

## PLUS!™ Performance... Liquid-filled performance in a dry gauge!



### The Problem...

In the past, applications where heavy vibration and pulsation were present required the use of either a conventional dry gauge with a hard to read pointer and a limited life span, or, a costly liquid-filled gauge and all the headaches that come with them.



### The Solution...

An exclusive, breakthrough technology developed for Ashcroft pressure gauges providing virtually liquid-filled performance in a dry gauge, the Ashcroft® PLUS!™ Performance option.



#### Benefits vs. Dry Gauges...

- Dampens vibration and pulsation
- Steady pointer – Easier to read!
- 100% longer life
- Reduce purchases by 50%!

#### Benefits vs Liquid-filled...

- Dampens vibration and pulsation without the headaches of liquid-filled gauges.
- No liquid – No leaks!
- Easier to read...no fill lines!
- Easier to recalibrate.
- Wider temperature range vs glycerin-fill.
- Eliminates costly specialty fluids.



### How'd They Do That?..

The Patented Ashcroft® PLUS!™ Performance option utilizes a unique cartridge to surround the pinion with an engineered dampening agent to dynamically dampen the pointer and movement, thereby providing a dry gauge which acts liquid-filled.

#### IMPROVED PLANT SAFETY

Safety is a critical issue and the PLUS!™ performance option can improve the safety of your plant. Industry surveys indicate that 20% to 30% of customer's gauges are misapplied and prematurely fail due to pulsation and vibration. If a Bourdon tube fails due to excessive pulsation, the process media will escape causing possible environmental damage, process contamination and more importantly, possible injury, fire or explosion.



#### Q. Are PLUS!™ Performance gauges "new" gauges?

A. No. We simply enhanced the industry leading Ashcroft products you've grown to trust with a fluid clutch dampener. The mechanical system is unchanged.

#### Q. Does PLUS!™ Performance affect accuracy?

A. No. The only difference is that the response time is similar to liquid-filled gauges.

#### Q. Can these gauges be oxygen cleaned?

A. Yes. Our process cleans the system to meet AMSE B40.1 level IV.

#### Q. What temperature range is possible?

A. -40°F to 200°F or 250°F depending on window material.

#### Q. Can I use PLUS!™ Performance instead of Halocarbon fill

A. Yes!

#### Q. Can this be used in paint applications or others requiring no silicone?

A. The standard PLUS!™ Performance cannot be used in silicone-free applications. However, PLUS!™ is available in a silicone-free version. Order as XNS for silicone-free.

#### Q. Does the throttle plug do all the work?

A. No. Throttle plugs are designed only to fight pulsation. Vibration requires either a liquid-filled gauge or PLUS!™ Performance.

#### Q. Does our competition have anything similar?

A. No. One competitor evaluated a liquidless gauge with poor results. Their design utilized a dashpot which caused premature failures versus even dry gauges. Gauges with PLUS!™ Performance utilize a completely different approach overcoming their design problem.

#### Q. Will this gauge last forever?

A. No gauge will last forever under conditions of severe pulsation and vibration. The PLUS!™ Performance gauges simply last significantly longer than traditional dry gauges with the benefits outlined above. *There are a few applications, chiefly severe high frequency pulsation, where a liquid-filled gauge or a remote mounted gauge is necessary. With a few exceptions, Beta site customers have found the performance to rival liquid-filled gauges in life expectancy without any of the headaches of liquid-filled gauges.*

#### Q. How Do I Order?

A. The product variation "XLL" designates PLUS!™ Performance in all Duragauge®, Duralife®, 1008S and 1032 pressure gauges and Duratran® transmitters.

## PLUS!™ Performance... Liquid-filled performance in a dry gauge



### DURAGAUGE® PRESSURE GAUGE

**ACCURACY**  
½% full scale

**DIAL SIZE**  
4½", 6", 8½"

**TUBE MATERIAL**  
Bronze, 316 SS, Monel, Inconel

**SENSING ELEMENT**  
Bourdon tube

**CONNECTION**  
¼ NPT, ½ NPT, JIS, DIN, BSP,  
All lower or back

**RANGES**  
Vac. to 100,000 psi

**CASE MATERIAL**  
Phenolic, aluminum,  
polypropylene

**MOVEMENT**  
Stainless steel, rotary design,  
Teflon® S coated pinion and  
bearings

**POINTER**  
Micrometer adjustable

**DIAL**  
White painted aluminum

**TYPE NUMBERS**  
1279 phenolic (4½")  
1377 aluminum (4½", 6", 8½")  
1379 aluminum (4½", 6", 8½")  
2462 (6")



### TYPE 2279 DURATRAN® PRESSURE TRANSMITTER AND GAUGE

**ACCURACY**  
½% full scale

**OUTPUT**  
2 wire, 4-20mA

**STABILITY**  
±0.25% full scale

**SUPPLY VOLTAGE**  
24 Vdc nominal, 16V min.,  
40V max.

**DIAL SIZE**  
4½" analog dial

**TUBE MATERIAL**  
316 SS, Monel

**SENSING ELEMENT**  
Bourdon tube

**CONNECTION**  
½ NPT – lower

**RANGES**  
Vacuum, 12 to 20,000 psi

**CASE MATERIAL**  
Phenolic

**MOVEMENT**  
Stainless steel

**POINTER**  
Micrometer adjustable

**WEATHERPROOF**  
NEMA 4 – Hermetic seal

### AUTOCLAVABLE!



### TYPE 1032 SANITARY GAUGE

**ACCURACY**  
1.5%-2% depending on range

**DIAL SIZE**  
2½", 3½", 4½"

**TUBE MATERIAL**  
316 SS

**SENSING ELEMENT**  
316L SS diaphragm  
(12-20RA finish)

**CONNECTION**  
Standard: 1½" or 2" Tri-Clamp®,  
others on request  
*Location:* lower, back,  
side or top

**RANGES**  
From 15# to 1000# including  
vacuum and compound

**CASE & RING MATERIAL**  
304 stainless steel

**MOVEMENT**  
Stainless steel, PowerFlex™

**POINTER**  
Adjustable Pointer (all)  
Easy Zero Ext. Adjust (3½")

**DIAL**  
White painted aluminum

**WINDOW**  
Polycarbonate, Polysulfone  
(optional)

**CLEAN & STEAM IN PLACE**  
Temperature limits to 300°F  
(140°C)

**AUTOCLAVE OR STERILIZE**  
Temperature limits to 300°F  
(140°C) with polysulfone  
window

**SYSTEM FILL**  
Glycerin (Std)  
Food Grade Silicone (Opt)

**AGENCY APPROVAL**  
Meets 3A Standard 74-03



### TYPE 1009 PRESSURE GAUGE

**ACCURACY**  
1% full scale

**DIAL SIZE**  
2½", 3½", 4½", 6"

**TUBE MATERIAL**  
316 SS (2½", 3½")  
Bronze, 316 SS, monel,  
steel (4½" 6")

**SENSING ELEMENT**  
Bourdon tube, Helium leak test  
to 1 x 10<sup>-6</sup> ATM CC/sec

**CONNECTION**  
⅛ NPT, ¼ NPT, ½ NPT,  
⅞" x 20 SAE lower or lower  
back, other threads on  
application

**RANGES**  
Vac. to 30,000 psi including  
compound

**CASE & RING MATERIAL**  
304 Stainless steel with ventable  
relief plug

**MOVEMENT**  
Stainless steel, PowerFlex™  
(2½", 3½")  
Stainless steel (4½", 6")

**POINTER**  
Adjustable

**DIAL**  
White painted aluminum

**WINDOW**  
Polycarbonate (2½", 3½")  
Glass (4½", 6"), safety glass  
optional

- ASME B40.100
- EN837.1 compliance available
- RO HS compliant
- CRN approved



### TYPE 1008S STAINLESS STEEL METRIC CASE

**ACCURACY**  
1.6% full scale

**DIAL SIZE**  
63mm, 100mm

**TUBE MATERIAL**  
316 SS

**SENSING ELEMENT**  
Bourdon tube

**CONNECTION**  
¼ NPT lower or lower back  
½ NPT lower (100mm), JIS,  
DIN available

**RANGES**  
Vac. to 15,000 psi including  
compound

**CASE MATERIAL**  
304 stainless steel

**MOVEMENT**  
Stainless steel, PowerFlex™

**POINTER**  
Fixed

**DIAL**  
White painted aluminum

**WINDOW**  
Polycarbonate

- ASME B40.100
- EN837.1 compliance available
- RO HS compliant
- CRN approved

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BULLETIN PL-1

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