

NUMATICS®

GR Series

Adjustable Angular Gripper



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GR90 Series Angular Grippers

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GR90-Series Angular Grippers

The GR90-Series has a double acting piston attached to a cross bar by a connecting rod. The linear movement of the piston is transformed into angular movement of the jaws through a double toggle link mechanism.

A. Body:

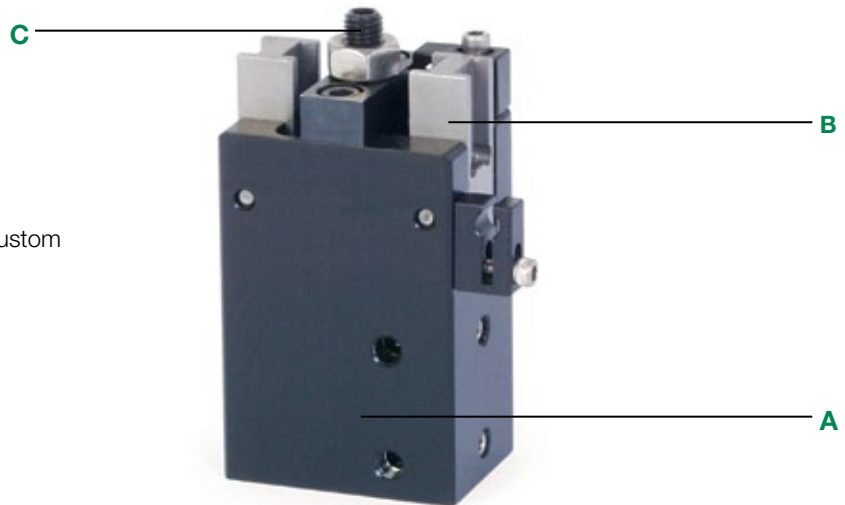
Hardcoat anodized with PTFE, reduced friction, reduced wear. Front and side ports standard.

B. Jaws:

Hardened alloy steel.
Keyway slot for tooling location.
180° jaw motion.

C. Locking Adjustment Screw:

Jaw rotations can be adjusted from 0-90° to be custom fit to each application.



How to Order

GR90 1 6 D X

Seal Type

- 1 = Buna-N Seals
- 2 = FKM Seals

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) Straight
 - V = Prox Switch – NPN (sinking) Straight
 - U = Prox Switch – PNP (sourcing) 90 Deg.
 - T = Prox Switch – NPN (sinking) 90 Deg.
- Prox switches are 4 mm diameter.

Special Options

- X = Standard

Sensing Position

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

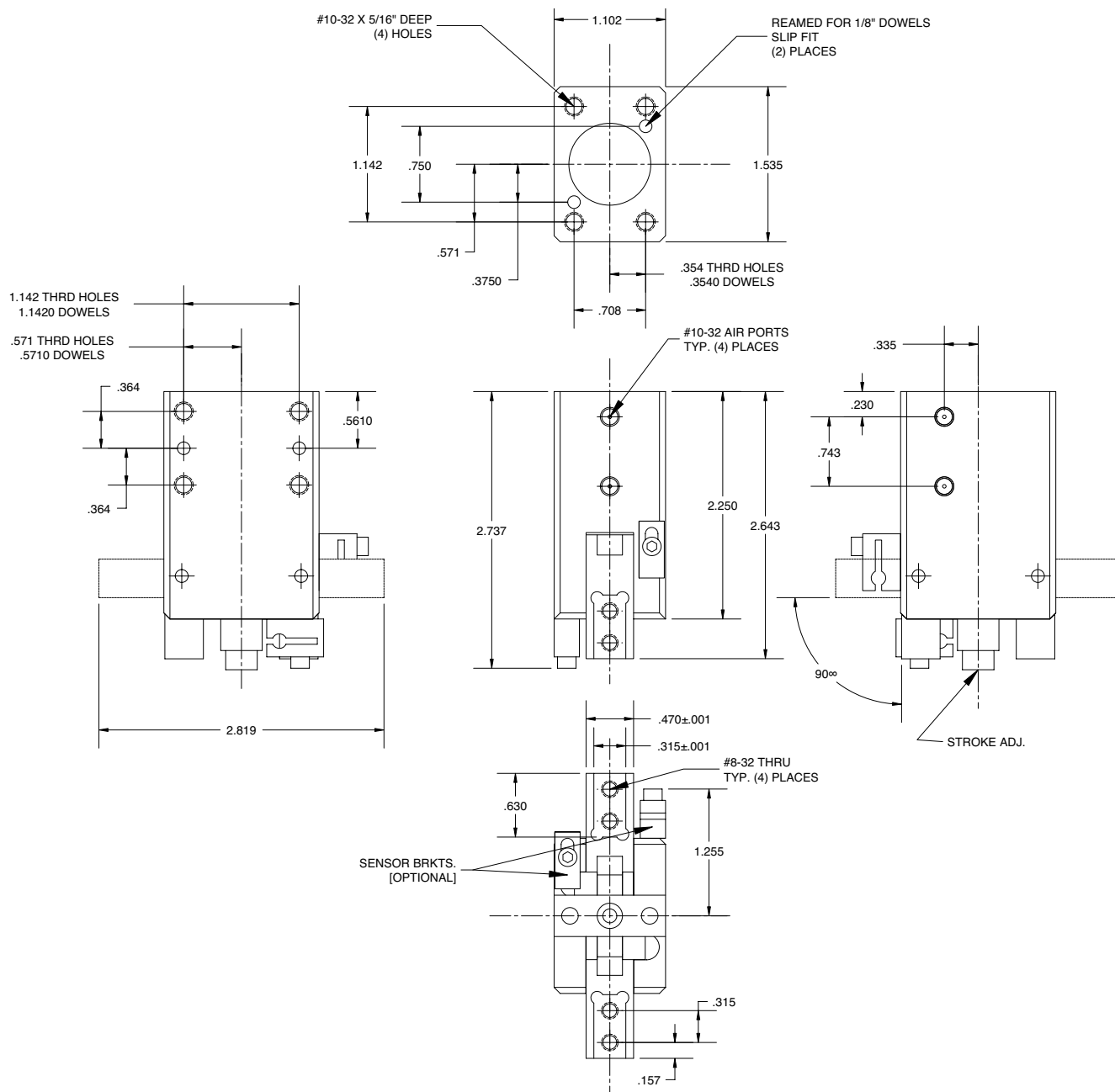
When ordering additional switches & Seal Kits:

Sensing Kits Standard Cord Set	
Hall Effect - PNP Sourcing	PROX-4FL2-P
Hall Effect - NPN Sinking	PROX-4FL2-N

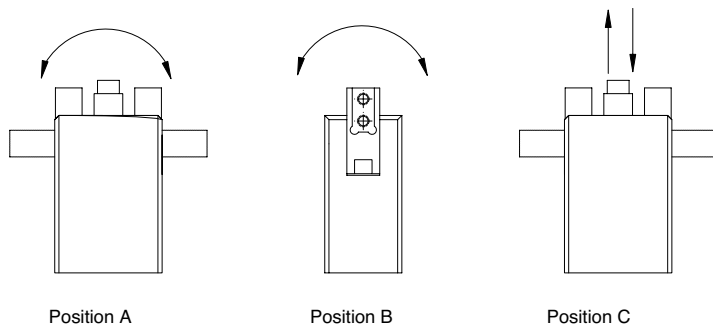
Sensing Kits Quick Disconnect Cord Set	
Hall Effect - PNP Sourcing	PROX-4QDS-P
Hall Effect - NPN Sinking	Not Available
90° 5 meter cable	PXC90
Straight 5 meter cable	PXCST
(5m Cables)	

Dimensions: Inches

GR90 Dimensions



GR90-Series Gripper Performance Data

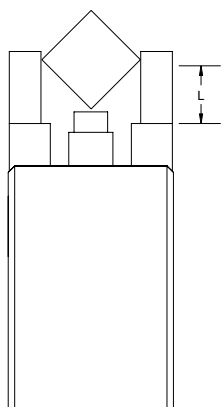


Gripper Specifications

	GR90
Grip Force	
open @ 100 psi	55 lbs
close @ 100 psi	52 lbs.
Displacement	0.46 cu. in.
Max Operating Pressure	120 psi
Side Play	±0.001
Weight	7 oz.

Recommended Maximum Load Ratings

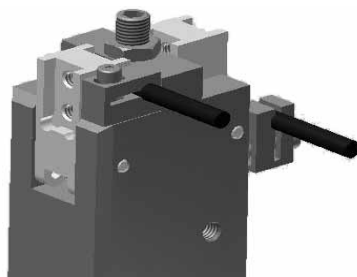
	GR90	
Max Load Position A	30 in-lb	3.4 Nm
Max Load Position B	30 in-lb	3.4 Nm
Max Load Position C	40 lbs.	18Kgf



L (Finger Length)	GR90
1 Inch	30 lbs.
1.5 Inches	25 lbs.
2 Inches	15 lbs.
Force at 80 psi.	

GR90 Series Gripper

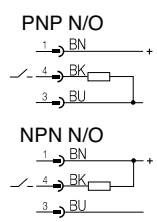
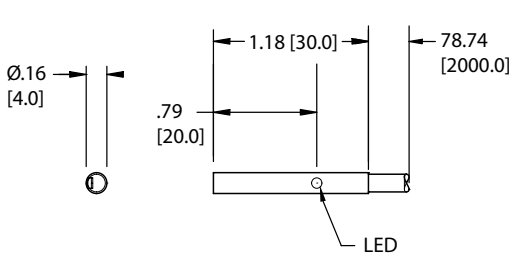
Bore	Bracket P/N
GR90	N5103-1018



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

See page 19 for sensor specifications

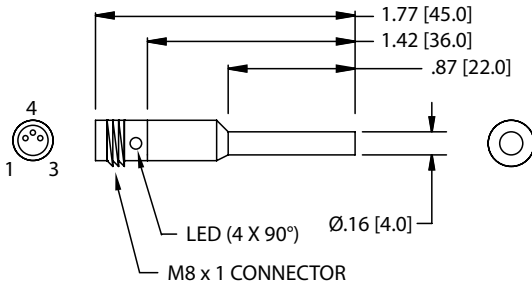
Prox Switch (NPN NO) Flying Lead - PROX-4FL2-N
Prox Switch (PNP NO) Flying Lead - PROX-4FL2-P



Electrical Design
 Output
 Operating Voltage
 Current Rating
 Short Circuit Protection
 Overload Protection
 Reverse Polarity Protection
 Voltage Drop
 Current Consumption
 Real Sensing Range
 Switching Frequency
 Ambient Temperature
 Protection
 Switch-Point Drift
 Hysteresis
 Operating Distance
 Correction Factor
 Housing Material
 Function Display Switching Status
 Connection

3-Wire DC PNP/NPN
 Normally Open
 10-36 VDC
 100 mA
 Yes (Non-Latching)
 Yes
 Yes
 < 2.5V
 < 15 mA @ 24V
 .8mm ± 10%
 > 2000 Hz
 -25°C to 70°C
 IP 65, III
 -10 - 10% OF Sr
 1 - 15% OF Sr
 0 - .65mm
 Mild Steel=1, Stainless Steel=.7,
 Brass=.5, Alum.=.4,Copper=.3
 Housing; Stainless Steel: POM
 Yellow LED
 PVC Cable, 2m, 3 x .14mm2

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

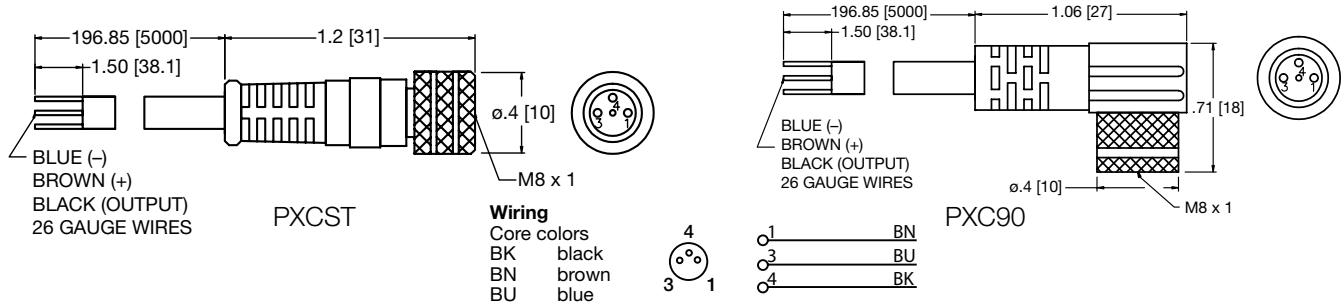


Electrical Design
 Output
 Operating Voltage
 Current Rating
 Short Circuit Protection
 Overload Protection
 Reverse Polarity Protection
 Voltage Drop
 Current Consumption
 Real Sensing Range
 Switching Frequency
 Ambient Temperature
 Protection
 Switch-Point Drift
 Hysteresis
 Operating Distance
 Correction Factor
 Housing Material
 Function Display Switching Status
 Connection
 Remarks
 Accessories
 Agency Approvals

3-Wire DC PNP
 Normally Open
 10-36 VDC
 100 mA
 Yes (Non-Latching)
 Yes
 Yes
 < 2.5V
 < 15 mA @ 24V
 .8mm ± 10%
 < 2000 Hz
 -25°C to 70°C
 IP 65, III
 -10 - 10% OF Sr
 1 - 15% OF Sr
 0 - .65mm
 Mild Steel=1, Stainless Steel=.7,
 Brass=.5, Alum.=.4,Copper=.3
 Housing; Stainless Steel: POM
 Red LED (4 X 90°)
 M8 Connector
 cULus - Class 2 Source
 Required
 Mounting Clamp



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



World Class Supplier of Pneumatic Components



World Headquarters

USA Numatics, Incorporated

46280 Dylan Drive
Novi, Michigan 48377

P: 248-596-3200
F: 248-596-3201

Canada Numatics, Ltd

P: 519-758-2700
F: 519-758-5540

Mexico Numatics de Mexico S.A. de C.V.

P: 52-222-284-6176
F: 52-222-284-6179

Brazil Ascoval Ind.e Comercio Ltda

P: (55) 11-4208-1700
F: (55) 11-4195-3970