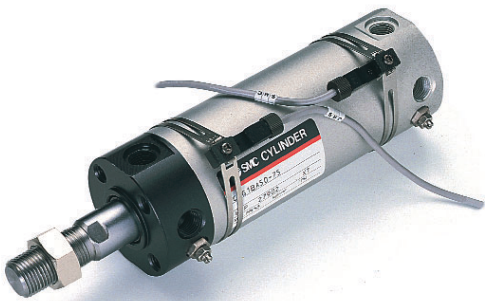




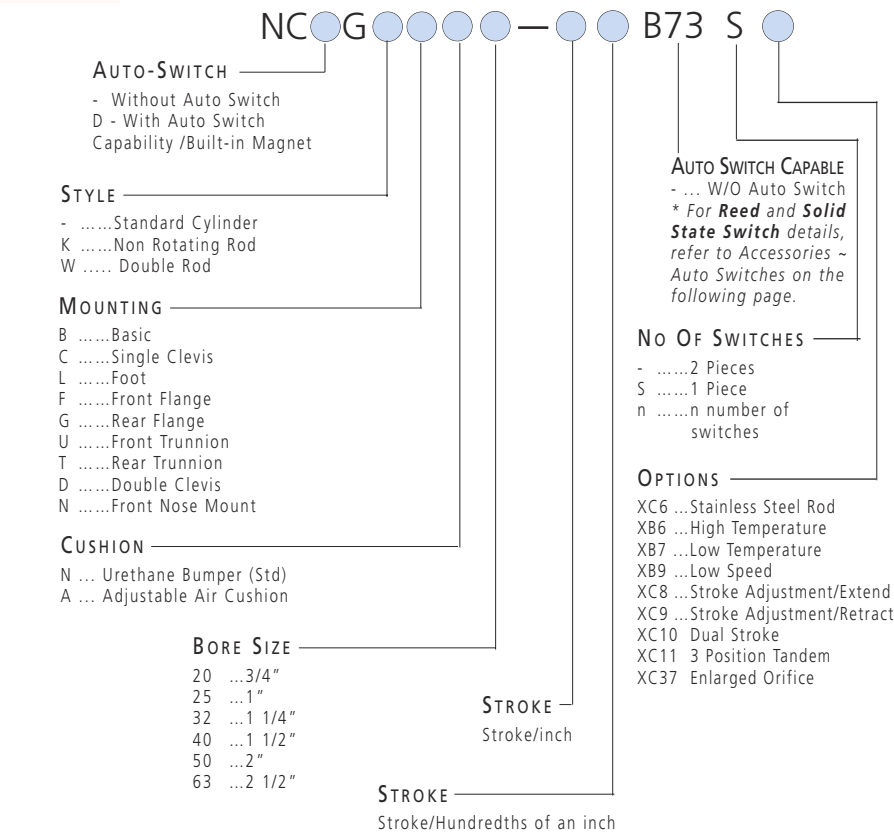
AIR CYLINDER SERIES NCG  
BORE SIZES 3/4"~2 1/2"

- ✓ Double acting
- ✓ Clean line
- ✓ A substantial reduction in overall length compared to tie-rod designed cylinders
- ✓ High velocity
- ✓ Magnetic piston for auto switch sensing as an option
- ✓ Non-rotate option available



How To  
ORDER

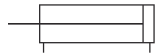
AIR CYLINDER SERIES NCG



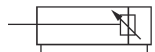
CONSTRUCTION  
SPECIFICATIONS

|            |                                      |
|------------|--------------------------------------|
| Rod cover  | Aluminum alloy<br>(Black Anodizing)  |
| Body       | Aluminum alloy<br>(Hard Alumite)     |
| Piston rod | Carbon steel<br>(Hard Chrome Plated) |

SYMBOLS  
RUBBER CUSHIONED



AIR CUSHIONED



STOCK STROKE LIST FOR ALL STYLES  
SERIES NCG

| BORE SIZE | STANDARD STOCKED STROKE     | MAXIMUM STANDARD STROKE |
|-----------|-----------------------------|-------------------------|
| 20        | 1, 2, 3, 4, 5, 6, 8         | 20                      |
| 25        | 1, 2, 3, 4, 5, 6, 8, 10, 12 | 25                      |
| 32        | 1, 2, 3, 4, 5, 6, 8, 10, 12 | 40                      |
| 40        | 1, 2, 3, 4, 5, 6, 8, 10, 12 | 45                      |
| 50        | 1, 2, 3, 4, 5, 6, 8, 10, 12 | 55                      |
| 63        | 1, 2, 3, 4, 5, 6, 8, 10, 12 | 55                      |

### ACCESSORIES

#### MOUNTING BRACKET SERIES NCG

| Bore Size Inches<br>Mounting Accessory | 3/4      | 1        | 1 1/4    | 1 1/2    | 2        | 2 1/2    |
|----------------------------------------|----------|----------|----------|----------|----------|----------|
| Foot (2 pcs)                           | NCG-L020 | NCG-L025 | NCG-L032 | NCG-L040 | NCG-L050 | NCG-L063 |
| Flange                                 | NCG-F020 | NCG-F025 | NCG-F032 | NCG-F040 | NCG-F050 | NCG-F063 |
| Trunnion                               | NCG-T020 | CG-T025  | CG-T032  | NCG-T040 | NCG-T050 | NCG-T063 |
| Double Clevis                          | NCG-D020 | NCG-D025 | NCG-D032 | NCG-D040 | NCG-D050 | NCG-D063 |
| Trunnion Bracket                       | NCG-P020 | NCG-P025 | NCG-P032 | NCG-P040 | NCG-P050 | NCG-P063 |
| Single Clevis                          | NCG-C020 | NCG-C025 | NCG-C032 | NCG-C040 | NCG-C050 | NCG-C063 |

### ACCESSORIES

#### AUTO SWITCHES

Note: Pre-wired Switches with 3/4 Pin Connectors available, please consult SMC Customer Service

| MODEL NUMBER             | OPERATING VOLTAGE         | MAXIMUM CURRENT OR<br>OPERATING CURRENT RANGE<br>(mA) | INDICATOR<br>LIGHT/<br>WIRE |
|--------------------------|---------------------------|-------------------------------------------------------|-----------------------------|
| D-B54                    | 24VDC<br>110VAC<br>220VAC | 5~50mA<br>5~25mA<br>5~12.5mA                          | Yes/2 Wire                  |
| D-B53                    | 24VDC                     | 5~50mA                                                | Yes/2 Wire                  |
| D-B64                    | 24VDC<br>110VAC<br>220VAC | 50mA<br>25mA<br>12.5mA                                | No/2 Wire                   |
| D-B73<br>D-C73<br>D-C73C | 24VDC<br>110VAC           | 5~40mA<br>5~20mA                                      | Yes/2 Wire                  |
| D-B76<br>D-C76           | 4~8VDC                    | 20mA                                                  | Yes/2 Wire                  |
| D-B80<br>D-C80<br>D-C80C | 24V<br>48V<br>110V        | 50mA<br>40mA<br>20mA                                  | No/2 Wire                   |

| SOLID STATE<br>SWITCHES<br>MODEL NUMBER | OPERATING VOLTAGE | MAXIMUM CURRENT OR<br>OPERATING CURRENT RANGE<br>(mA) | INDICATOR LIGHT/<br>WIRE |
|-----------------------------------------|-------------------|-------------------------------------------------------|--------------------------|
| D-G59                                   | 24VDC (10~28VDC)  | 40mA                                                  | Yes/3 Wire (NPN)         |
| D-G5P                                   | -                 | 80mA or less                                          | Yes/3 Wire (PNP)         |
| D-K59                                   | 24VDC (10~28VDC)  | 5~40mA                                                | Yes/2 Wire               |
| D-5NTL                                  | 24VDC (10~28VDC)  | 80mA or less                                          | Yes/3 Wire (NPN)         |
| D-H7A1                                  | 24VDC (10~28VDC)  | 40mA                                                  | Yes/3 Wire (NPN)         |
| D-H7A2                                  | -                 | 80mA or less                                          | Yes/3 Wire (PNP)         |
| D-H7B                                   | 24VDC (10~28VDC)  | 5~40mA                                                | Yes/2 Wire               |
| D-H7C                                   | 24VDC (10~28VDC)  | 5~40mA                                                | Yes/2 Wire               |
| D-G59W                                  | 24VDC (10~28VDC)  | 40mA or less                                          | Yes/3 Wire (NPN)         |
| D-G5PW                                  | -                 | 80mA or less                                          | Yes/3 Wire (PNP)         |
| D-K59W                                  | 24VDC (10~28VDC)  | 5~40mA                                                | Yes/2 Wire               |
| D-G59F                                  | -                 | 40mA or less                                          | Yes/4 Wire (NPN)         |
| D-G79                                   | 24VDC (10~28VDC)  | 150mA or less                                         | Yes/3 Wire (NPN)         |
| D-H7PW                                  | -                 | 80mA or less                                          | Yes/3 Wire (PNP)         |
| D-H7BAL                                 | 24VDC (10~28VDC)  | 5~40mA or less                                        | Yes/2 Wire               |
| D-H7LF                                  | 26VDC or less     | 40mA or less                                          | Yes/4 Wire (NPN)         |
| D-H7NF                                  | 28VDC or less     | 40mA or less                                          | Yes/4 Wire (NPN)         |
| D-G5BAL                                 | 24VDC (10~28VDC)  | 5~40mA or less                                        | Yes/2 Wire               |
| D-H7PW                                  | -                 | 80mA or less                                          | No/3 Wire (NPN)          |
| D-H7BW                                  | 24VDC (10~28VDC)  | 5~40mA                                                | Yes/2 Wire               |

### ACCESSORIES

#### SWITCH BANDS

##### FOR SWITCHES D-B7, D-B8, D-G7

|        |        |
|--------|--------|
| BM1-01 | 3/4"   |
| BM1-02 | 1"     |
| BM1-32 | 1 1/4" |
| BM1-04 | 1 1/2" |
| BM1-05 | 2"     |
| BM1-06 | 2 1/2" |

### ACCESSORIES

#### SWITCH BANDS

##### FOR SWITCHES D-B5, D-B6, D-G5, D-K5

|       |        |
|-------|--------|
| BA-01 | 3/4"   |
| BA-02 | 1"     |
| BA-32 | 1 1/4" |
| BA-04 | 1 1/2" |
| BA-05 | 2"     |
| BA-06 | 2 1/2" |

### ACCESSORIES

#### SWITCH BANDS

##### FOR SWITCHES D-C75, D-C8, D-H7

|          |        |
|----------|--------|
| BMA1-020 | 3/4"   |
| BMA2-025 | 1"     |
| BMA2-032 | 1 1/4" |
| BMA2-040 | 1 1/2" |
| BMA2-050 | 2"     |
| BMA2-063 | 2 1/2" |

### TECHNICAL SPECIFICATIONS

#### STANDARD SERIES NCG

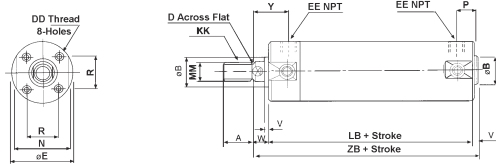
|                               |                                                                                                   |
|-------------------------------|---------------------------------------------------------------------------------------------------|
| Fluid                         | Air                                                                                               |
| Proof Pressure                | 1.5MPa / 215 PSI                                                                                  |
| Max Operating Pressure        | 1MPa / 145 PSI                                                                                    |
| Min Operating Pressure        | 0.05MPa / 7 PSI                                                                                   |
| Ambient and Fluid Temperature | 10~60°C / 40~140°F                                                                                |
| Piston Velocity               | 50~1000mm/s / 2 ~ 40 in/sec                                                                       |
| Cushion                       | Urethane Bumper or Adjustable Air Cushion                                                         |
| Lubrication                   | Non-Lube                                                                                          |
| Mounting                      | Basic, Foot, Front & Rear Flange, Front<br>& Rear Trunnion, Double & Single<br>Clevis, Front Nose |

### REPAIR KIT

#### STANDARD SERIES NCG

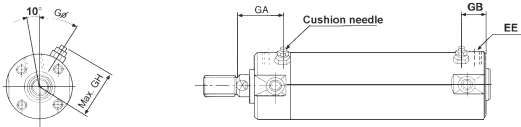
| Bore Size | Bumper Design | Air Cushion Design |
|-----------|---------------|--------------------|
| 20        | CG1N20-PS     | CG1A20-PS          |
| 25        | CG1N25-PS     | CG1A25-PS          |
| 32        | CG1N32-PS     | CG1A32-PS          |
| 40        | CG1N40-PS     | CG1A40-PS          |
| 50        | CG1N50-PS     | CG1A50-PS          |
| 63        | CG1N63-PS     | CG1A63-PS          |

DIMENSIONS  
 BASIC MODEL SERIES NCG  
 RUBBER CUSHION TYPE NC(D)GBN



| BORE<br>SIZE | MAX STD<br>STROKE | A    | B                                     | D    | DD           | E    | EE  | KK          | LB   | MM    | N    | P    | R    | V    | W    | Y    | ZB   |
|--------------|-------------------|------|---------------------------------------|------|--------------|------|-----|-------------|------|-------|------|------|------|------|------|------|------|
| 20           | 8                 | 0.50 | 0.472 <sup>0</sup> <sub>-0.0011</sub> | 0.24 | 8-32x0.28    | 1.02 | 1/8 | 1/4-28 UNF  | 2.70 | 0.315 | 0.94 | 0.47 | 0.55 | 0.08 | 0.50 | 0.97 | 3.28 |
| 25           | 12                | 0.50 | 0.551 <sup>0</sup> <sub>-0.0011</sub> | 0.31 | 10-32x0.30   | 1.22 | 1/8 | 5/16-24 UNF | 2.70 | 0.394 | 1.14 | 0.47 | 0.65 | 0.08 | 0.62 | 1.09 | 3.40 |
| 32           | 12                | 0.75 | 0.709 <sup>0</sup> <sub>-0.0011</sub> | 0.39 | 10-32x0.30   | 1.50 | 1/8 | 7/16-20 UNF | 2.78 | 0.472 | 1.42 | 0.43 | 0.79 | 0.08 | 0.88 | 1.35 | 3.74 |
| 40           | 12                | 0.75 | 0.984 <sup>0</sup> <sub>-0.0013</sub> | 0.55 | 1/4-28x0.47  | 1.85 | 1/8 | 7/16-20 UNF | 3.06 | 0.630 | 1.73 | 0.47 | 1.02 | 0.08 | 0.88 | 1.39 | 4.02 |
| 50           | 12                | 0.88 | 1.181 <sup>0</sup> <sub>-0.0013</sub> | 0.71 | 5/16-24x0.63 | 2.28 | 1/4 | 1/2-20 UNF  | 3.53 | 0.787 | 2.17 | 0.51 | 1.26 | 0.08 | 1.19 | 1.74 | 4.80 |
| 63           | 12                | 0.88 | 1.260 <sup>0</sup> <sub>-0.0015</sub> | 0.71 | 3/8-24x0.63  | 2.83 | 1/4 | 1/2-20 UNF  | 3.53 | 0.787 | 2.72 | 0.51 | 1.50 | 0.08 | 1.19 | 1.74 | 4.80 |

DIMENSIONS  
 AIR CUSHION TYPE NC(D)GBA



ADJUSTABLE AIR CUSHION MODEL (INCH)

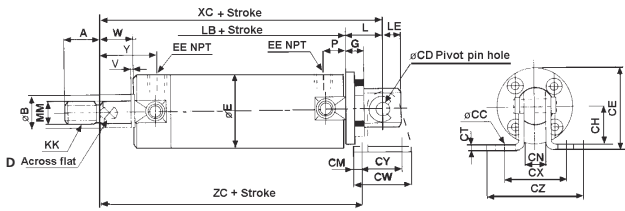
| BORE<br>SIZE | GA   | GB   | GH   | Gø  | EE        |
|--------------|------|------|------|-----|-----------|
| 20           | 1.05 | 0.55 | 0.90 | 30° | 10-32 UNF |
| 25           | 1.17 | 0.55 | 0.98 | 30° | 10-32 UNF |
| 32           | 1.43 | 0.51 | 1.12 | 25° | 1/8 NPT   |
| 40           | 1.47 | 0.55 | 1.30 | 20° | 1/8 NPT   |
| 50           | 1.82 | 0.59 | 1.60 | 20° | 1/4 NPT   |
| 63           | 1.82 | 0.59 | 1.87 | 20° | 1/4 NPT   |

LONG STROKE (INCH)

| BORE<br>SIZE | STROKE RANGE | LB   | ZB   |
|--------------|--------------|------|------|
| 20           | 8.01~20      | 3.02 | 3.60 |
| 25           | 12.01~25     | 3.02 | 3.72 |
| 32           | 12.01~40     | 3.09 | 4.05 |
| 40           | 12.01~45     | 3.41 | 4.37 |
| 50           | 12.01~55     | 4.00 | 5.27 |
| 63           | 12.01~55     | 4.00 | 5.27 |

Note: Long Stroke design is a three piece construction: Rod Cover, Head Cover and Tube Body

DIMENSIONS  
 SINGLE CLEVIS TYPE NC(D)GCN\_- AND NC(D)GCA\_-



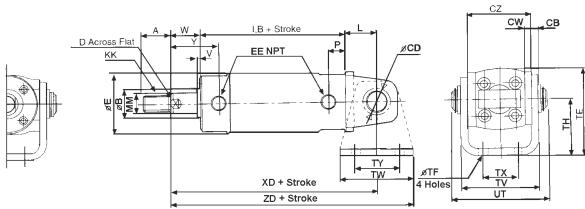
| BORE<br>SIZE | CC   | SINGLE CLEVIS (INCH) |      |      |      |      |      |      |      |
|--------------|------|----------------------|------|------|------|------|------|------|------|
|              |      | CE                   | CH   | CM   | CN   | CT   | CW   | CX   | CZ   |
| 20           | 0.27 | 1.39                 | 0.87 | 0.18 | 0.38 | 0.12 | 1.10 | 1.25 | 1.95 |
| 25           | 0.27 | 1.49                 | 0.87 | 0.18 | 0.38 | 0.12 | 1.10 | 1.25 | 1.95 |
| 32           | 0.27 | 1.63                 | 0.87 | 0.10 | 0.50 | 0.12 | 1.10 | 1.38 | 2.07 |
| 40           | 0.27 | 2.31                 | 1.38 | 0.25 | 0.62 | 0.18 | 1.50 | 1.86 | 2.60 |
| 50           | 0.26 | 2.52                 | 1.38 | 0.25 | 0.75 | 0.25 | 1.50 | 2.12 | 3.00 |
| 63           | 0.26 | 3.17                 | 1.75 | 0.25 | 0.75 | 0.25 | 1.50 | 2.12 | 3.00 |

Note: Single Clevis Bracket must be ordered separately

| BORE<br>SIZE | MAX STD<br>STROKE | A    | øB                                    | øCD   | CN   | D    | øE   | EE  | G    | KK          | LB   | LE   | MM    | P    | V    | W    | Y    | XC   | ZC   |
|--------------|-------------------|------|---------------------------------------|-------|------|------|------|-----|------|-------------|------|------|-------|------|------|------|------|------|------|
| 20           | 8                 | 0.50 | 0.472 <sup>0</sup> <sub>-0.0011</sub> | 0.25  | 0.38 | 0.24 | 1.02 | 1/8 | 0.31 | 1/4-28 UNF  | 2.70 | 0.28 | 0.315 | 0.47 | 0.08 | 0.50 | 0.97 | 3.91 | 3.63 |
| 25           | 12                | 0.50 | 0.551 <sup>0</sup> <sub>-0.0011</sub> | 0.25  | 0.38 | 0.31 | 1.22 | 1/8 | 0.33 | 5/16-24 UNF | 2.70 | 0.28 | 0.394 | 0.47 | 0.08 | 0.62 | 1.09 | 4.00 | 3.72 |
| 32           | 12                | 0.75 | 0.709 <sup>0</sup> <sub>-0.0011</sub> | 0.25  | 0.50 | 0.39 | 1.50 | 1/8 | 0.61 | 7/16-20 UNF | 2.78 | 0.39 | 0.472 | 0.43 | 0.08 | 0.88 | 1.35 | 4.72 | 4.59 |
| 40           | 12                | 0.75 | 0.984 <sup>0</sup> <sub>-0.0013</sub> | 0.375 | 0.62 | 0.55 | 1.85 | 1/8 | 0.39 | 7/16-20 UNF | 3.06 | 0.38 | 0.630 | 0.47 | 0.08 | 0.88 | 1.39 | 4.81 | 4.25 |
| 50           | 12                | 0.88 | 1.181 <sup>0</sup> <sub>-0.0013</sub> | 0.375 | 0.75 | 0.71 | 2.28 | 1/4 | 0.47 | 1/2-20 UNF  | 3.53 | 0.44 | 0.787 | 0.51 | 0.08 | 1.19 | 1.74 | 5.63 | 5.50 |
| 63           | 12                | 0.88 | 1.260 <sup>0</sup> <sub>-0.0015</sub> | 0.375 | 0.75 | 0.71 | 2.83 | 1/4 | 0.47 | 1/2-20 UNF  | 3.53 | 0.44 | 0.787 | 0.51 | 0.08 | 1.19 | 1.74 | 5.63 | 5.50 |

### DIMENSIONS

#### DOUBLE CLEVIS TYPE NC(D)GDN\_- AND NC(D)GDA\_-



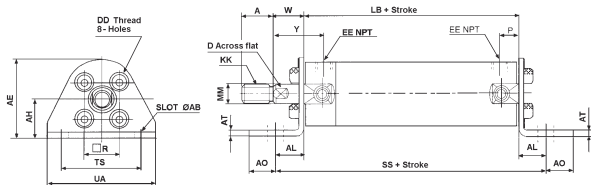
| BORE | DOUBLE CLEVIS (INCH) |      |      |      |      |      |      |      |
|------|----------------------|------|------|------|------|------|------|------|
| SIZE | TY                   | TF   | TV   | TE   | TH   | TX   | TW   | UT   |
| 20   | 1.10                 | 0.22 | 1.39 | 1.50 | 0.98 | 0.63 | 1.66 | 1.71 |
| 25   | 1.10                 | 0.22 | 1.55 | 1.79 | 1.18 | 0.79 | 1.66 | 1.89 |
| 32   | 1.10                 | 0.28 | 1.93 | 2.13 | 1.38 | 0.87 | 1.88 | 2.34 |
| 40   | 1.18                 | 0.28 | 2.28 | 2.50 | 1.57 | 1.18 | 2.20 | 2.81 |
| 50   | 1.42                 | 0.35 | 2.83 | 3.11 | 1.97 | 1.42 | 2.52 | 3.39 |
| 63   | 1.81                 | 0.43 | 3.54 | 3.78 | 2.36 | 1.81 | 2.92 | 4.15 |

| BORE | MAX STD | A    | øB                                    | CB   | øCD  | CW   | CZ   | D    | øE   | EE  | KK          | L    | LB   | MM    | P    | V    | W    | XD   | Y    | ZD   |
|------|---------|------|---------------------------------------|------|------|------|------|------|------|-----|-------------|------|------|-------|------|------|------|------|------|------|
| SIZE | STROKE  |      |                                       |      |      |      |      |      |      |     |             |      |      |       |      |      |      |      |      |      |
| 20   | 8       | 0.50 | 0.472 <sup>0</sup> <sub>-0.0011</sub> | 0.12 | 0.31 | 0.12 | 1.14 | 0.24 | 1.02 | 1/8 | 1/4-28 UNF  | 0.55 | 2.70 | 0.315 | 0.47 | 0.08 | 0.50 | 3.75 | 0.97 | 4.58 |
| 25   | 12      | 0.50 | 0.551 <sup>0</sup> <sub>-0.0011</sub> | 0.12 | 0.39 | 0.12 | 1.30 | 0.31 | 1.22 | 1/8 | 5/16-24 UNF | 0.63 | 2.70 | 0.394 | 0.47 | 0.08 | 0.62 | 3.95 | 1.09 | 4.78 |
| 32   | 12      | 0.75 | 0.709 <sup>0</sup> <sub>-0.0011</sub> | 0.18 | 0.47 | 0.18 | 1.57 | 0.39 | 1.50 | 1/8 | 7/16-20 UNF | 0.79 | 2.78 | 0.472 | 0.43 | 0.08 | 0.88 | 4.45 | 1.35 | 5.39 |
| 40   | 12      | 0.75 | 0.984 <sup>0</sup> <sub>-0.0013</sub> | 0.18 | 0.55 | 0.18 | 1.93 | 0.55 | 1.85 | 1/8 | 7/16-20 UNF | 0.87 | 3.06 | 0.630 | 0.47 | 0.08 | 0.88 | 4.81 | 1.39 | 5.91 |
| 50   | 12      | 0.88 | 1.181 <sup>0</sup> <sub>-0.0013</sub> | 0.24 | 0.63 | 0.24 | 2.36 | 0.71 | 2.28 | 1/4 | 1/2-20 UNF  | 0.98 | 3.53 | 0.787 | 0.51 | 0.08 | 1.19 | 5.70 | 1.74 | 6.96 |
| 63   | 12      | 0.88 | 1.260 <sup>0</sup> <sub>-0.0015</sub> | 0.31 | 0.71 | 0.31 | 2.91 | 0.71 | 2.83 | 1/4 | 1/2-20 UNF  | 1.18 | 3.53 | 0.787 | 0.51 | 0.08 | 1.19 | 5.90 | 1.74 | 7.38 |

Note: Double Clevis Bracket and Double Bracket Pin must be ordered separately

### DIMENSIONS

#### FOOT TYPE NC(D)GLN\_- AND NC(D)GLA\_-



#### LONG STROKE (INCH)

| BORE | STROKE RANGE | LB   | ZB   |
|------|--------------|------|------|
| SIZE |              |      |      |
| 20   | 8.01~20      | 3.02 | 3.60 |
| 25   | 12.01~25     | 3.02 | 3.72 |
| 32   | 12.01~40     | 3.09 | 4.05 |
| 40   | 12.01~45     | 3.41 | 4.37 |
| 50   | 12.01~55     | 4.00 | 5.27 |
| 63   | 12.01~55     | 4.00 | 5.27 |

Note: Long Stroke design is a three piece construction: Rod Cover, Head Cover and Tube Body

| BORE | MAX STD | A    | AB   | AE   | AH   | AL   | AO   | AT   | D    | DD           | EE  | KK          | LB   | MM    | P    | R    | SS   | TS   | UA   | W    | Y    |
|------|---------|------|------|------|------|------|------|------|------|--------------|-----|-------------|------|-------|------|------|------|------|------|------|------|
| SIZE | STROKE  |      |      |      |      |      |      |      |      |              |     |             |      |       |      |      |      |      |      |      |      |
| 20   | 8       | 0.50 | 0.27 | 1.44 | 0.81 | 0.56 | 0.44 | 0.12 | 0.24 | 8-32x0.28    | 1/8 | 1/4-28 UNF  | 2.70 | 0.315 | 0.47 | 0.55 | 3.82 | 1.50 | 1.88 | 0.50 | 0.97 |
| 25   | 12      | 0.50 | 0.27 | 1.52 | 0.81 | 0.56 | 0.44 | 0.12 | 0.31 | 10-32x0.30   | 1/8 | 5/16-24 UNF | 2.70 | 0.394 | 0.47 | 0.65 | 3.82 | 1.50 | 1.88 | 0.62 | 1.09 |
| 32   | 12      | 0.75 | 0.28 | 1.83 | 1.00 | 0.75 | 0.75 | 0.12 | 0.39 | 10-32x0.30   | 1/8 | 7/16-20 UNF | 2.78 | 0.472 | 0.43 | 0.79 | 4.28 | 1.88 | 2.50 | 0.88 | 1.35 |
| 40   | 12      | 0.75 | 0.28 | 2.02 | 1.00 | 0.72 | 0.78 | 0.12 | 0.55 | 1/4-28x0.47  | 1/8 | 7/16-20 UNF | 3.06 | 0.630 | 0.47 | 1.02 | 4.50 | 1.88 | 2.50 | 0.88 | 1.39 |
| 50   | 12      | 0.88 | 0.34 | 2.84 | 1.50 | 1.00 | 0.62 | 0.25 | 0.71 | 5/16-24x0.63 | 1/4 | 1/2-20 UNF  | 3.53 | 0.787 | 0.51 | 1.26 | 5.53 | 2.24 | 3.12 | 1.19 | 1.74 |
| 63   | 12      | 0.88 | 0.34 | 3.29 | 1.75 | 1.00 | 0.62 | 0.25 | 0.71 | 3/8-24x0.63  | 1/4 | 1/2-20 UNF  | 3.53 | 0.787 | 0.51 | 1.50 | 5.53 | 2.88 | 3.75 | 1.19 | 1.74 |