NPN</td>
<td>All Models</td>
</tr>
<tr>
<td>M-KIT-HWO</td>
<td>Hardware, Mounts any of above</td>
<td>All Models</td>
</tr>
<tr>
<td>M-KIT-HWO-450-12mm</td>
<td>Hardware, Mounts 12mm prox.</td>
<td>Model 450-26 Only</td>
</tr>
<tr>
<td>M-KIT-U-Harsh-4mm</td>
<td>4mm Tubing</td>
<td>All Models</td>
</tr>
<tr>
<td>M-KIT-U-Harsh-6mm</td>
<td>6mm Tubing</td>
<td>All Models</td>
</tr>
<tr>
<td>M-KIT-AFS-450-26</td>
<td>Fail Safe, Active</td>
<td>Model 450-26 Only</td>
</tr>
</tbody>
</table>

The right to change designs and specifications without notice is reserved. All data and dimensions in catalogs have been thoroughly checked for accuracy; however, responsibility for possible errors or omissions is not assumed. A one-year limited warranty is provided for this product by ZAYTRAN, Inc. Please view this limited warranty at: www.grippers.com/warranty.htm
The complete range of sensors are available as part of the MAGNUM system. All kits shown at right work on all models (130 & 450). To order the mounting hardware only for the types of sensors shown use #M-Kit-HWO. To order mounting hardware for a 12mm proximity on the model 450 use #M-KIT-HWO-450-12mm.
Parallel Opening/Closing Type Gripper

MAGNUM® Series

2 Finger 130N, 450N

Gripping Force, Open & Close, Each Jaw
@ 690 kPa (100 psi): 130N (29 lb.)
Stroke: 13.0 mm (.512)
Weight PET: 127g (0.28 lb.)
Weight AL: 188g (0.42 lb.)
Displacement: 6.1 cm³ (0.373 in³)
Max. Operating Pressure: 830 kPa (120 psi)

NOTE: All jaw and gripper mounting holes are a minimum of one diameter deep on MAGNUM-AL units. One and one half diameters deep on MAGNUM-PET units. MAGNUM-AL jaw and mounting holes have 55 col inserts. MAGNUM-PET maximum torques: .8 Nm (.7 in-lb) for 3mm fasteners .9 Nm (.8 in-lb) for 4mm fasteners
Parallel Opening/Closing Type Gripper

MAGNUM® Series

2 Finger 130N, 450N

Gripping Force, Open & Close, Each Jaw
@ 690 kPa (100 psi): 130N (29 lb.)
Stroke: 26.0 mm (1.02)
Weight PET: 170g (0.38 lb.)
Weight AL: 252g (0.56 lb.)
Displacement: 12.2 cm³ (0.746 in³)
Max. Operating Pressure: 830 kPa (120 psi)

MAGNUM-(AL or PET)-130-26

NOTE: All jaw and gripper mounting holes are the minimum of one diameter deep on MAGNUM-AL units. 
One and one-half diameters deep on MAGNUM-PET units. 
**MAGNUM-PET maximum torque: .8 Nm (7 in-lb) for 3mm fasteners 
.9 Nm [8 in-lb] for 4mm fasteners**
Parallel Opening/Closing Type Gripper

MAGNUM® Series

2 Finger 130N, 450N

MAGNUM-AL-450-26

Gripping Force, Open & Close, Each Jaw

@ 690 kPa (100 psi): 450N (100 lb.)
Stroke: 26.0 mm (1.02")
Weight: 1.09kg (2.39 lb.)
Displacement: 18.7 cm³ (1.14 in³)
Max. Operating Pressure: 830 kPa (120 psi)

NOTE:
1. ALL JAW AND GRIPPER MOUNTING HOLES ARE A MINIMUM OF
   ONE DIAMETER DEEP.
2. ALL MAGNUM-450 JAW AND MOUNTING HOLES HAVE STAINLESS
   STEEL COIL INSERTS.
3. WHEN USING CERTAIN 12mm PROXIMITY SENSORS,
   SENSOR MAY EXTEND PAST THE MOUNTING SURFACE.

Active Fail Safe Accessory M-Kit-AFS-450-26

Closing Force @ Full Open: 111N (25 lb.)
Closing Force @ Full Close: 67N (15 lb.)
Weight: 1.35kg (2.97 lb.)
Min. Operating Pressure: 415 kPa (60 psi)
Not intended for use as a single acting gripper.

The AFS accessory will assure that parts are not dropped should the pneumatic pressure fail. Jaws must be designed with “spring”, or that encompass the part. Some movement of the jaws will occur as pressure fails.