

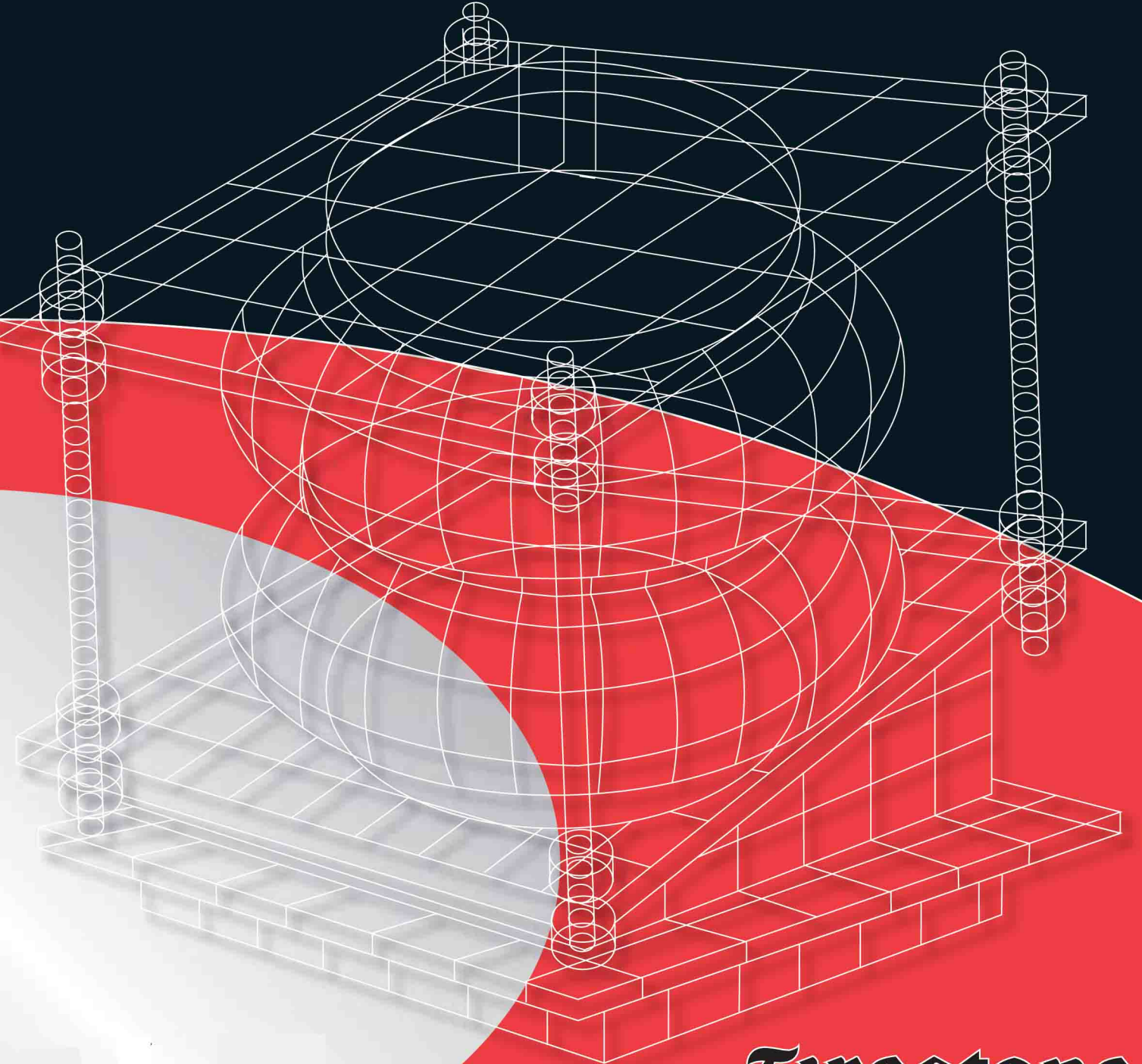
# AIRSTROKE™

ACTUATORS

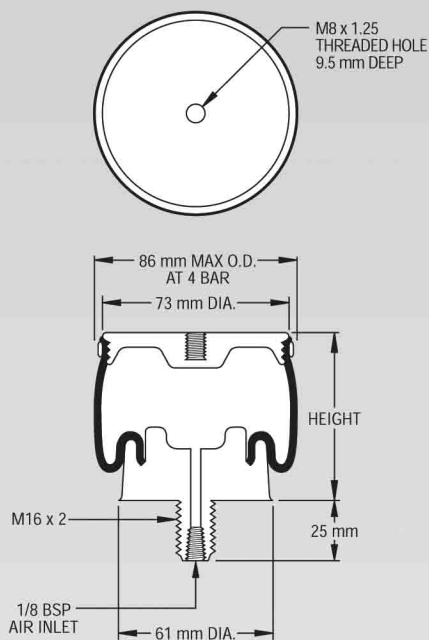
# AIRMOUNT™

ISOLATORS

## METRIC Shaped Sleeve



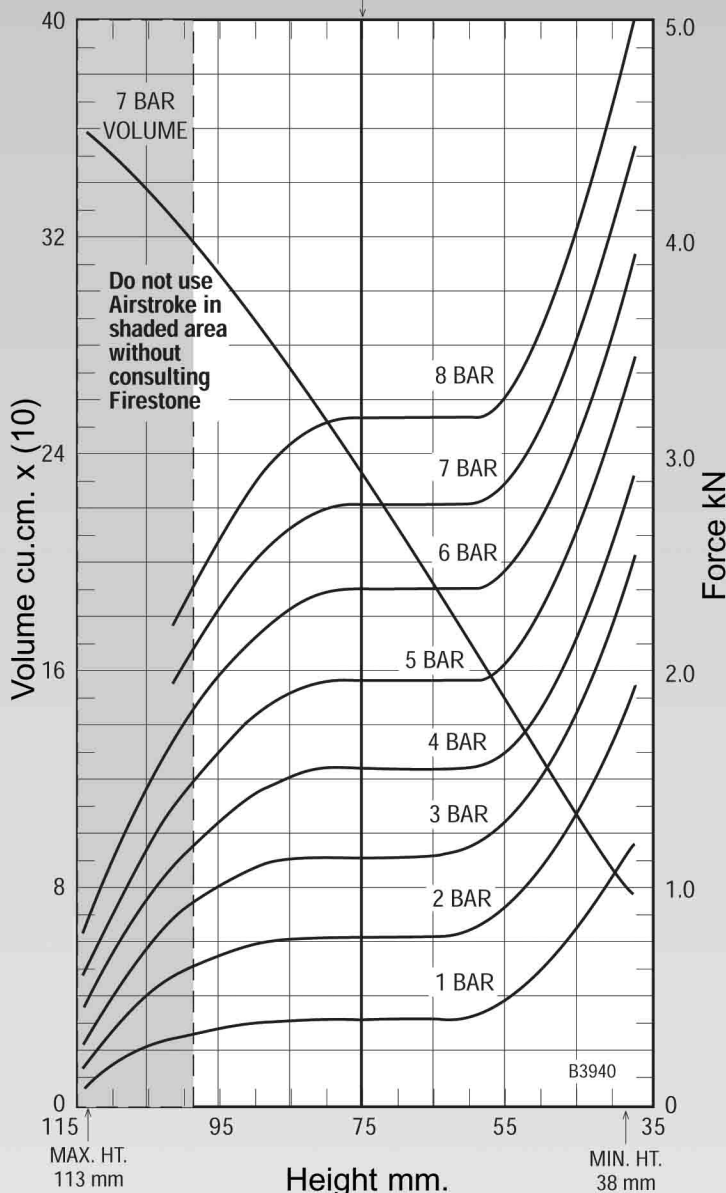
|   | Description                          | Assembly Order No. |
|---|--------------------------------------|--------------------|
| Style<br>1M1A-1                                     | Blind nuts, 1/8 BSP,<br>Plastic stud | W02-M58-3006       |
| Two<br>Ply<br>Bellows                               |                                      |                    |
| Assembly weight .....                               |                                      | .23 kg.            |
| Force to collapse to minimum height (@ 0 BAR) ..... |                                      | 89 N.              |



**NOTE:** The dotted line on the static data chart shows the force capabilities of the 1M1A-1 when attaching an additional 12 mm pedestal, provided by the customer, to the base of the air spring. If an additional pedestal is not used, the air spring will behave as the solid line depicts. Without a pedestal the rubber part will contact the ground at the height of 53 mm and could cause the rubber part to wear prematurely.

| Dynamic Characteristics at 75 mm Design Height<br>(Required for Airmount isolator design only) |           |                    |                      |
|--|-----------|--------------------|----------------------|
| Gauge Pressure (BAR)   | Load (kN) | Spring Rate (kN/m) | Natural Frequency Hz |
| 3  | 1.16      | 38.66              | 2.88                 |
| 4  | 1.57      | 49.85              | 2.81                 |
| 5  | 1.97      | 60.30              | 2.76                 |
| 6  | 2.39      | 71.66              | 2.73                 |
| 7  | 2.78      | 81.97              | 2.71                 |

CONSULT FIRESTONE BEFORE USING AS AIRMOUNT  
RECOMMENDED AIRMOUNT DESIGN HEIGHT 75 mm.  
**Static Data**  
A9618



See page 12 for instructions on how to use chart.

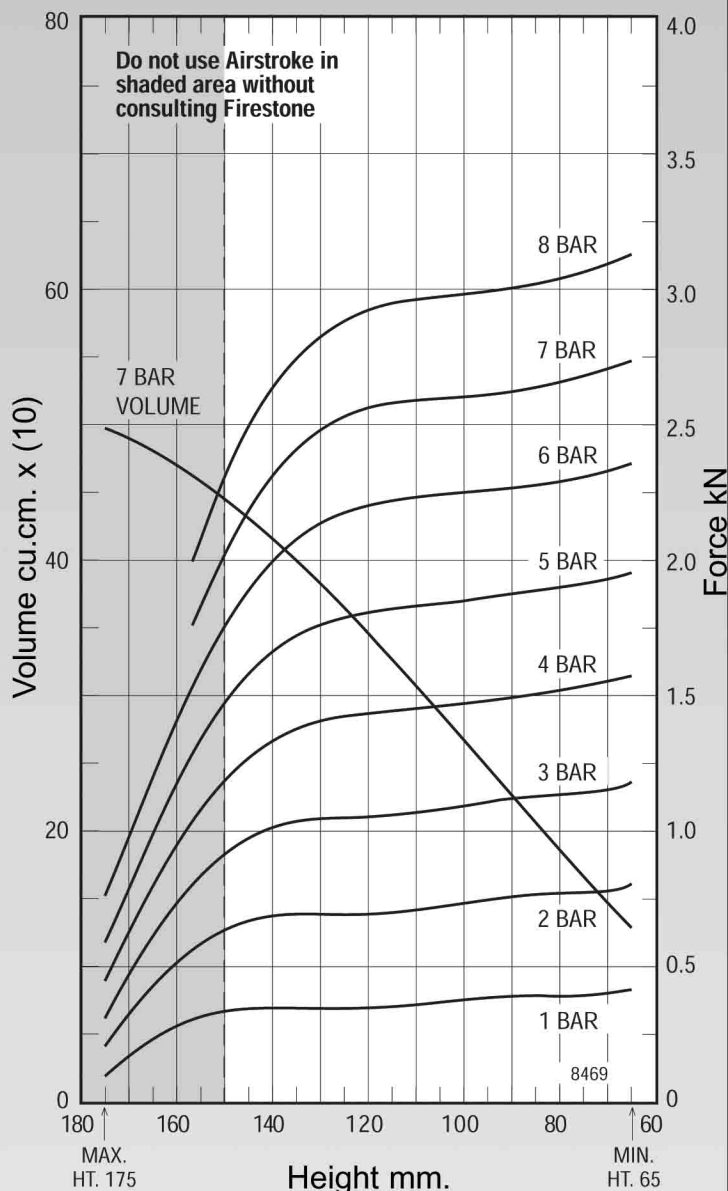
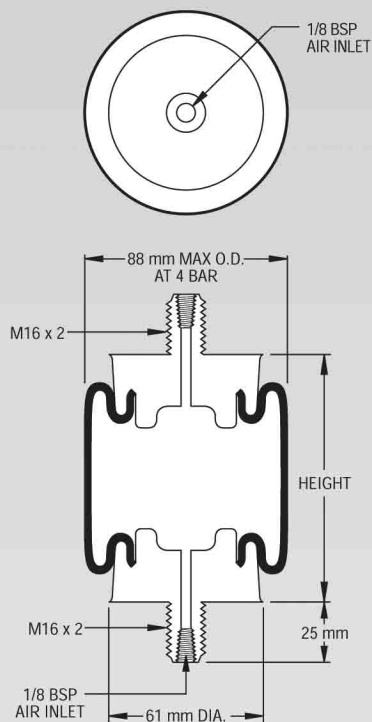
| Force Table (Use for Airstroke™ actuator design) |                        |                          |          |         |         |         |         |
|--|------------------------|--------------------------|----------|---------|---------|---------|---------|
| Assembly Height (mm)                             | Volume @ 7 BAR (cu cm) | EFF Area @ 7 BAR (cm sq) | kN Force |         |         |         |         |
|  |                        |                          | @ 3 BAR  | @ 4 BAR | @ 5 BAR | @ 6 BAR | @ 7 BAR |
| 85   | 272                    | 38.07                    | 1.14     | 1.52    | 1.95    | 2.30    | 2.66    |
| 75   | 235                    | 39.67                    | 1.16     | 1.57    | 1.97    | 2.39    | 2.78    |
| 65   | 194                    | 39.67                    | 1.16     | 1.57    | 1.97    | 2.39    | 2.78    |
| 55   | 152                    | 40.83                    | 1.31     | 1.63    | 2.04    | 2.46    | 2.86    |
| 45   | 110                    | 50.25                    | 1.79     | 2.17    | 2.63    | 3.06    | 3.52    |

### AIRSTROKE ACTUATOR ONLY

### Static Data

8469

|   | Description       | Assembly Order No. |
|---|-------------------|--------------------|
| Style 2M1A                                      | 1/8 BSP, each end | W02-M58-3002       |
| Two Ply Bellows                                 |                   |                    |
| Assembly weight .....                           |                   | .27 kg.            |
| Force to collapse to minimum height (@ 0 BAR) . |                   | 133.5 N.           |



See page 12 for instructions on how to use chart.

**NOTE:** This Airstroke actuator must be guided throughout the stroke.

**NOTE:** Do not use as an Airmount isolator.

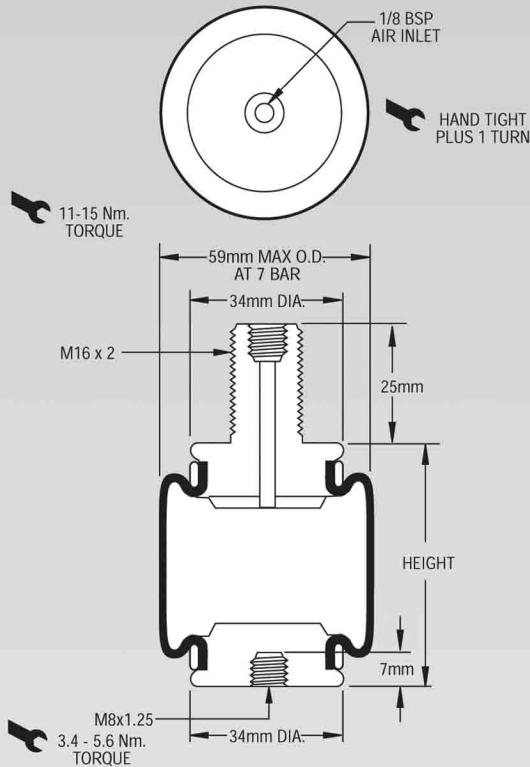
**NOTE:** Plug off one end. (This part is single acting)

**NOTE:**  
Do not use as an Airmount isolator

**Force Table (Use for Airstroke™ actuator design)**

| Assembly Height (mm) | Volume @ 7 BAR (cu cm) | EFF Area @ 7 BAR (cm**2) | kN Force |         |         |         |         |
|----------------------|------------------------|--------------------------|----------|---------|---------|---------|---------|
|                      |                        |                          | @ 3 BAR  | @ 4 BAR | @ 5 BAR | @ 6 BAR | @ 7 BAR |
| 140                  | 413                    | 33                       | 1.01     | 1.33    | 1.65    | 1.98    | 2.29    |
| 130                  | 379                    | 35                       | 1.04     | 1.41    | 1.76    | 2.13    | 2.47    |
| 120                  | 344                    | 37                       | 1.05     | 1.44    | 1.81    | 2.20    | 2.56    |
| 110                  | 306                    | 37                       | 1.07     | 1.45    | 1.83    | 2.23    | 2.60    |
| 100                  | 268                    | 37                       | 1.09     | 1.48    | 1.85    | 2.25    | 2.61    |
| 90                   | 227                    | 38                       | 1.12     | 1.50    | 1.87    | 2.27    | 2.63    |
| 80                   | 189                    | 38                       | 1.13     | 1.52    | 1.90    | 2.30    | 2.66    |
| 70                   | 150                    | 39                       | 1.15     | 1.54    | 1.93    | 2.33    | 2.71    |

|   | Description                       | Assembly Order No. |
|---|-----------------------------------|--------------------|
| Style 2M2A  | Blind Nut, 1/8 BSP, plastic studs | W02-M58-3019       |
| Two Ply Bellows                                     |                                   |                    |
| Assembly weight .....                               |                                   | 0.07 kg.           |
| Force to collapse to minimum height (@ 0 BAR) ..... |                                   | 22 N.              |



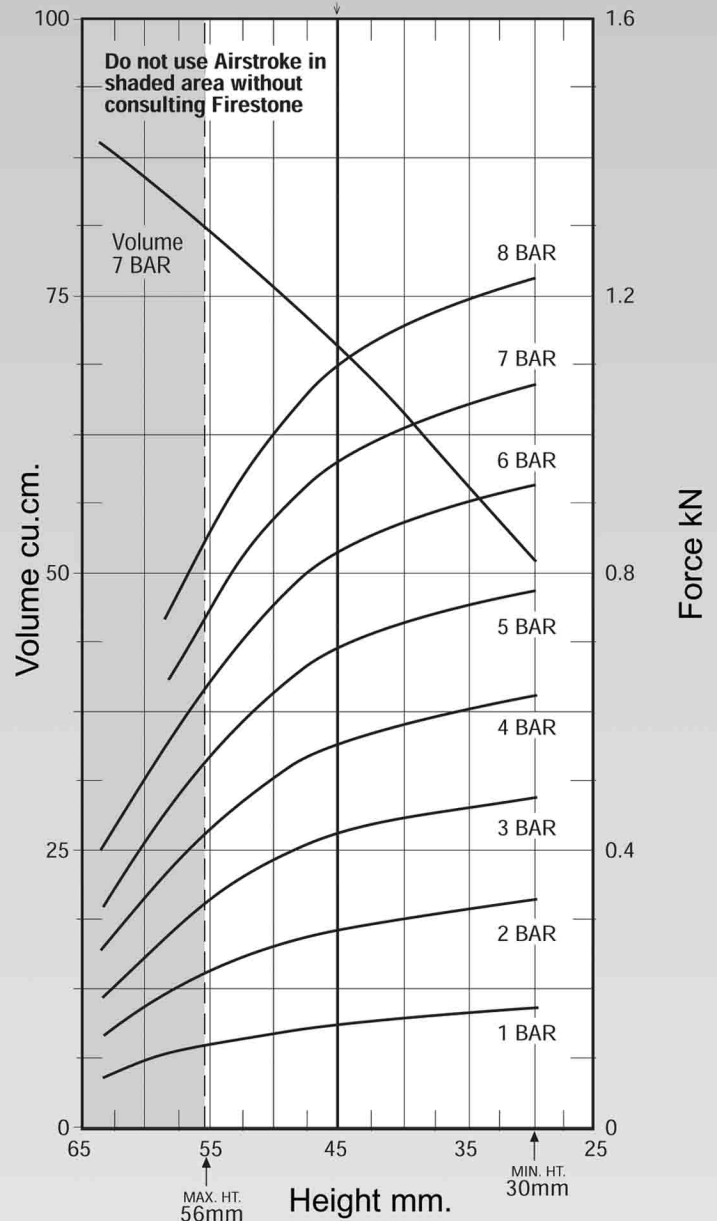
**NOTE:** This Airstroke actuator must be guided throughout the stroke.

**NOTE:** The 2M2A must be supported laterally when used as an isolator. Contact Firestone for use in isolation applications.

| Dynamic Characteristics at 51 mm Design Height<br>(Required for Airmount isolator design only) |           |                    |                      |
|--|-----------|--------------------|----------------------|
| Gauge Pressure (BAR)   | Load (kN) | Spring Rate (kN/m) | Natural Frequency Hz |
| 3  | 0.42      | 18                 | 3.27                 |
| 4  | 0.55      | 23                 | 3.23                 |
| 5  | 0.68      | 29                 | 3.25                 |
| 6  | 0.82      | 34                 | 3.22                 |
| 7  | 0.95      | 39                 | 3.20                 |

RECOMMENDED  
AIRMOUNT  
DESIGN HEIGHT  
45 mm.

**Static Data**  
B6575



See page 12 for instructions on how to use chart.

| Force Table (Use for Airstroke™ actuator design) |                        |                          |          |         |         |        |        |
|--|------------------------|--------------------------|----------|---------|---------|--------|--------|
| Assembly Height (mm)                             | Volume @ 7 BAR (cu cm) | EFF Area @ 7 BAR (cm**2) | kN Force |         |         |        |        |
|  |                        |                          | @ 3 BAR  | @ 4 BAR | @ 5 BAR | @6 BAR | @7 BAR |
| 55   | 80.30                  | 10.4                     | 0.32     | 0.41    | 0.52    | 0.62   | 0.73   |
| 45   | 70.46                  | 13.6                     | 0.42     | 0.55    | 0.68    | 0.82   | 0.95   |
| 35   | 58.99                  | 14.8                     | 0.45     | 0.60    | 0.75    | 0.90   | 1.04   |
| 25   | 40.56                  | 15.6                     | 0.49     | 0.64    | 0.79    | 0.94   | 1.09   |