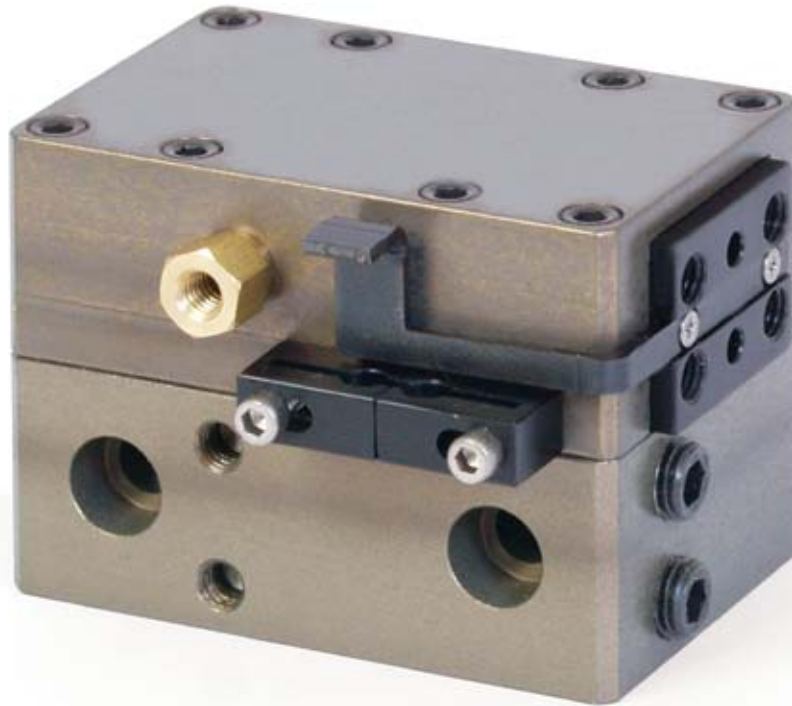


NUMATICS®

WG Series

Double Guided Wedge Grippers



www.numatics.com

WG Series Parallel Gripper

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WGS-50 Parallel Gripper Double Guided Wedge

Gripper summary of Operation:

Synchronous motion is achieved with a double acting piston attached via the piston shaft to a double sided wedge. The double sided angles of the wedge convert vertical motion to synchronous horizontal motion of the jaws.

A. Body

Hardcoat Anodized PTFE impregnated aluminum inside and out. Ultra high gripping force to weight ratio.

B. Jaws

Jaws machined from S7 tool steel to prevent jaw breakage.

C. Switches

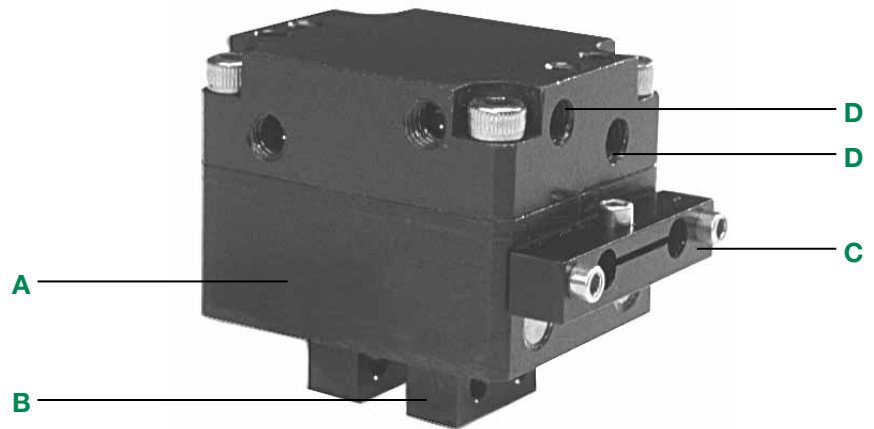
Proximity switches are available to monitor open and closed position of the jaws.

D. Side Ports

Additional side mounting holes and side air ports for optional mounting and porting.

E. Lubrication

Pre-lubricated with our specially formulated oil based compound for extensive maintenance free performance.



WGL-50 Long Stroke and WGS-90 Short Stroke Parallel Grippers Double Guided Wedge

Gripper summary of Operation:

Synchronous motion is achieved with a double acting piston attached via the piston shaft to a double sided wedge. The double sided angles of the wedge convert vertical motion to synchronous horizontal motion of the jaws.

A. Body

Hardcoat Anodized PTFE impregnated aluminum inside and out. Ultra high gripping force to weight ratio.

B. Jaws

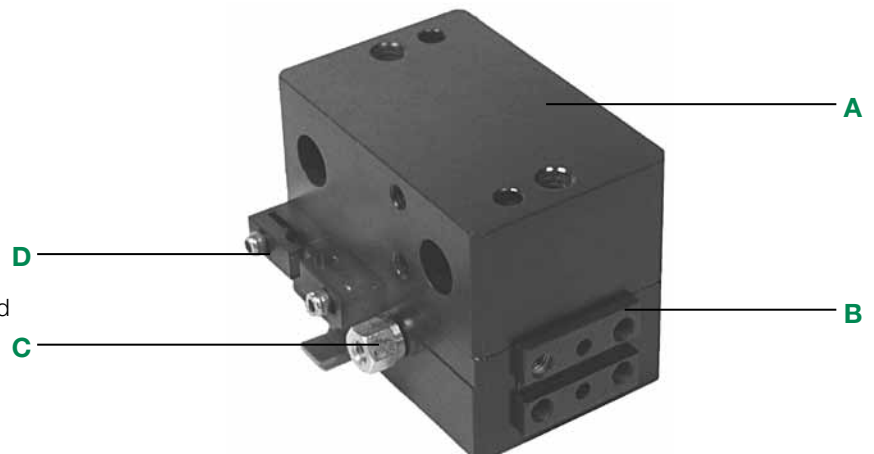
Hardcoat Anodized PTFE impregnated aluminum. Lightweight, Durable, high strength.

C. Purge Port

Unit can be slightly pressurized to prevent debris or coolant from entering. A vacuum can be applied to evacuate contaminants from inside the unit in a clean room environment.

D. Switches

Proximity switches are available to monitor open and closed position of the jaws.



How to Order

WG S 50 1 4 C X

Gripper Stroke

- S = Short stroke
- L = Long stroke

Gripper Series

- 50
- 90

Seal Type

- 1 = Buna-N
- 2 = FKM

Special Options

- X = No Options

Sensing Position

- A = Single Position Open
- B = Single Position Closed
- C = Two Position Sensing
- D = No Sensing

Sensing Type

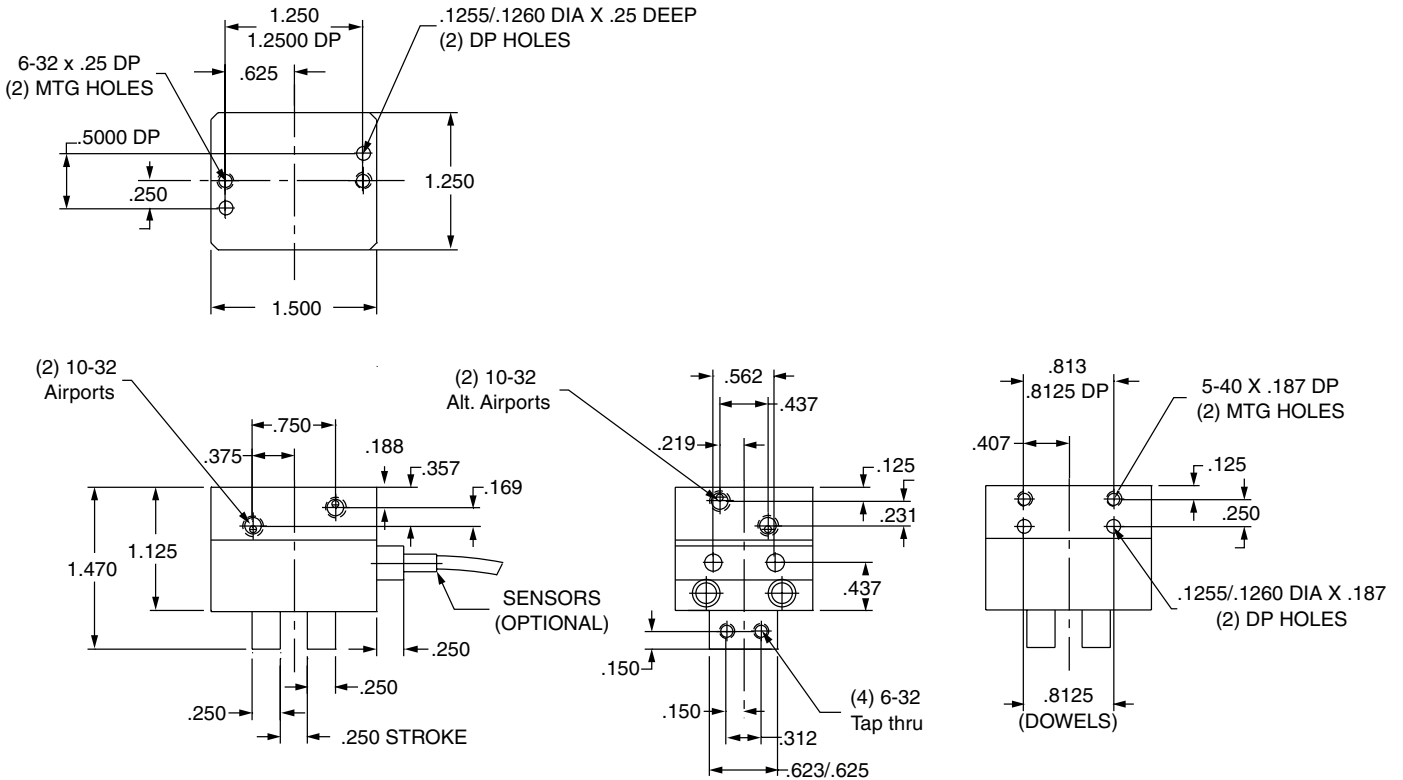
- Standard Cord Set
 - 4 = Prox Switch - PNP (sourcing)
 - 5 = Prox Switch - NPN (sinking)
 - 6 = No Sensing
 - Quick Disconnect Cord Set
 - W = Prox Switch - PNP (sourcing)
 - V = Prox Switch - NPN (sinking)
 - U = Prox Switch - PNP (sourcing) 90 Deg.
 - T = Prox Switch - NPN (sinking) 90 Deg.
- Prox switches are 4mm diameter

When ordering additional switches:

Switch Description	Standard Part No.	Quick Disconnect Part No.
Prox Switch - PNP (Sourcing)	PROX-4FL2-P	PROX-4QDS-P
Prox Switch - NPN (Sinking)	PROX-4FL2-N	Not Available
Quick disconnect cable straight	-	PXCST
Quick disconnect cable 90 deg.	-	PXC90

Dimensions: Inches

WGS-50



Gripper Specifications

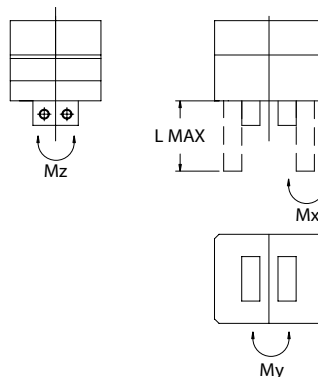
Model	Force Open @100 PSI	Force Close @100 PSI	Displacement	Max. PSI	Repeatability	Weight
WGS-50	45 lbs.	40 lbs.	.10 cu. inches	150 PSI	±.002	4 oz.

Recommended Maximum Load Rating

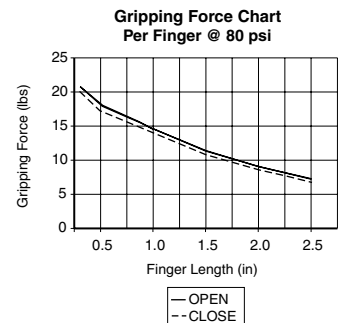
Model	Mx	My	Mz
WGS-50	123 in.-lbs.	123 in.-lbs.	123 in.-lbs.

Grip Force vs. Finger Length

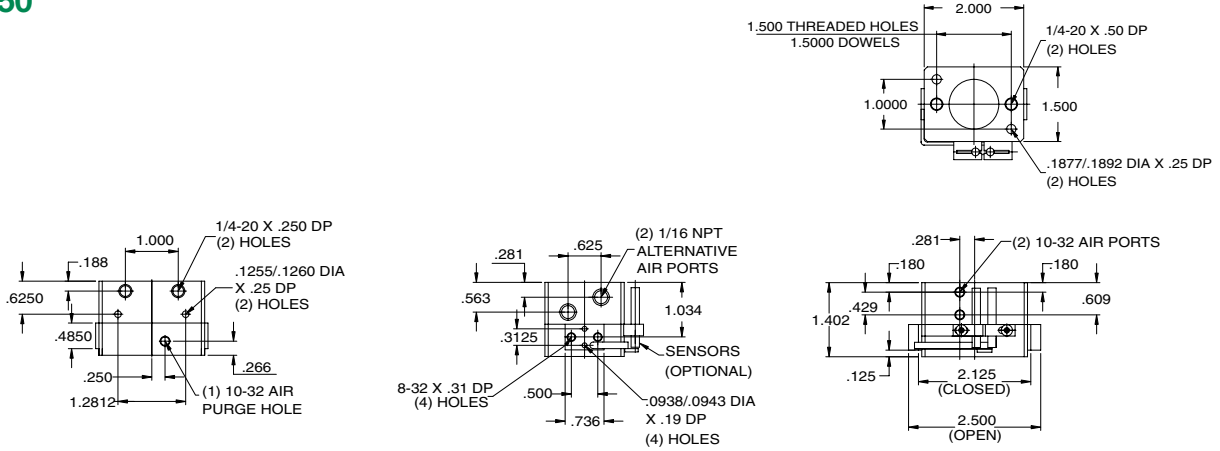
"L" Max	Force Close @ 100 PSI
.05	42 lbs.
1.0	34 lbs.
1.5	30 lbs.
2.0	20 lbs.
2.5	16 lbs.



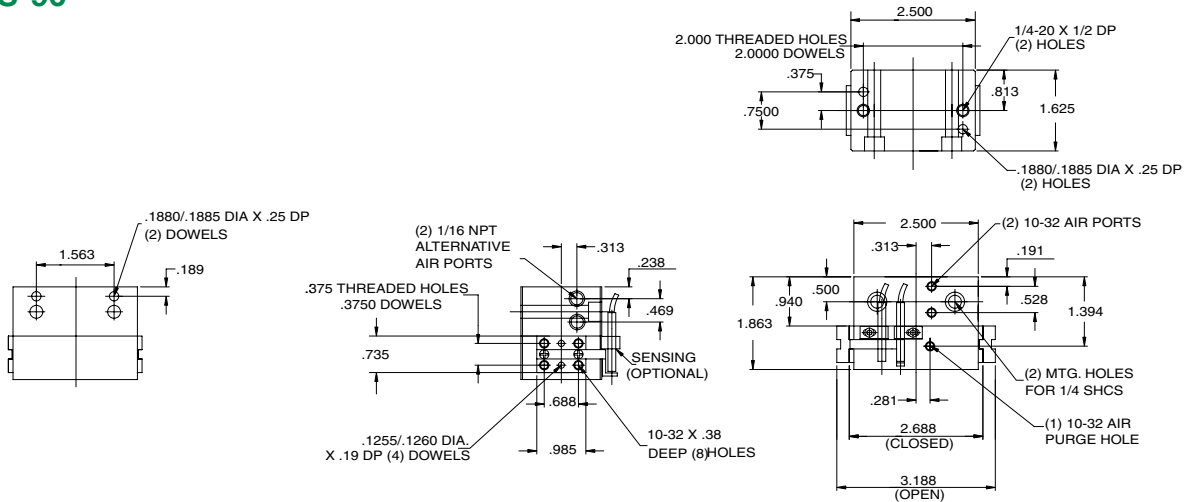
WGS-50



WGL-50



WGS-90



Gripper Specifications

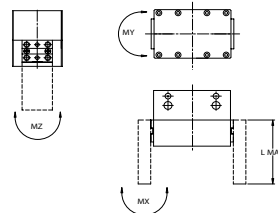
Model	Stroke	Force Close @100 PSI	Displacement	Max. PSI	Repeatability	Weight
WGL-50	.375	40 lbs.	.20 cu. inches	150 PSI	±.002	7 oz.
WGS-90	.500	70 lbs.	.30 cu. inches	150 PSI	±.002	11 oz.

Recommended Maximum Load Rating

Model	Mx	My	Mz	Lmax
WGL-50	70 in.-lbs.	70 in.-lbs.	70 in.-lbs.	2.5 inches
WGS-90	160 in.-lbs.	160 in.-lbs.	160 in.-lbs.	2.5 inches

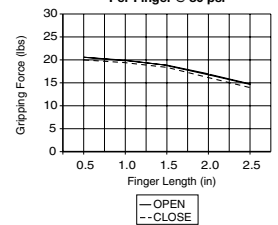
Grip Force vs. Finger Length

"L" Max	WGL-50	WGS-90
0.05	50 lbs.	92.5 lbs.
1.0	47 lbs.	90 lbs.
1.5	42 lbs.	80 lbs.
2.0	40 lbs.	75 lbs.
2.5	35 lbs.	70 lbs.



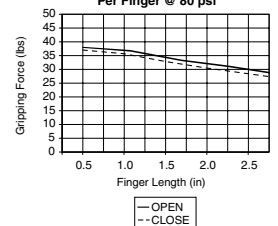
WGL-50

Gripping Force Chart
Per Finger @ 80 psi



WGS-90

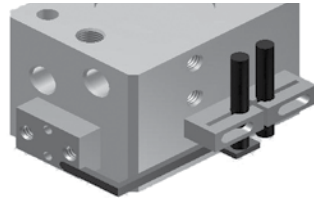
Gripping Force Chart
Per Finger @ 80 psi



WG Series Switch Information

WG Series Gripper

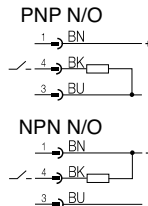
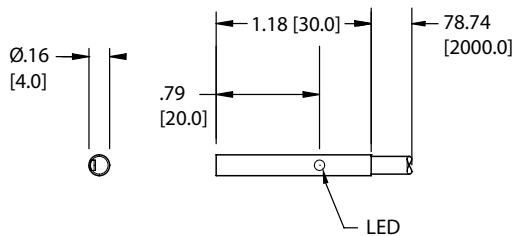
Series	Bracket P/N
WGS90	N5103-1018
WGL50	N5103-1018



Sensor Description	Standard Cord Set	Quick Disconnect
Prox PNP	PROX-4FL2-P	PROX-4QDS-P
Prox NPN	PROX-4FL2-N	Not Available

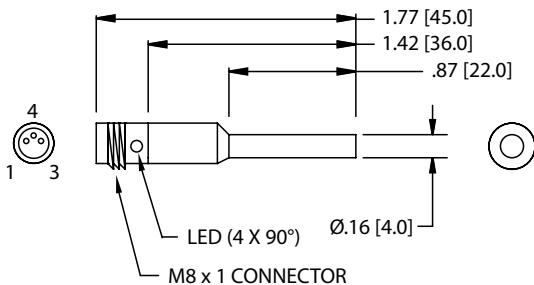
See below for sensor specifications

Prox Switch (NPN NO) Flying Lead - PROX-4FL2-N Prox Switch (PNP NO) Flying Lead - PROX-4FL2-P



Electrical Design	3-Wire DC PNP/NPN
Output	Normally Open
Operating Voltage	10-36 VDC
Current Rating	100 mA
Short-Circuit Protection	Yes (Non-Latching)
Overload Protection	Yes
Reverse Polarity Protection	Yes
Voltage Drop	< 2.5V
Current Consumption	< 15 mA @ 24V
Real Sensing Range	.8mm ± 10%
Switching Frequency	> 2000 Hz
Ambient Temperature	-25°C to 70°C
Protection	IP 65, III
Switch-Point Drift	-10 - 10% OF Sr
Hysteresis	1 - 15% OF Sr
Operating Distance	0 - .65mm
Correction Factor	Mild Steel=.1, Stainless Steel=.7, Brass=.5, Alum.=.4, Copper=.3
Housing Material	Housing; Stainless Steel: POM
Function Display Switching Status	Yellow LED
Connection	PVC Cable, 2m, 3 x .14mm2

Prox Switch (PNP NO), 8 mm connector - PROX-4QDS-P

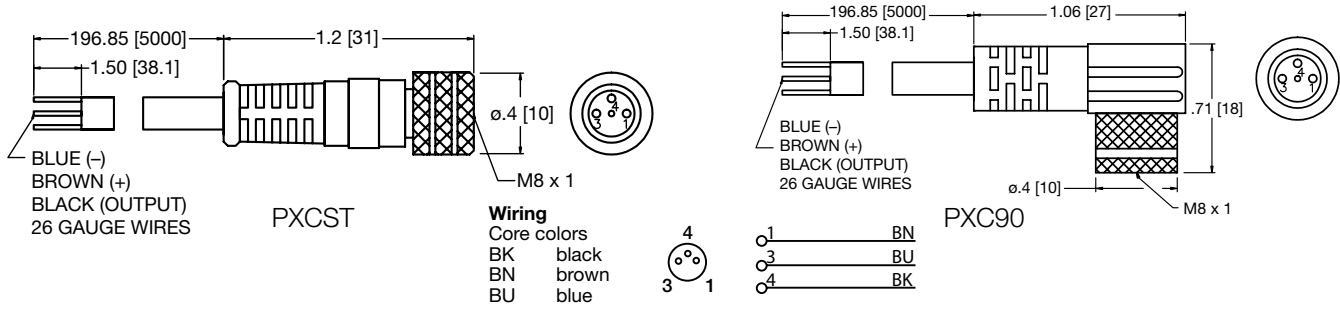


Electrical Design	3-Wire DC PNP
Output	Normally Open
Operating Voltage	10-36 VDC
Current Rating	100 mA
Short-Circuit Protection	Yes (Non-Latching)
Overload Protection	Yes
Reverse Polarity Protection	Yes
Voltage Drop	< 2.5V
Current Consumption	< 15 mA @ 24V
Real Sensing Range	.8mm ± 10%
Switching Frequency	> 2000 Hz
Ambient Temperature	-25°C to 70°C
Protection	IP 65, III
Switch-Point Drift	-10 - 10% OF Sr
Hysteresis	1 - 15% OF Sr
Operating Distance	0 - .65mm
Correction Factor	Mild Steel=.1, Stainless Steel=.7, Brass=.5, Alum.=.4, Copper=.3
Housing Material	Housing; Stainless Steel: POM
Function Display Switching Status	Red LED (4 x 90°)
Connection	M8 Connector
Remarks	cULus-Class 2 Source Required
Accessories	Mounting Clamp
Agency Approvals	



*Switches are not designed for wet environments. Please see your distributor for additional information.

Quick Disconnect Cables



Order Code	Type	Operating Voltage	Current Rating	Cable Material	Protection	Connector
PXCST	Straight 5 m Cable (3 x 26 Gauge wire)	60 AC/75 DC	3 A	PUR	IP 68, III	M8
PXC90	90° 5 m Cable (3 x 26 Gauge wire)	60 AC/75 DC	3 A	PUR	IP 68, III	M8

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