

**Features**

**Body**

One piece hard coat anodized aluminum body with Teflon® impregnation

**Dowel Holes**

Slip fit dowels located in gripper body.

**Option:**

Non-synchronous operation

**Optional Hall Effect Sensors**

Read position of piston (Sold separately)

**Bearing Adjustment**

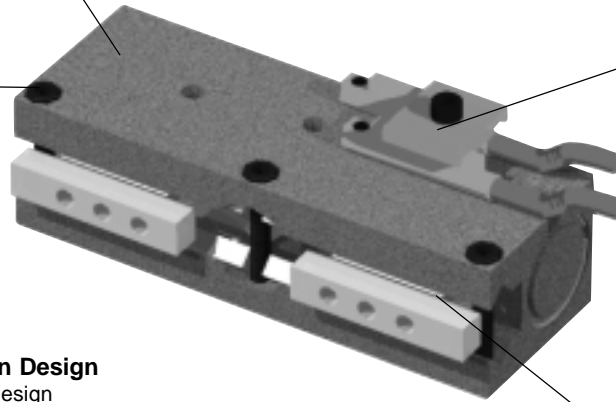
Preload adjustment screw allows for adjustment of the bearing preload maintaining maximum gripper performance.

**Double Piston Design**

Double piston design provides maximum grip force to size ratio

**Preloaded Bearings**

Preloaded roller bearings provide maximum support and precise motion.



**Operation**

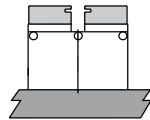
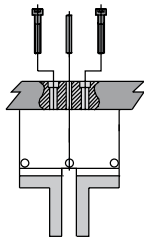
Operating Characteristic .....	Double acting, double piston
Gripping Force @ 100 PSI .....	25 - 33 lbs
Stroke Range .....	1/4" to 1"
Operating Pressure Range .....	5 - 100 PSI (0.3 - 7 bar)

**Clean Room Option**

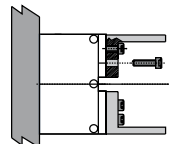
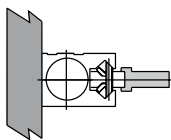
Available for dirty, harsh or clean room applications.

**Mounting**

**WARNING!** Protect gripper internal mechanism from debris or contamination.



Gripper mounts using tapped holes and slip fit dowel pin holes.



Custom finger tooling mounts using tapped holes and precise tolerancing of fingers.

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**P5G-HPL-1M-NS-V**

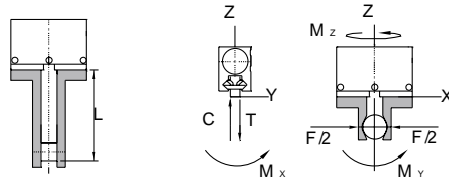
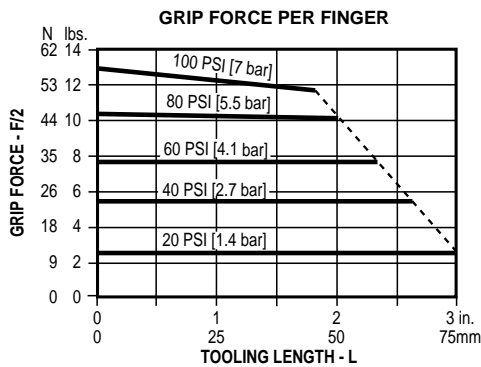


Total Grip Force (100 psi @ 1 in)	25 lbs	111 N
Stroke	0.25 in	6.4 mm
Weight	0.16 lbs	0.07 kg
Bore Size	7/16 in	11.1 mm
Cylinder Volume	0.038 in <sup>3</sup>	0.6 cm <sup>3</sup>
Repeatability	± 0.001 in	± 0.03 mm
Temperature Range*	-30° to 180° F	-35° to 80° C
Pressure Range	5-100 psi	0.3-7 bar
Filtration Requirement	40 micron (dry air)	

\* Fluorocarbon seals available for high temperature applications

**Note: See model code and ordering information page for complete part number selection.**

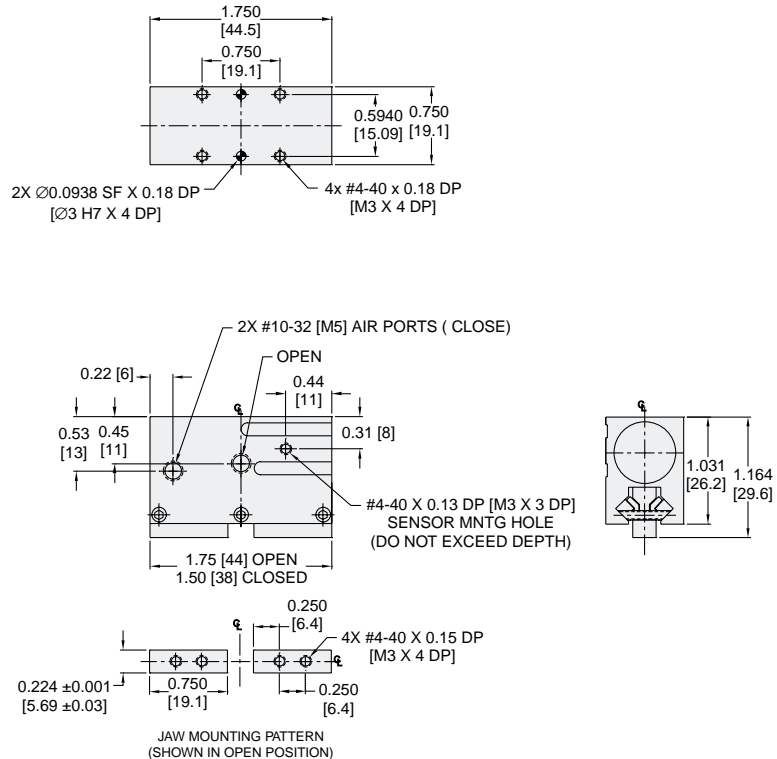
**Loading Information**



**Maximum Loading Capacity**

	Static		Dynamic	
Axial Forces (C,T)	50 lbs	222.4 N	15 lbs	66.7 N
Moment (Mx)	30 in-lbs	3.4 Nm	10 in-lbs	1.1 Nm
Moment (My)	40 in-lbs	4.5 Nm	12 in-lbs	1.4 Nm
Moment (Mz)	30 in-lbs	3.4 Nm	10 in-lbs	1.1 Nm

**Dimensional Information**



Dimensions in inch (mm).

**P5G-HPL-2M-NS-V**

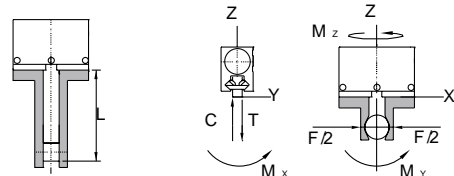
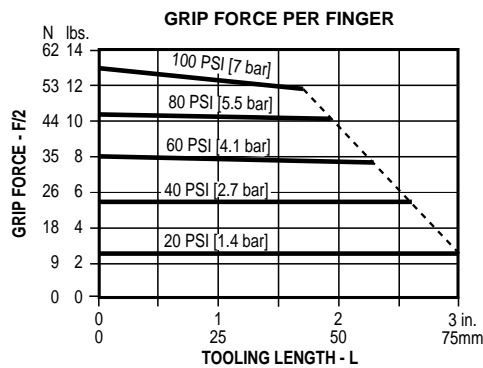


Total Grip Force (100 psi @ 1 in)	25 lbs	111 N
Stroke	0.50 in	12.7 mm
Weight	0.20 lbs	0.09 kg
Bore Size	7/16 in	11.1 mm
Cylinder Volume	0.075 in <sup>3</sup>	1.2 cm <sup>3</sup>
Repeatability	± 0.001 in	± 0.03 mm
Temperature Range*	-30° to 180° F	-35° to 80°C
Pressure Range	5-100 psi	0.3-7 bar
Filtration Requirement	40 micron (dry air)	

\* Fluorocarbon seals available for high temperature applications

**Note:** See model code and ordering information page for complete part number selection.

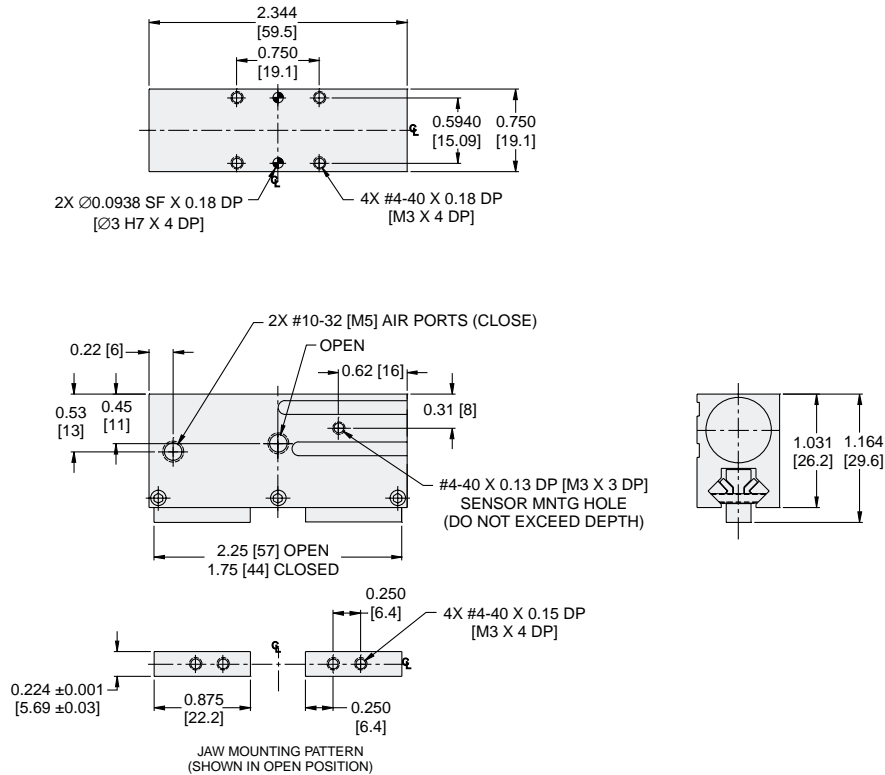
**Loading Information**



**Maximum Loading Capacity**

	Static		Dynamic	
Axial Forces (C,T)	65 lbs	289.1 N	20 lbs	89.0 N
Moment (Mx)	45 in-lbs	5.1 Nm	15 in-lbs	1.7 Nm
Moment (My)	60 in-lbs	6.8 Nm	20 in-lbs	2.3 Nm
Moment (Mz)	45 in-lbs	5.1 Nm	15 in-lbs	1.7 Nm

**Dimensional Information**



Dimensions in inch (mm).

**P5G-HPL-3M-NS-V**

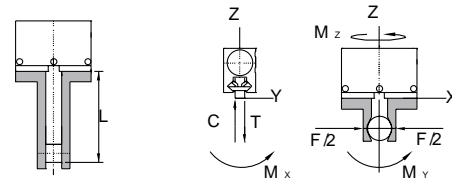
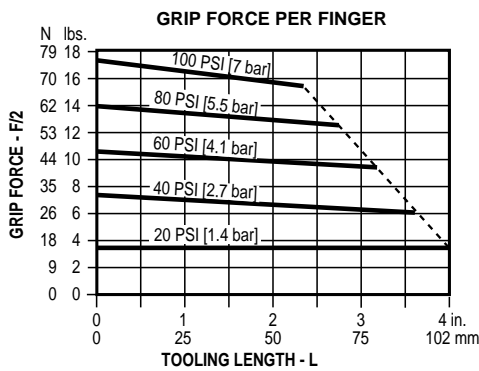


Total Grip Force (100 psi @ 1 in)	33 lbs	146 N
Stroke	0.75 in	19.1 mm
Weight	0.32 lbs	0.15 kg
Bore Size	0.5 in	12.7 mm
Cylinder Volume	0.147 in <sup>3</sup>	2.4 cm <sup>3</sup>
Repeatability	± 0.001 in	± 0.03 mm
Temperature Range*	-30° to 180° F	-35° to 80° C
Pressure Range	5-100 psi	0.3-7 bar
Filtration Requirement	40 micron (dry air)	

\* Fluorocarbon seals available for high temperature applications

**Note: See model code and ordering information page for complete part number selection.**

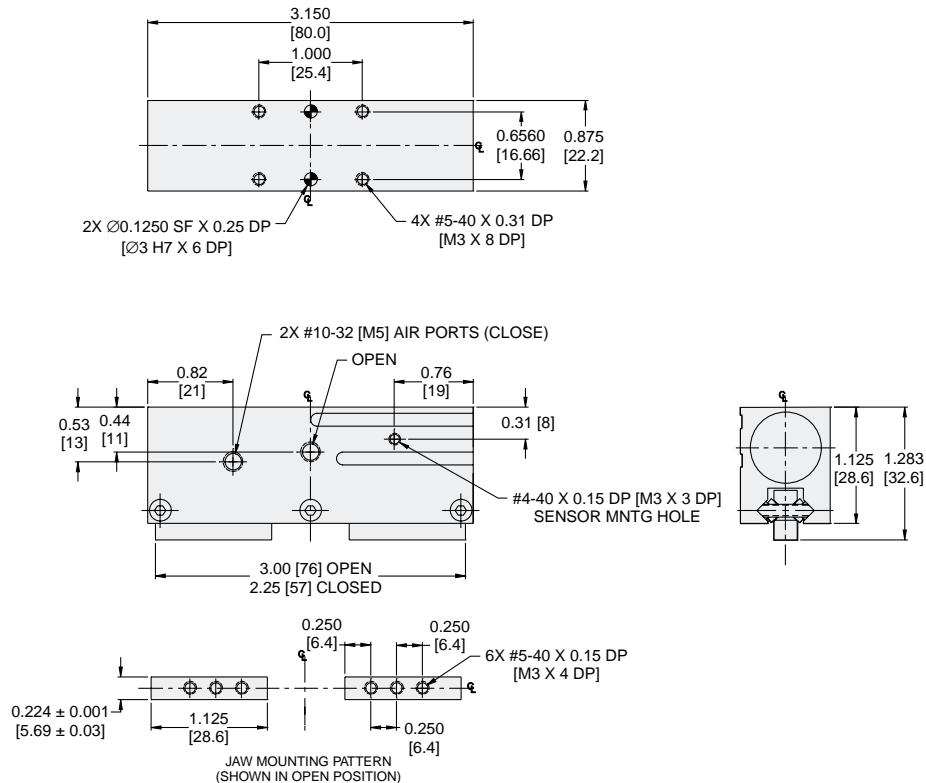
**Loading Information**



**Maximum Loading Capacity**

	Static		Dynamic	
Axial Forces (C,T)	90 lbs	400.3 N	30 lbs	133.4 N
Moment (Mx)	60 in-lbs	6.8 Nm	20 in-lbs	2.3 Nm
Moment (My)	80 in-lbs	9.0 Nm	25 in-lbs	2.8 Nm
Moment (Mz)	60 in-lbs	6.8 Nm	20 in-lbs	2.3 Nm

**Dimensional Information**



Dimensions in inch (mm).

**P5G-HPL-4M-NS-V**

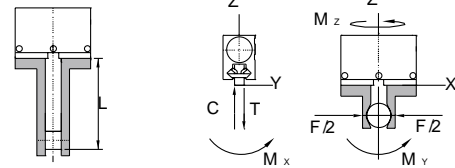
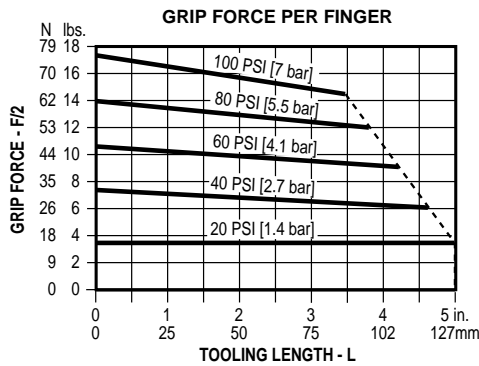


Total Grip Force (100 psi @ 1 in)	33 lbs	146 N
Stroke	1.00 in	25.4 mm
Weight	0.38 lbs	0.17 kg
Bore Size	1/2 in	12.7 mm
Cylinder Volume	0.196 in <sup>3</sup>	3.2 cm <sup>3</sup>
Repeatability	± 0.001 in	± 0.03 mm
Temperature Range*	-30° to 180° F	-35° to 80° C
Pressure Range	5-100 psi	0.3-7 bar
Filtration Requirement	40 micron (dry air)	

\* Fluorocarbon seals available for high temperature applications

**Note:** See model code and ordering information page for complete part number selection.

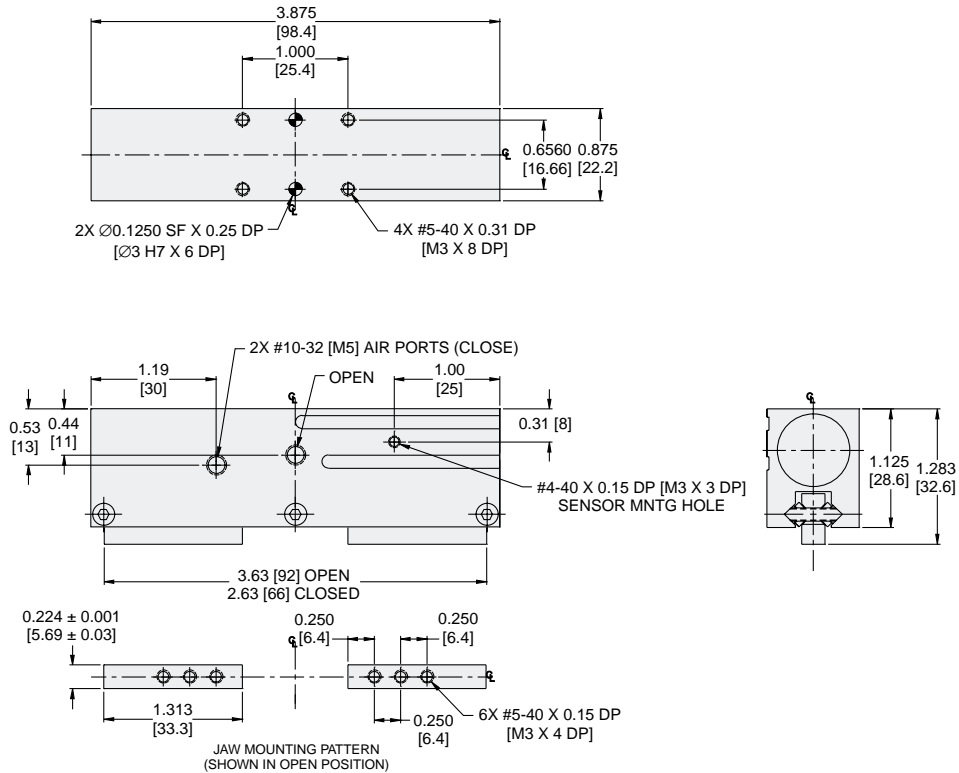
**Loading Information**



**Maximum Loading Capacity**

	Static		Dynamic	
Axial Forces (C,T)	120 lbs	533.8 N	40 lbs	177.9 N
Moment (Mx)	75 in-lbs	8.5 Nm	25 in-lbs	2.8 Nm
Moment (My)	100 in-lbs	11.3 Nm	35 in-lbs	4.0 Nm
Moment (Mz)	75 in-lbs	8.5 Nm	25 in-lbs	2.8 Nm

**Dimensional Information**



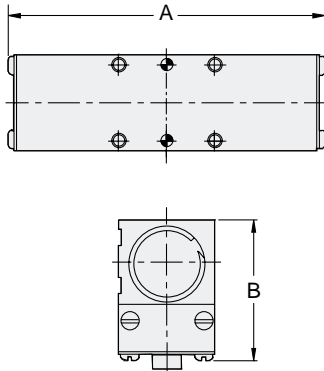
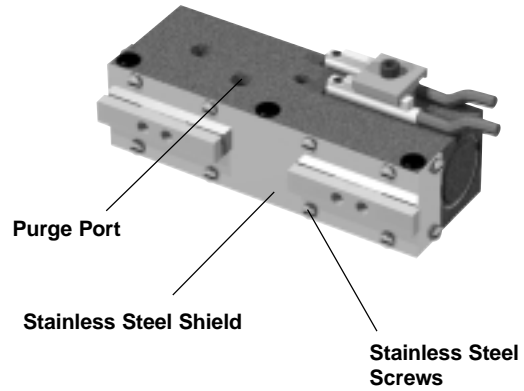
Dimensions in inch (mm).

**Clean Room (C)**

Stainless steel plates are added to the gripper housing to protect the internal linkage from contaminants. These plates also prevent the generation of contaminants in clean-room applications.

A purge port is also added for extreme applications where air born contaminants may be introduced to the gripper. Applying vacuum pressure prevents the escape of contaminants generated by internal components.

Clean-room grade lubricants are used.



**Dimensions**

Size	A	B
	inch (mm)	inch (mm)
1	1.900 (48.3)	1.096 (27.8)
2	2.476 (62.9)	1.096 (27.8)
3	3.282 (83.4)	1.191 (30.3)
4	4.007 (101.8)	1.191 (30.3)

**Metric Option (M)**

When using the P5G-HPL Series in metric applications, metric mounting and ports can be specified with the Metric Option. When specifying this option, the gripper incorporates metric threads and BSPG ports.

Reference the dimensional drawing for each size gripper for more details.

**Non-Synchronous (NS)**

As standard the low profile series gripper fingers operate in a synchronized manner. For applications where parts may be off center or randomly placed, the non-synchronous option can be utilized. With this option both fingers operate independently of each other.

**Fluorocarbon Seals (V)**

Standard nitrile seals should be used for general purpose applications with temperatures of -30° to 180° F (-35° to 80° C). Fluorocarbon seals are recommended for high temperature applications up to 250° F (120° C).

Seal Type	Temperature Range
Standard Buna-N	-30° to 180°F (-35° to 80°C)
Fluorocarbon	-20° to 250°F (-30° to 120°C)

**Sensors**

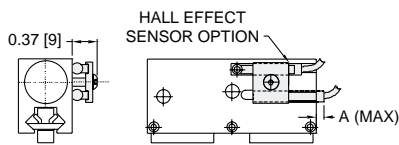
The P5G-HPL series is prepared for Hall Effect sensors with a magnetic piston as standard. Hall Effect sensors can be ordered separately in either NPN or PNP configurations.

Order sensors, cables and mounting kits separately. See Sensor section for part numbers and sensor specifications.

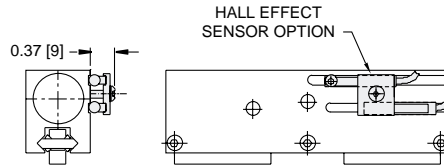
**Dimensions**

Model	A inch (mm)
HPL-1	0.27 (7)
HPL-2	0.10 (3)

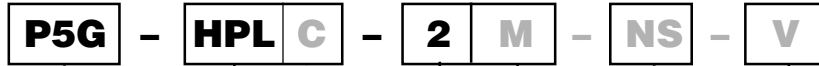
**Size 1 and 2**



**Size 3 and 4**



**Model Code and Ordering Information**



**Pneumatic Gripper**

P5G

**Series**

HPL

**Clean Room Option**

Omit – Standard  
 C – Clean Room Option

**Size**

1 – 7/16 inch Bore, 0.25 inch Stroke  
 2 – 7/16 inch Bore, 0.50 inch Stroke  
 3 – 1/2 inch Bore, 0.75 inch Stroke  
 4 – 1/2 inch Bore, 1.00 inch Stroke

**Design**

Omit – Imperial Design  
 M – Metric Design

**Non-synchronous Option**

Omit – Synchronous (Standard)  
 NS – Non-synchronous

**Seals**

Omit - Nitrile Seals (Standard)  
 V – Fluorocarbon Seals

**Seal Kits**

Size	Nitrile Seal Kit	Fluorocarbon Seal Kit
P5G-HPL-1	PSK-HPL-1	PSK-HPL-1V
P5G-HPL-2	PSK-HPL-2	PSK-HPL-2V
P5G-HPL-3	PSK-HPL-3	PSK-HPL-3V
P5G-HPL-4	PSK-HPL-4	PSK-HPL-4V