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Product Bulletin

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Subject: Daniel® SeniorSonic™ Gas Flow Meter
High-Velocity Performance Improvement

Daniel Measurement and Control, Inc. announces a further improvement to the British Gas (BG) design 4-path SeniorSonic Gas Flow Meter that significantly extends the maximum velocity capability of the meter. This improvement has been achieved by changing the angle at which the four meter chords intersect the pipe axis from 45 degrees to 60 degrees.

All other aspects of this time-proven design remain the same. This change does not alter the benefits of the BG design. The meter continues to have excellent low velocity performance down to 1 foot per second (0.3 seconds per second) or less. The Seniorsonic maintains its superior installation effects performance.

This change in design will result in a shortened flange face-to-face dimension or meter length and the weight will be reduced. Please refer to the chart on the next page for changes in physical specifications.

Increasingly, certain applications for ultrasonic meter installations require higher velocities. Historically, Daniel has specified exceptional accuracy and linearity at flow rates as low as 1 feet per second and higher than 80 feet per second. However, application specifications with velocities of 90 feet per second and above have been requested.

The performance enhancement has been achieved without changing the chordal configuration that affords excellent long-term measurement stability relative to alternative ultrasonic meter technologies.

The results of this design change will improve meter performance with:

- Accurate meter performance of up to 100 feet per second (30 meters per second)
- Over-range performance of up to 125 feet per second (40 meters per second) without any degradation in meter performance
- Higher pipeline throughput without sacrificing measurement performance or having to purchase a larger diameter line size
- Continuing to meet or exceed the AGA 9 standard

All line sizes are now available in all sizes and ANSI ratings from 8 to 36 inches.

For additional information, please contact your Daniel Sales Representative, whom can be found at <http://www.emersonprocess.com/daniel/Salessupport/rep2.htm>.



Dimensions and Weights of Improved Daniel Senior Sonic Gas Flow Meter (600 ANSI)

| Meter Size (Inches) | Overall End-to-End (inches) | Flange Diameter (inches) | Approx. Weight (pounds) | Overall End-to-End (mm) | Flange Diameter (mm) | Approx. Weight (Kilograms) |
|---------------------|-----------------------------|--------------------------|-------------------------|-------------------------|----------------------|----------------------------|
| 8 | 21.5 | 16.5 | 550 | 546 | 419 | 250 |
| 10 | 24.5 | 20.0 | 800 | 622 | 508 | 364 |
| 12 | 26.0 | 22.0 | 950 | 660 | 559 | 432 |
| 16 | 30.0 | 27.0 | 1,750 | 762 | 686 | 795 |
| 20 | 35.5 | 32.0 | 2,650 | 902 | 813 | 1,205 |
| 24 | 39.0 | 37.0 | 4,000 | 991 | 940 | 1,818 |
| 30 | 48.3 | 44.5 | 5,500 | 1,226 | 1,130 | 2,500 |
| 36 | 55.0 | 51.8 | 8,300 | 1,397 | 1,314 | 3,773 |

Changes in Dimensions and Weights With New Design for Typical 600 ANSI Meter

| Meter Size (Inches) | Overall End-to-End (inches) | Flange Diameter (inches) | Approx. Weight (pounds) | Overall End-to-End (mm) | Flange Diameter (mm) | Approx. Weight (Kilograms) |
|---------------------|-----------------------------|--------------------------|-------------------------|-------------------------|----------------------|----------------------------|
| 8 | -10.0 | 0.0 | -100.0 | -254.0 | 0.0 | -45.5 |
| 10 | -9.5 | 0.0 | -85.0 | -241.3 | 0.0 | -38.6 |
| 12 | -9.4 | 0.0 | -125.0 | -239.8 | 0.0 | -56.8 |
| 16 | -14.0 | 0.0 | -205.0 | -355.6 | 0.0 | -93.2 |
| 20 | -15.1 | 0.0 | -425.0 | -384.0 | 0.0 | -193.2 |
| 24 | -19.6 | 0.0 | -45.0 | -498.3 | 0.0 | -20.5 |
| 30 | -18.8 | 0.0 | 575.0 | -476.3 | 0.0 | 261.4 |
| 36 | -18.5 | 0.0 | 1875.0 | -469.9 | 0.0 | 852.3 |