

# Guided Rod Cylinders (GRC)



**COMPACT**<sup>®</sup>  
AUTOMATION PRODUCTS



# Product Features

Turn-Act's Guided Rod Cylinder combines high strength with light weight and can be customized to fit your specific needs. Turn-Act's exclusive ENERSORB™ piston is self-lubricating, up to 50% quieter than regular pistons and provides unparalleled repeatable stroke.

## RATED PRESSURE 50 PSIG A

### ENERSORB™ Piston

- Innovative design integrates seal, wear band, magnet and bumpers into one component.
- High energy absorption
- Bumpers reduce noise more than 50%
- Extended cycle life from unique blend of urethane material
- Excellent for non-lubrication applications
- Unparalleled repeatable stroke

### Body

- High strength, light weight extruded aluminum
- Hard anodized internal bore for longer cylinder life

### Switches

- Reed, PNP and NPN electronics
- Low profile mounting below body surface
- Integral LED

### STANDARD OPTIONS

- Stop Collars
- Bridge Plate
- Magnetic Piston for switch
- Clean Room Option (Consult Factory)

### Tooling Plate

- High strength hard anodized aluminum
- Available with tapped or counterbored holes dowel locations
- Blank or custom plates also available

### Piston and Guided Rod

- High strength precision chrome plated steel
- Superior wear resistance
- Stainless steel rods available

### Rod Wiper

- Durable urethane construction provides secondary seal

### Piston and Guide Rod Bearings

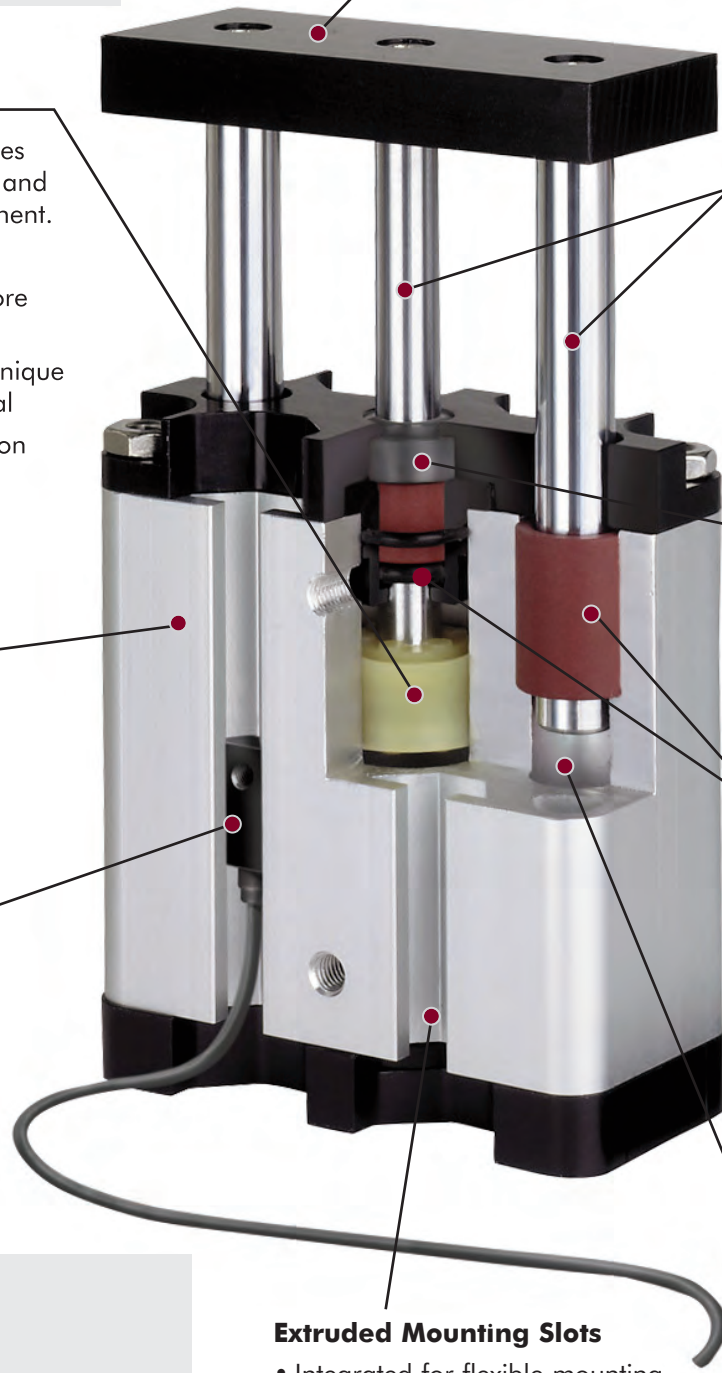
- Durable and self-lubricating, providing rigid support
- Linear ball bearings optional
- Other bearing materials available

### Rod Seal

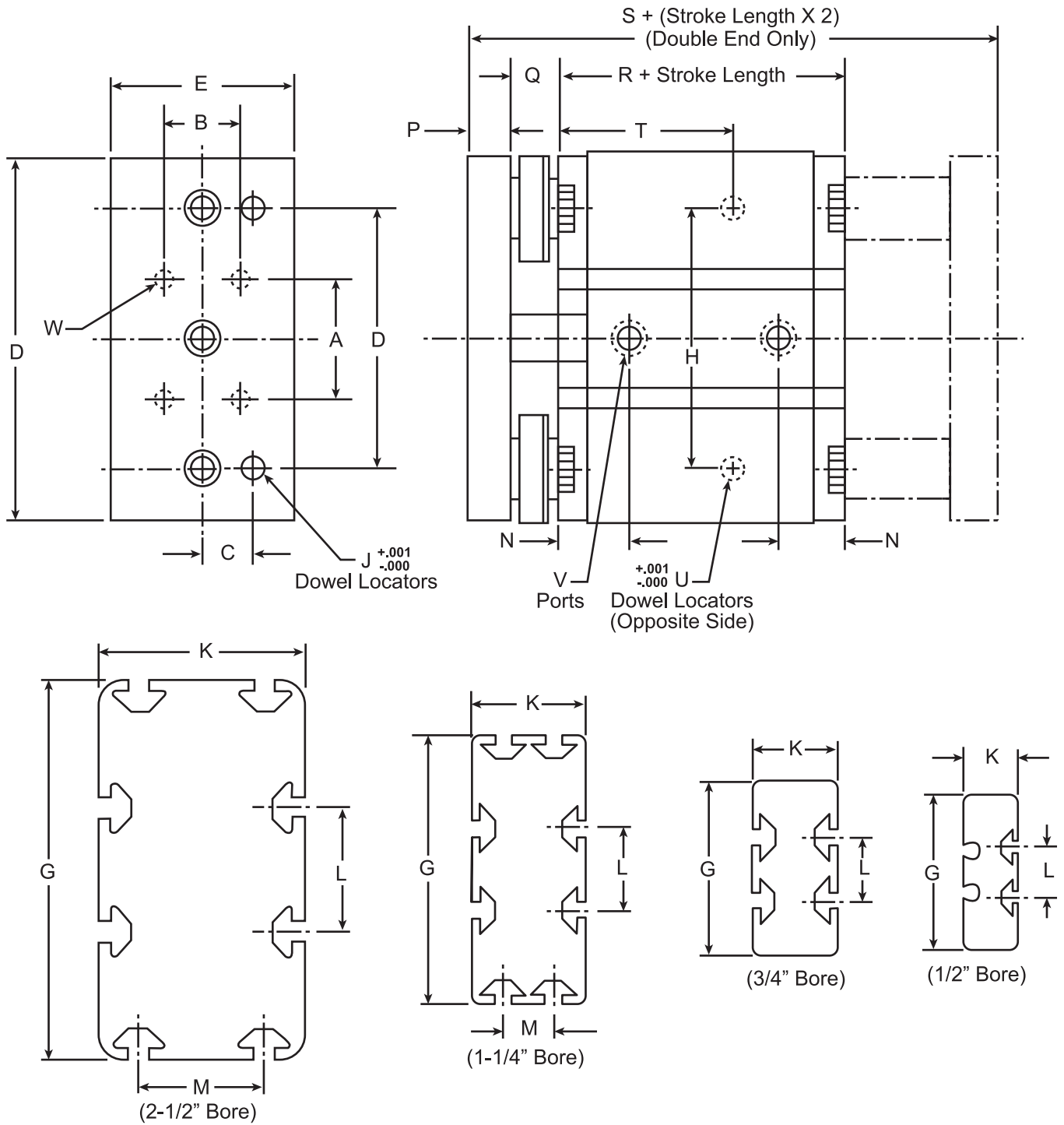
- Bubble tight nitrile seal

### Extruded Mounting Slots

- Integrated for flexible mounting



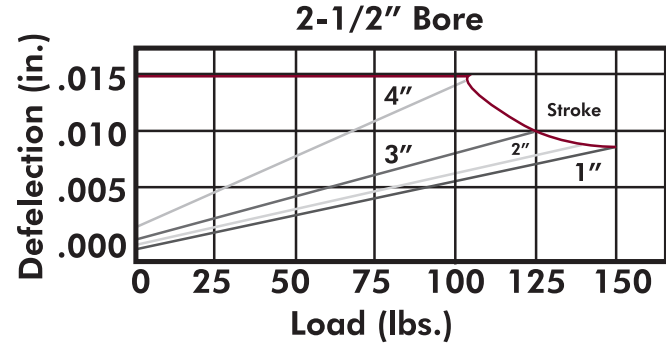
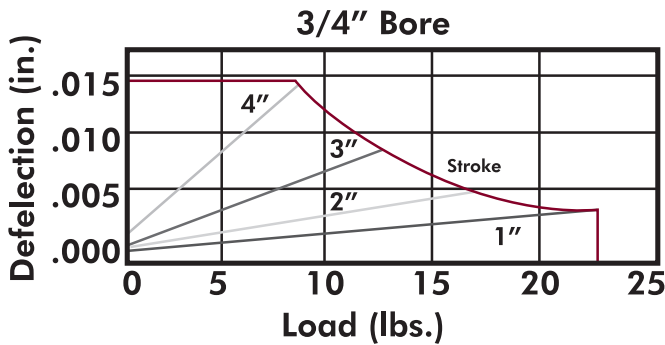
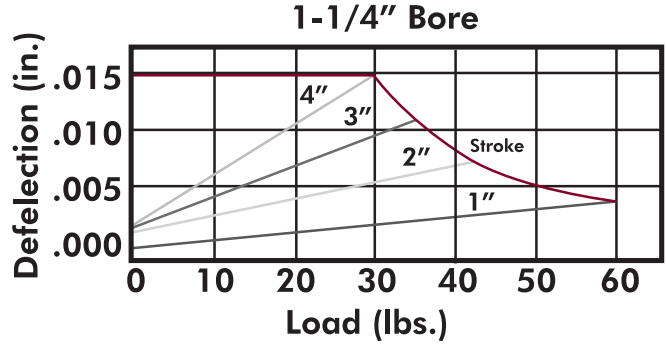
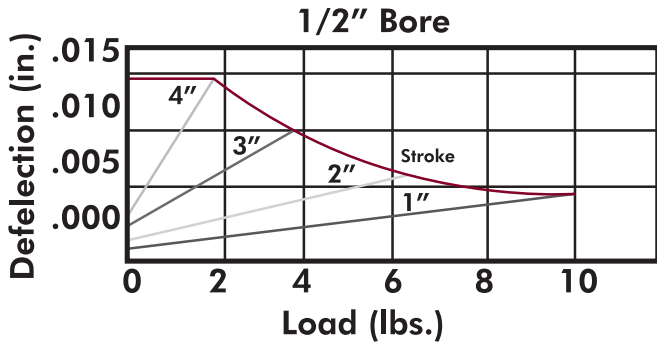
# Dimensional Data



## Dimensional Specifications

Bore	A	B	C	D	E	F	G	H	J	L	K	M	N	P	Q	R	S	T	U	V	W
1/2	.81	.44	.25	1.50	.75	2.47	2.50	1.50	.126	.81	.88	N/A	.63	.38	.50	2.00	3.75	.88	.126	#10-32	#8-32
3/4	1.03	.63	.38	1.88	1.13	2.75	2.81	1.88	.188	1.03	1.36	N/A	.71	.38	.50	2.43	4.18	1.31	.188	#10-32	1/4-20
1-1/4	1.31	.63	.50	2.63	1.50	3.69	4.31	2.63	.251	1.31	1.80	.81	.90	.50	.50	2.93	4.93	1.63	.251	1/8 NPT	1/4-20
2-1/2	2.00	1.25	.81	4.32	3.00	6.00	6.13	4.32	.376	2.00	3.25	2.00	1.13	.75	.75	3.69	6.69	2.81	.376	1/4 NPT	5/16-18

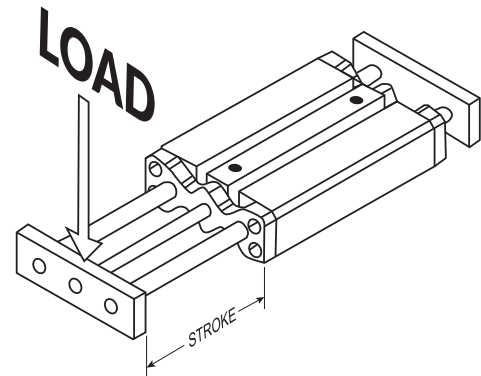
# Deflection and Force Data



Force Chart				
Bore	Theoretical Force (lbs.) at:			
		50 psi	100 psi	150 psi
1/2	Extend	9.8	19.6	29.4
	Retract	8.4	16.8	25.3
3/4	Extend	22.1	44.2	66.3
	Retract	18.3	36.5	54.8
1-1/4	Extend	61.4	122.7	184.1
	Retract	51.6	103.1	154.7
2-1/2	Extend	245.4	490.9	736.3
	Retract	223.3	446.7	670.0

## How to Use Deflection Charts

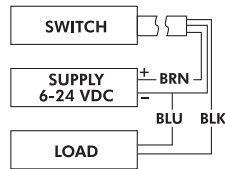
When selecting cylinder size, we recommend choosing parameters underneath the upper limit line (red). Selections above the upper limit line may adversely affect cylinder life or operation.



# Switches

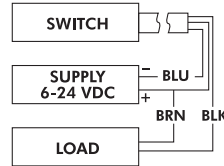
## Hall Effect Switch PNP Sourcing:

Voltage  
5-24 VDC  
Current  
200mA. MAX



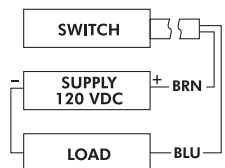
## Hall Effect Switch NPN Sinking:

Voltage  
5-24 VDC  
Current  
200mA. MAX



## AC/DC Reed Switch:

Voltage  
5-120 VAC/VDC  
Current  
1mA. MIN to 30mA. MAX



## Special Note:

- Switches will be permanently damaged if operated without a load.
- Do not exceed ratings or short circuit load.

## Part Numbers

Bore	PNP Sourcing	NPN Sinking	REED
1/2	GRP-05	GRN-05	GRR-05
3/4	GRP-07	GRN-07	GRR-07
1-1/4	GRP-07	GRN-07	GRR-12
2-1/2	GRP-25	GRN-25	GRR-25

NOTE: These part numbers represent one switch and its mounting hardware.

# How to Order: Guided Rod Series

SERIES    BORE    BEARING TYPE    GUIDE TYPE    STROKE    OPTION    OPTION  
 GR - 05 - C - DE - 2.00 - N10 - N30  
 1            2            3            4            5            6            6

1

Series	
GR	Guided Rod

5

Stroke	
Designate stroke with two decimal places. Example: 2" = 2.00	

2

Bore	
05	1/2 Bore
07	3/4 Bore
12	1-1/4 Bore
25	2-1/2 Bore

6

Options	
N10	Stop Collars (Adjust Retract)
N11	Stop Collars (Adjust Extend)
N22	Bridge Plate
N23	Tapped Tooling Plate(s)
N24	Counterbored Tooling Plate(s)
N26	Blank Tooling Plate(s)
N30	Magnetic Piston (order switches separately)
N40	Stainless Steel Piston & Guide Rods

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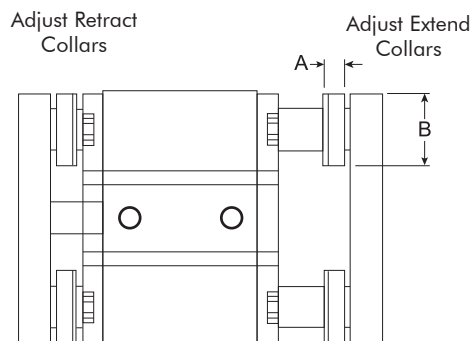
Bearing Type	
C	Standard Composite
B	Linear Ball

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Guide Type	
SE	Single End
SG	Single End, 1/8" Tooling Plate Gap
DE	Double End
DG	Single End, 1/8" Tooling Plate Gap

## Options & Mounting

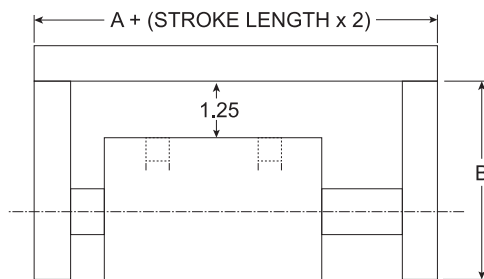
Stop Collars		
Bore	A	B
1/2	.44	.69
3/4	.50	.88
1-1/4	.55	1.13
2-1/2	.75	1.75



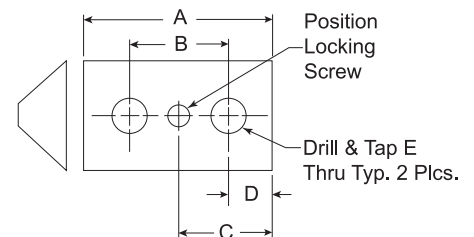
NOTE: Adjustable collars may interfere when collar is wider than tooling plate gap.

Mounting Nuts					
Bore	A	B	C	D	E
1/2	.75	.44	.38	.16	#8-32
3/4	1.13	.63	.56	.25	1/4-20
1-1/4	1.13	.63	.56	.25	1/4-20
2-1/2	1.75	1.25	.88	.25	5/16-18

Bridge Plate		
Bore	A	B
1/2	3.75	1.94
3/4	4.18	2.31
1-1/4	4.93	2.66
2-1/2	6.69	3.63



NOTE: Bridge plate width is the same as the standard tooling plate.



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