

ZAYTRAN

AUTOMATION

GPAL Automotive Grippers

Twice the Force – Harsh Environment Ready – Half the Weight

The GPAL Series of parallel grippers represents a pinnacle in parallel gripper development. This 5th generation ZAYTRAN product uses patented (US4591199) double helix technology. The double helix allows long strokes and high centering precision (± 0.001 inches, ± 0.025 mm). Tough materials and treatments are employed to assure long life in the harshest environments. The slides are heat treated and tempered to assure that they will continue to operate where typical grippers fail.

Borrowing from the Magnum™ Series the GPAL employs a purge system that allows a chamber under the slides to be pressurized. This positive pressure ejects foreign materials such as grinding dust and welding slag. To further “harden” the GPAL for harsh environments the cylinder shafts are heat treated and run through double bronze wipers in the larger units and polyurethane wipers in the smaller units. This combination will remove debris from the shaft without damaging the gripper. To make plumbing easy the grippers have open and close ports at either end as well as on the mounting side.

To facilitate the application of the grippers all key dimensions are “hard metric” and the jaw mounting pattern complies with NAAMS standards so that standard automotive shims may be used.

Sensors are easily added via an accessory kit and are easily positioned via a standard slot. This allows the grippers to be easily set up in complex automation applications.



GPAL-40

HARSH ENVIRONMENT GRIPPER

Stroke: 2.00 in. (50.8 mm)

Stroke limit options available

Gripping Force Per Jaw (Close) @ 100PSI (6.8bar): 132 lbs. (59.83 kgf)

Gripping Force Per Jaw (Open) @ 100PSI (6.8bar): 176 lbs. (79.83 kgf)

Approximate Weight: 2.8 lbs. (1270 g)

Operating Displacement: 3.534 cu. in. (57.91 cu. cm)

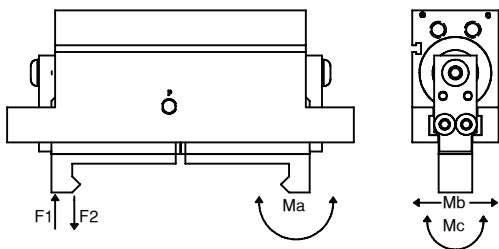
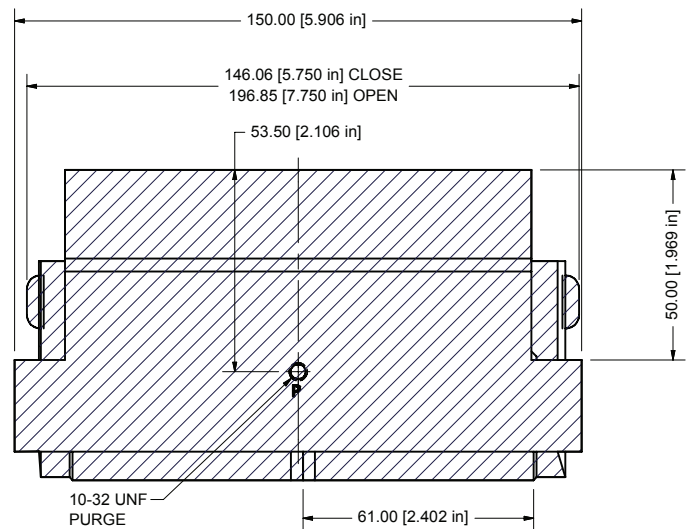
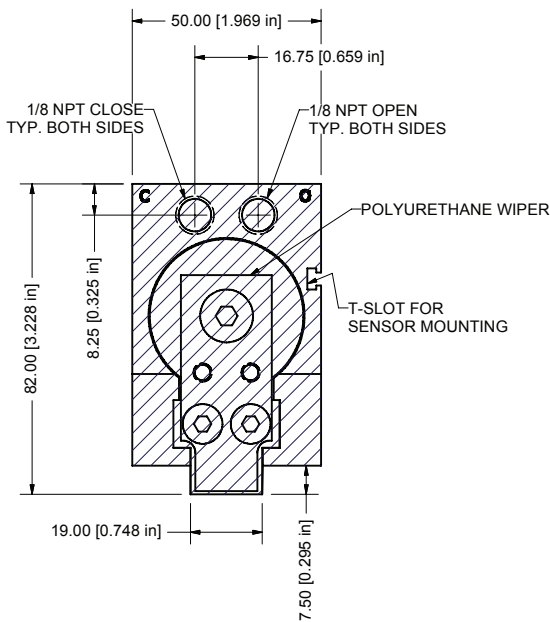
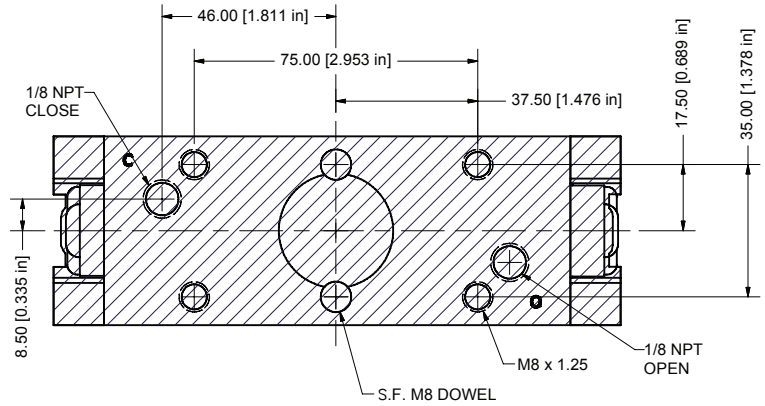
Maximum Operating Pressure: 120 PSI (8.3 bar)

Recommended Purge Pressure: 1/2 of operating pressure

- All mounting holes 1-1/2 diameter minimum thread depth and equipped with stainless steel thread inserts.

- Piston rods equipped with polyurethane wipers.

- Ports labeled "O" for open, "C" for close and "P" for purge.



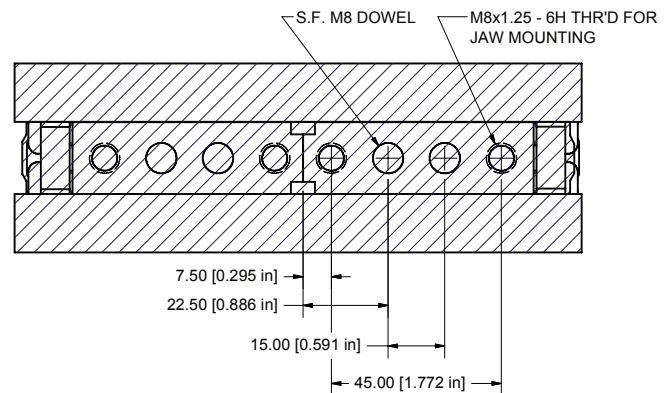
Ma = 295 in*lbs (340 kgf*cm)

Mb = 432 in*lbs (500 kgf*cm)

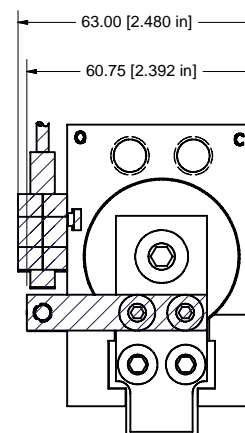
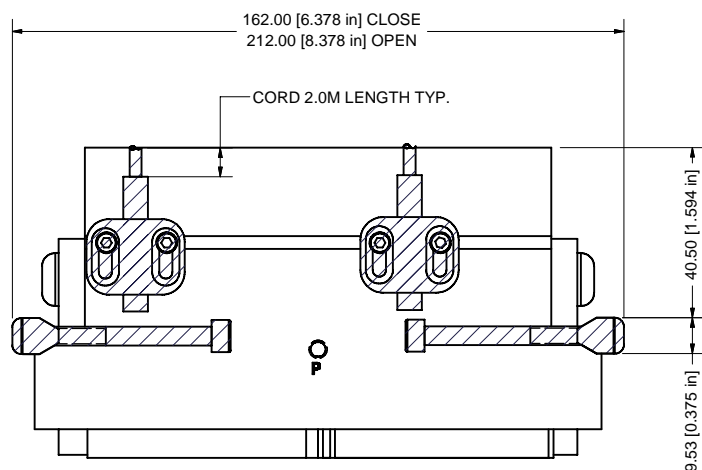
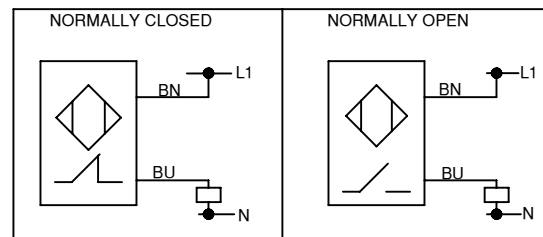
Mc = 302 in*lbs (350 kgf*cm)

F1 = 62 lbs (28.0 kgf)

F2 = 42 lbs (19.2 kgf)

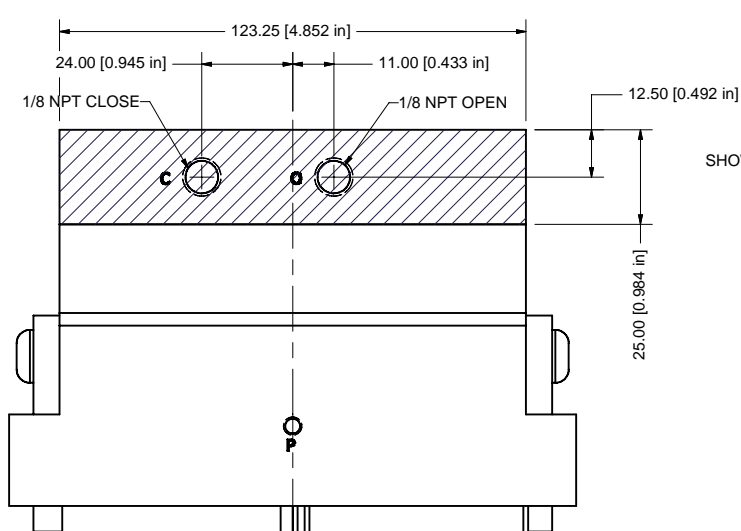
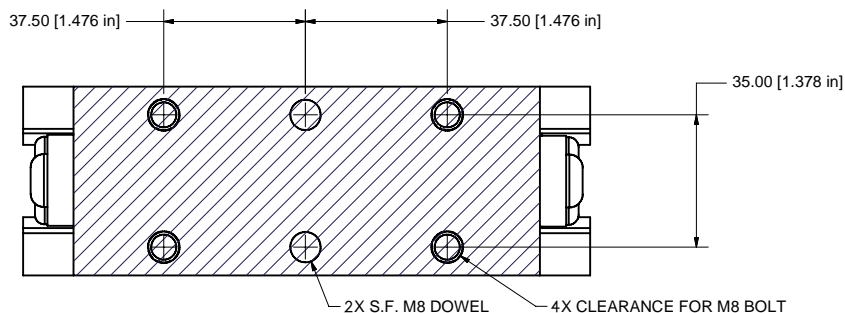


SENSING ACCESSORY KIT GPAL-40

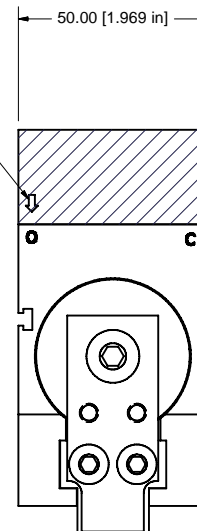


FAILSAFE ACCESSORY KIT

- FAILSAFE IS SHOWN HOLDING IN THE OPEN DIRECTION, HOWEVER THE FAILSAFE CAN BE ROTATED 180° TO HOLD IN THE CLOSE DIRECTION



FAILSAFE DIRECTION INDICATOR
SHOWN HOLDING IN THE OPEN POSITION
FAILSAFE CAN BE ROTATED 180°
TO HOLD IN THE CLOSE POSITION



GPAL-100

HARSH ENVIRONMENT GRIPPER

Stroke: 3.00 in. (76.2mm)

Stroke limit options available

Gripping Force Per Jaw (Close) @ 100PSI (6.8bar): 196 lbs. (89 kgf)

Gripping Force Per Jaw (Open) @ 100PSI (6.8bar): 230 lbs. (104 kgf)

Approximate Weight: 5.3 lbs. (2404 g)

Operating Displacement: 7.216 cu. in. (118.24 cu. cm)

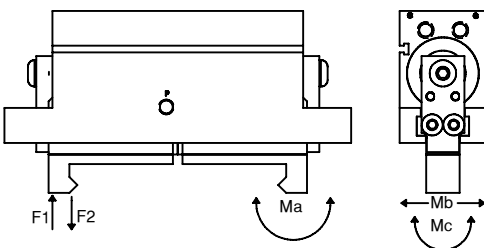
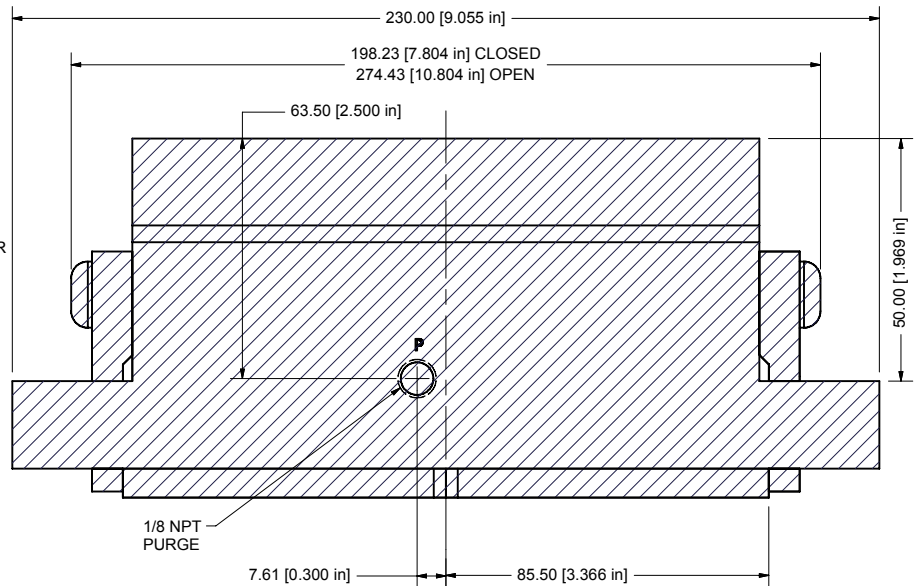
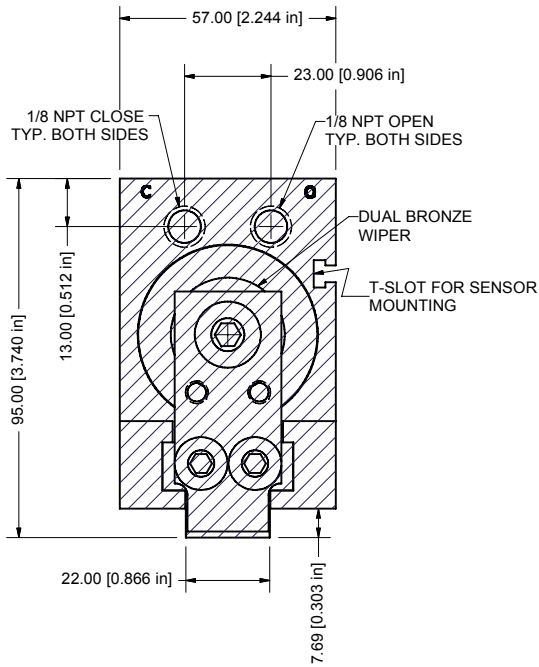
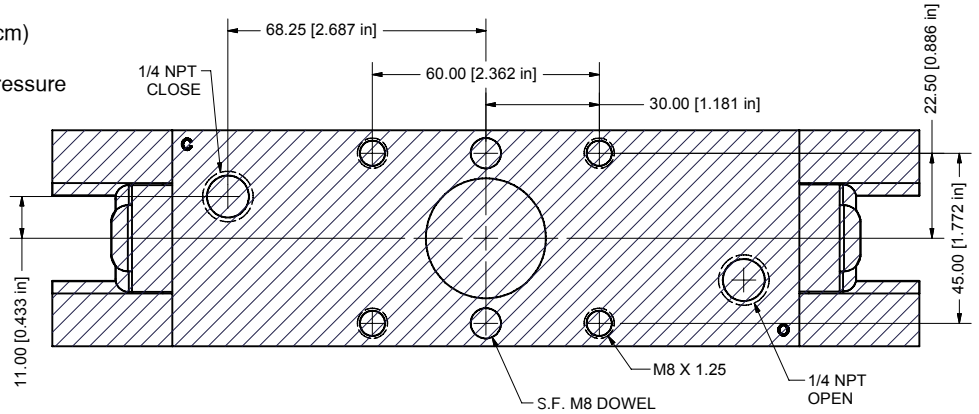
Maximum Operating Pressure: 120 PSI (8.3 bar)

Recommended Purge Pressure: 1/2 of operating pressure

- All mounting holes 1-1/2 diameter minimum thread depth and equipped with stainless steel thread inserts.

- Piston rods equipped with dual bronze wipers.

- Ports labeled "O" for open, "C" for close and "P" for purge.



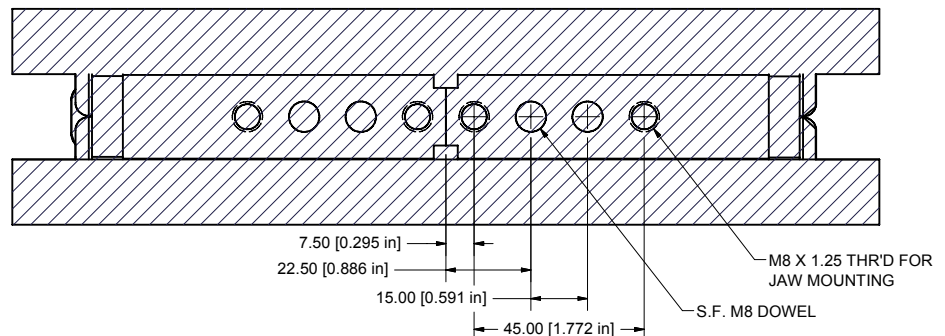
$Ma = 658 \text{ in}^*\text{lbs (750 kgf*cm)}$

$Mb = 1080 \text{ in}^*\text{lbs (1250 kgf*cm)}$

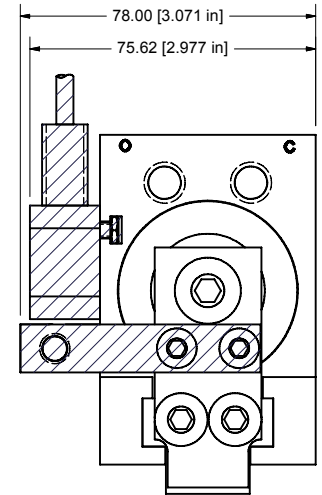
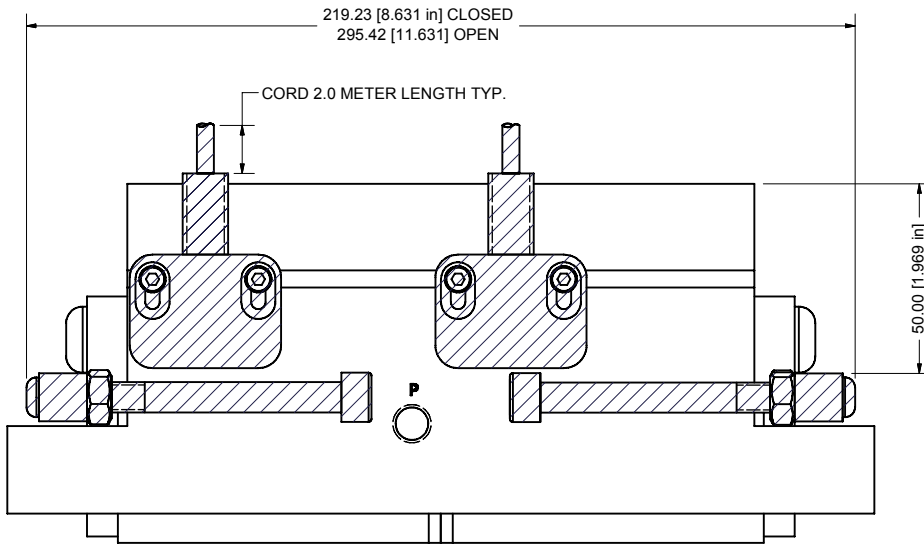
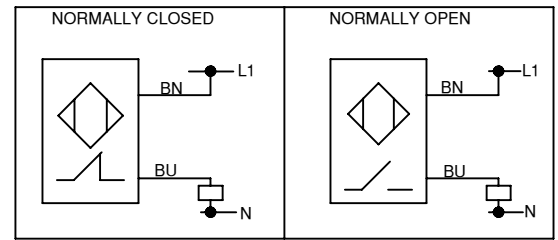
$Mc = 1231 \text{ in}^*\text{lbs (1400 kgf*cm)}$

$F1 = 246 \text{ lbs (111.8 kgf)}$

$F2 = 169 \text{ lbs (77.0 kgf)}$

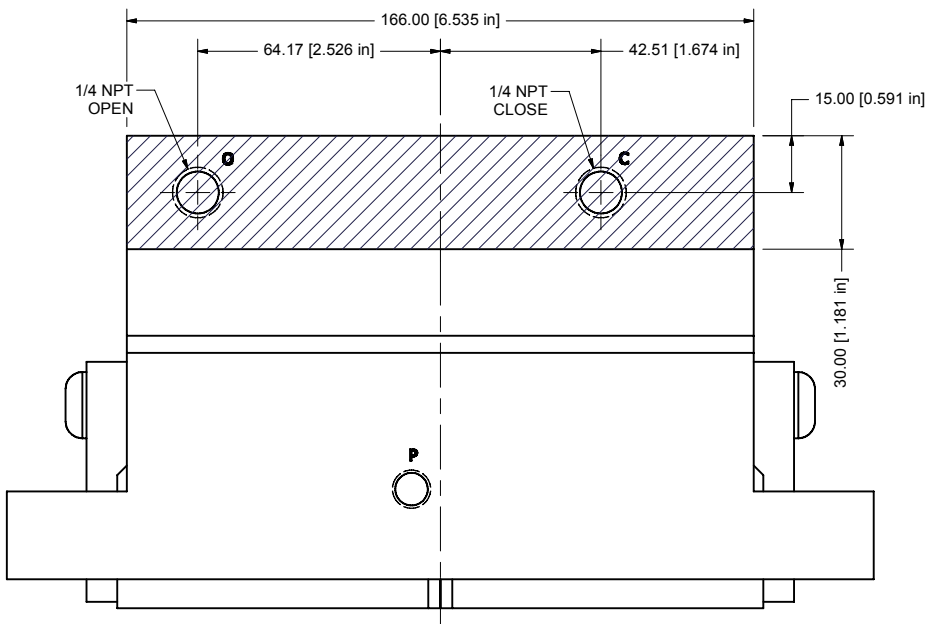
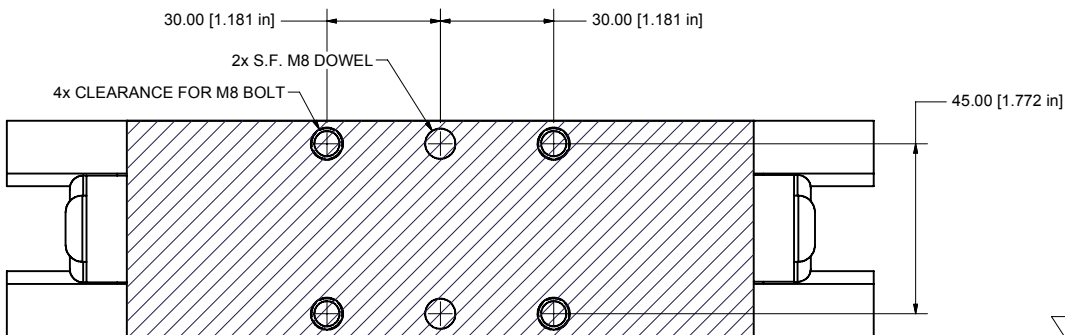


SENSING ACCESSORY KIT GPAL-100

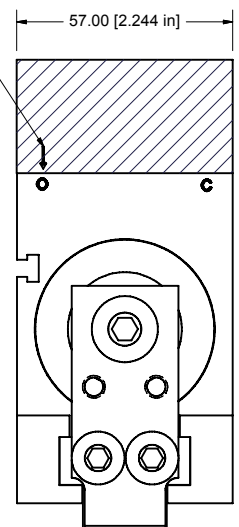


FAILSAFE ACCESSORY KIT

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GPAL-200

HARSH ENVIRONMENT GRIPPER

Stroke: 4.00 in. (101.6 mm)

Stroke limit options available

Gripping Force Per Jaw (Close) @ 100PSI (6.8bar): 364.0 lbs. (165.1 kgf)

Gripping Force Per Jaw (Open) @ 100PSI (6.8bar): 443.0 lbs. (200.9 kgf)

Approximate Weight: 9.8 lbs. (4445 g)

Operating Displacement: 17.7 cu. in. (290.1 cu. cm)

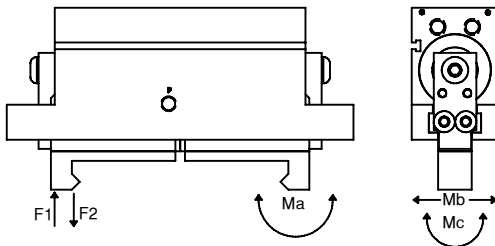
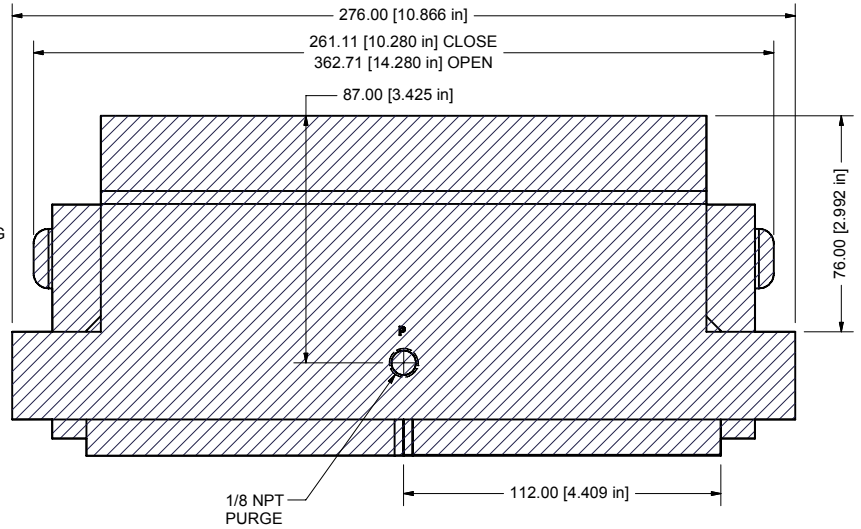
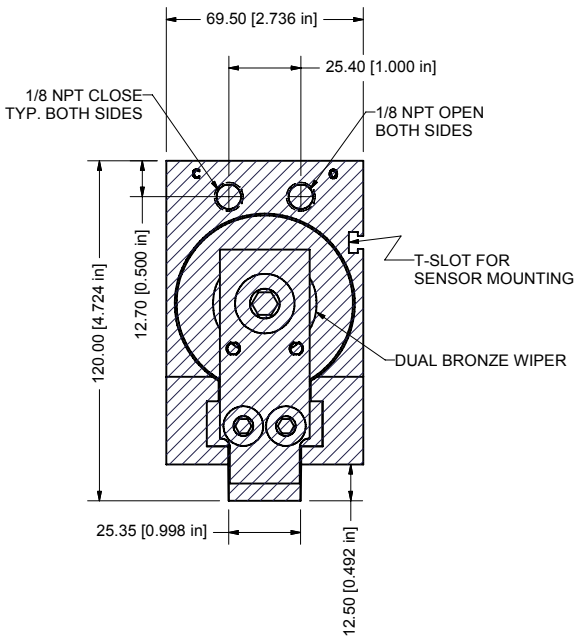
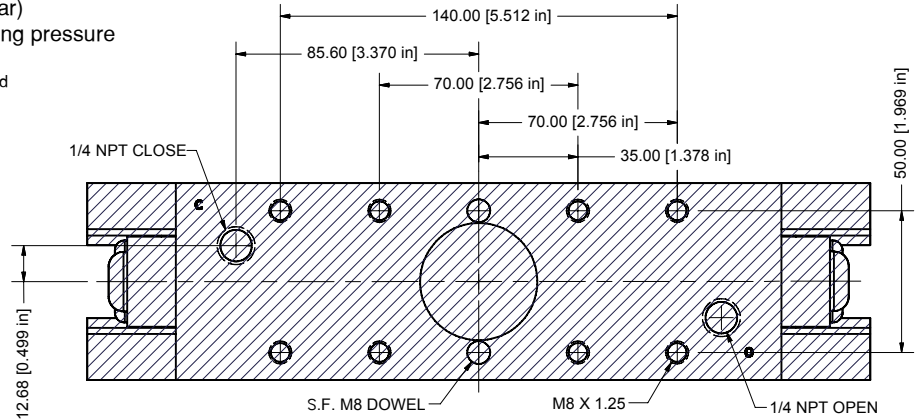
Maximum Operating Pressure: 120 PSI (8.3 bar)

Recommended Purge Pressure: 1/2 of operating pressure

- All mounting holes 1-1/2 diameter minimum thread depth and equipped with stainless steel thread inserts.

- Piston rods equipped with dual bronze wipers.

- Ports labeled "O" for open, "C" for close and "P" for purge.



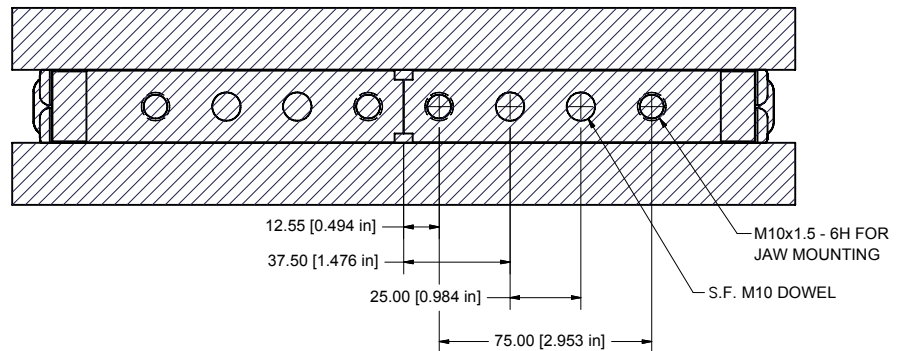
Ma = 1095 in*lbs (1250 kgf*cm)

Mb = 1825 in*lbs (2100 kgf*cm)

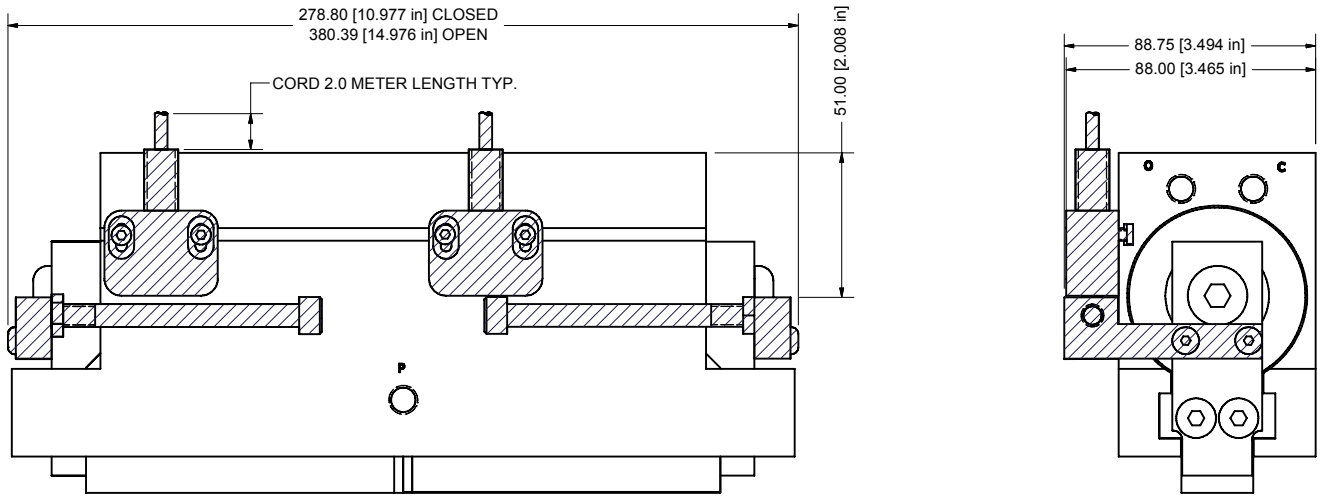
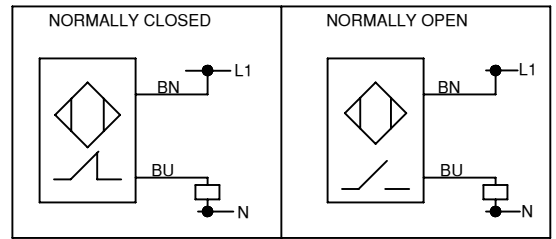
Mc = 2020 in*lbs (2300 kgf*cm)

F1 = 750 lbs (340.9 kgf)

F2 = 556 lbs (252.5 kgf)

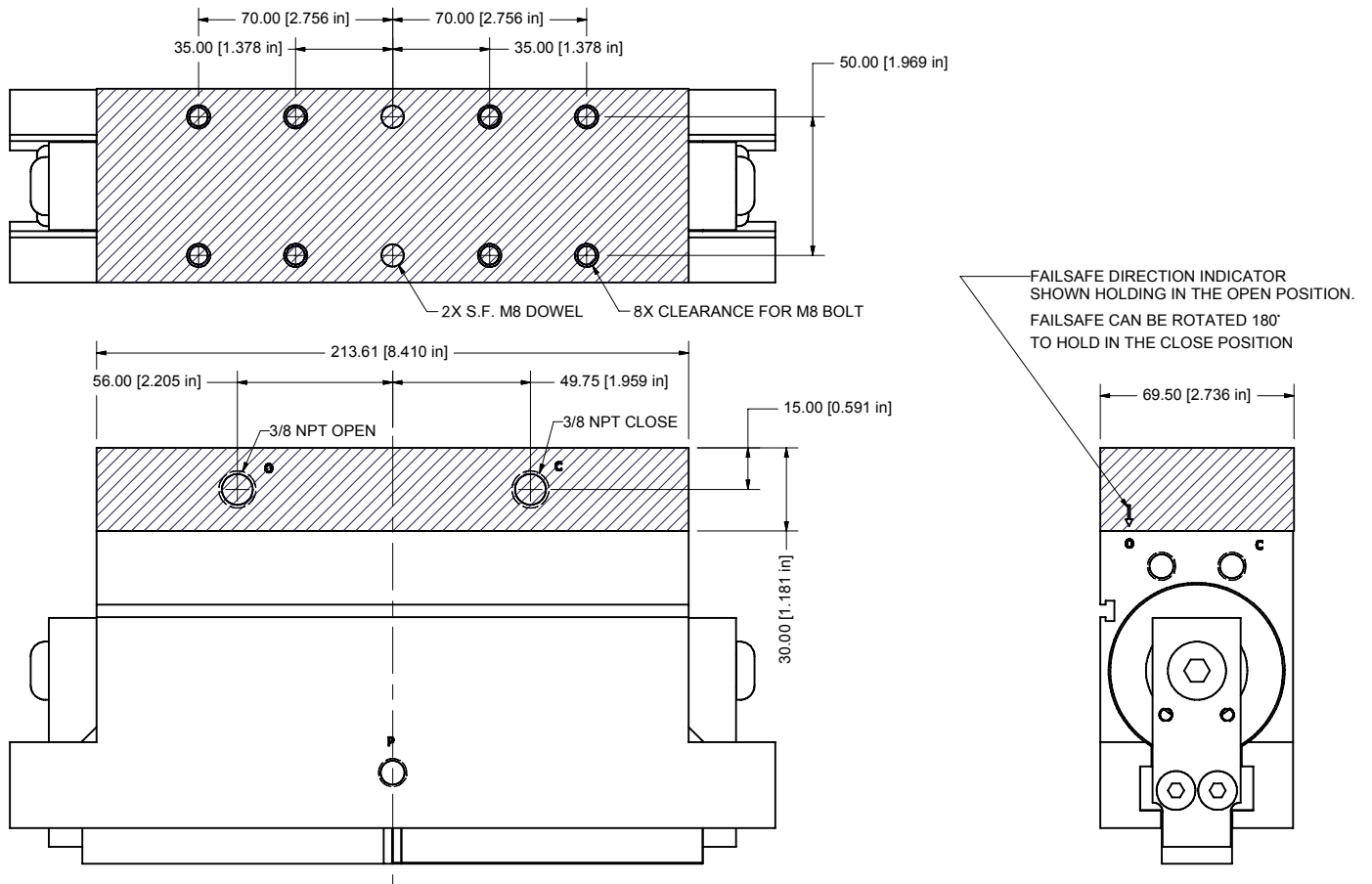


SENSING ACCESSORY KIT GPAL-200

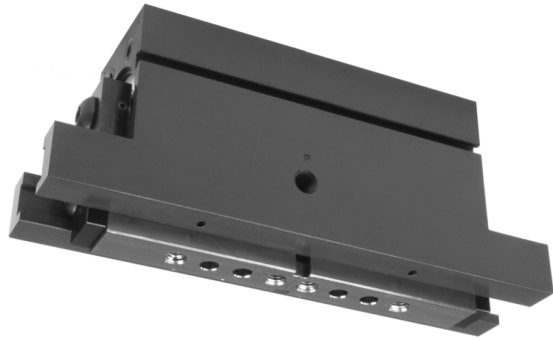


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GPAL Ordering Information



Grippers

Size:

40, 100 or 200

Seals:

Blank = Buna-N

V = Viton (High Temp.)

Port Style:

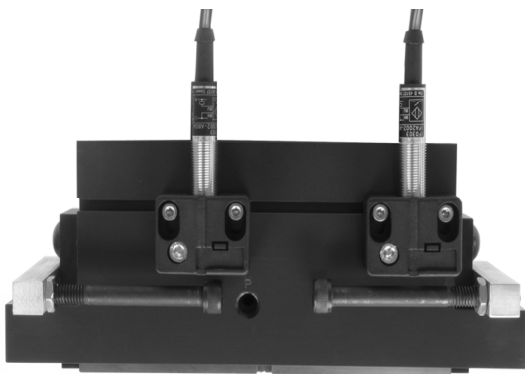
GPAL = NPT

GPALG = G Class



Example: GPAL-40-V

GPAL Gripper w/ NPT Ports, 40 Size with Viton Seals



Sensing Kits

Size:

40, 100 or 200



Sensor Type:

- 12mm HWO = Hardware Only for 12mm barrel prox. sensor.
- 6.5mm HWO = Hardware Only for 6.5mm barrel prox. sensor.
- DC SINK = DC Sinking Sensor
- DC SOUR = DC Sourcing Sensor
- AC NO = AC Normally Open Sensor
- AC NC = AC Normally Closed Sensor

Example: G-KIT-200-DC SOUR

Sensor Kit for a GPAL-200, with a DC Sourcing Sensor



Fail Safe Kits

Seals:

Blank = Buna-N

V = Viton (High Temp.)

Size:

40, 100 or 200



Port Style:

FSL = NPT

FSLG = G Class

Example: FSL-200

Fail Safe Kit w/ NPT Ports, for a GPAL-200, with Buna-N Seals