

# Fisher™ 785C Piston Actuators

The 785C is a piston actuator that provides accurate, high thrust output for a wide range of travel applications. This actuator can be single- or double-acting and spring-return or springless with a selection of spring-fail options available.

The 785C family is designed for use with a variety of Fisher sliding-stem control valves. It is available in several configurations to cover a wide range of application requirements. Typical travels range from 25 to 610 mm (1 to 24 inches) and cylinder diameters range from 280 to 685 mm (11 to 27 inches). Thrust capabilities extend to 1600 kN (359,000 lbf) for double-acting springless and 540 kN (121,000 lbf) for spring-return.

The 785C can be used with the FIELDVUE™ DVC6200 digital valve controller for throttling applications, or with switching valves for on/off control. This actuator can also be fitted with volume boosters for fast stroking requirements.



785C DOUBLE-ACTING SPRINGLESS

## Features

- **High Thrust Capability**—Thrusts of up to 1600 kN (359,000 lbf) for double acting springless and 540 kN (121,000 lbf) for spring-return can be produced. Consult your [Emerson sales office](#).
- **Broad Application Coverage**—Standard constructions offer travels of up to 609.5 mm (24 inches) and cylinder diameters of up to 685 mm (27 inches). For travels greater than 610 mm (24 inches) consult your Emerson sales office.
- **Double-Acting Springless Construction**—Pressure on both sides of the piston results in stiff, precise positioning.
- **Single-Acting Spring Return**—Allows for full ANSI/FCI 70-2 CL V shutoff upon loss of air without use of a volume tank.
- **Low Friction**—Low friction piston seals and electroless nickel plated cylinders reduce sliding friction and wear.
- **Wide Temperature Range**—Standard constructions offer a temperature range of -20 to 100°C (-4 to 212°F), however lower and higher temperatures are possible. Low temperature constructions offer ranges of -40 to 100°C (-40 to 212°F) or -60 to 100°C (-76 to 212°F) and high temperature constructions offer ranges of -20°C to 200°C (-4°F to 392°F).
- **Mechanical Fail Mode**—Depending on construction, an internal bias spring will force the piston rod to retract or extend upon a loss of supply pressure.
- **Manual Override**—An optional top-mounted handwheel or side-mounted handpump is capable of extending or retracting the actuator manually.

## Specifications

### Operating Pressure<sup>(1)</sup>

Minimum: 2.7 bar (40 psig)  
Maximum Allowable: 12 bar (174 psig)  
Consult your [Emerson sales office](#) for supply pressures up to 2.7 bar (40 psig)

### Travel<sup>(2)</sup>

25 mm (1 inch) through 610 mm (24 inch)  
See table 1 and 3

### Thrust Capabilities

See table 2, 5, and 6

### Stroking Speeds

Varies with actuator size, spring, travel, and supply pressure. If stroking speed is critical, consult your Emerson sales office.

### Piston Diameter and Area<sup>(2)</sup>

Available diameters range from 280 to 685 mm (11 to 27 inches).  
See table 1 and 3  
For additional sizes, contact your Emerson sales office.

### Operative Temperature Limits<sup>(3)</sup>

Standard: -20 to 100°C (-4 to 212°F)

Low Temperature Options:

-40 to 100°C (-40 to 212°F) or  
-60 to 100°C (-76 to 212°F)

High Temperature Option:

-20 to 200°C (-4 to 392°F)

### Yoke Boss and Valve Stem Diameter

- 127 mm (5 or inch) yoke boss with 25.4 mm (1 inch) stem
- 127 mm (5H inch) yoke boss with 32 mm (1-1/4 inch) stem or
- 178 mm (7 inch) yoke boss with 51 mm (2 inch) stem

### Pressure Connections

Standard: 3/4 NPT  
Optional: 1 and 1-1/4 NPT  
See figure 2 and table 7

### Instrument Mounting

Mounting kits are available for use with FIELDVUE DVC6200 Series digital valve controllers

### Construction Materials<sup>(4)</sup>

| Part                       | Material                        |
|----------------------------|---------------------------------|
| Yoke                       | Carbon Steel                    |
| Piston                     | Carbon Steel                    |
| Cylinder                   | Carbon Steel                    |
| Upper/Lower Heads          | Carbon Steel                    |
| Tie Rod                    | Carbon Steel or Stainless Steel |
| Piston Rod                 | Stainless Steel                 |
| Stem Connector             | Carbon Steel or Stainless Steel |
| Nameplate and Travel Scale | Stainless Steel                 |

### Weights

See table 16, 17, 18, 19, 20, 21, 22, and 23

### Lifting Point Load Ratings

See table 24 and figure 9 and 10

### Options

- Top mounted handwheel
- Side mounted handpump,
- Pneumatic fail mode via Fisher 377 trip valve
- Volume Boosters

### Dimensions

See figure 3 and 6 and table 8, 9, 11, 13, and 15

### Optional Certifications<sup>(5)</sup>

- Pressure Equipment Directive (PED) 2014/68/EU and Machinery Directive 2006/42/EC
- ATEX Group II Category 2 Gas and Dust
- Customs Union Technical Regulations (CUTR) 010/2011 and 012/2011
- Safety Instrumented System, SIL 3 Capable

1. The pressure/temperature limits in this bulletin and any other applicable standard or code should not be exceeded.

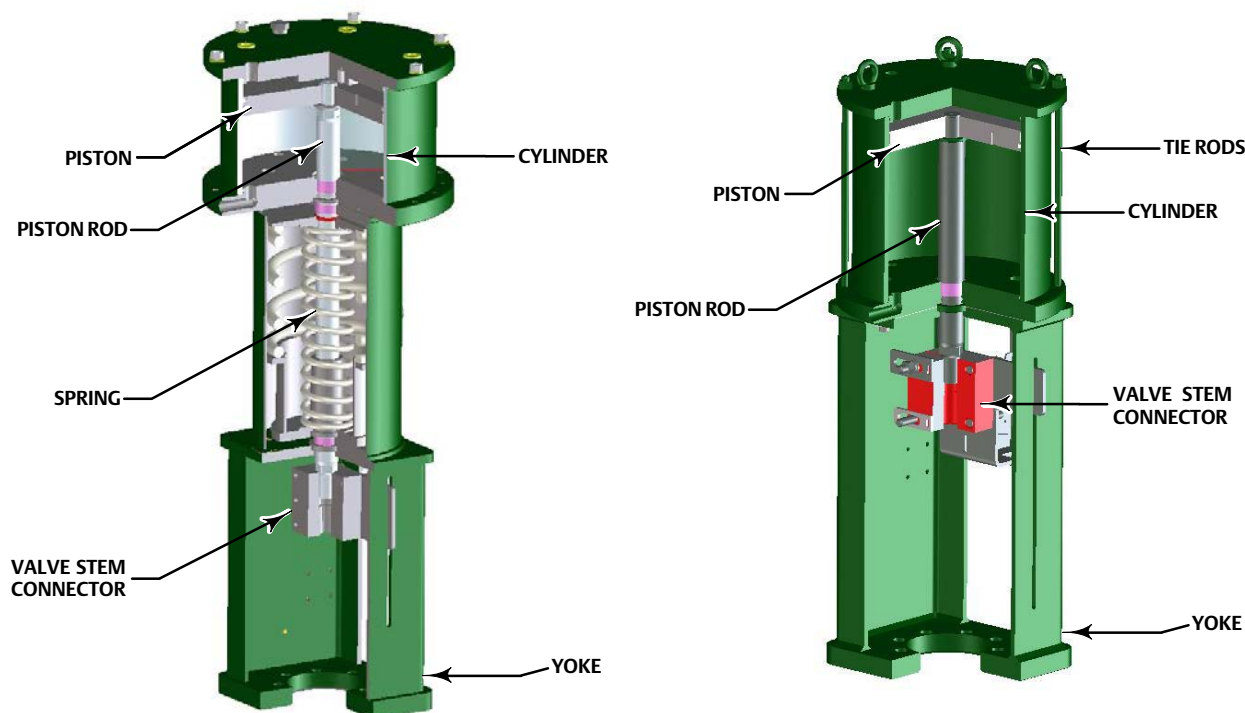
2. Consult your Emerson sales office for longer travels or larger cylinder diameters. The Fisher 585C family of actuators can be used for smaller travels or cylinder diameters.

3. Standard temperature -20 to 100°C (-4 to 212°F) and -40 to 100°C (-40 to 212°F) are PED 2014/68/EU and 2006/42/EC compliant. The low ambient temperature option, -60 to 100°C (-76 to 212°F) is not PED compliant. The high temperature option, if used in conjunction with ATEX, is limited to 135°C (275°F).

4. Full stainless steel constructions are available upon request.

5. Refer to the product nameplates to determine which certifications each actuator construction possesses

Figure 1. Fisher 785C Actuator



## Principle of Operation

785C piston actuators utilize a pneumatically controlled piston that moves inside of a cylinder to generate thrust. A seal contained on the circumference of the piston provides a seal between the piston and the cylinder, preventing supply pressure leakage.

785C single-acting or double-acting spring-return piston actuators utilize a spring below the piston (outside the pressurized chamber) that will drive the piston rod upon a loss of supply pressure. This fail action will result in forcing an attached control valve to either fail-open or fail-closed.

From an equilibrium state, the actuator operates by reacting to a force unbalance that is created by increasing supply pressure on one side of the piston, and decreasing it on the other. This moves the piston up or down, and results in a repositioning of the attached control valve. Travel can be adjusted using travel limits within a valve positioner, which limit the travel range of the actuator. The optional manual

override does not have the ability to act as a hard travel stop.

An optional manual override (top mounted handwheel or side mounted handpump) is capable of extending or retracting the actuator manually and can be engaged at any position from full open to full close. The top-mounted handwheel utilizes an engagement lever that couples the handwheel and piston rod. The handpump has a hydraulic cylinder attached to the piston rod. This enables the handpump to operate the actuator manually unless the handpump is set to bypass position.

## Instrument Selection

An excellent selection of sensitive and accurate instruments are available for 785C piston actuators. These include FIELDVUE DVC6200 digital valve controllers, as well as trip valves and volume boosters.

Integrated mounting interfaces are offered for DVC6200 digital valve controller, Topworx™ DXP Valve Controller, and Topworx 70 Series GO Switch.

## DVC6200 Digital Valve Controller

FIELDVUE DVC6200 digital valve controllers are communicating, microprocessor-based current-to-pneumatic instruments. In addition to the traditional function of converting an electric signal to a pressure signal, DVC6200 digital valve controllers, using HART®, FOUNDATION™ Fieldbus or PROFIBUS communications protocol, give easy access to information critical to process operation.

For additional information, refer to Fisher bulletin 62.1:DVC6200 ([D103415X012](#)), 62.1:DVC6200p ([D103564X012](#)) or 62.1:DVC6200f ([D103399X012](#)), available at Fisher.com or from your [Emerson sales office](#).

## Installation

The actuator may be installed in any orientation, but normal installation is with the actuator vertical above the valve.

If using a manual handpump, the handpump must be installed vertical above the valve.

If the supply source is capable of exceeding the maximum actuator operating pressure or instrument supply pressure, appropriate steps must be taken during installation to protect the instrument and all connected equipment against overpressure.

**Table 1. 785C Double Acting Springless Standard Constructions<sup>(1)</sup>**

| ACTUATOR<br>SIZE                                                                                                                                                                                      | PISTON AREA                |                   |                            |                   | VALVE STEM<br>CONNECTOR SIZE |       | YOKE BOSS<br>DIAMETER |      | AVAILABLE TRAVEL |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------|----------------------------|-------------------|------------------------------|-------|-----------------------|------|------------------|--------|
|                                                                                                                                                                                                       | Without Manual<br>Override |                   | With Manual<br>Override(2) |                   |                              |       |                       |      |                  |        |
|                                                                                                                                                                                                       | cm <sup>2</sup>            | Inch <sup>2</sup> | cm <sup>2</sup>            | Inch <sup>2</sup> | mm                           | Inch  | mm                    | Inch | mm               | Inch   |
| 280                                                                                                                                                                                                   | 616                        | 95                | 616                        | 95                | 25                           | 1     | 127                   | 5    | 25 - 609         | 1 - 24 |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
| 335                                                                                                                                                                                                   | 881                        | 137               | 881                        | 137               | 25                           | 1     | 127                   | 5    |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
| 385                                                                                                                                                                                                   | 1164                       | 180               | 1164                       | 180               | 25                           | 1     | 127                   | 5    |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
| 435                                                                                                                                                                                                   | 1486                       | 230               | 1474                       | 228               | 25                           | 1     | 127                   | 5    |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 51                           | 2     | 178                   | 7    |                  |        |
| 485                                                                                                                                                                                                   | 1847                       | 286               | 1828                       | 283               | 25                           | 1     | 127                   | 5    |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 51                           | 2     | 178                   | 7    |                  |        |
| 535                                                                                                                                                                                                   | 2248                       | 348               | 2228                       | 345               | 25                           | 1     | 127                   | 5    |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 51                           | 2     | 178                   | 7    |                  |        |
| 585                                                                                                                                                                                                   | 2688                       | 417               | 2660                       | 412               | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 51                           | 2     | 178                   | 7    |                  |        |
| 635                                                                                                                                                                                                   | 3167                       | 491               | 3139                       | 487               | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 51                           | 2     | 178                   | 7    |                  |        |
| 685                                                                                                                                                                                                   | 3685                       | 571               | 3657                       | 567               | 32                           | 1 1/4 | 127                   | 5H   |                  |        |
|                                                                                                                                                                                                       |                            |                   |                            |                   | 51                           | 2     | 178                   | 7    |                  |        |
| 1. Consult your <a href="#">Emerson sales office</a> for additional sizes.<br>2. Actuator size 280-385 are available with a top mounted handwheel. Size 435-685 are available with a manual handpump. |                            |                   |                            |                   |                              |       |                       |      |                  |        |

**Table 2. 785C Double-Acting Springless Available Thrust**

| ACTUATOR<br>SIZE                                                                                                        | MAXIMUM ALLOWABLE<br>CYLINDER PRESSURE |      | MAXIMUM ALLOWABLE THRUST |       |                                     |       |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------|--------------------------|-------|-------------------------------------|-------|
|                                                                                                                         |                                        |      | Without Manual Override  |       | With Manual Override <sup>(1)</sup> |       |
|                                                                                                                         | barg                                   | psig | N                        | lb    | N                                   | lb    |
| 280                                                                                                                     | 12                                     | 174  | 73890                    | 16611 | 73890                               | 16611 |
| 335                                                                                                                     |                                        |      | 105769                   | 23778 | 105769                              | 23778 |
| 385                                                                                                                     |                                        |      | 139699                   | 31406 | 139699                              | 31406 |
| 435                                                                                                                     |                                        |      | 178340                   | 40092 | 176832                              | 39753 |
| 485                                                                                                                     |                                        |      | 221694                   | 49839 | 219338                              | 49309 |
| 535                                                                                                                     |                                        |      | 269761                   | 60645 | 267404                              | 60115 |
| 585                                                                                                                     |                                        |      | 322540                   | 72510 | 319146                              | 71747 |
| 635                                                                                                                     |                                        |      | 380030                   | 85434 | 376638                              | 84672 |
| 685                                                                                                                     |                                        |      | 442234                   | 99418 | 438841                              | 98655 |
| 1. Actuator size 280-385 are available with a top mounted handwheel. Size 435-685 are available with a manual handpump. |                                        |      |                          |       |                                     |       |

Table 3. 785C Single-Acting Spring Return Standard Constructions<sup>(1)</sup>

| ACTUATOR<br>SIZE | PISTON AREA             |                   |                 |                   |                                     |                   |                 |                   | VALVE STEM<br>CONNECTOR<br>SIZE |       | YOKE BOSS<br>DIAMETER |      | AVAILABLE TRAVEL |       |
|------------------|-------------------------|-------------------|-----------------|-------------------|-------------------------------------|-------------------|-----------------|-------------------|---------------------------------|-------|-----------------------|------|------------------|-------|
|                  | Without Manual Override |                   |                 |                   | With Manual Override <sup>(2)</sup> |                   |                 |                   |                                 |       |                       |      |                  |       |
|                  | Spring Extends          |                   | Spring Retracts |                   | Spring Extends                      |                   | Spring Retracts |                   | mm                              | Inch  | mm                    | Inch | mm               | Inch  |
|                  | cm <sup>2</sup>         | Inch <sup>2</sup> | cm <sup>2</sup> | Inch <sup>2</sup> | cm <sup>2</sup>                     | Inch <sup>2</sup> | cm <sup>2</sup> | Inch <sup>2</sup> |                                 |       |                       |      |                  |       |
| 335              | 881                     | 137               | 869             | 135               | 881                                 | 137               | 869             | 135               | 25                              | 1     | 127                   | 5    | 25.4 - 203       | 1 - 8 |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
| 385              | 1164                    | 180               | 1152            | 179               | 1164                                | 180               | 1152            | 179               | 25                              | 1     | 127                   | 5    |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
| 435              | 1486                    | 230               | 1474            | 228               | 1474                                | 228               | 1474            | 228               | 25                              | 1     | 127                   | 5    |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |       |
| 485              | 1847                    | 286               | 1835            | 284               | 1828                                | 283               | 1835            | 284               | 25                              | 1     | 127                   | 5    |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |       |
| 535              | 2248                    | 348               | 2235            | 347               | 2228                                | 345               | 2235            | 347               | 25                              | 1     | 127                   | 5    |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |       |
| 585              | 2688                    | 417               | 2660            | 412               | 2660                                | 412               | 2660            | 412               | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |       |
| 635              | 3167                    | 491               | 3139            | 487               | 3139                                | 487               | 3139            | 487               | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |       |
| 685              | 3685                    | 571               | 3657            | 567               | 3657                                | 567               | 3657            | 567               | 32                              | 1 1/4 | 127                   | 5H   |                  |       |
|                  |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |       |

1. Consult your [Emerson sales office](#) for additional sizes.

2. Actuator size 335-385 are available with a top mounted handwheel. Size 435-685 are available with a manual handpump.

1. Consult your [Emerson sales office](#) for additional sizes.

2. Actuator size 335-385 are available with a top mounted handwheel. Size 435-685 are available with a manual handpump.

**Table 4. 785C Double-Acting Spring Return Standard Constructions<sup>(1)</sup>**

| ACTUATOR<br>SIZE                                                                                                                                                                                      | PISTON AREA             |                   |                 |                   |                                     |                   |                 |                   | VALVE STEM<br>CONNECTOR<br>SIZE |       | YOKE BOSS<br>DIAMETER |      | AVAILABLE TRAVEL |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------|-----------------|-------------------|-------------------------------------|-------------------|-----------------|-------------------|---------------------------------|-------|-----------------------|------|------------------|------|
|                                                                                                                                                                                                       | Without Manual Override |                   |                 |                   | With Manual Override <sup>(2)</sup> |                   |                 |                   |                                 |       |                       |      |                  |      |
|                                                                                                                                                                                                       | Rod Extends             |                   | Rod Retracts    |                   | Rod Extends                         |                   | Rod Retracts    |                   |                                 |       |                       |      |                  |      |
|                                                                                                                                                                                                       | cm <sup>2</sup>         | Inch <sup>2</sup> | cm <sup>2</sup> | Inch <sup>2</sup> | cm <sup>2</sup>                     | Inch <sup>2</sup> | cm <sup>2</sup> | Inch <sup>2</sup> | mm                              | Inch  | mm                    | Inch | mm               | Inch |
| 280                                                                                                                                                                                                   | 615.75                  | 95.44             | 603.19          | 93.49             | 615.75                              | 95.44             | 603.19          | 93.49             | 25                              | 1     | 127                   | 5    | 0-102            | 0-4  |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
| 335                                                                                                                                                                                                   | 881.41                  | 136.62            | 868.85          | 134.67            | 881.41                              | 136.62            | 868.85          | 134.67            | 25                              | 1     | 127                   | 5    | 0-203            | 0-8  |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
| 385                                                                                                                                                                                                   | 1164.16                 | 180.45            | 1151.59         | 178.5             | 1164.16                             | 180.45            | 1151.59         | 178.5             | 25                              | 1     | 127                   | 5    | 0-305            | 0-12 |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |      |
| 435                                                                                                                                                                                                   | 1486.17                 | 230.36            | 1473.6          | 228.41            | 1473.6                              | 228.41            | 1473.6          | 228.41            | 25                              | 1     | 127                   | 5    | 0-406            | 0-16 |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |      |
| 485                                                                                                                                                                                                   | 1847.45                 | 286.36            | 1834.89         | 284.41            | 1827.82                             | 283.31            | 1834.89         | 284.41            | 25                              | 1     | 127                   | 5    |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |      |
| 535                                                                                                                                                                                                   | 2248.01                 | 348.44            | 2235.44         | 346.49            | 2228.37                             | 345.4             | 2235.44         | 346.49            | 25                              | 1     | 127                   | 5    |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |      |
| 585                                                                                                                                                                                                   | 2687.83                 | 416.61            | 2659.55         | 412.23            | 2659.55                             | 412.23            | 2659.55         | 412.23            | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |      |
| 635                                                                                                                                                                                                   | 3166.92                 | 490.87            | 3138.65         | 486.49            | 3138.65                             | 486.49            | 3138.65         | 486.49            | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |      |
| 685                                                                                                                                                                                                   | 3685.28                 | 571.22            | 3657.01         | 566.84            | 3657.01                             | 566.84            | 3657.01         | 566.84            | 32                              | 1 1/4 | 127                   | 5H   |                  |      |
|                                                                                                                                                                                                       |                         |                   |                 |                   |                                     |                   |                 |                   | 51                              | 2     | 178                   | 7    |                  |      |
| 1. Consult your <a href="#">Emerson sales office</a> for additional sizes.<br>2. Actuator size 280-385 are available with a top mounted handwheel. Size 435-685 are available with a manual handpump. |                         |                   |                 |                   |                                     |                   |                 |                   |                                 |       |                       |      |                  |      |

**Table 5. Handwheel Specification**

| ACTUATOR SIZE | OUTPUT THRUST |       | HANDWHEEL DIAMETER |      | TURNS PER mm OF TRAVEL | TURNS PER INCH OF TRAVEL | MAXIMUM RIM FORCE REQUIRED |     |
|---------------|---------------|-------|--------------------|------|------------------------|--------------------------|----------------------------|-----|
|               | N             | lbs   | mm                 | Inch |                        |                          | N                          | lbs |
| 280           | 32635         | 7337  | 850                | 33   | 0.2                    | 4.2                      | 437                        | 98  |
| 335           | 46715         | 10502 | 1200               | 47   | 0.2                    | 4.2                      | 435                        | 98  |
| 385           | 61700         | 13871 | 1400               | 55   | 0.2                    | 4.2                      | 489                        | 110 |

**Table 6. Handpump Specification**

| ACTUATOR SIZE | HYDRAULIC CYLINDER |      | OUTPUT THRUST |       |
|---------------|--------------------|------|---------------|-------|
|               | mm                 | Inch | N             | lbf   |
| 435           | 135                | 5.3  | 78726         | 17698 |
| 485           | 175                | 6.9  | 132291        | 29740 |
| 535           | 175                | 6.9  | 132291        | 29740 |
| 585           | 200                | 7.9  | 172788        | 38844 |
| 635           | 200                | 7.9  | 172788        | 38844 |
| 685           | 235                | 9.3  | 238555        | 53629 |

Figure 2. Position of Pressure Connections

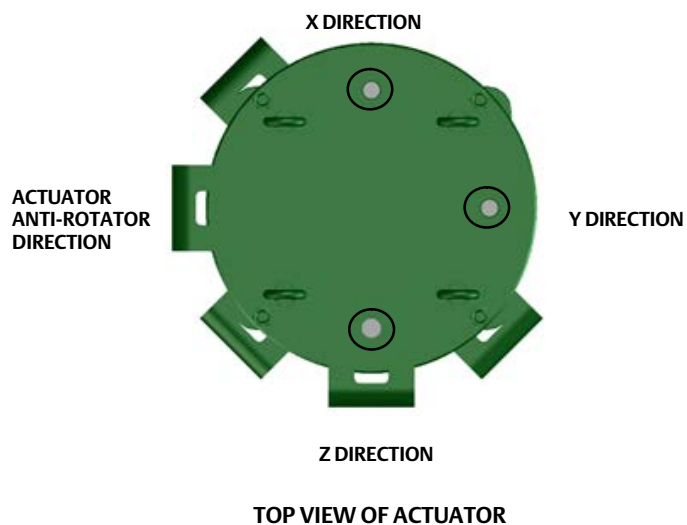


Table 7. Pressure Connections

| Actuator Size | Standard Pressure Connection Size, NPT (Top)/(Bottom) | Optional Pressure Connection Size, NPT (Top)/(Bottom) | Quantity (Top/Bottom) |
|---------------|-------------------------------------------------------|-------------------------------------------------------|-----------------------|
| 280           | (3/4) <sup>(1)</sup> / (3/4)                          | (3/4) <sup>(1)</sup> / (3/4)                          | 3/3                   |
| 335           | (3/4) / (3/4)                                         | (1) / (3/4)                                           |                       |
| 385           | (3/4) / (3/4)                                         | (1 1/4) / (3/4)                                       |                       |
| 435           | (3/4) / (3/4)                                         | (1 1/4) / (3/4)                                       |                       |
| 485 to 685    | (3/4) / (3/4)                                         | (1 1/4) / (1 1/4)                                     |                       |

1. With use of top mounted handwheel, pressure connection size is 1/2 NPT.

Figure 3. Fisher 785C Double-Acting Springless Piston Actuator (see table 8 and 9)

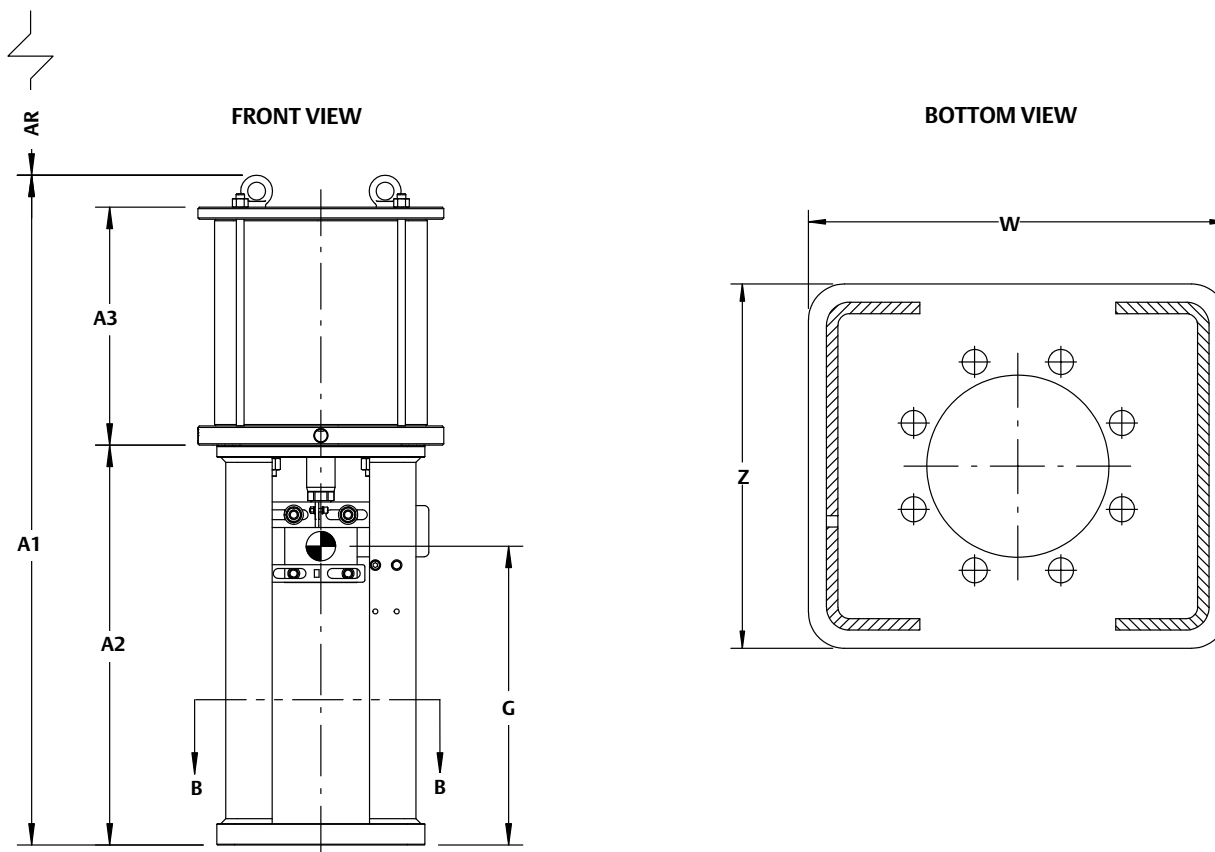


Table 8. 785C Double-Acting Springless Dimensions A1, A3, AR, and G

| ACTUATOR<br>SIZE | YOKE BOSS,<br>Inch | MAXIMUM TRAVEL |      | A1   |      | A3  |      | AR <sup>(1)</sup> |      | G <sup>(2)</sup> |      |
|------------------|--------------------|----------------|------|------|------|-----|------|-------------------|------|------------------|------|
|                  |                    | mm             | Inch | mm   | Inch | mm  | Inch | mm                | Inch | mm               | Inch |
| 280              | 5 or 5H            | 101.6          | 4    | 736  | 29   | 245 | 9.6  | 228.6             | 9    | 368              | 14.5 |
|                  |                    | 203.2          | 8    | 923  | 36.3 | 346 | 13.6 | 203.2             | 8    | 462              | 18.2 |
|                  |                    | 304.8          | 12   | 1165 | 45.9 | 448 | 17.6 | 241.3             | 9.5  | 583              | 22.9 |
|                  |                    | 406.4          | 16   | 1369 | 53.9 | 550 | 21.7 | 241.3             | 9.5  | 685              | 26.9 |
|                  |                    | 508            | 20   | 1571 | 61.9 | 651 | 25.6 | 241.3             | 9.5  | 786              | 30.9 |
|                  |                    | 609.6          | 24   | 1775 | 69.9 | 753 | 29.6 | 241.3             | 9.5  | 888              | 34.9 |
| 335              | 5 or 5H            | 101.6          | 4    | 742  | 29.2 | 248 | 9.8  | 228.6             | 9    | 371              | 14.6 |
|                  |                    | 203.2          | 8    | 929  | 36.6 | 349 | 13.7 | 203.2             | 8    | 465              | 18.3 |
|                  |                    | 304.8          | 12   | 1171 | 46.1 | 451 | 17.8 | 241.3             | 9.5  | 586              | 23.1 |
|                  |                    | 406.4          | 16   | 1375 | 54.1 | 553 | 21.8 | 241.3             | 9.5  | 688              | 27.1 |
|                  |                    | 508            | 20   | 1577 | 62.1 | 654 | 25.7 | 241.3             | 9.5  | 789              | 31   |
|                  |                    | 609.6          | 24   | 1781 | 70.1 | 756 | 29.8 | 241.3             | 9.5  | 891              | 35.1 |
| 385              | 5 or 5H            | 101.6          | 4    | 742  | 29.2 | 248 | 9.8  | 228.6             | 9    | 371              | 14.6 |
|                  |                    | 203.2          | 8    | 929  | 36.6 | 349 | 13.7 | 203.2             | 8    | 465              | 18.3 |
|                  |                    | 304.8          | 12   | 1171 | 46.1 | 451 | 17.8 | 241.3             | 9.5  | 586              | 23.1 |
|                  |                    | 406.4          | 16   | 1375 | 54.1 | 553 | 21.8 | 241.3             | 9.5  | 688              | 27.1 |
|                  |                    | 508            | 20   | 1577 | 62.1 | 654 | 25.7 | 241.3             | 9.5  | 789              | 31   |
|                  |                    | 609.6          | 24   | 1781 | 70.1 | 756 | 29.8 | 241.3             | 9.5  | 891              | 35.1 |

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Table 8. 785C Double-Acting Springless Dimensions A1, A3, AR, and G (cont.)

| ACTUATOR<br>SIZE | YOKE BOSS,<br>Inch | MAXIMUM TRAVEL |      | A1   |      | A3  |      | AR <sup>(1)</sup> |      | G <sup>(2)</sup> |      |
|------------------|--------------------|----------------|------|------|------|-----|------|-------------------|------|------------------|------|
|                  |                    | mm             | Inch | mm   | Inch | mm  | Inch | mm                | Inch | mm               | Inch |
| 435              | 7                  | 101.6          | 4    | 774  | 30.5 | 248 | 9.8  | 254               | 10   | 387              | 15.2 |
|                  |                    | 203.2          | 8    | 1005 | 39.6 | 349 | 13.7 | 279.4             | 11   | 503              | 19.8 |
|                  |                    | 304.8          | 12   | 1171 | 46.1 | 451 | 17.8 | 241.3             | 9.5  | 586              | 23.1 |
|                  |                    | 406.4          | 16   | 1375 | 54.1 | 553 | 21.8 | 241.3             | 9.5  | 688              | 27.1 |
|                  |                    | 508            | 20   | 1577 | 62.1 | 654 | 25.7 | 241.3             | 9.5  | 789              | 31   |
|                  |                    | 609.6          | 24   | 1781 | 70.1 | 756 | 29.8 | 241.3             | 9.5  | 891              | 35.1 |
|                  | 5 or 5H            | 101.6          | 4    | 742  | 29.2 | 248 | 9.8  | 228.6             | 9    | 371              | 14.6 |
|                  |                    | 203.2          | 8    | 929  | 36.6 | 349 | 13.7 | 203.2             | 8    | 465              | 18.3 |
|                  |                    | 304.8          | 12   | 1171 | 46.1 | 451 | 17.8 | 241.3             | 9.5  | 586              | 23.1 |
|                  |                    | 406.4          | 16   | 1375 | 54.1 | 553 | 21.8 | 241.3             | 9.5  | 688              | 27.1 |
|                  |                    | 508            | 20   | 1577 | 62.1 | 654 | 25.7 | 241.3             | 9.5  | 789              | 31   |
|                  |                    | 609.6          | 24   | 1781 | 70.1 | 756 | 29.8 | 241.3             | 9.5  | 891              | 35.1 |
|                  | 7                  | 101.6          | 4    | 774  | 30.5 | 248 | 9.8  | 254               | 10   | 387              | 15.2 |
|                  |                    | 203.2          | 8    | 1005 | 39.6 | 349 | 13.7 | 279.4             | 11   | 503              | 19.8 |
|                  |                    | 304.8          | 12   | 1171 | 46.1 | 451 | 17.8 | 241.3             | 9.5  | 586              | 23.1 |
|                  |                    | 406.4          | 16   | 1375 | 54.1 | 553 | 21.8 | 241.3             | 9.5  | 688              | 27.1 |
|                  |                    | 508            | 20   | 1577 | 62.1 | 654 | 25.7 | 241.3             | 9.5  | 789              | 31   |
|                  |                    | 609.6          | 24   | 1781 | 70.1 | 756 | 29.8 | 241.3             | 9.5  | 891              | 35.1 |
| 485              | 5 or 5H            | 101.6          | 4    | 790  | 31.1 | 276 | 10.9 | 228.6             | 9    | 395              | 15.6 |
|                  |                    | 203.2          | 8    | 977  | 38.5 | 377 | 14.8 | 203.2             | 8    | 489              | 19.2 |
|                  |                    | 304.8          | 12   | 1219 | 48   | 479 | 18.9 | 241.3             | 9.5  | 610              | 24   |
|                  |                    | 406.4          | 16   | 1423 | 56   | 581 | 22.9 | 241.3             | 9.5  | 712              | 28   |
|                  |                    | 508            | 20   | 1625 | 64   | 682 | 26.9 | 241.3             | 9.5  | 813              | 32   |
|                  |                    | 609.6          | 24   | 1829 | 72   | 784 | 30.9 | 241.3             | 9.5  | 915              | 36   |
|                  | 7                  | 101.6          | 4    | 822  | 32.4 | 276 | 10.9 | 254               | 10   | 411              | 16.2 |
|                  |                    | 203.2          | 8    | 1053 | 41.5 | 377 | 14.8 | 279.4             | 11   | 527              | 20.7 |
|                  |                    | 304.8          | 12   | 1219 | 48   | 479 | 18.9 | 241.3             | 9.5  | 610              | 24   |
|                  |                    | 406.4          | 16   | 1423 | 56   | 581 | 22.9 | 241.3             | 9.5  | 712              | 28   |
|                  |                    | 508            | 20   | 1625 | 64   | 682 | 26.9 | 241.3             | 9.5  | 813              | 32   |
|                  |                    | 609.6          | 24   | 1829 | 72   | 784 | 30.9 | 241.3             | 9.5  | 915              | 36   |
| 535              | 5 or 5H            | 101.6          | 4    | 792  | 31.2 | 278 | 10.9 | 228.6             | 9    | 396              | 15.6 |
|                  |                    | 203.2          | 8    | 979  | 38.5 | 379 | 14.9 | 203.2             | 8    | 490              | 19.3 |
|                  |                    | 304.8          | 12   | 1221 | 48.1 | 481 | 18.9 | 241.3             | 9.5  | 611              | 24   |
|                  |                    | 406.4          | 16   | 1425 | 56.1 | 583 | 23   | 241.3             | 9.5  | 713              | 28.1 |
|                  |                    | 508            | 20   | 1627 | 64.1 | 684 | 26.9 | 241.3             | 9.5  | 814              | 32   |
|                  |                    | 609.6          | 24   | 1831 | 72.1 | 786 | 30.9 | 241.3             | 9.5  | 916              | 36   |
|                  | 7                  | 101.6          | 4    | 824  | 32.4 | 278 | 10.9 | 254               | 10   | 412              | 16.2 |
|                  |                    | 203.2          | 8    | 1055 | 41.5 | 379 | 14.9 | 279.4             | 11   | 528              | 20.8 |
|                  |                    | 304.8          | 12   | 1221 | 48.1 | 481 | 18.9 | 241.3             | 9.5  | 611              | 24   |
|                  |                    | 406.4          | 16   | 1425 | 56.1 | 583 | 23   | 241.3             | 9.5  | 713              | 28.1 |
|                  |                    | 508            | 20   | 1627 | 64.1 | 684 | 26.9 | 241.3             | 9.5  | 814              | 32   |
|                  |                    | 609.6          | 24   | 1831 | 72.1 | 786 | 30.9 | 241.3             | 9.5  | 916              | 36   |
| 585              | 5H                 | 101.6          | 4    | 833  | 32.8 | 296 | 11.7 | 228.6             | 9    | 417              | 16.4 |
|                  |                    | 203.2          | 8    | 1020 | 40.2 | 397 | 15.6 | 203.2             | 8    | 510              | 20.1 |
|                  |                    | 304.8          | 12   | 1262 | 49.7 | 499 | 19.6 | 241.3             | 9.5  | 631              | 24.8 |
|                  |                    | 406.4          | 16   | 1466 | 57.7 | 601 | 23.7 | 241.3             | 9.5  | 733              | 28.9 |
|                  |                    | 508            | 20   | 1668 | 65.7 | 702 | 27.6 | 241.3             | 9.5  | 834              | 32.8 |
|                  |                    | 609.6          | 24   | 1872 | 73.7 | 804 | 31.7 | 241.3             | 9.5  | 936              | 36.9 |
|                  | 7                  | 101.6          | 4    | 862  | 33.9 | 296 | 11.7 | 254               | 10   | 431              | 17   |
|                  |                    | 203.2          | 8    | 1093 | 43   | 397 | 15.6 | 279.4             | 11   | 547              | 21.5 |
|                  |                    | 304.8          | 12   | 1259 | 49.6 | 499 | 19.6 | 241.3             | 9.5  | 630              | 24.8 |
|                  |                    | 406.4          | 16   | 1462 | 57.6 | 601 | 23.7 | 241.3             | 9.5  | 731              | 28.8 |
|                  |                    | 508            | 20   | 1665 | 65.6 | 702 | 27.6 | 241.3             | 9.5  | 833              | 32.8 |
|                  |                    | 609.6          | 24   | 1869 | 73.6 | 804 | 31.7 | 241.3             | 9.5  | 935              | 36.8 |

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**Table 8. 785C Double-Acting Springless Dimensions A1, A3, AR, and G (cont.)**

| ACTUATOR SIZE | YOKE BOSS, Inch | MAXIMUM TRAVEL |      | A1   |      | A3  |      | AR <sup>(1)</sup> |      | G <sup>(2)</sup> |      |
|---------------|-----------------|----------------|------|------|------|-----|------|-------------------|------|------------------|------|
|               |                 | mm             | Inch | mm   | Inch | mm  | Inch | mm                | Inch | mm               | Inch |
| 635           | 5H              | 101.6          | 4    | 833  | 32.8 | 296 | 11.7 | 228.6             | 9    | 417              | 16.4 |
|               |                 | 203.2          | 8    | 1020 | 40.2 | 397 | 15.6 | 203.2             | 8    | 510              | 20.1 |
|               |                 | 304.8          | 12   | 1262 | 49.7 | 499 | 19.6 | 241.3             | 9.5  | 631              | 24.8 |
|               |                 | 406.4          | 16   | 1466 | 57.7 | 601 | 23.7 | 241.3             | 9.5  | 733              | 28.9 |
|               |                 | 508            | 20   | 1668 | 65.7 | 702 | 27.6 | 241.3             | 9.5  | 834              | 32.8 |
|               |                 | 609.6          | 24   | 1872 | 73.7 | 804 | 31.7 | 241.3             | 9.5  | 936              | 36.9 |
|               | 7               | 101.6          | 4    | 862  | 33.9 | 296 | 11.7 | 254               | 10   | 431              | 17   |
|               |                 | 203.2          | 8    | 1093 | 43   | 397 | 15.6 | 279.4             | 11   | 547              | 21.5 |
|               |                 | 304.8          | 12   | 1259 | 49.6 | 499 | 19.6 | 241.3             | 9.5  | 630              | 24.8 |
|               |                 | 406.4          | 16   | 1462 | 57.6 | 601 | 23.7 | 241.3             | 9.5  | 731              | 28.8 |
|               |                 | 508            | 20   | 1665 | 65.6 | 702 | 27.6 | 241.3             | 9.5  | 833              | 32.8 |
|               |                 | 609.6          | 24   | 1869 | 73.6 | 804 | 31.7 | 241.3             | 9.5  | 935              | 36.8 |
| 685           | 5H              | 101.6          | 4    | 843  | 33.2 | 306 | 12   | 228.6             | 9    | 422              | 16.6 |
|               |                 | 203.2          | 8    | 1030 | 40.6 | 407 | 16   | 203.2             | 8    | 515              | 20.3 |
|               |                 | 304.8          | 12   | 1272 | 50.1 | 509 | 20   | 241.3             | 9.5  | 636              | 25   |
|               |                 | 406.4          | 16   | 1476 | 58.1 | 611 | 24.1 | 241.3             | 9.5  | 738              | 29.1 |
|               |                 | 508            | 20   | 1678 | 66.1 | 712 | 28   | 241.3             | 9.5  | 839              | 33   |
|               |                 | 609.6          | 24   | 1882 | 74.1 | 814 | 32   | 241.3             | 9.5  | 941              | 37   |
|               | 7               | 101.6          | 4    | 872  | 34.3 | 306 | 12   | 254               | 10   | 436              | 17.2 |
|               |                 | 203.2          | 8    | 1103 | 43.3 | 407 | 16   | 279.4             | 11   | 552              | 21.7 |
|               |                 | 304.8          | 12   | 1269 | 50   | 509 | 20   | 241.3             | 9.5  | 635              | 25   |
|               |                 | 406.4          | 16   | 1472 | 58   | 611 | 24.1 | 241.3             | 9.5  | 736              | 29   |
|               |                 | 508            | 20   | 1675 | 65.9 | 712 | 28   | 241.3             | 9.5  | 838              | 33   |
|               |                 | 609.6          | 24   | 1879 | 74   | 814 | 32   | 241.3             | 9.5  | 940              | 37   |

1. Actuator Removal Clearance  
2. Center of Gravity

**Table 9. 785C Double-Acting Springless Dimension Z and W**

| ACTUATOR<br>SIZE | WITHOUT MANUAL OVERRIDE    |      |     |      | WITH MANUAL OVERRIDE       |      |     |      |
|------------------|----------------------------|------|-----|------|----------------------------|------|-----|------|
|                  | Z                          |      | W   |      | Z                          |      | W   |      |
|                  | 5, 5H, or 7 Inch Yoke Boss |      |     |      | 5, 5H, or 7 Inch Yoke Boss |      |     |      |
|                  | mm                         | Inch | mm  | Inch | mm                         | Inch | mm  | Inch |
| 280              | 254                        | 10   | 292 | 11.5 | 254                        | 10   | 292 | 11.5 |
| 335              | 254                        | 10   | 292 | 11.5 | 254                        | 10   | 292 | 11.5 |
| 385              | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 435              | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 485              | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 535              | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 585              | 487                        | 19.2 | 436 | 17.2 | 487                        | 19.2 | 436 | 17.2 |
| 635              | 487                        | 19.2 | 436 | 17.2 | 487                        | 19.2 | 436 | 17.2 |
| 685              | 487                        | 19.2 | 436 | 17.2 | 487                        | 19.2 | 436 | 17.2 |

Figure 4. Fisher 785C Double-Acting Springless Piston Actuator with Manual Hand Wheel (MHW) (see table 9)

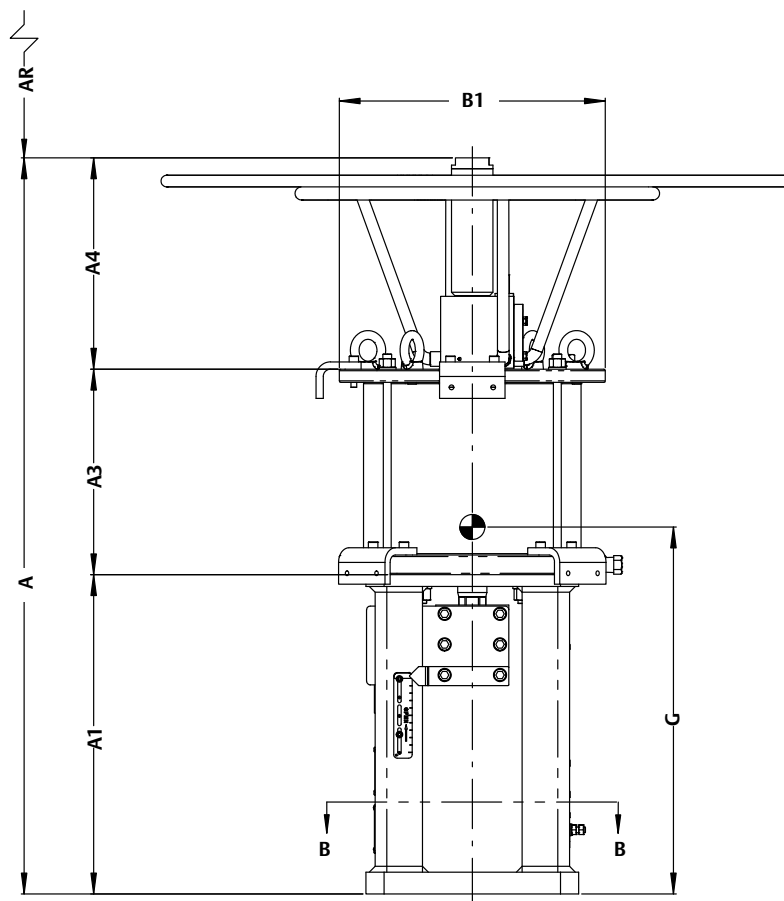
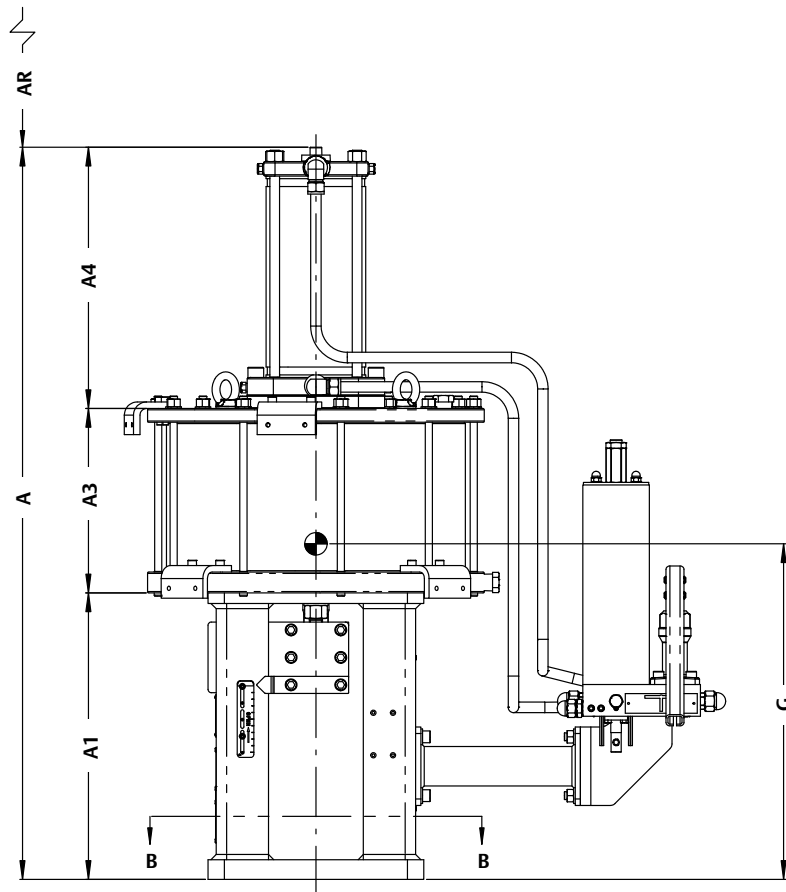


Figure 5. Fisher 785C Double-Acting Springless Piston Actuator with Manual Hand Pump (MHP) (see table 9)



**Table 10. 785C Double-Acting Springless with Manual Override**  
Dimensions A, A1, A3, A4, AR, and G

| ACTUATOR<br>SIZE | YOKE<br>BOSS,<br>Inch | MANUAL<br>OVERRIDE | MAXIMUM TRAVEL |       | A    |      | A1   |      | A3   |      |      |
|------------------|-----------------------|--------------------|----------------|-------|------|------|------|------|------|------|------|
|                  |                       |                    | mm             | Inch  | mm   | Inch | mm   | Inch | mm   | Inch |      |
| 280              | 5 or 5H               | MHW                | 101.6          | 4     | 816  | 32.1 | 438  | 17.2 | 282  | 11.1 |      |
|                  |                       |                    | 203.2          | 8     | 1012 | 39.8 | 524  | 20.6 | 383  | 15.1 |      |
|                  |                       |                    | 304.8          | 12    | 1264 | 49.7 | 664  | 26.1 | 485  | 19.1 |      |
|                  |                       |                    | 406.4          | 16    | 1477 | 58.1 | 766  | 30.2 | 587  | 23.1 |      |
|                  |                       |                    | 508            | 20    | 1688 | 66.5 | 867  | 34.1 | 688  | 27.1 |      |
|                  |                       |                    | 609.6          | 24    | 1902 | 74.9 | 969  | 38.1 | 790  | 31.1 |      |
| 335              | 5 or 5H               |                    | 101.6          | 4     | 852  | 33.5 | 438  | 17.2 | 285  | 11.2 |      |
|                  |                       |                    | 203.2          | 8     | 1051 | 41.4 | 524  | 20.6 | 386  | 15.2 |      |
|                  |                       |                    | 304.8          | 12    | 1307 | 51.4 | 664  | 26.1 | 488  | 19.2 |      |
|                  |                       |                    | 406.4          | 16    | 1524 | 60.0 | 766  | 30.2 | 590  | 23.2 |      |
|                  |                       |                    | 508            | 20    | 1740 | 68.5 | 867  | 34.1 | 691  | 27.2 |      |
|                  |                       |                    | 609.6          | 24    | 1958 | 77.1 | 969  | 38.1 | 793  | 31.2 |      |
| 385              | 5 or 5H               |                    | 101.6          | 4     | 883  | 34.7 | 438  | 17.2 | 285  | 11.2 |      |
|                  |                       |                    | 203.2          | 8     | 1083 | 42.6 | 524  | 20.6 | 386  | 15.2 |      |
|                  |                       |                    | 304.8          | 12    | 1338 | 52.7 | 664  | 26.1 | 488  | 19.2 |      |
|                  |                       |                    | 406.4          | 16    | 1555 | 61.2 | 766  | 30.2 | 590  | 23.2 |      |
|                  |                       |                    | 508            | 20    | 1770 | 69.7 | 867  | 34.1 | 691  | 27.2 |      |
|                  |                       |                    | 609.6          | 24    | 1987 | 78.2 | 969  | 38.1 | 793  | 31.2 |      |
|                  | 7                     |                    | 101.6          | 4     | 915  | 36.0 | 470  | 18.5 | 285  | 11.2 |      |
|                  |                       |                    | 203.2          | 8     | 1159 | 45.6 | 600  | 23.6 | 386  | 15.2 |      |
|                  |                       |                    | 304.8          | 12    | 1338 | 52.7 | 664  | 26.1 | 488  | 19.2 |      |
|                  |                       |                    | 406.4          | 16    | 1555 | 61.2 | 766  | 30.2 | 590  | 23.2 |      |
|                  |                       |                    | 508            | 20    | 1770 | 69.7 | 867  | 34.1 | 691  | 27.2 |      |
|                  |                       |                    | 609.6          | 24    | 1987 | 78.2 | 969  | 38.1 | 793  | 31.2 |      |
| 435              | 5 or 5H               | MHP                | 101.6          | 4     | 965  | 38.0 | 438  | 17.2 | 282  | 11.1 |      |
|                  |                       |                    | 203.2          | 8     | 1170 | 46.1 | 524  | 20.6 | 383  | 15.1 |      |
|                  |                       |                    | 304.8          | 12    | 1430 | 56.3 | 715  | 26.1 | 485  | 19.1 |      |
|                  |                       |                    | 406.4          | 16    | 1652 | 65.0 | 826  | 30.2 | 587  | 23.1 |      |
|                  |                       |                    | 508            | 20    | 1872 | 73.7 | 936  | 34.1 | 688  | 27.1 |      |
|                  |                       |                    | 609.6          | 24    | 2094 | 82.4 | 1047 | 38.1 | 790  | 31.1 |      |
|                  | 7                     |                    | 101.6          | 4     | 997  | 38.0 | 470  | 17.2 | 282  | 11.1 |      |
|                  |                       |                    | 203.2          | 8     | 1246 | 46.1 | 600  | 20.6 | 383  | 15.1 |      |
|                  |                       |                    | 304.8          | 12    | 1430 | 56.3 | 664  | 26.1 | 485  | 19.1 |      |
|                  |                       |                    | 406.4          | 16    | 1652 | 65.0 | 715  | 30.2 | 587  | 23.1 |      |
|                  |                       |                    | 508            | 20    | 1872 | 73.7 | 826  | 34.1 | 688  | 27.1 |      |
|                  |                       |                    | 609.6          | 24    | 2094 | 82.4 | 936  | 38.1 | 790  | 31.1 |      |
| 485              | 5 or 5H               |                    | MHP            | 101.6 | 4    | 1108 | 43.6 | 438  | 17.2 | 313  | 12.3 |
|                  |                       |                    |                | 203.2 | 8    | 1317 | 51.9 | 524  | 20.6 | 414  | 16.3 |
|                  |                       |                    |                | 304.8 | 12   | 1581 | 62.2 | 664  | 26.1 | 516  | 20.3 |
|                  |                       |                    |                | 406.4 | 16   | 1807 | 71.1 | 766  | 30.2 | 618  | 24.3 |
|                  |                       |                    |                | 508   | 20   | 2031 | 80.0 | 867  | 34.1 | 719  | 28.3 |
|                  |                       |                    |                | 609.6 | 24   | 2257 | 88.9 | 969  | 38.1 | 821  | 32.3 |
|                  | 7                     | 101.6              |                | 4     | 1140 | 44.9 | 470  | 18.5 | 313  | 12.3 |      |
|                  |                       | 203.2              |                | 8     | 1393 | 54.8 | 600  | 23.6 | 414  | 16.3 |      |
|                  |                       | 304.8              |                | 12    | 1581 | 62.2 | 664  | 26.1 | 516  | 20.3 |      |
|                  |                       | 406.4              |                | 16    | 1807 | 71.1 | 766  | 30.2 | 618  | 24.3 |      |
|                  |                       | 508                |                | 20    | 2031 | 80.0 | 867  | 34.1 | 719  | 28.3 |      |
|                  |                       | 609.6              |                | 24    | 2257 | 88.9 | 969  | 38.1 | 821  | 32.3 |      |

-continued-

Table 10. 785C Double-Acting Springless with Manual Override  
Dimensions A, A1, A3, A4, AR, and G (cont.)

| ACTUATOR<br>SIZE | YOKE<br>BOSS,<br>Inch | MANUAL<br>OVERRIDE | MAXIMUM TRAVEL |      | A    |       | A1   |      | A3  |      |
|------------------|-----------------------|--------------------|----------------|------|------|-------|------|------|-----|------|
|                  |                       |                    | mm             | Inch | mm   | Inch  | mm   | Inch | mm  | Inch |
| 535              | 5 or 5H               | MHP                | 101.6          | 4    | 1166 | 45.9  | 438  | 17.2 | 317 | 12.5 |
|                  |                       |                    | 203.2          | 8    | 1377 | 54.2  | 524  | 20.6 | 418 | 16.5 |
|                  |                       |                    | 304.8          | 12   | 1644 | 64.7  | 664  | 26.1 | 520 | 20.5 |
|                  |                       |                    | 406.4          | 16   | 1872 | 73.7  | 766  | 30.2 | 622 | 24.5 |
|                  |                       |                    | 508            | 20   | 2098 | 82.6  | 867  | 34.1 | 723 | 28.5 |
|                  | 7                     |                    | 609.6          | 24   | 2327 | 91.6  | 969  | 38.1 | 825 | 32.5 |
|                  |                       |                    | 101.6          | 4    | 1198 | 47.2  | 470  | 18.5 | 317 | 12.5 |
|                  |                       |                    | 203.2          | 8    | 1453 | 57.2  | 600  | 23.6 | 418 | 16.5 |
|                  |                       |                    | 304.8          | 12   | 1644 | 64.7  | 664  | 26.1 | 520 | 20.5 |
|                  |                       |                    | 406.4          | 16   | 1872 | 73.7  | 766  | 30.2 | 622 | 24.5 |
|                  |                       |                    | 508            | 20   | 2098 | 82.6  | 867  | 34.1 | 723 | 28.5 |
| 609.6            | 24                    | 2327               | 91.6           | 969  | 38.1 | 825   | 32.5 |      |     |      |
| 585              | 5H                    | MHP                | 101.6          | 4    | 1311 | 51.6  | 461  | 18.1 | 348 | 13.7 |
|                  |                       |                    | 203.2          | 8    | 1527 | 60.1  | 547  | 21.5 | 449 | 17.7 |
|                  |                       |                    | 304.8          | 12   | 1798 | 70.8  | 687  | 27.0 | 551 | 21.7 |
|                  |                       |                    | 406.4          | 16   | 2031 | 80.0  | 789  | 31.1 | 653 | 25.7 |
|                  |                       |                    | 508            | 20   | 2262 | 89.1  | 890  | 35.0 | 754 | 29.7 |
|                  | 7                     |                    | 609.6          | 24   | 2495 | 98.2  | 992  | 39.1 | 856 | 33.7 |
|                  |                       |                    | 101.6          | 4    | 1340 | 52.8  | 490  | 19.3 | 348 | 13.7 |
|                  |                       |                    | 203.2          | 8    | 1600 | 63.0  | 620  | 24.4 | 449 | 17.7 |
|                  |                       |                    | 304.8          | 12   | 1795 | 70.7  | 684  | 26.9 | 551 | 21.7 |
|                  |                       |                    | 406.4          | 16   | 2027 | 79.8  | 785  | 30.9 | 653 | 25.7 |
|                  |                       |                    | 508            | 20   | 2259 | 88.9  | 887  | 34.9 | 754 | 29.7 |
| 609.6            | 24                    | 2492               | 98.1           | 989  | 38.9 | 856   | 33.7 |      |     |      |
| 635              | 5H                    | MHP                | 101.6          | 4    | 1389 | 54.7  | 461  | 18.1 | 349 | 13.7 |
|                  |                       |                    | 203.2          | 8    | 1611 | 63.4  | 547  | 21.5 | 450 | 17.7 |
|                  |                       |                    | 304.8          | 12   | 1888 | 74.3  | 687  | 27.0 | 552 | 21.7 |
|                  |                       |                    | 406.4          | 16   | 2128 | 83.8  | 789  | 31.1 | 654 | 25.7 |
|                  |                       |                    | 508            | 20   | 2365 | 93.1  | 890  | 35.0 | 755 | 29.7 |
|                  | 7                     |                    | 609.6          | 24   | 2604 | 102.5 | 992  | 39.1 | 857 | 33.7 |
|                  |                       |                    | 101.6          | 4    | 1418 | 55.8  | 490  | 19.3 | 349 | 13.7 |
|                  |                       |                    | 203.2          | 8    | 1684 | 66.3  | 842  | 24.4 | 450 | 17.7 |
|                  |                       |                    | 304.8          | 12   | 1885 | 74.2  | 943  | 26.9 | 552 | 21.7 |
|                  |                       |                    | 406.4          | 16   | 2124 | 83.6  | 1062 | 30.9 | 654 | 25.7 |
|                  |                       |                    | 508            | 20   | 2362 | 93.0  | 1181 | 34.9 | 755 | 29.7 |
| 609.6            | 24                    | 2601               | 102.4          | 1300 | 38.9 | 857   | 33.7 |      |     |      |
| 685              | 5H                    | MHP                | 101.6          | 4    | 1564 | 61.6  | 461  | 18.1 | 373 | 14.7 |
|                  |                       |                    | 203.2          | 8    | 1789 | 70.4  | 547  | 21.5 | 474 | 18.7 |
|                  |                       |                    | 304.8          | 12   | 2069 | 81.4  | 687  | 27.0 | 576 | 22.7 |
|                  |                       |                    | 406.4          | 16   | 2311 | 91.0  | 789  | 31.1 | 678 | 26.7 |
|                  |                       |                    | 508            | 20   | 2550 | 100.4 | 890  | 35.0 | 779 | 30.7 |
|                  | 7                     |                    | 609.6          | 24   | 2792 | 109.9 | 992  | 39.1 | 881 | 34.7 |
|                  |                       |                    | 101.6          | 4    | 1593 | 62.7  | 490  | 19.3 | 373 | 14.7 |
|                  |                       |                    | 203.2          | 8    | 1862 | 73.3  | 620  | 24.4 | 474 | 18.7 |
|                  |                       |                    | 304.8          | 12   | 2066 | 81.3  | 684  | 26.9 | 576 | 22.7 |
|                  |                       |                    | 406.4          | 16   | 2307 | 90.8  | 785  | 30.9 | 678 | 26.7 |
|                  |                       |                    | 508            | 20   | 2547 | 100.3 | 887  | 34.9 | 779 | 30.7 |
| 609.6            | 24                    | 2789               | 109.8          | 989  | 38.9 | 881   | 34.7 |      |     |      |

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Table 10. 785C Double-Acting Springless with Manual Override  
Dimensions A, A1, A3, A4, AR, and G (cont.)

| ACTUATOR<br>SIZE | YOKE<br>BOSS,<br>Inch | MANUAL<br>OVERRIDE | MAXIMUM TRAVEL |      | A4   |       | AR(1) |      | G(2) |      |
|------------------|-----------------------|--------------------|----------------|------|------|-------|-------|------|------|------|
|                  |                       |                    | mm             | Inch | mm   | Inch  | mm    | Inch | mm   | Inch |
| 280              | 5 or 5H               | MHW                | 101.6          | 4    | 95.7 | 3.8   | 228.6 | 9    | 408  | 16.1 |
|                  |                       |                    | 203.2          | 8    | 105  | 4.1   | 203.2 | 8    | 506  | 19.9 |
|                  |                       |                    | 304.8          | 12   | 115  | 4.5   | 241.3 | 9.5  | 632  | 24.9 |
|                  |                       |                    | 406.4          | 16   | 124  | 4.9   | 241.3 | 9.5  | 738  | 29.1 |
|                  |                       |                    | 508            | 20   | 133  | 5.2   | 241.3 | 9.5  | 844  | 33.2 |
|                  |                       |                    | 609.6          | 24   | 143  | 5.6   | 241.3 | 9.5  | 951  | 37.4 |
| 335              | 5 or 5H               |                    | 101.6          | 4    | 129  | 5.1   | 228.6 | 9    | 426  | 16.8 |
|                  |                       |                    | 203.2          | 8    | 141  | 5.5   | 203.2 | 8    | 525  | 20.7 |
|                  |                       |                    | 304.8          | 12   | 155  | 6.1   | 241.3 | 9.5  | 653  | 25.7 |
|                  |                       |                    | 406.4          | 16   | 168  | 6.6   | 241.3 | 9.5  | 762  | 30.0 |
|                  |                       |                    | 508            | 20   | 182  | 7.2   | 241.3 | 9.5  | 870  | 34.3 |
|                  |                       |                    | 609.6          | 24   | 196  | 7.7   | 241.3 | 9.5  | 979  | 38.5 |
| 385              | 5 or 5H               |                    | 101.6          | 4    | 160  | 6.3   | 228.6 | 9    | 441  | 17.4 |
|                  |                       |                    | 203.2          | 8    | 173  | 6.8   | 203.2 | 8    | 541  | 21.3 |
|                  |                       |                    | 304.8          | 12   | 186  | 7.3   | 241.3 | 9.5  | 669  | 26.3 |
|                  |                       |                    | 406.4          | 16   | 199  | 7.8   | 241.3 | 9.5  | 777  | 30.6 |
|                  |                       |                    | 508            | 20   | 212  | 8.3   | 241.3 | 9.5  | 885  | 34.8 |
|                  |                       |                    | 609.6          | 24   | 225  | 8.9   | 241.3 | 9.5  | 994  | 39.1 |
|                  | 7                     |                    | 101.6          | 4    | 160  | 6.3   | 254   | 10   | 457  | 18.0 |
|                  |                       |                    | 203.2          | 8    | 173  | 6.8   | 279.4 | 11   | 579  | 22.8 |
|                  |                       |                    | 304.8          | 12   | 186  | 7.3   | 241.3 | 9.5  | 669  | 26.3 |
|                  |                       |                    | 406.4          | 16   | 199  | 7.8   | 241.3 | 9.5  | 777  | 30.6 |
|                  |                       |                    | 508            | 20   | 212  | 8.3   | 241.3 | 9.5  | 885  | 34.8 |
|                  |                       |                    | 609.6          | 24   | 225  | 8.9   | 241.3 | 9.5  | 994  | 39.1 |
| 435              | 5 or 5H               | 101.6              | 4              | 245  | 9.7  | 228.6 | 9     | 483  | 19.0 |      |
|                  |                       | 203.2              | 8              | 263  | 10.4 | 203.2 | 8     | 585  | 23.0 |      |
|                  |                       | 304.8              | 12             | 281  | 11.1 | 241.3 | 9.5   | 715  | 28.2 |      |
|                  |                       | 406.4              | 16             | 299  | 11.8 | 241.3 | 9.5   | 826  | 32.5 |      |
|                  |                       | 508                | 20             | 317  | 12.5 | 241.3 | 9.5   | 936  | 36.9 |      |
|                  |                       | 609.6              | 24             | 335  | 13.2 | 241.3 | 9.5   | 1047 | 41.2 |      |
|                  | 7                     | 101.6              | 4              | 245  | 9.7  | 254   | 10    | 499  | 19.0 |      |
|                  |                       | 203.2              | 8              | 263  | 10.4 | 279.4 | 11    | 623  | 23.0 |      |
|                  |                       | 304.8              | 12             | 281  | 11.1 | 241.3 | 9.5   | 715  | 28.2 |      |
|                  |                       | 406.4              | 16             | 299  | 11.8 | 241.3 | 9.5   | 826  | 32.5 |      |
|                  |                       | 508                | 20             | 317  | 12.5 | 241.3 | 9.5   | 936  | 36.9 |      |
|                  |                       | 609.6              | 24             | 335  | 13.2 | 241.3 | 9.5   | 1047 | 41.2 |      |
| 485              | 5 or 5H               | 101.6              | 4              | 357  | 14.1 | 228.6 | 9     | 554  | 21.8 |      |
|                  |                       | 203.2              | 8              | 379  | 14.9 | 203.2 | 8     | 659  | 25.9 |      |
|                  |                       | 304.8              | 12             | 401  | 15.8 | 241.3 | 9.5   | 791  | 31.1 |      |
|                  |                       | 406.4              | 16             | 423  | 16.7 | 241.3 | 9.5   | 904  | 35.6 |      |
|                  |                       | 508                | 20             | 445  | 17.5 | 241.3 | 9.5   | 1016 | 40.0 |      |
|                  |                       | 609.6              | 24             | 467  | 18.4 | 241.3 | 9.5   | 1129 | 44.4 |      |
|                  | 7                     | 101.6              | 4              | 357  | 14.1 | 254   | 10    | 570  | 22.4 |      |
|                  |                       | 203.2              | 8              | 379  | 14.9 | 279.4 | 11    | 697  | 27.4 |      |
|                  |                       | 304.8              | 12             | 401  | 15.8 | 241.3 | 9.5   | 791  | 31.1 |      |
|                  |                       | 406.4              | 16             | 423  | 16.7 | 241.3 | 9.5   | 904  | 35.6 |      |
|                  |                       | 508                | 20             | 445  | 17.5 | 241.3 | 9.5   | 1016 | 40.0 |      |
|                  |                       | 609.6              | 24             | 467  | 18.4 | 241.3 | 9.5   | 1129 | 44.4 |      |

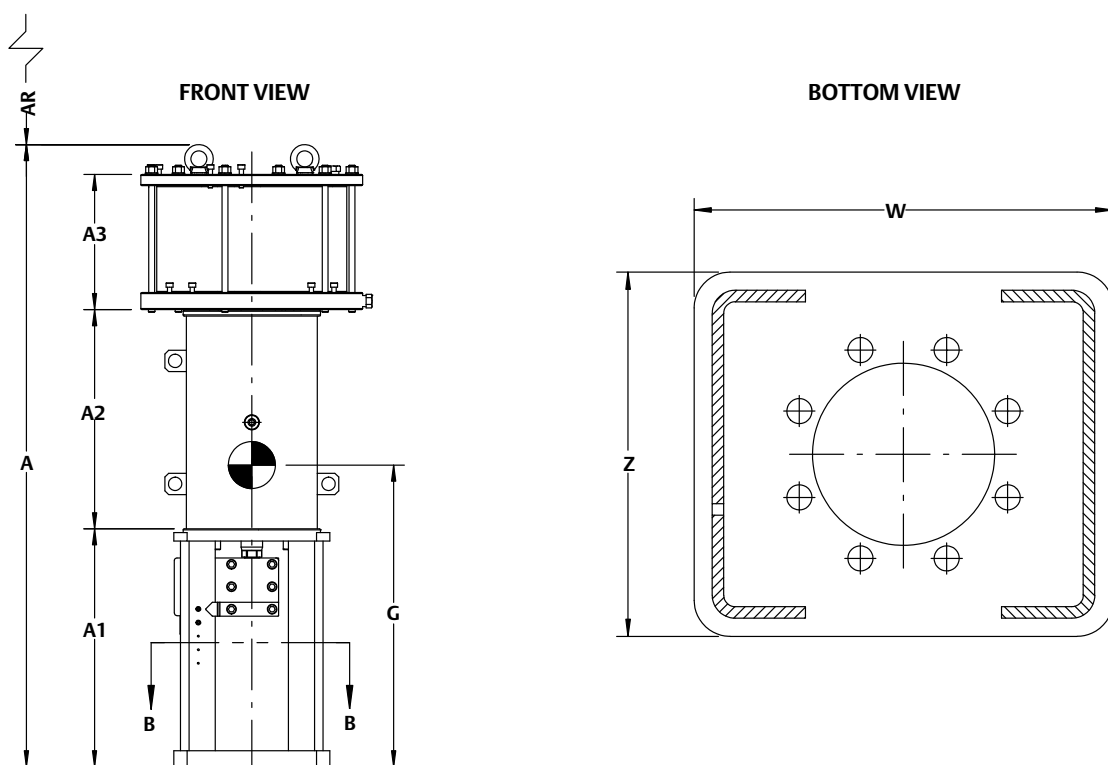
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**Table 10. 785C Double-Acting Springless with Manual Override**  
Dimensions A, A1, A3, A4, AR, and G (cont.)

| ACTUATOR<br>SIZE                                      | YOKE<br>BOSS,<br>Inch | MANUAL<br>OVERRIDE | MAXIMUM TRAVEL |      | A4  |      | AR(1) |      | G(2) |      |
|-------------------------------------------------------|-----------------------|--------------------|----------------|------|-----|------|-------|------|------|------|
|                                                       |                       |                    | mm             | Inch | mm  | Inch | mm    | Inch | mm   | Inch |
| 535                                                   | 5 or 5H               | MHP                | 101.6          | 4    | 411 | 16.2 | 228.6 | 9    | 583  | 22.9 |
|                                                       |                       |                    | 203.2          | 8    | 435 | 17.1 | 203.2 | 8    | 689  | 27.1 |
|                                                       |                       |                    | 304.8          | 12   | 460 | 18.1 | 241.3 | 9.5  | 822  | 32.4 |
|                                                       |                       |                    | 406.4          | 16   | 484 | 19.1 | 241.3 | 9.5  | 936  | 36.9 |
|                                                       |                       |                    | 508            | 20   | 508 | 20.0 | 241.3 | 9.5  | 1049 | 41.3 |
|                                                       |                       |                    | 609.6          | 24   | 533 | 21.0 | 241.3 | 9.5  | 1163 | 45.8 |
|                                                       | 7                     |                    | 101.6          | 4    | 411 | 16.2 | 254   | 10   | 599  | 23.6 |
|                                                       |                       |                    | 203.2          | 8    | 435 | 17.1 | 279.4 | 11   | 727  | 28.6 |
|                                                       |                       |                    | 304.8          | 12   | 460 | 18.1 | 241.3 | 9.5  | 822  | 32.4 |
|                                                       |                       |                    | 406.4          | 16   | 484 | 19.1 | 241.3 | 9.5  | 936  | 36.9 |
|                                                       |                       |                    | 508            | 20   | 508 | 20.0 | 241.3 | 9.5  | 1049 | 41.3 |
|                                                       |                       |                    | 609.6          | 24   | 533 | 21.0 | 241.3 | 9.5  | 1163 | 45.8 |
| 585                                                   | 5H                    | MHP                | 101.6          | 4    | 502 | 19.8 | 228.6 | 9    | 655  | 25.8 |
|                                                       |                       |                    | 203.2          | 8    | 531 | 20.9 | 203.2 | 8    | 763  | 30.1 |
|                                                       |                       |                    | 304.8          | 12   | 560 | 22.0 | 241.3 | 9.5  | 899  | 35.4 |
|                                                       |                       |                    | 406.4          | 16   | 589 | 23.2 | 241.3 | 9.5  | 1015 | 40.0 |
|                                                       |                       |                    | 508            | 20   | 618 | 24.3 | 241.3 | 9.5  | 1131 | 44.5 |
|                                                       |                       |                    | 609.6          | 24   | 647 | 25.5 | 241.3 | 9.5  | 1247 | 49.1 |
|                                                       | 7                     |                    | 101.6          | 4    | 502 | 19.8 | 254   | 10   | 670  | 26.4 |
|                                                       |                       |                    | 203.2          | 8    | 531 | 20.9 | 279.4 | 11   | 800  | 31.5 |
|                                                       |                       |                    | 304.8          | 12   | 560 | 22.0 | 241.3 | 9.5  | 897  | 35.3 |
|                                                       |                       |                    | 406.4          | 16   | 589 | 23.2 | 241.3 | 9.5  | 1013 | 39.9 |
|                                                       |                       |                    | 508            | 20   | 618 | 24.3 | 241.3 | 9.5  | 1129 | 44.5 |
|                                                       |                       |                    | 609.6          | 24   | 647 | 25.5 | 241.3 | 9.5  | 1246 | 49.1 |
| 635                                                   | 5H                    | MHP                | 101.6          | 4    | 579 | 22.8 | 228.6 | 9    | 694  | 27.3 |
|                                                       |                       |                    | 203.2          | 8    | 614 | 24.2 | 203.2 | 8    | 806  | 31.7 |
|                                                       |                       |                    | 304.8          | 12   | 649 | 25.6 | 241.3 | 9.5  | 944  | 37.2 |
|                                                       |                       |                    | 406.4          | 16   | 685 | 26.9 | 241.3 | 9.5  | 1064 | 41.9 |
|                                                       |                       |                    | 508            | 20   | 720 | 28.3 | 241.3 | 9.5  | 1182 | 46.5 |
|                                                       |                       |                    | 609.6          | 24   | 755 | 29.7 | 241.3 | 9.5  | 1302 | 51.3 |
|                                                       | 7                     |                    | 101.6          | 4    | 579 | 22.8 | 254   | 10   | 709  | 27.9 |
|                                                       |                       |                    | 203.2          | 8    | 614 | 24.2 | 279.4 | 11   | 842  | 33.2 |
|                                                       |                       |                    | 304.8          | 12   | 649 | 25.6 | 241.3 | 9.5  | 943  | 37.1 |
|                                                       |                       |                    | 406.4          | 16   | 685 | 26.9 | 241.3 | 9.5  | 1062 | 41.8 |
|                                                       |                       |                    | 508            | 20   | 720 | 28.3 | 241.3 | 9.5  | 1181 | 46.5 |
|                                                       |                       |                    | 609.6          | 24   | 755 | 29.7 | 241.3 | 9.5  | 1300 | 51.2 |
| 685                                                   | 5H                    | MHP                | 101.6          | 4    | 730 | 28.7 | 228.6 | 9    | 782  | 30.8 |
|                                                       |                       |                    | 203.2          | 8    | 768 | 30.2 | 203.2 | 8    | 894  | 35.2 |
|                                                       |                       |                    | 304.8          | 12   | 806 | 31.7 | 241.3 | 9.5  | 1034 | 40.7 |
|                                                       |                       |                    | 406.4          | 16   | 844 | 33.2 | 241.3 | 9.5  | 1155 | 45.5 |
|                                                       |                       |                    | 508            | 20   | 881 | 34.7 | 241.3 | 9.5  | 1275 | 50.2 |
|                                                       |                       |                    | 609.6          | 24   | 919 | 36.2 | 241.3 | 9.5  | 1396 | 55.0 |
|                                                       | 7                     |                    | 101.6          | 4    | 730 | 28.7 | 254   | 10   | 797  | 31.4 |
|                                                       |                       |                    | 203.2          | 8    | 768 | 30.2 | 279.4 | 11   | 931  | 36.7 |
|                                                       |                       |                    | 304.8          | 12   | 806 | 31.7 | 241.3 | 9.5  | 1033 | 40.7 |
|                                                       |                       |                    | 406.4          | 16   | 844 | 33.2 | 241.3 | 9.5  | 1153 | 45.4 |
|                                                       |                       |                    | 508            | 20   | 881 | 34.7 | 241.3 | 9.5  | 1274 | 50.1 |
|                                                       |                       |                    | 609.6          | 24   | 919 | 36.2 | 241.3 | 9.5  | 1395 | 54.9 |
| 1. Actuator Removal Clearance<br>2. Center of Gravity |                       |                    |                |      |     |      |       |      |      |      |

1. Actuator Removal Clearance  
2. Center of Gravity

Figure 6. Fisher 785C Single-Acting Spring Return Piston Actuator (see table 11, 12, 13, 14, and 15)



**Table 11. 785C Single-Acting Spring Return (Spring Retracts) Dimensions A, A2, A3, AR, and G**

| ACTUATOR SIZE | YOKE BOSS<br>Inch (mm) | Maximum Travel |      | Spring | A    |      | A2  |      | A3  |      | AR <sup>(1)</sup> |      | G <sup>(2)</sup> |      |
|---------------|------------------------|----------------|------|--------|------|------|-----|------|-----|------|-------------------|------|------------------|------|
|               |                        | mm             | Inch |        | mm   | Inch | mm  | Inch | mm  | Inch | mm                | Inch | mm               | Inch |
| 335           | 5 or 5H                | 101.6          | 4.0  | F1     | 1164 | 45.8 | 420 | 16.5 | 248 | 9.8  | 346               | 13.6 | 582              | 22.9 |
|               |                        | 203.2          | 8.0  | F1     | 1537 | 60.5 | 608 | 23.9 | 349 | 13.7 | 432               | 17   | 768.5            | 30.3 |
| 385           | 5 or 5H                | 101.6          | 4.0  | F1     | 1219 | 48   | 475 | 18.7 | 248 | 9.8  | 346               | 13.6 | 609.5            | 24   |
|               |                        |                |      | F2     | 1195 | 47   | 451 | 17.8 | 248 | 9.8  | 346               | 13.6 | 597.5            | 23.5 |
|               |                        | 203.2          | 8.0  | F1     | 1516 | 59.7 | 587 | 23.1 | 349 | 13.7 | 432               | 17   | 758              | 29.8 |
|               | 7                      | 101.6          | 4.0  | F1     | 1249 | 49.2 | 475 | 18.7 | 248 | 9.8  | 432               | 17   | 625              | 24.6 |
|               |                        |                |      | F2     | 1225 | 48.2 | 451 | 17.8 | 248 | 9.8  | 432               | 17   | 613              | 24.1 |
|               |                        | 203.2          | 8.0  | F1     | 1592 | 62.7 | 587 | 23.1 | 349 | 13.7 | 508               | 20   | 796              | 31.3 |
| 435           | 5 or 5H                | 101.6          | 4.0  | F1     | 1264 | 49.8 | 520 | 20.5 | 248 | 9.8  | 346               | 13.6 | 632              | 24.9 |
|               |                        |                |      | F2     | 1207 | 47.5 | 463 | 18.2 | 248 | 9.8  | 346               | 13.6 | 603.5            | 23.8 |
|               |                        | 203.2          | 8.0  | F1     | 1704 | 67.1 | 775 | 30.5 | 349 | 13.7 | 432               | 17   | 852              | 25.5 |
|               | 7                      | 101.6          | 4.0  | F1     | 1294 | 50.9 | 520 | 20.5 | 248 | 9.8  | 432               | 17   | 647              | 24.4 |
|               |                        |                |      | F2     | 1237 | 48.7 | 463 | 18.2 | 248 | 9.8  | 432               | 17   | 619              | 35.0 |
|               |                        | 203.2          | 8.0  | F1     | 1780 | 70.1 | 775 | 30.5 | 349 | 13.7 | 508               | 20   | 890              | 39.5 |
| 485           | 5 or 5H                | 101.6          | 4.0  | F1     | 1331 | 52.4 | 564 | 22.2 | 251 | 9.9  | 346               | 13.6 | 665.5            | 26.2 |
|               |                        |                |      | F2     | 1284 | 50.6 | 517 | 20.4 | 251 | 9.9  | 346               | 13.6 | 642              | 25.3 |
|               |                        | 203.2          | 8.0  | F1     | 1724 | 67.9 | 772 | 30.4 | 352 | 13.9 | 432               | 17   | 862              | 33.9 |
|               | 7                      | 101.6          | 4.0  | F1     | 1361 | 53.6 | 564 | 22.2 | 251 | 9.9  | 432               | 17   | 681              | 26.8 |
|               |                        |                |      | F2     | 1314 | 51.7 | 517 | 20.4 | 251 | 9.9  | 432               | 17   | 657              | 25.9 |
|               |                        | 203.2          | 8.0  | F1     | 1800 | 70.9 | 772 | 30.4 | 352 | 13.9 | 508               | 20   | 900              | 35.4 |
| 535           | 5 or 5H                | 101.6          | 4.0  | F1     | 1258 | 49.5 | 489 | 19.3 | 253 | 10   | 346               | 13.6 | 629              | 24.8 |
|               |                        |                |      | F2     | 1313 | 51.7 | 544 | 21.4 | 253 | 10   | 346               | 13.6 | 656.5            | 25.8 |
|               |                        | 203.2          | 8.0  | F1     | 1753 | 69   | 799 | 31.5 | 354 | 13.9 | 432               | 17   | 876.5            | 34.5 |
|               | 7                      | 101.6          | 4.0  | F1     | 1288 | 50.7 | 489 | 19.3 | 253 | 10   | 432               | 17   | 644              | 25.4 |
|               |                        |                |      | F2     | 1343 | 52.9 | 544 | 21.4 | 253 | 10   | 432               | 17   | 672              | 26.4 |
|               |                        | 203.2          | 8.0  | F1     | 1829 | 72   | 799 | 31.5 | 354 | 13.9 | 508               | 20   | 915              | 36.0 |
| 585           | 5H                     | 101.6          | 4.0  | F1     | 1296 | 51   | 498 | 19.6 | 271 | 10.7 | 346               | 13.6 | 648              | 25.5 |
|               |                        |                |      | F2     | 1297 | 51.1 | 499 | 19.6 | 271 | 10.7 | 346               | 13.6 | 648.5            | 25.5 |
|               |                        | 203.2          | 8.0  | F1     | 1810 | 71.3 | 816 | 32.1 | 372 | 14.6 | 432               | 17   | 905              | 35.6 |
|               | 7                      | 101.6          | 4.0  | F1     | 1337 | 52.6 | 498 | 19.6 | 271 | 10.7 | 432               | 17   | 669              | 26.3 |
|               |                        |                |      | F2     | 1338 | 52.7 | 499 | 19.6 | 271 | 10.7 | 432               | 17   | 669              | 26.3 |
|               |                        | 203.2          | 8.0  | F1     | 1886 | 74.3 | 816 | 32.1 | 372 | 14.6 | 508               | 20   | 943              | 37.1 |
| 635           | 5H                     | 101.6          | 4.0  | F1     | 1297 | 51.1 | 499 | 19.6 | 271 | 10.7 | 346               | 13.6 | 648.5            | 25.5 |
|               |                        |                |      | F2     | 1297 | 51.1 | 499 | 19.6 | 271 | 10.7 | 346               | 13.6 | 648.5            | 25.5 |
|               |                        | 203.2          | 8.0  | F1     | 1810 | 71.3 | 816 | 32.1 | 372 | 14.6 | 432               | 17   | 905              | 35.6 |
|               | 7                      | 101.6          | 4.0  | F1     | 1338 | 52.7 | 499 | 19.6 | 271 | 10.7 | 432               | 17   | 669              | 26.3 |
|               |                        |                |      | F2     | 1338 | 52.7 | 499 | 19.6 | 271 | 10.7 | 432               | 17   | 669              | 26.3 |
|               |                        | 203.2          | 8.0  | F1     | 1886 | 74.3 | 816 | 32.1 | 372 | 14.6 | 508               | 20   | 943              | 37.1 |
| 685           | 5H                     | 101.6          | 4.0  | F1     | 1467 | 57.8 | 669 | 26.3 | 271 | 10.7 | 346               | 13.6 | 733.5            | 28.9 |
|               |                        |                |      | F2     | 1297 | 51.1 | 499 | 19.6 | 271 | 10.7 | 346               | 13.6 | 648.5            | 25.5 |
|               |                        | 203.2          | 8.0  | F1     | 1810 | 71.3 | 816 | 32.1 | 372 | 14.6 | 432               | 17   | 905              | 35.6 |
|               | 7                      | 101.6          | 4.0  | F1     | 1508 | 59.4 | 669 | 26.3 | 271 | 10.7 | 432               | 17   | 754              | 29.7 |
|               |                        |                |      | F2     | 1338 | 52.7 | 499 | 19.6 | 271 | 10.7 | 432               | 17   | 669              | 26.3 |
|               |                        | 203.2          | 8.0  | F1     | 1886 | 74.3 | 816 | 32.1 | 372 | 14.6 | 508               | 20   | 943              | 37.1 |

1. Actuator Removal Clearance  
2. Center of Gravity

Figure 7. Fisher 785C Single-Acting Spring Return Piston Actuator with Manual Hand Wheel (MHW)  
(see table 11, 12, 13, 14, and 15)

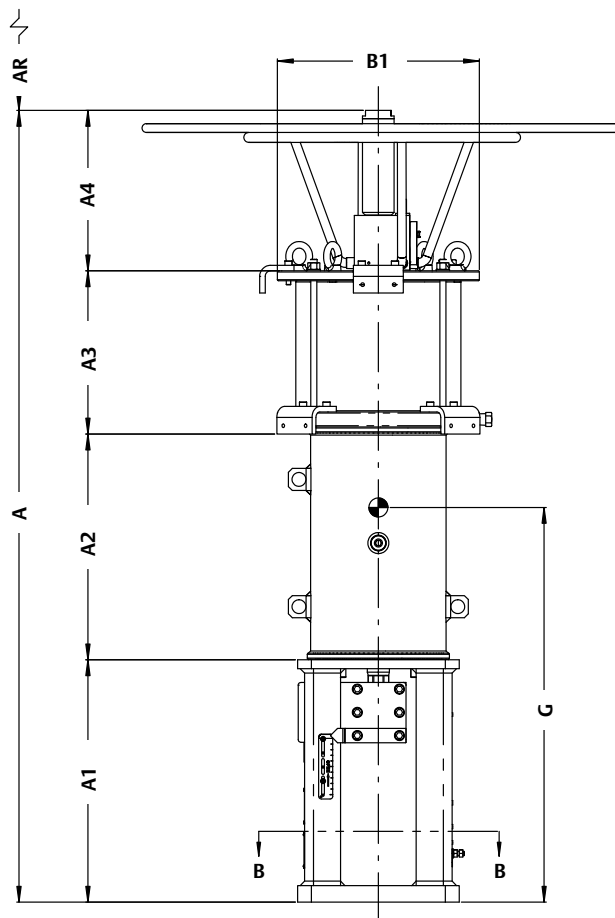
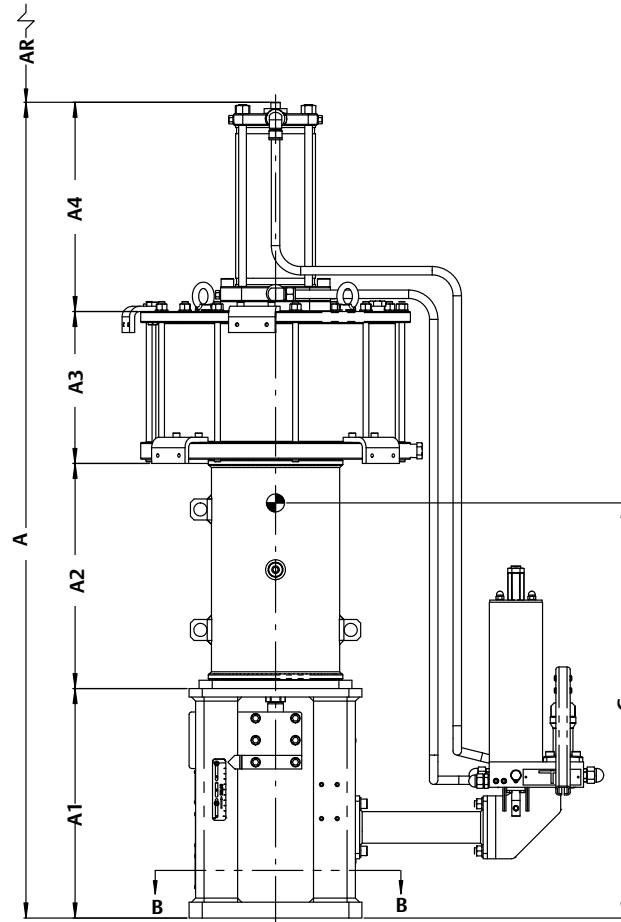


Figure 8. Fisher 785C Single-Acting Spring Return Piston Actuator with Manual Hand Pump (MHP)  
(see table 11, 12, 13, 14, and 15)



**Table 12. 785C Single-Acting Spring Return (Spring Retracts) with Manual Override**  
Dimensions A, A1, A2, A3, A4, AR, B1, and G

| ACTUATOR SIZE | YOKE BOSS<br>Inch (mm) | Maximum Travel |      | Spring | Manual Override | A    |      | A1    |      | A2  |      | A3  |      |
|---------------|------------------------|----------------|------|--------|-----------------|------|------|-------|------|-----|------|-----|------|
|               |                        | mm             | Inch |        |                 | mm   | Inch | mm    | Inch | mm  | Inch | mm  | Inch |
| 335           | 5 or 5H                | 101.6          | 4    | F1     | MHW             | 1514 | 59.6 | 440.0 | 17.3 | 420 | 16.5 | 288 | 11.3 |
|               |                        | 203.2          | 8    | F1     | MHW             | 1817 | 71.5 | 524.0 | 20.6 | 520 | 20.5 | 389 | 15.3 |
| 385           | 5 or 5H                | 101.6          | 4    | F1     | MHW             | 1658 | 65.3 | 440.0 | 17.3 | 564 | 22.2 | 288 | 11.3 |
|               |                        | 101.6          | 4    | F2     | MHW             | 1611 | 63.4 | 440.0 | 17.3 | 517 | 20.4 | 288 | 11.3 |
|               |                        | 203.2          | 8    | F1     | MHW             | 1795 | 70.7 | 524.0 | 20.6 | 498 | 19.6 | 389 | 15.3 |
|               | 7                      | 101.6          | 4    | F1     | MHW             | 1688 | 66.5 | 470.0 | 18.5 | 564 | 22.2 | 288 | 11.3 |
|               |                        | 101.6          | 4    | F2     | MHW             | 1641 | 64.6 | 470.0 | 18.5 | 517 | 20.4 | 288 | 11.3 |
|               |                        | 203.2          | 8    | F1     | MHW             | 1871 | 73.7 | 600.0 | 23.6 | 498 | 19.6 | 389 | 15.3 |
| 435           | 5 or 5H                | 101.6          | 4    | F1     | MHP             | 1807 | 71.1 | 440.0 | 17.3 | 669 | 26.3 | 298 | 11.7 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1637 | 64.4 | 440.0 | 17.3 | 499 | 19.6 | 298 | 11.7 |
|               |                        | 203.2          | 8    | F1     | MHP             | 1932 | 76.1 | 524.0 | 20.6 | 609 | 24.0 | 399 | 15.7 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 1837 | 72.3 | 470.0 | 18.5 | 669 | 26.3 | 298 | 11.7 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1667 | 65.6 | 470.0 | 18.5 | 499 | 19.6 | 298 | 11.7 |
|               |                        | 203.2          | 8    | F1     | MHP             | 2008 | 79.1 | 600.0 | 23.6 | 609 | 24.0 | 399 | 15.7 |
| 485           | 5 or 5H                | 101.6          | 4    | F1     | MHP             | 1662 | 65.4 | 440.0 | 17.3 | 521 | 20.5 | 301 | 11.9 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1638 | 64.5 | 440.0 | 17.3 | 497 | 19.6 | 301 | 11.9 |
|               |                        | 203.2          | 8    | F1     | MHP             | 1947 | 76.7 | 524.0 | 20.6 | 621 | 24.4 | 402 | 15.8 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 1692 | 66.6 | 470.0 | 18.5 | 521 | 20.5 | 301 | 11.9 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1668 | 65.7 | 470.0 | 18.5 | 497 | 19.6 | 301 | 11.9 |
|               |                        | 203.2          | 8    | F1     | MHP             | 2023 | 79.6 | 600.0 | 23.6 | 621 | 24.4 | 402 | 15.8 |
| 535           | 5 or 5H                | 101.6          | 4    | F1     | MHP             | 1721 | 67.8 | 440.0 | 17.3 | 578 | 22.8 | 303 | 11.9 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1717 | 67.6 | 440.0 | 17.3 | 574 | 22.6 | 303 | 11.9 |
|               |                        | 203.2          | 8    | F1     | MHP             | 1915 | 75.4 | 524.0 | 20.6 | 587 | 23.1 | 404 | 15.9 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 1751 | 68.9 | 470.0 | 18.5 | 578 | 22.8 | 303 | 11.9 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1747 | 68.8 | 470.0 | 18.5 | 574 | 22.6 | 303 | 11.9 |
|               |                        | 203.2          | 8    | F1     | MHP             | 1991 | 78.4 | 600.0 | 23.6 | 587 | 23.1 | 404 | 15.9 |
| 585           | 5H                     | 101.6          | 4    | F1     | MHP             | 1988 | 78.3 | 451.0 | 17.8 | 816 | 32.1 | 321 | 12.6 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1988 | 78.3 | 451.0 | 17.8 | 816 | 32.1 | 321 | 12.6 |
|               |                        | 203.2          | 8    | F1     | MHP             | 1936 | 76.2 | 546.0 | 21.5 | 568 | 22.4 | 422 | 16.6 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 2029 | 79.9 | 492.0 | 19.4 | 816 | 32.1 | 321 | 12.6 |
|               |                        | 101.6          | 4    | F2     | MHP             | 2029 | 79.9 | 492.0 | 19.4 | 816 | 32.1 | 321 | 12.6 |
|               |                        | 203.2          | 8    | F1     | MHP             | 2012 | 79.2 | 622.0 | 24.5 | 568 | 22.4 | 422 | 16.6 |
| 635           | 5H                     | 101.6          | 4    | F1     | MHP             | 1914 | 75.4 | 451.0 | 17.8 | 742 | 29.2 | 321 | 12.6 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1919 | 75.6 | 451.0 | 17.8 | 747 | 29.4 | 321 | 12.6 |
|               |                        | 203.2          | 8    | F1     | MHP             | 2112 | 83.1 | 546.0 | 21.5 | 744 | 29.3 | 422 | 16.6 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 1955 | 77.0 | 492.0 | 19.4 | 742 | 29.2 | 321 | 12.6 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1960 | 77.2 | 492.0 | 19.4 | 747 | 29.4 | 321 | 12.6 |
|               |                        | 203.2          | 8    | F1     | MHP             | 2188 | 86.1 | 622.0 | 24.5 | 744 | 29.3 | 422 | 16.6 |
| 685           | 5H                     | 101.6          | 4    | F1     | MHP             | 1873 | 73.7 | 451.0 | 17.8 | 701 | 27.6 | 321 | 12.6 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1937 | 76.3 | 451.0 | 17.8 | 765 | 30.1 | 321 | 12.6 |
|               |                        | 203.2          | 8    | F1     | MHP             | 2111 | 83.1 | 546.0 | 21.5 | 743 | 29.3 | 422 | 16.6 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 1914 | 75.4 | 492.0 | 19.4 | 701 | 27.6 | 321 | 12.6 |
|               |                        | 101.6          | 4    | F2     | MHP             | 1978 | 77.9 | 492.0 | 19.4 | 765 | 30.1 | 321 | 12.6 |
|               |                        | 203.2          | 8    | F1     | MHP             | 2187 | 86.1 | 622.0 | 24.5 | 743 | 29.3 | 422 | 16.6 |

-continued-

**Table 12. 785C Single-Acting Spring Return (Spring Retracts) with Manual Override**  
Dimensions A, A1, A2, A3, A4, AR, B1, and G (cont.)

| ACTUATOR SIZE | YOKE BOSS | Maximum Travel |      | Spring | Manual Override | A4    |      | AR    |      | B1    |      | G      |      |
|---------------|-----------|----------------|------|--------|-----------------|-------|------|-------|------|-------|------|--------|------|
|               | Inch (mm) | mm             | Inch |        |                 | mm    | Inch | mm    | Inch | mm    | Inch | mm     | Inch |
| 335           | 5 or 5H   | 101.6          | 4    | F1     | MHW             | 366.0 | 14.4 | 346.1 | 13.6 | 467.0 | 18.4 | 757    | 29.8 |
|               |           | 203.2          | 8    | F1     | MHW             | 384.0 | 15.1 | 431.8 | 17.0 | 467   | 18.4 | 908.5  | 35.8 |
| 385           | 5 or 5H   | 101.6          | 4    | F1     | MHW             | 366.0 | 14.4 | 346.1 | 13.6 | 514   | 20.2 | 829    | 32.6 |
|               |           | 101.6          | 4    | F2     | MHW             | 366.0 | 14.4 | 346.1 | 13.6 | 514   | 20.2 | 805.5  | 31.7 |
|               |           | 203.2          | 8    | F1     | MHW             | 384.0 | 15.1 | 431.8 | 17.0 | 514   | 20.2 | 897.5  | 35.3 |
|               | 7         | 101.6          | 4    | F1     | MHW             | 366.0 | 14.4 | 514   | 20.2 | 844   | 33.2 | 432    | 17.0 |
|               |           | 101.6          | 4    | F2     | MHW             | 366.0 | 14.4 | 432   | 17.0 | 514   | 20.2 | 820.5  | 32.3 |
|               |           | 203.2          | 8    | F1     | MHW             | 384.0 | 15.1 | 508   | 20.0 | 514   | 20.2 | 935.5  | 36.8 |
| 435           | 5 or 5H   | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 565   | 22.2 | 903.5  | 35.6 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 565   | 22.2 | 818.5  | 32.2 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 565   | 22.2 | 966    | 38.0 |
|               | 7         | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 565   | 22.2 | 918.5  | 36.2 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 565   | 22.2 | 833.5  | 32.8 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 565   | 22.2 | 1004   | 39.5 |
| 485           | 5 or 5H   | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 630   | 24.8 | 831    | 32.7 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 630   | 24.8 | 819    | 32.2 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 630   | 24.8 | 973.5  | 38.3 |
|               | 7         | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 630   | 24.8 | 846    | 33.3 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 630   | 24.8 | 834    | 32.8 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 630   | 24.8 | 973.5  | 38.3 |
| 535           | 5 or 5H   | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 680   | 26.8 | 860.5  | 33.9 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 680   | 26.8 | 858.5  | 33.8 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 680   | 26.8 | 957.5  | 37.7 |
|               | 7         | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 680   | 26.8 | 993.5  | 39.1 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 680   | 26.8 | 890.5  | 35.1 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 680   | 26.8 | 1088   | 42.8 |
| 585           | 5H        | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 730   | 28.7 | 994    | 39.1 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 730   | 28.7 | 994    | 39.1 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 730   | 28.7 | 968    | 38.1 |
|               | 7         | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 730   | 28.7 | 1014.5 | 39.9 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 730   | 28.7 | 942    | 37.1 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 730   | 28.7 | 1063  | 41.9 | 508    | 20.0 |
| 635           | 5H        | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 785   | 30.9 | 957    | 37.7 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 785   | 30.9 | 959.5  | 37.8 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 785   | 30.9 | 1056   | 41.6 |
|               | 7         | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 785   | 30.9 | 977.5  | 38.5 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 785   | 30.9 | 980    | 38.6 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 785   | 30.9 | 1094   | 43.1 |
| 685           | 5H        | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 835   | 32.9 | 936.5  | 36.9 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 835   | 32.9 | 968.5  | 38.1 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 835   | 32.9 | 1055.5 | 41.6 |
|               | 7         | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 835   | 32.9 | 957    | 37.7 |
|               |           | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 835   | 32.9 | 989    | 38.9 |
|               |           | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 835   | 32.9 | 1093.5 | 43.1 |

Table 13. 785C Single-Acting Spring Return (Spring Extends) Dimensions A, A2, A3, AR, and G

| ACTUATOR SIZE | YOKE BOSS | Maximum Travel |      | Spring | A    |      | A2  |      | A3  |      | AR <sup>(1)</sup> |      | G <sup>(2)</sup> |      |
|---------------|-----------|----------------|------|--------|------|------|-----|------|-----|------|-------------------|------|------------------|------|
|               | Inch (mm) | mm             | Inch |        | mm   | Inch | mm  | Inch | mm  | Inch | mm                | Inch | mm               | Inch |
| 335           | 5 or 5H   | 101.6          | 4.0  | F1     | 1220 | 48   | 476 | 18.7 | 248 | 9.8  | 346               | 13.6 | 610              | 24   |
|               |           |                |      | F2     | 1255 | 49.4 | 511 | 20.1 | 248 | 9.8  | 346               | 13.6 | 627.5            | 24.7 |
|               |           | 203.2          | 8.0  | F1     | 1600 | 63   | 671 | 26.4 | 349 | 13.7 | 432               | 17   | 800              | 31.5 |
| 385           | 5 or 5H   | 101.6          | 4.0  | F1     | 1353 | 53.3 | 609 | 24   | 248 | 9.8  | 346               | 13.6 | 676.5            | 26.6 |
|               |           |                |      | F2     | 1352 | 53.2 | 608 | 23.9 | 248 | 9.8  | 346               | 13.6 | 676              | 26.6 |
|               |           |                |      | F1     | 1497 | 58.9 | 568 | 22.4 | 349 | 13.7 | 432               | 17   | 748.5            | 29.5 |
|               |           | 203.2          | 8.0  | F2     | 1490 | 58.7 | 561 | 22.1 | 349 | 13.7 | 432               | 17   | 745              | 29.3 |
|               |           |                |      | F3     | 1611 | 63.4 | 682 | 26.9 | 349 | 13.7 | 432               | 17   | 805.5            | 31.7 |
|               | 7         | 101.6          | 4.0  | F1     | 1383 | 54.4 | 609 | 24   | 248 | 9.8  | 432               | 17   | 692              | 27.2 |
|               |           |                |      | F2     | 1382 | 54.4 | 608 | 23.9 | 248 | 9.8  | 432               | 17   | 692              | 27.2 |
|               |           | 203.2          | 8.0  | F1     | 1573 | 61.9 | 568 | 22.4 | 349 | 13.7 | 508               | 20   | 787              | 31.0 |
|               |           |                |      | F2     | 1566 | 61.7 | 561 | 22.1 | 349 | 13.7 | 508               | 20   | 783              | 30.8 |
| 435           | 5 or 5H   |                |      | F3     | 1687 | 66.4 | 682 | 26.9 | 349 | 13.7 | 508               | 20   | 844              | 33.2 |
|               |           | 101.6          | 4.0  | F1     | 1274 | 50.2 | 530 | 20.9 | 248 | 9.8  | 346               | 13.6 | 637              | 25.1 |
|               |           |                |      | F2     | 1231 | 48.5 | 487 | 19.2 | 248 | 9.8  | 346               | 13.6 | 615.5            | 24.2 |
|               |           | 203.2          | 8.0  | F1     | 1622 | 63.9 | 693 | 27.3 | 349 | 13.7 | 432               | 17   | 811              | 31.9 |
|               |           |                |      | F2     | 1671 | 65.8 | 742 | 29.2 | 349 | 13.7 | 432               | 17   | 835.5            | 32.9 |
|               | 7         |                |      | F3     | 1676 | 66   | 747 | 29   | 349 | 13.7 | 432               | 17   | 838              | 33   |
|               |           | 101.6          | 4.0  | F1     | 1304 | 51.3 | 530 | 20.9 | 248 | 9.8  | 432               | 17   | 652              | 25.7 |
|               |           |                |      | F2     | 1261 | 49.6 | 487 | 19.2 | 248 | 9.8  | 432               | 17   | 630.5            | 24.8 |
|               |           | 203.2          | 8.0  | F1     | 1698 | 66.9 | 693 | 27.3 | 349 | 13.7 | 508               | 20   | 849              | 33.4 |
| 485           | 5 or 5H   |                |      | F2     | 1747 | 68.8 | 742 | 29.2 | 349 | 13.7 | 508               | 20   | 873.5            | 34.4 |
|               |           |                |      | F3     | 1752 | 69   | 747 | 29.4 | 349 | 13.7 | 508               | 20   | 876              | 34.5 |
|               |           | 101.6          | 4.0  | F1     | 1288 | 50.7 | 521 | 20.5 | 251 | 9.9  | 346               | 13.6 | 644              | 25.4 |
|               |           |                |      | F2     | 1264 | 59.8 | 497 | 19.6 | 251 | 9.9  | 346               | 13.6 | 632              | 24.9 |
|               |           | 203.2          | 8.0  | F1     | 1643 | 64.7 | 691 | 27.2 | 352 | 13.9 | 432               | 17   | 821.5            | 32.3 |
|               | 7         |                |      | F2     | 1690 | 66.5 | 738 | 29.1 | 352 | 13.9 | 432               | 17   | 845              | 33.3 |
|               |           |                |      | F3     | 1696 | 66.8 | 744 | 29.3 | 352 | 13.9 | 432               | 17   | 848              | 33.4 |
|               |           | 101.6          | 4.0  | F1     | 1318 | 51.9 | 521 | 20.5 | 251 | 9.9  | 432               | 17   | 659              | 25.9 |
|               |           |                |      | F2     | 1294 | 50.9 | 497 | 19.6 | 251 | 9.9  | 432               | 17   | 647              | 25.5 |
| 535           | 5 or 5H   | 203.2          | 8.0  | F1     | 1719 | 67.7 | 691 | 27.2 | 352 | 13.9 | 508               | 20   | 859.5            | 33.8 |
|               |           |                |      | F2     | 1766 | 69.5 | 738 | 29.1 | 352 | 13.9 | 508               | 20   | 883              | 34.8 |
|               |           |                |      | F3     | 1772 | 69.8 | 744 | 29.3 | 352 | 13.9 | 508               | 20   | 886              | 34.9 |
|               |           | 101.6          | 4.0  | F1     | 1266 | 49.8 | 497 | 19.6 | 253 | 10   | 346               | 13.6 | 633              | 24.9 |
|               |           |                |      | F2     | 1375 | 54.1 | 606 | 23.9 | 253 | 10   | 346               | 13.6 | 687.5            | 27.1 |
|               | 7         | 203.2          | 8.0  | F1     | 1751 | 68.9 | 797 | 31.4 | 354 | 13.9 | 432               | 17   | 875.5            | 34.5 |
|               |           |                |      | F2     | 1641 | 64.6 | 687 | 27   | 354 | 13.9 | 432               | 17   | 820.5            | 32.3 |
|               |           |                |      | F3     | 1649 | 64.9 | 695 | 27.4 | 354 | 13.9 | 432               | 17   | 824.5            | 32.5 |
|               |           | 101.6          | 4.0  | F1     | 1296 | 51   | 497 | 19.6 | 253 | 10   | 432               | 17   | 648              | 25.5 |
| 535           | 7         |                |      | F2     | 1405 | 55.3 | 606 | 23.9 | 253 | 10   | 432               | 17   | 702.5            | 27.7 |
|               |           | 203.2          | 8.0  | F1     | 1827 | 71.9 | 797 | 31.4 | 354 | 13.9 | 508               | 20   | 913.5            | 36.0 |
|               |           |                |      | F2     | 1717 | 67.6 | 687 | 27   | 354 | 13.9 | 508               | 20   | 858.5            | 33.8 |
|               |           |                |      | F3     | 1725 | 67.9 | 695 | 27.4 | 354 | 13.9 | 508               | 20   | 1862.5           | 34.0 |

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**Table 13. 785C Single-Acting Spring Return (Spring Extends) Dimensions A, A2, A3, AR, and G (cont.)**

| ACTUATOR<br>SIZE                                      | YOKE<br>BOSS | Maximum Travel |      | Spring | A    |      | A2  |      | A3  |      | AR(1) |      | G(2)  |      |
|-------------------------------------------------------|--------------|----------------|------|--------|------|------|-----|------|-----|------|-------|------|-------|------|
|                                                       | Inch<br>(mm) | mm             | Inch |        | mm   | Inch | mm  | Inch | mm  | Inch | mm    | Inch | mm    | Inch |
| 585                                                   | 5H           | 101.6          | 4.0  | F1     | 1419 | 55.9 | 621 | 24.4 | 271 | 10.7 | 346   | 13.6 | 709.5 | 27.9 |
|                                                       |              |                |      | F2     | 1273 | 50.1 | 475 | 18.7 | 271 | 10.7 | 346   | 13.6 | 636.5 | 25.1 |
|                                                       |              | 203.2          | 8.0  | F1     | 1695 | 66.7 | 701 | 27.6 | 372 | 14.6 | 432   | 17   | 847.5 | 33.4 |
|                                                       |              |                |      | F2     | 1759 | 69.3 | 765 | 30.1 | 372 | 14.6 | 432   | 17   | 879.5 | 34.6 |
|                                                       |              |                |      | F3     | 1759 | 69.3 | 765 | 30.1 | 372 | 14.6 | 432   | 17   | 879.5 | 34.6 |
|                                                       |              |                |      | F3     | 1835 | 72.2 | 765 | 30.1 | 372 | 14.6 | 508   | 20   | 917.5 | 36.1 |
|                                                       | 7            | 101.6          | 4.0  | F1     | 1460 | 57.5 | 621 | 24.4 | 271 | 10.7 | 432   | 17   | 730   | 28.7 |
|                                                       |              |                |      | F2     | 1314 | 51.7 | 475 | 18.7 | 271 | 10.7 | 432   | 17   | 657   | 25.9 |
|                                                       |              | 203.2          | 8.0  | F1     | 1771 | 69.7 | 701 | 27.6 | 372 | 14.6 | 508   | 20   | 885.5 | 34.9 |
|                                                       |              |                |      | F2     | 1835 | 72.2 | 765 | 30.1 | 372 | 14.6 | 508   | 20   | 917.5 | 36.1 |
|                                                       |              |                |      | F3     | 1835 | 72.2 | 765 | 30.1 | 372 | 14.6 | 508   | 20   | 917.5 | 36.1 |
|                                                       |              |                |      | F3     | 1835 | 72.2 | 765 | 30.1 | 372 | 14.6 | 508   | 20   | 917.5 | 36.1 |
| 635                                                   | 5H           | 101.6          | 4.0  | F1     | 1330 | 52.4 | 532 | 20.9 | 271 | 10.7 | 346   | 13.6 | 665   | 26.2 |
|                                                       |              |                |      | F2     | 1438 | 56.6 | 640 | 25.2 | 271 | 10.7 | 346   | 13.6 | 719   | 28.3 |
|                                                       |              | 203.2          | 8.0  | F1     | 1839 | 72.4 | 845 | 33.3 | 372 | 14.6 | 432   | 17   | 919.5 | 36.2 |
|                                                       |              |                |      | F2     | 1737 | 68.4 | 743 | 29.3 | 372 | 14.6 | 432   | 17   | 868.5 | 34.2 |
|                                                       |              |                |      | F3     | 1737 | 68.4 | 743 | 29.3 | 372 | 14.6 | 432   | 17   | 868.5 | 34.2 |
|                                                       |              |                |      | F3     | 1737 | 68.4 | 743 | 29.3 | 372 | 14.6 | 432   | 17   | 868.5 | 34.2 |
|                                                       | 7            | 101.6          | 4.0  | F1     | 1371 | 54   | 532 | 20.9 | 271 | 10.7 | 432   | 17   | 685.5 | 27.0 |
|                                                       |              |                |      | F2     | 1479 | 58.2 | 640 | 25.2 | 271 | 10.7 | 432   | 17   | 739.5 | 29.1 |
|                                                       |              | 203.2          | 8.0  | F1     | 1915 | 75.4 | 845 | 33.3 | 372 | 14.6 | 508   | 20   | 957.5 | 37.7 |
|                                                       |              |                |      | F2     | 1813 | 71.4 | 743 | 29.3 | 372 | 14.6 | 508   | 20   | 906.5 | 35.7 |
|                                                       |              |                |      | F3     | 1813 | 71.4 | 743 | 29.3 | 372 | 14.6 | 508   | 20   | 906.5 | 35.7 |
|                                                       |              |                |      | F3     | 1813 | 71.4 | 743 | 29.3 | 372 | 14.6 | 508   | 20   | 906.5 | 35.7 |
| 685                                                   | 5H           | 101.6          | 4.0  | F1     | 1376 | 54.2 | 578 | 22.8 | 271 | 10.7 | 346   | 13.6 | 688   | 27.1 |
|                                                       |              |                |      | F2     | 1372 | 54   | 574 | 22.6 | 271 | 10.7 | 346   | 13.6 | 686   | 27   |
|                                                       |              |                |      | F3     | 1612 | 63.5 | 814 | 32   | 271 | 10.7 | 346   | 13.6 | 806   | 31.7 |
|                                                       |              | 203.2          | 8.0  | F1     | 1702 | 67   | 708 | 27.9 | 372 | 14.6 | 432   | 17   | 851   | 33.5 |
|                                                       |              |                |      | F2     | 1711 | 67.4 | 717 | 28.2 | 372 | 14.6 | 432   | 17   | 855.5 | 33.7 |
|                                                       |              |                |      | F3     | 1773 | 69.8 | 779 | 30.7 | 372 | 14.6 | 432   | 17   | 886.5 | 34.9 |
|                                                       | 7            | 101.6          | 4.0  | F1     | 1417 | 55.8 | 578 | 22.8 | 271 | 10.7 | 432   | 17   | 708.5 | 27.9 |
|                                                       |              |                |      | F2     | 1413 | 55.6 | 574 | 22.6 | 271 | 10.7 | 432   | 17   | 706.5 | 27.8 |
|                                                       |              |                |      | F3     | 1653 | 65.1 | 814 | 32   | 271 | 10.7 | 432   | 17   | 826.5 | 32.5 |
|                                                       |              | 203.2          | 8.0  | F1     | 1778 | 70   | 708 | 27.9 | 372 | 14.6 | 508   | 20   | 889   | 35.0 |
|                                                       |              |                |      | F2     | 1787 | 70.4 | 717 | 28.2 | 372 | 14.6 | 508   | 20   | 893.5 | 35.2 |
|                                                       |              |                |      | F3     | 1849 | 72.8 | 779 | 30.7 | 372 | 14.6 | 508   | 20   | 924.5 | 36.4 |
| 1. Actuator Removal Clearance<br>2. Center of Gravity |              |                |      |        |      |      |     |      |     |      |       |      |       |      |

**Table 14. 785C Single-Acting Spring Return (Spring Extends) with Manual Override**  
Dimensions A, A1, A2, A3, A4, AR, B1, and G

| ACTUATOR<br>SIZE | YOKE<br>BOSS<br>Inch<br>(mm) | Maximum Travel |      | Spring | Manual<br>Override | A    |      | A1    |      | A2  |      | A3  |      |
|------------------|------------------------------|----------------|------|--------|--------------------|------|------|-------|------|-----|------|-----|------|
|                  |                              | mm             | Inch |        |                    | mm   | Inch | mm    | Inch | mm  | Inch | mm  | Inch |
| 335              | 5 or 5H                      | 101.6          | 4    | F1     | MHW                | 1569 | 61.8 | 440.0 | 17.3 | 475 | 18.7 | 288 | 11.3 |
|                  |                              | 101.6          | 4    | F2     | MHW                | 1545 | 60.8 | 440.0 | 17.3 | 451 | 17.8 | 288 | 11.3 |
|                  |                              | 101.6          | 4    | F1     | MHW                | 1760 | 69.3 | 524.0 | 20.6 | 463 | 18.2 | 389 | 15.3 |
| 385              | 5 or 5H                      | 101.6          | 4    | F1     | MHW                | 1583 | 62.3 | 440.0 | 17.3 | 489 | 19.3 | 288 | 11.3 |
|                  |                              | 101.6          | 4    | F2     | MHW                | 1638 | 64.5 | 440.0 | 17.3 | 544 | 21.4 | 288 | 11.3 |
|                  |                              | 203.2          | 8    | F1     | MHW                | 1796 | 70.7 | 524.0 | 20.6 | 499 | 19.6 | 389 | 15.3 |
|                  |                              | 203.2          | 8    | F2     | MHW                | 1796 | 70.7 | 524.0 | 20.6 | 499 | 19.6 | 389 | 15.3 |
|                  |                              | 203.2          | 8    | F3     | MHW                | 1796 | 70.7 | 524.0 | 20.6 | 499 | 19.6 | 389 | 15.3 |
|                  | 7                            | 101.6          | 4    | F1     | MHW                | 1613 | 63.5 | 470.0 | 18.5 | 489 | 19.3 | 288 | 11.3 |
|                  |                              | 101.6          | 4    | F2     | MHW                | 1668 | 65.7 | 470.0 | 18.5 | 544 | 21.4 | 288 | 11.3 |
|                  |                              | 203.2          | 8    | F1     | MHW                | 1872 | 73.7 | 600.0 | 23.6 | 499 | 19.6 | 389 | 15.3 |
|                  |                              | 203.2          | 8    | F2     | MHW                | 1872 | 73.7 | 600.0 | 23.6 | 499 | 19.6 | 389 | 15.3 |
|                  |                              | 203.2          | 8    | F3     | MHW                | 1872 | 73.7 | 600.0 | 23.6 | 499 | 19.6 | 389 | 15.3 |
| 435              | 5 or 5H                      | 101.6          | 4    | F1     | MHP                | 1614 | 63.5 | 440.0 | 17.3 | 476 | 18.7 | 298 | 11.7 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1649 | 64.9 | 440.0 | 17.3 | 511 | 20.1 | 298 | 11.7 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 1931 | 76.0 | 524.0 | 20.6 | 608 | 23.9 | 399 | 15.7 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 1853 | 73.0 | 524.0 | 20.6 | 530 | 20.9 | 399 | 15.7 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 1810 | 71.3 | 524.0 | 20.6 | 487 | 19.2 | 399 | 15.7 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 1644 | 64.7 | 470.0 | 18.5 | 476 | 18.7 | 298 | 11.7 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1679 | 66.1 | 470.0 | 18.5 | 511 | 20.1 | 298 | 11.7 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2007 | 79.0 | 600.0 | 23.6 | 608 | 23.9 | 399 | 15.7 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 1929 | 75.9 | 60.0  | 2.4  | 530 | 20.9 | 399 | 15.7 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 1886 | 74.3 | 600.0 | 23.6 | 487 | 19.2 | 399 | 15.7 |
| 485              | 5 or 5H                      | 101.6          | 4    | F1     | MHP                | 1638 | 64.5 | 440.0 | 17.3 | 497 | 19.6 | 301 | 11.9 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1747 | 68.8 | 440.0 | 17.3 | 606 | 23.9 | 301 | 11.9 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 1801 | 70.9 | 524.0 | 20.6 | 475 | 18.7 | 402 | 15.8 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 1858 | 73.1 | 524.0 | 20.6 | 532 | 20.9 | 402 | 15.8 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 1966 | 77.4 | 524.0 | 20.6 | 640 | 25.2 | 402 | 15.8 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 1668 | 65.7 | 470.0 | 18.5 | 497 | 19.6 | 301 | 11.9 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1777 | 70.0 | 470.0 | 18.5 | 606 | 23.9 | 301 | 11.9 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 1877 | 73.9 | 600.0 | 23.6 | 475 | 18.7 | 402 | 15.8 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 1934 | 76.1 | 600.0 | 23.6 | 532 | 20.9 | 402 | 15.8 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2042 | 80.4 | 600.0 | 23.6 | 640 | 25.2 | 402 | 15.8 |
| 535              | 5 or 5H                      | 101.6          | 4    | F1     | MHP                | 1957 | 77.0 | 440.0 | 17.3 | 814 | 32.0 | 303 | 11.9 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1751 | 68.9 | 440.0 | 17.3 | 608 | 23.9 | 303 | 11.9 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2103 | 82.8 | 524.0 | 20.6 | 775 | 30.5 | 404 | 15.9 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2100 | 82.7 | 524.0 | 20.6 | 772 | 30.4 | 404 | 15.9 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2127 | 83.7 | 524.0 | 20.6 | 799 | 31.5 | 404 | 15.9 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 1987 | 78.2 | 470.0 | 18.5 | 814 | 32.0 | 303 | 11.9 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1781 | 70.1 | 470.0 | 18.5 | 608 | 23.9 | 303 | 11.9 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2179 | 85.8 | 600.0 | 23.6 | 775 | 30.5 | 404 | 15.9 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2176 | 85.7 | 600.0 | 23.6 | 772 | 30.4 | 404 | 15.9 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2203 | 86.7 | 600.0 | 23.6 | 799 | 31.5 | 404 | 15.9 |

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**Table 14. 785C Single-Acting Spring Return (Spring Extends) with Manual Override**  
Dimensions A, A1, A2, A3, A4, AR, B1, and G (cont.)

| ACTUATOR<br>SIZE | YOKE<br>BOSS<br>Inch<br>(mm) | Maximum Travel |      | Spring | Manual<br>Override | A    |      | A1    |      | A2  |      | A3  |      |
|------------------|------------------------------|----------------|------|--------|--------------------|------|------|-------|------|-----|------|-----|------|
|                  |                              | mm             | Inch |        |                    | mm   | Inch | mm    | Inch | mm  | Inch | mm  | Inch |
| 585              | 5H                           | 101.6          | 4    | F1     | MHP                | 1988 | 78.3 | 451.0 | 17.8 | 816 | 32.1 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1843 | 72.6 | 451.0 | 17.8 | 671 | 26.4 | 321 | 12.6 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 1929 | 75.9 | 546.0 | 21.5 | 561 | 22.1 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2050 | 80.7 | 546.0 | 21.5 | 682 | 26.9 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2061 | 81.1 | 546.0 | 21.5 | 693 | 27.3 | 422 | 16.6 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 2029 | 79.9 | 492.0 | 19.4 | 816 | 32.1 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1884 | 74.2 | 492.0 | 19.4 | 671 | 26.4 | 321 | 12.6 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2005 | 78.9 | 622.0 | 24.5 | 561 | 22.1 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2126 | 83.7 | 622.0 | 24.5 | 682 | 26.9 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2137 | 84.1 | 622.0 | 24.5 | 693 | 27.3 | 422 | 16.6 |
| 635              | 5H                           | 101.6          | 4    | F1     | MHP                | 1863 | 73.3 | 451.0 | 17.8 | 691 | 27.2 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1910 | 75.2 | 451.0 | 17.8 | 738 | 29.1 | 321 | 12.6 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2165 | 85.2 | 546.0 | 21.5 | 797 | 31.4 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2055 | 80.9 | 546.0 | 21.5 | 687 | 27.0 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2063 | 81.2 | 547.0 | 21.5 | 695 | 27.4 | 422 | 16.6 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 1904 | 75.0 | 492.0 | 19.4 | 691 | 27.2 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 1951 | 76.8 | 492.0 | 19.4 | 738 | 29.1 | 321 | 12.6 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2241 | 88.2 | 622.0 | 24.5 | 797 | 31.4 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2131 | 83.9 | 622.0 | 24.5 | 687 | 27.0 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2139 | 84.2 | 622.0 | 24.5 | 695 | 27.4 | 422 | 16.6 |
| 685              | 5H                           | 101.6          | 4    | F1     | MHP                | 1937 | 76.3 | 451.0 | 17.8 | 765 | 30.1 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 2017 | 79.4 | 451.0 | 17.8 | 845 | 33.3 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F3     | MHP                | 1915 | 75.4 | 451.0 | 17.8 | 743 | 29.3 | 321 | 12.6 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2076 | 81.7 | 546.0 | 21.5 | 708 | 27.9 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2085 | 82.1 | 546.0 | 21.5 | 717 | 28.2 | 422 | 16.6 |
|                  | 7                            | 203.2          | 8    | F3     | MHP                | 2147 | 84.5 | 546.0 | 21.5 | 779 | 30.7 | 422 | 16.6 |
|                  |                              | 101.6          | 4    | F1     | MHP                | 1978 | 77.9 | 492.0 | 19.4 | 765 | 30.1 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 2058 | 81.0 | 492.0 | 19.4 | 845 | 33.3 | 321 | 12.6 |
|                  |                              | 101.6          | 4    | F3     | MHP                | 1956 | 77.0 | 492.0 | 19.4 | 743 | 29.3 | 321 | 12.6 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 2152 | 84.7 | 622.0 | 24.5 | 708 | 27.9 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 2161 | 85.1 | 622.0 | 24.5 | 717 | 28.2 | 422 | 16.6 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 2223 | 87.5 | 622.0 | 24.5 | 779 | 30.7 | 422 | 16.6 |

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**Table 14. 785C Single-Acting Spring Return (Spring Extends) with Manual Override**  
Dimensions A, A1, A2, A3, A4, AR, B1, and G (cont.)

| ACTUATOR<br>SIZE | YOKE<br>BOSS<br>Inch<br>(mm) | Maximum Travel |      | Spring | Manual<br>Override | A4    |      | AR    |      | B1    |      | G      |      |
|------------------|------------------------------|----------------|------|--------|--------------------|-------|------|-------|------|-------|------|--------|------|
|                  |                              | mm             | Inch |        |                    | mm    | Inch | mm    | Inch | mm    | Inch | mm     | Inch |
| 335              | 5 or 5H                      | 101.6          | 4    | F1     | MHW                | 366.0 | 14.4 | 346.1 | 13.6 | 467.0 | 18.4 | 784.5  | 30.9 |
|                  |                              | 101.6          | 4    | F2     | MHW                | 366.0 | 14.4 | 346.1 | 13.6 | 467   | 18.4 | 772.5  | 30.4 |
|                  |                              | 101.6          | 4    | F1     | MHW                | 384.0 | 15.1 | 431.8 | 17.0 | 467   | 18.4 | 880    | 34.6 |
| 385              | 5 or 5H                      | 101.6          | 4    | F1     | MHW                | 366.0 | 14.4 | 346.1 | 13.6 | 514   | 20.2 | 791.5  | 31.2 |
|                  |                              | 101.6          | 4    | F2     | MHW                | 366.0 | 14.4 | 346.1 | 13.6 | 514   | 20.2 | 819    | 32.2 |
|                  |                              | 203.2          | 8    | F1     | MHW                | 384.0 | 15.1 | 431.8 | 17.0 | 514   | 20.2 | 898    | 35.4 |
|                  |                              | 203.2          | 8    | F2     | MHW                | 384.0 | 15.1 | 431.8 | 17.0 | 514   | 20.2 | 898    | 35.4 |
|                  |                              | 203.2          | 8    | F3     | MHW                | 384.0 | 15.1 | 431.8 | 17.0 | 514   | 20.2 | 898    | 35.4 |
|                  | 7                            | 101.6          | 4    | F1     | MHW                | 366.0 | 14.4 | 432   | 17.0 | 514   | 20.2 | 806.5  | 31.8 |
|                  |                              | 101.6          | 4    | F2     | MHW                | 366.0 | 14.4 | 432   | 17.0 | 514   | 20.2 | 834    | 32.8 |
|                  |                              | 203.2          | 8    | F1     | MHW                | 384.0 | 15.1 | 508   | 20.0 | 514   | 20.2 | 936    | 36.9 |
|                  |                              | 203.2          | 8    | F2     | MHW                | 384.0 | 15.1 | 508   | 20.0 | 514   | 20.2 | 936    | 36.9 |
|                  |                              | 203.2          | 8    | F3     | MHW                | 384.0 | 15.1 | 508   | 20.0 | 514   | 20.2 | 936    | 36.9 |
| 435              | 5 or 5H                      | 101.6          | 4    | F1     | MHP                | 400.0 | 15.7 | 346.1 | 13.6 | 565   | 22.2 | 807    | 31.8 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 400.0 | 15.7 | 346.1 | 13.6 | 565   | 22.2 | 824.5  | 32.5 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 565   | 22.2 | 965.5  | 38.0 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 565   | 22.2 | 926.5  | 36.5 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 565   | 22.2 | 905    | 35.6 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 400.0 | 15.7 | 432   | 17.0 | 565   | 22.2 | 822    | 32.4 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 400.0 | 15.7 | 432   | 17.0 | 565   | 22.2 | 839.5  | 33.1 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 565   | 22.2 | 1003.5 | 39.5 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 565   | 22.2 | 964.5  | 38.0 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 565   | 22.2 | 943    | 37.1 |
| 485              | 5 or 5H                      | 101.6          | 4    | F1     | MHP                | 400.0 | 15.7 | 346.1 | 13.6 | 630   | 24.8 | 819    | 32.2 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 400.0 | 15.7 | 346.1 | 13.6 | 630   | 24.8 | 873.5  | 34.4 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 630   | 24.8 | 900.5  | 35.5 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 630   | 24.8 | 929    | 36.6 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 400.0 | 15.7 | 432   | 17.0 | 630   | 24.8 | 834    | 32.8 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 630   | 24.8 | 873.5  | 34.4 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 630   | 24.8 | 1011.5 | 39.8 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 680   | 26.8 | 875.5  | 34.5 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 680   | 26.8 | 873.5  | 34.4 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 680   | 26.8 | 873.5  | 34.5 |
| 535              | 5 or 5H                      | 101.6          | 4    | F1     | MHP                | 400.0 | 15.7 | 346.1 | 13.6 | 680   | 26.8 | 978.5  | 38.5 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 400.0 | 15.7 | 346.1 | 13.6 | 680   | 26.8 | 875.5  | 34.5 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 680   | 26.8 | 1051.5 | 41.4 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 680   | 26.8 | 1050   | 41.3 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 400.0 | 15.7 | 431.8 | 17.0 | 680   | 26.8 | 1063.5 | 41.9 |
|                  | 7                            | 101.6          | 4    | F1     | MHP                | 400.0 | 15.7 | 432   | 17.0 | 680   | 26.8 | 995.5  | 39.2 |
|                  |                              | 101.6          | 4    | F2     | MHP                | 400.0 | 15.7 | 432   | 17.0 | 680   | 26.8 | 1089.5 | 42.9 |
|                  |                              | 203.2          | 8    | F1     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 680   | 26.8 | 1101.5 | 43.4 |
|                  |                              | 203.2          | 8    | F2     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 730   | 28.7 | 1014.5 | 39.9 |
|                  |                              | 203.2          | 8    | F3     | MHP                | 400.0 | 15.7 | 508   | 20.0 | 730   | 28.7 | 1014.5 | 39.9 |

-continued-

**Table 14. 785C Single-Acting Spring Return (Spring Extends) with Manual Override Dimensions A, A1, A2, A3, A4, AR, B1, and G (cont.)**

| ACTUATOR SIZE | YOKE BOSS<br>Inch (mm) | Maximum Travel |      | Spring | Manual Override | A4    |      | AR    |      | B1  |      | G      |      |
|---------------|------------------------|----------------|------|--------|-----------------|-------|------|-------|------|-----|------|--------|------|
|               |                        | mm             | Inch |        |                 | mm    | Inch | mm    | Inch | mm  | Inch | mm     | Inch |
| 585           | 5H                     | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 730 | 28.7 | 994    | 39.1 |
|               |                        | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 730 | 28.7 | 921.5  | 36.3 |
|               |                        | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 730 | 28.7 | 964.5  | 38.0 |
|               |                        | 203.2          | 8    | F2     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 730 | 28.7 | 1025   | 40.4 |
|               | 7                      | 203.2          | 8    | F3     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 730 | 28.7 | 1030.5 | 40.6 |
|               |                        | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 730 | 28.7 | 1006   | 39.6 |
|               |                        | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 730 | 28.7 | 1002.5 | 39.5 |
|               |                        | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 730 | 28.7 | 1063   | 41.9 |
| 635           | 5H                     | 203.2          | 8    | F2     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 730 | 28.7 | 1063   | 41.9 |
|               |                        | 203.2          | 8    | F3     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 730 | 28.7 | 1068.5 | 42.1 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 785 | 30.9 | 931.5  | 36.7 |
|               |                        | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 785 | 30.9 | 955    | 37.6 |
|               |                        | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 785 | 30.9 | 1082.5 | 42.6 |
|               |                        | 203.2          | 8    | F2     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 785 | 30.9 | 1027.5 | 40.5 |
|               |                        | 203.2          | 8    | F3     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 785 | 30.9 | 1031.5 | 40.6 |
|               |                        | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 785 | 30.9 | 952    | 37.5 |
| 685           | 5H                     | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 785 | 30.9 | 975.5  | 38.4 |
|               |                        | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 785 | 30.9 | 1120.5 | 44.1 |
|               |                        | 203.2          | 8    | F2     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 785 | 30.9 | 1065.5 | 41.9 |
|               |                        | 203.2          | 8    | F3     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 785 | 30.9 | 1069.5 | 42.1 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 835 | 32.9 | 968.5  | 38.1 |
|               |                        | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 835 | 32.9 | 1008.5 | 39.7 |
|               |                        | 101.6          | 4    | F3     | MHP             | 400.0 | 15.7 | 346.1 | 13.6 | 835 | 32.9 | 957.5  | 37.7 |
|               |                        | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 835 | 32.9 | 1038   | 40.9 |
| 685           | 5H                     | 203.2          | 8    | F2     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 835 | 32.9 | 1042.5 | 41.0 |
|               |                        | 203.2          | 8    | F3     | MHP             | 400.0 | 15.7 | 431.8 | 17.0 | 835 | 32.9 | 1073.5 | 42.3 |
|               | 7                      | 101.6          | 4    | F1     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 835 | 32.9 | 989    | 38.9 |
|               |                        | 101.6          | 4    | F2     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 835 | 32.9 | 1029   | 40.5 |
|               |                        | 101.6          | 4    | F3     | MHP             | 400.0 | 15.7 | 432   | 17.0 | 835 | 32.9 | 978    | 38.5 |
|               |                        | 203.2          | 8    | F1     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 835 | 32.9 | 1076   | 42.4 |
|               |                        | 203.2          | 8    | F2     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 835 | 32.9 | 1080.5 | 42.5 |
|               |                        | 203.2          | 8    | F3     | MHP             | 400.0 | 15.7 | 508   | 20.0 | 835 | 32.9 | 1111.5 | 43.8 |

**Table 15. 785C Single Acting Spring Return (Spring Retracts or Spring Extends) Dimensions Z and W**

| ACTUATOR SIZE | WITHOUT MANUAL OVERRIDE    |      |     |      | WITH MANUAL OVERRIDE       |      |     |      |
|---------------|----------------------------|------|-----|------|----------------------------|------|-----|------|
|               | Z                          |      | W   |      | Z                          |      | W   |      |
|               | 5, 5H, or 7 Inch Yoke Boss |      |     |      | 5, 5H, or 7 Inch Yoke Boss |      |     |      |
|               | mm                         | Inch | mm  | Inch | mm                         | Inch | mm  | Inch |
| 335           | 254                        | 10   | 292 | 11.5 | 254                        | 10   | 292 | 11.5 |
| 385           | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 435           | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 485           | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 535           | 330                        | 13   | 330 | 13   | 330                        | 13   | 330 | 13   |
| 585           | 487                        | 19.2 | 436 | 17.2 | 487                        | 19.2 | 436 | 17.2 |
| 635           | 487                        | 19.2 | 436 | 17.2 | 487                        | 19.2 | 436 | 17.2 |
| 685           | 487                        | 19.2 | 436 | 17.2 | 487                        | 19.2 | 436 | 17.2 |

**Table 16. 785C Double-Acting Springless Approximate Weights for Constructions without Manual Override Actuator Size 280, 335, 385, and 435**

| MAXIMUM VALVE TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |              |             |              |             |              |             |             |              |             |
|----------------------|------------------------------------------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|--------------|-------------|
|                      | 280                                            |              | 335         |              | 385         |              |             | 435         |              |             |
| mm (inches)          | 5 Yoke Boss                                    | 5H Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss |
| 101.6 (4)            | 143 (316)                                      | 136 (301)    | 174 (384)   | 167 (370)    | 223 (493)   | 228 (503)    | 224 (496)   | 266 (588)   | 271 (598)    | 267 (589)   |
| 203.6 (8)            | 142 (314)                                      | 142 (314)    | 173 (382)   | 173 (382)    | 228 (503)   | 240 (530)    | 232 (512)   | 271 (598)   | 283 (625)    | 275 (606)   |

**Table 17. 785C Double-Acting Springless Approximate Weights for Constructions without Manual Override Actuator Size 485, 535, 585, 635, and 685**

| MAXIMUM VALVE TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |              |             |             |              |             |              |             |              |             |              |             |
|----------------------|------------------------------------------------|--------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                      | 485                                            |              |             | 535         |              |             | 585          |             | 635          |             | 685          |             |
| mm (inches)          | 5 Yoke Boss                                    | 5H Yoke Boss | 7 Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss |
| 101.6 (4)            | 308 (681)                                      | 312 (690)    | 309 (681)   | 356 (788)   | 361 (797)    | 358 (788)   | 488 (1079)   | 486 (1072)  | 560 (1237)   | 558 (1230)  | 627 (1386)   | 625 (1377)  |
| 203.6 (8)            | 312 (690)                                      | 325 (717)    | 317 (698)   | 361 (797)   | 373 (824)    | 365 (805)   | 490 (1082)   | 497 (1096)  | 561 (1240)   | 569 (1254)  | 660 (1459)   | 668 (1472)  |

**Table 18. 785C Double Acting Springless Approximate Weights for Constructions with Manual Override Actuator Size 280, 335, 385, and 435**

| MAXIMUM VALVE TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |              |             |              |             |              |             |             |              |             |
|----------------------|------------------------------------------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|--------------|-------------|
|                      | 280                                            |              | 335         |              | 385         |              |             | 435         |              |             |
| mm (inches)          | 5 Yoke Boss                                    | 5H Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss |
| 101.6 (4)            | 226 (498)                                      | 219 (484)    | 268 (592)   | 261 (578)    | 345 (762)   | 349 (772)    | 346 (764)   | 416 (919)   | 420 (929)    | 417 (921)   |
| 203.6 (8)            | 224 (496)                                      | 224 (496)    | 267 (590)   | 267 (590)    | 349 (772)   | 361 (798)    | 354 (781)   | 420 (929)   | 432 (955)    | 425 (938)   |

**Table 19. 785C Double Acting Springless Approximate Weights for Constructions with Manual Override Actuator Size 485, 535, 585, 635, and 685**

| MAXIMUM VALVE TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |              |             |             |              |             |              |             |              |             |              |             |
|----------------------|------------------------------------------------|--------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                      | 485                                            |              |             | 535         |              |             | 585          |             | 635          |             | 685          |             |
| mm (inches)          | 5 Yoke Boss                                    | 5H Yoke Boss | 7 Yoke Boss | 5 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss | 5H Yoke Boss | 7 Yoke Boss |
| 101.6 (4)            | 497 (1099)                                     | 502 (1109)   | 498 (1101)  | 584 (1291)  | 589 (1301)   | 585 (1294)  | 779 (1721)   | 777 (1716)  | 908 (2006)   | 905 (2001)  | 1028 (2272)  | 1026 (2268) |
| 203.6 (8)            | 502 (1109)                                     | 514 (1135)   | 506 (1118)  | 589 (1301)  | 601 (1328)   | 593 (1311)  | 780 (1724)   | 788 (1741)  | 909 (2008)   | 916 (2025)  | 1120 (2474)  | 1127 (2491) |

Table 20. 785C Single Acting Spring Return Approximate Weights for Constructions without Manual Override  
Actuator Size 335, 385, 435, and 485

| MAXIMUM<br>VALVE<br>TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |                 |                |                 |                |                |                 |                |                |                 |                |
|----------------------------|------------------------------------------------|-----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|
|                            | 335                                            |                 | 385            |                 |                | 435            |                 |                | 485            |                 |                |
| mm<br>(inches)             | 5 Yoke<br>Boss                                 | 5H Yoke<br>Boss | 5 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss |
| 101.6 (4)                  | 350<br>(775)                                   | 250<br>(551)    | 505<br>(1117)  | 388<br>(856)    | 385<br>(851)   | 655<br>(1446)  | 509<br>(1123)   | 506<br>(1118)  | 754<br>(1665)  | 569<br>(1254)   | 565<br>(1250)  |
| 203.6 (8)                  | 415<br>(918)                                   | 321<br>(708)    | 574<br>(1268)  | 464<br>(1023)   | 457<br>(1009)  | 579<br>(1279)  | 441<br>(973)    | 433<br>(958)   | 737<br>(1628)  | 560<br>(1234)   | 552<br>(1220)  |

Table 21. 785C Single Acting Spring Return Approximate Weights for Constructions without Manual Override  
Actuator Size 535, 585, 635, and 685

| MAXIMUM<br>VALVE<br>TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |                 |                |                 |                |                 |                |                 |                |  |
|----------------------------|------------------------------------------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                            | 535                                            |                 |                | 585             |                | 635             |                | 685             |                |  |
| mm<br>(inches)             | 5 Yoke<br>Boss                                 | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss |  |
| 101.6 (4)                  | 841 (1858)                                     | 617 (1361)      | 614 (1357)     | 745 (1642)      | 743 (1642)     | 793 (1749)      | 791 (1748)     | 887 (1956)      | 885 (1956)     |  |
| 203.6 (8)                  | 876 (1936)                                     | 660 (1455)      | 652 (1442)     | 698 (1539)      | 706 (1560)     | 817 (1801)      | 825 (1822)     | 912 (2011)      | 920 (2033)     |  |

Table 22. 785C Single Acting Spring Return Approximate Weights for Constructions with Manual Override  
Actuator Size 335, 385, 435, and 485

| MAXIMUM<br>VALVE<br>TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |                 |                |                 |                |                |                 |                |                |                 |                |
|----------------------------|------------------------------------------------|-----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|
|                            | 335                                            |                 | 385            |                 |                | 435            |                 |                | 485            |                 |                |
| mm<br>(inches)             | 5 Yoke<br>Boss                                 | 5H Yoke<br>Boss | 5 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss |
| 101.6 (4)                  | 350<br>(775)                                   | 344<br>(760)    | 505<br>(1117)  | 510<br>(1127)   | 506<br>(1119)  | 655<br>(1446)  | 507<br>(1121)   | 656<br>(1449)  | 754<br>(1665)  | 758<br>(1675)   | 755<br>(1660)  |
| 203.6 (8)                  | 415<br>(918)                                   | 415<br>(918)    | 574<br>(1268)  | 586<br>(1294)   | 578<br>(1277)  | 579<br>(1279)  | 591<br>(1305)   | 583<br>(1288)  | 737<br>(1628)  | 749<br>(1655)   | 741<br>(1638)  |

Table 23. 785C Single Acting Spring Return Approximate Weights for Constructions with Manual Override  
Actuator Size 535, 585, 635, and 685

| MAXIMUM<br>VALVE<br>TRAVEL | APPROXIMATE WEIGHT FOR ACTUATOR SIZE, kg (lbs) |                 |                |                 |                |                 |                |                 |                |  |
|----------------------------|------------------------------------------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                            | 535                                            |                 |                | 585             |                | 635             |                | 685             |                |  |
| mm<br>(inches)             | 5 Yoke<br>Boss                                 | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss | 5H Yoke<br>Boss | 7 Yoke<br>Boss |  |
| 101.6 (4)                  | 841 (1858)                                     | 845 (1867)      | 842 (1860)     | 1035 (2288)     | 1033 (2283)    | 1141 (2521)     | 1138 (2516)    | 1288 (2847)     | 1286 (2842)    |  |
| 203.6 (8)                  | 876 (1936)                                     | 888 (1962)      | 880 (1945)     | 989 (2185)      | 996 (2202)     | 1165 (2574)     | 1172 (2591)    | 1372 (3032)     | 1379 (3049)    |  |

**Table 24. Lifting Point Load Ratings**

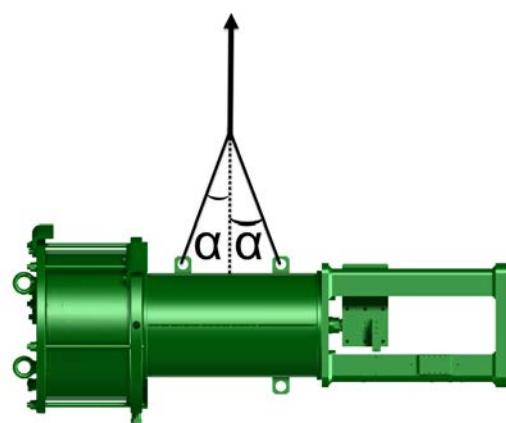
| ACTUATOR SIZE | LIFTING ORIENTATION                           | NUMBER OF LIFTING POINTS USED | MAXIMUM LOAD AT LIFTING<br>(SEE FIGURE 9 AND 6) |       |
|---------------|-----------------------------------------------|-------------------------------|-------------------------------------------------|-------|
|               |                                               |                               | Kg                                              | lbs   |
| 280           | Actuator Centerline Horizontal <sup>(1)</sup> | 2                             | 1747                                            | 3851  |
| 335           |                                               | 2                             | 1747                                            | 3851  |
| 385           |                                               | 2                             | 1747                                            | 3851  |
| 435           |                                               | 2                             | 1747                                            | 3851  |
| 485           |                                               | 2                             | 6330                                            | 13955 |
| 535           |                                               | 2                             | 6330                                            | 13955 |
| 585           |                                               | 2                             | 6330                                            | 13955 |
| 635           |                                               | 2                             | 6330                                            | 13955 |
| 685           |                                               | 2                             | 6330                                            | 13955 |
| ACTUATOR SIZE | LIFTING ORIENTATION                           | NUMBER OF LIFTING POINTS USED | MAXIMUM LOAD AT LIFTING<br>(SEE FIGURE 9 AND 6) |       |
|               |                                               |                               | Kg                                              | lbs   |
| 280           | Actuator Centerline Vertical <sup>(2)</sup>   | 4                             | 864                                             | 1905  |
| 335           |                                               | 4                             | 864                                             | 1905  |
| 385           |                                               | 4                             | 864                                             | 1905  |
| 435           |                                               | 4                             | 864                                             | 1905  |
| 485           |                                               | 4                             | 3096                                            | 6826  |
| 535           |                                               | 4                             | 3096                                            | 6826  |
| 585           |                                               | 4                             | 3096                                            | 6826  |
| 635           |                                               | 4                             | 3096                                            | 6826  |
| 685           |                                               | 4                             | 3096                                            | 6826  |

1. Welded eyelets for horizontal lifting are only available for the 785C Spring Return.  
2. Vertical lifting loads are applicable to both the 785C Springless and Spring Return.

**Figure 9. Lifting Angle for Welded Eyelets**



**Figure 10. Actuator Centerline Horizontal**









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**785C Piston Actuator**  
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