

# Flat Glass Water Gages and DuraStar®



**Reliance®**  
A PRODUCT OF CLARK-RELIANCE

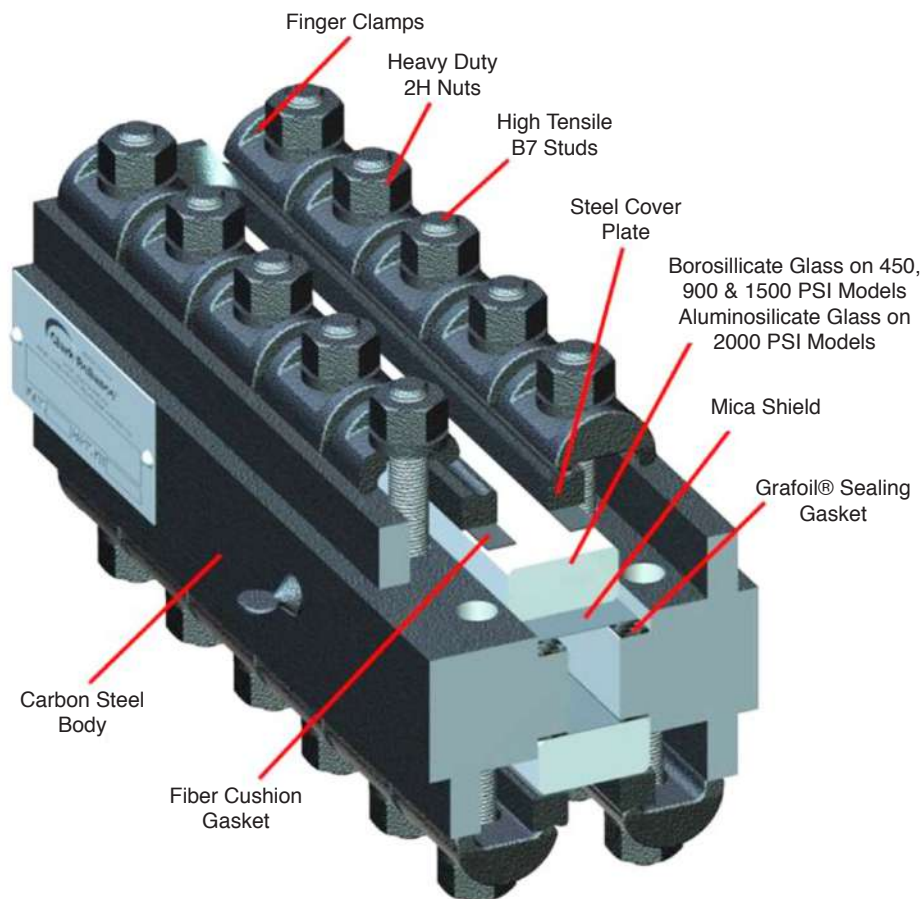
# Reliance<sup>®</sup>

## Flat Glass Gages

The precision manufacturing of these time-tested designs assures outstanding performance and service life. Choose from single, double or triple windows for ultimate visibility.

FG Series Gages provide wide-body construction for added strength and rigidity. Tempered flat glass composition of premium quality to resist thermal shock. All glass is tested for surface trueness prior to assembly and is protected with a high quality mica shield for steam applications.

All models feature finger-clamps which impart a uniform, perpendicular load across the glass surface, assuring gasket tightness. This design allows easy dismantling for cleaning and servicing.



A window slot, 5/8" (15.9 mm) wide, provides high visibility gage reading. For many installations, Water Gage Illuminators are recommended to improve gage readability.

# Flat Glass Water Gages 450 – 2000 PSI

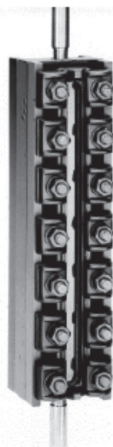
## FG Series Flat Glass Gages feature four functional designs:

### To 450 PSI

(31 Bar G, 31.6 Kg/cm<sup>2</sup>)

| SINGLE WINDOW GAGES |            |     |                            |     |        |     |
|---------------------|------------|-----|----------------------------|-----|--------|-----|
| MODEL NUMBER        | VISIBILITY |     | MINIMUM WATER GAGE CENTERS |     |        |     |
|                     | INCHES     | MM  | BG404S                     |     | SG854  |     |
|                     |            |     | INCHES                     | MM  | INCHES | MM  |
| FG404               | 6-5/8      | 168 | 14                         | 356 | 17     | 432 |
| FG405               | 7-3/4      | 197 | 16                         | 406 | 18     | 457 |
| FG406               | 9          | 229 | 17                         | 432 | 20     | 508 |
| FG407               | 10-1/8     | 257 | 18                         | 457 | 21     | 533 |
| FG408               | 11-3/4     | 298 | 20                         | 508 | 22     | 559 |
| FG409               | 12-1/2     | 318 | 20                         | 508 | 23     | 584 |
| DOUBLE WINDOW GAGES |            |     |                            |     |        |     |
| FG466               | 15         | 381 | 24                         | 610 | 26     | 660 |
| FG477               | 17-1/2     | 444 | 26                         | 660 | 29     | 737 |
| FG488               | 20         | 508 | 29                         | 737 | 31     | 787 |
| FG499               | 21-1/2     | 546 | 30                         | 762 | 33     | 838 |

Three or more window models available upon request.



### To 900 PSI

(62.1 Bar G, 63.27 Kg/cm<sup>2</sup>)

| SINGLE WINDOW GAGES |            |     |                               |     |  |
|---------------------|------------|-----|-------------------------------|-----|--|
| MODEL<br>NUMBER     | VISIBILITY |     | MINIMUM WATER<br>GAGE CENTERS |     |  |
|                     | INCHES     | MM  | INCHES                        | MM  |  |
| FG904               | 6-5/8      | 168 | 17                            | 432 |  |
| FG905               | 7-3/4      | 197 | 18                            | 457 |  |
| FG906               | 9          | 229 | 20                            | 508 |  |
| FG907               | 10-1/8     | 257 | 21                            | 533 |  |
| FG908               | 11-3/4     | 298 | 22                            | 559 |  |
| FG909               | 12-1/2     | 318 | 23                            | 584 |  |
|                     |            |     |                               |     |  |
| DOUBLE WINDOW GAGES |            |     |                               |     |  |
| FG966               | 15         | 381 | 26                            | 666 |  |
| FG977               | 17-1/2     | 444 | 29                            | 737 |  |
| FG988               | 20         | 508 | 31                            | 787 |  |
| FG999               | 21-1/2     | 546 | 33                            | 838 |  |

Minimum centers quoted apply to Clark-Reliance Gage Valve Series SG854 / SG860.

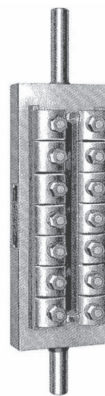


### To 1500 PSI

(103.4 Bar G, 105.5 Kg/cm<sup>2</sup>)

| SINGLE WINDOW GAGES |            |     |                            |     |
|---------------------|------------|-----|----------------------------|-----|
| MODEL NUMBER        | VISIBILITY |     | MINIMUM WATER GAGE CENTERS |     |
|                     | INCHES     | MM  | INCHES                     | MM  |
| FG1504              | 6-5/8      | 168 | 20                         | 508 |
| FG1505              | 7-3/4      | 197 | 21                         | 533 |
| FG1506              | 9          | 229 | 23                         | 584 |
| FG1507              | 10-1/8     | 257 | 24                         | 609 |
| FG1508              | 11-3/4     | 298 | 25                         | 635 |
| FG1509              | 12-1/2     | 318 | 26                         | 660 |
| DOUBLE WINDOW GAGES |            |     |                            |     |
| FG1566              | 15         | 381 | 29                         | 737 |
| FG1577              | 17-1/2     | 432 | 31                         | 787 |
| FG1588              | 19-1/2     | 495 | 33                         | 838 |
| FG1599              | 21         | 533 | 35                         | 889 |

Three or more window models available upon request.  
Minimum centers apply to Clark-Reliance Gage Valve Series SG854 / SG860.



### To 2000 PSI

(138 Bar G, 140.6 Kg/cm<sup>2</sup>)

| SINGLE WINDOW GAGES |            |     |                            |     |
|---------------------|------------|-----|----------------------------|-----|
| MODEL NUMBER        | VISIBILITY |     | MINIMUM WATER GAGE CENTERS |     |
|                     | INCHES     | MM  | INCHES                     | MM  |
| FG2004              | 6-5/8      | 168 | 15                         | 381 |
| FG2005              | 7-3/4      | 197 | 16                         | 406 |
| FG2006              | 9          | 229 | 17                         | 432 |
| FG2007              | 10-1/8     | 257 | 19                         | 483 |
| DOUBLE WINDOW GAGES |            |     |                            |     |
| FG2055              | 12         | 305 | 20                         | 508 |
| FG2066              | 15         | 381 | 23                         | 584 |
| FG2077              | 17         | 432 | 25                         | 635 |

Three or more window models available upon request.  
Minimum centers apply to Clark-Reliance Gage Valve Series SG777.  
All FG2000 Series Gages are supplied with flanged connections.



Shown with  
expansion  
loop option

# ***DuraStar***®

## **Flat Glass Gage LED Illuminator**

### The Most Dependable LED Illuminator for all Reliance® Flat Glass Level Gages

- High Contrast
- Superior Visibility Day or Night
- Field Upgradable
- Maintenance Free
- Long Life ~100,000 hrs.
- No Heat Generation
- Versatile
  - *Continuous or "On-Demand"*
- Amber LED's for high intensity "star-like" image of the water line
- Longest Field-of-View
- Pays for itself in electricity savings alone!
- No weather-proof illuminator hood used
- Models for Ordinary or Classified locations
- ATEX models available



#### **SPECIFICATIONS FOR ORDINARY LOCATION MODELS**

Power Supply: 100- 277 VAC @ 50/60 Hz\*

100-240 VAC @50/60Hz

Power Consumption: 320 mA @ 100 VAC

Est. Life: 100,000 Hours (continuous)

Agency Approvals: FM Ordinary Locations

CFM Ordinary Locations

Recommended Wire Size: 12AWG- 18AWG

Max dist. from power supply to light: 700ft. (216m)

Ambient Temperature: -40F (-40C) to 160F (70C)

Electrical Connection: 3/4" FNPT

\*Voltage for North America Only

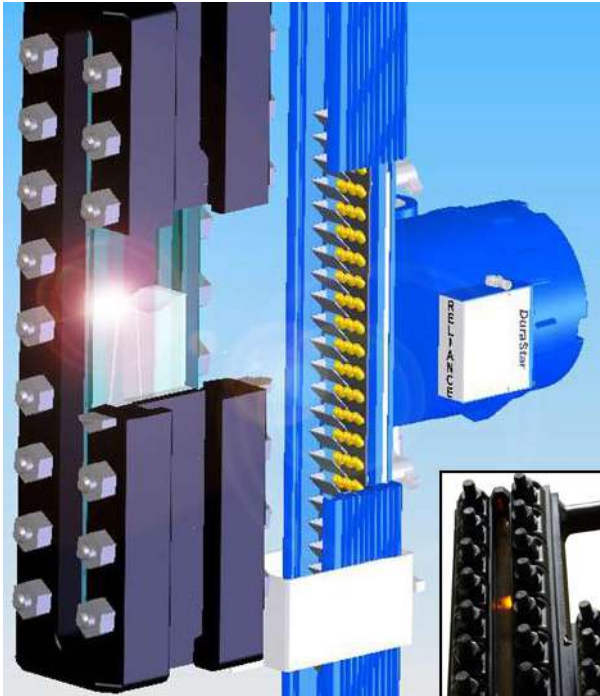
The DuraStar® approved for use in Class 1, Div 1, Group B, C & D environments. Contact your local representative or a Reliance Applications Engineer to configure a DuraStar™ for your transparent glass level gages.



For data on Classified Area and ATEX models, consult factory.

# DuraStar®

## Flat Glass Gage LED Illuminator



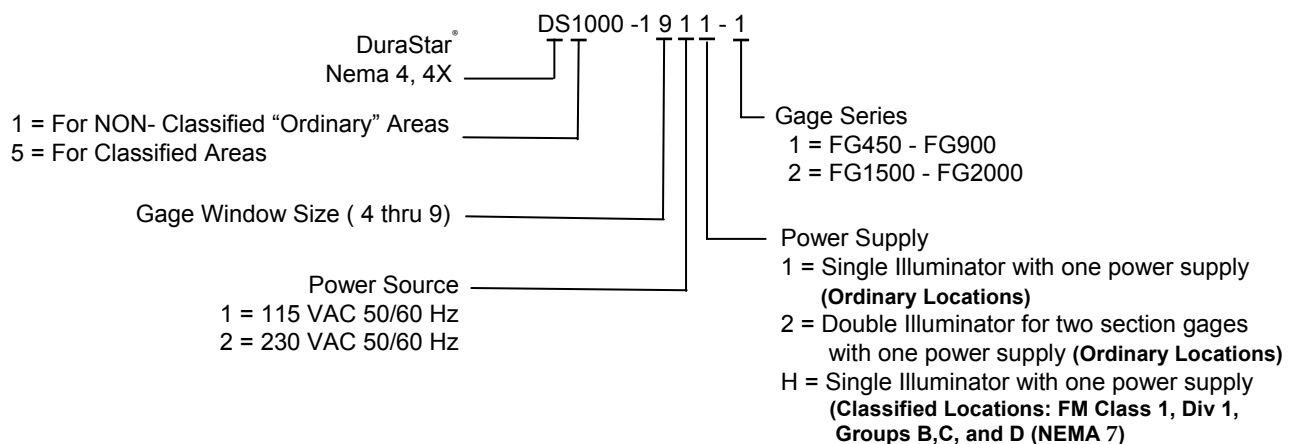
The DuraStar® Illuminator uses three columns of “directed” amber color LED’s to create a brilliant star-like image at the water level. The DuraStar™ easily attaches to new or existing Reliance level gages without the use of tools.



Explosion  
Proof  
Power Supply

Intrinsically Safe  
Lighting Circuit

| DuraStar® Model No. | Fits Gage Glass  | Length (Inches) | Length (mm) | Wt (lb) |
|---------------------|------------------|-----------------|-------------|---------|
| DS1000-1411-1       | FG404 or FG904   | 11.75           | 298         | 7.50    |
| DS1000-1511-1       | FG405 or FG905   | 13.00           | 330         | 7.75    |
| DS1000-1611-1       | FG406 or FG906   | 14.50           | 368         | 8.00    |
| DS1000-1711-1       | FG407 or FG907   | 15.75           | 400         | 8.25    |
| DS1000-1811-1       | FG408 or FG908   | 17.25           | 438         | 8.50    |
| DS1000-1911-1       | FG409 or FG909   | 18.00           | 457         | 8.75    |
| DS1000-1411-2       | FG1504 or FG2004 | 13.00           | 330         | 7.75    |
| DS1000-1511-2       | FG1505 or FG2005 | 14.50           | 368         | 8.00    |
| DS1000-1611-2       | FG1506 or FG2006 | 15.75           | 400         | 8.25    |
| DS1000-1711-2       | FG1507 or FG2007 | 16.50           | 419         | 8.50    |
| DS1000-1811-2       | FG1508           | 18.00           | 457         | 8.75    |
| DS1000-1911-2       | FG1509           | 19.00           | 483         | 9.00    |



### Notes:

1. For gages with three or more sections, combine single and double illuminators to minimize power supply requirements.
2. For remote mounting of power supply, specify Part No. V20602 for a 6.5' power cable extension.
3. Consult Factory for assistance with ATEX approved models and specifications.

### Notes:

# Reliance®

## Sizing Multiple Section Gages

### Maximum Water Gage Visibility for Flat Glass Gages

Dimensions - Inches (mm)

| # of Sections | Glass Size     |              |                  |                 |                |
|---------------|----------------|--------------|------------------|-----------------|----------------|
|               | 5              | 6            | 7                | 8               | 9              |
| Three         | 21.25<br>(540) | 25<br>(635)  | 28.375<br>(721)  | 33.25<br>(845)  | 35.5<br>(902)  |
| Four          | 28<br>(711)    | 33<br>(838)  | 37.5<br>(953)    | 44<br>(1118)    | 47<br>(1194)   |
| Five          | 34.75<br>(883) | 41<br>(1041) | 46.625<br>(1184) | 54.75<br>(1391) | 58.5<br>(1486) |
| Six           | 41.5<br>(1054) | 48<br>(1219) | 55.75<br>(1416)  | 65.5<br>(1664)  | 70<br>(1778)   |

- 1" (25.4 mm) minimum overlap on all multiple section designs
- Size 8 and 9 are not available for FG2000 series



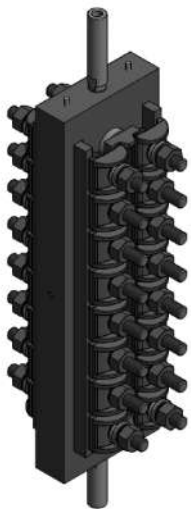
*Shown with  
expansion  
loop option*

**Note:** Gages with more than 3 sections will be offered with flanged connections.

# Reliance®

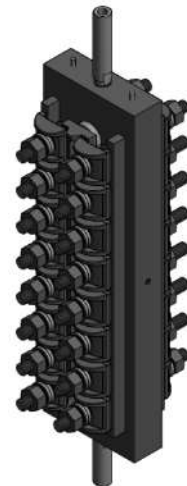
## Live Loading Options

**For longer life on FG1500/FG2000 series installed on applications with frequent cycling.**

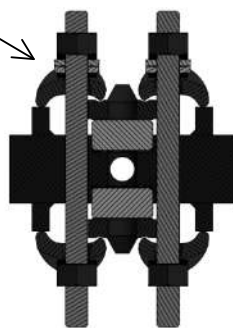


Spring washers  
installed only on  
the 4 corners on  
one side

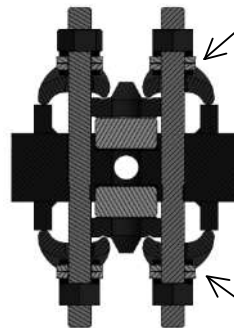
Spring washers  
installed on all  
studs on one side  
of the gage.



Spring  
Washers



Spring  
Washers



Spring  
Washers

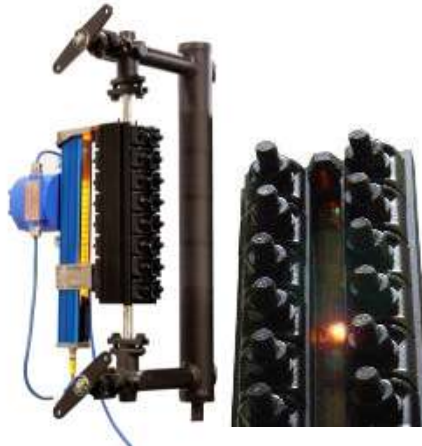
The longer studs with spring washers are provided on both sides of the gage on the 4 corner studs because the corner studs thread into the gage body to aid with assembly. Spring washers are needed only on one side of the middle studs, since these studs slide through the gage body.

Specify live loading by adding a “P” suffix to the gage model number.

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**Eye-Hye® SmartLevel™**  
Local and Remote Indicators



**Flat Glass Gages**  
and **Durastar®** Illuminators



**LevelMax**  
Systems



**Simpliport® 180**  
Water Gage System



**Levalarm® Gold**  
Boiler Level Switches

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Accuracy with OEM Parts**

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