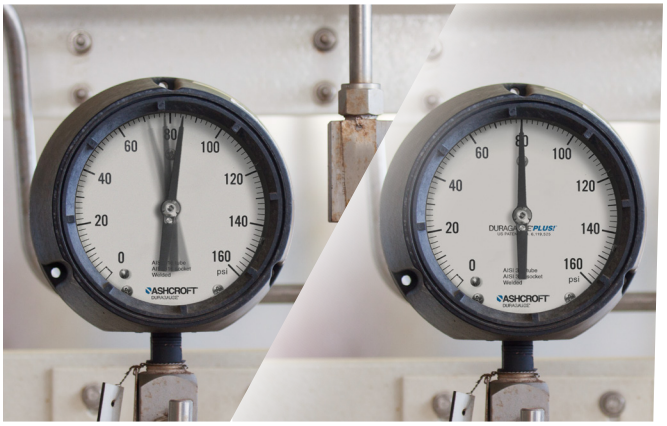
PLUS!™ Performance

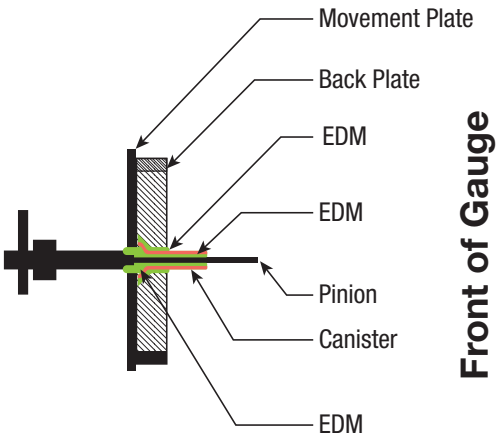
ASHCROFT®
Trust the shield.®

PLUS!™ Performance

What is *PLUS!*™ Performance?

For applications where pulsation and vibration are present, a dry gauge can be difficult to read and have a limited life span. Liquid fill gauges are costly and have their own set of challenges. But, ***PLUS!***™ Performance is an award-winning dry case pressure gauge that dampens pulsation and vibration, improves gauge readability and avoids all the headaches of a liquid filled gauge. This proven technology has been sold in more than 1 million gauges worldwide since it was patented in 1998, and it is an industry standard when it comes to pulsation and vibration management.





1279 ***PLUS!*** shown above

How does it work?

This proprietary Engineered Dampening Media (EDM) of a gauge with the ***PLUS!***™ Performance option is injected into a canister that surrounds the gauge movement pinion shaft, movement plate, and backplate.

This movement technology, or ***PLUS!***™ Performance, utilizes a thixotropic liquid that adheres to the pinion. As gauge pressure increases or decreases, movement of the gauge pinion creates shear load, which causes EDM molecules to scatter. The EDM material gets thinner at the layer being sheared. With applications involving vibration, this allows dampening of the gauge pointer. This action allows for a steady, flutter-free pointer.

ashcroft.com
info@ashcroft.com
1.800.328.8258

PLUS!™ Performance

Gauges with ***PLUS!***™ Performance vs. a *dry gauge*:

- dampens pulsation and vibration
- provides an easier to read steady pointer
- reduces inventory by not having to stock both dry and liquid filled gauges

Gauges with ***PLUS!***™ Performance vs. a *liquid filled gauge*

- Because ***PLUS!***™ Performance comes standard with a dry gauge case, no leaks!
- wider ambient temperature range than a glycerin filled gauge
- easier to recalibrate
- no process contamination of fill fluid
- eliminates the need for costly specialty fills in oxidizing applications

How to specify?

Gauges with ***PLUS!***™ Performance are specified using the **XLL** variation code. For applications requiring silicone free, the variation code is **XNZ**.

ashcroft.com
info@ashcroft.com
1.800.328.8258

ASHCROFT®
Trust the shield.®

PLUS!™ Performance

Case Study 1

Improved plant safety while reducing the number of SKU's in inventory

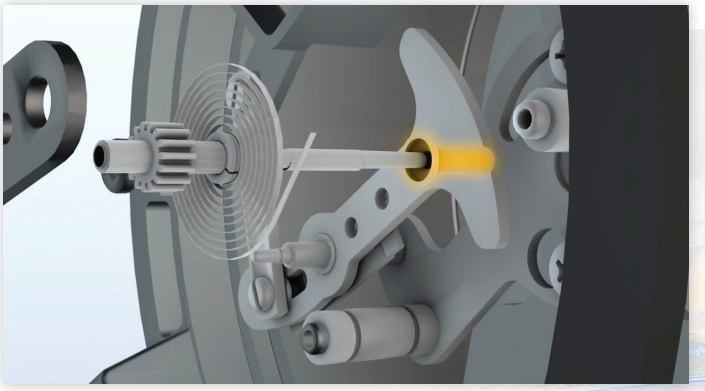
The Problem:
Industries surveys indicate that pressure gauges are often misapplied and prematurely fail due to vibration and pulsation. While liquid filled gauges do offer protection against pulsation and vibration, they can be expensive, forcing buyers and planners to stock both liquid filled and dry gauges.

The Solution:
Standardizing on ***PLUS!***™ Performance allows buyers to reduce the amount of SKUs while maintaining their facilities safe and attending the demand of their processes.

Case Study 2

The Problem:
Often times, liquid filled gauges are used in the automotive paint spray process to protect the gauge from the rigors of pulsation and vibration. A large automotive paint spray supplier expressed concern about surface contamination of the automobile body from a potentially leaky liquid filled gauge case. The liquid fill in the gauge case, either silicone or glycerin when in contact with the automotive body could cause *cratering*, a term meaning low surface tension of the paint to the metal. Cratering causes dish shaped deformations in the paint surface. Some are shallow dimples; others penetrate the substrate or layer below. Cratering results in disruption of the assembly line, additional labor for sanding/repairs/rework. Worst case, car bodies may be scrapped. All of these add up to thousands of dollars' worth of loss.

The Solution:
Ashcroft recommended a dry 1279 gauge with silicone free Duragauge ***PLUS!***™, option XNZ. This option provides protection against process pulsation and vibration without the headaches of a liquid filled gauge.



1279 ***PLUS!*** shown above

ashcroft.com
info@ashcroft.com
1.800.328.8258

ASHCROFT®
Trust the shield.®

PLUS!™ Performance

Available in all of these pressure gauges!

	1279	1377	1379	2462
Dial Size	4½″	4½″, 6″, 8½″	4½″, 6″, 8½″	6″
Accuracy	±0.5% of span (ASME B40.100 Grade 2A)	±0.5% of span (ASME B40.100 Grade 2A)	±0.5% of span (ASME B40.100 Grade 2A)	±0.5% of span (ASME B40.100 Grade 2A)
Process Connection	¼ NPT, ½ NPT 9/16-18 UNF-2B standard for 30,000 psi range	¼ NPT, ½ NPT 9/16-18 UNF-2B standard for 30,000 psi range	¼ NPT, ½ NPT 9/16-18 UNF-2B standard for 30,000 psi range	¼ NPT, ½ NPT 9/16-18 UNF-2B standard for 30,000 psi range
Bourdon Tube Material	Bronze, 316L SS, Monel 500®	Bronze, 316L SS, Monel 500®	Bronze, 316L SS, Monel 500®	Bronze, 316L SS, Monel 500®
Dampening	Duragauge ***PLUS!***™ (XLL OPT.)	Duragauge ***PLUS!***™ (XLL OPT.)	Duragauge ***PLUS!***™ (XLL OPT.)	Duragauge ***PLUS!***™ (XLL OPT.)
Ranges	Vac., compound, 15 to 30,000 psi	Vac., compound, 15 to 30,000 psi	Vac., compound, 15 to 30,000 psi	Vac., compound, 15 to 30,000 psi
Case Type	Solid front with pressure relief back	Solid front with pressure relief back	Solid front with pressure relief back	Solid front with pressure relief back
Case Material	Phenolic	Aluminum, black epoxy	Aluminum, black epoxy	Black, polypropylene
Ring Material	Polycarbonate (Meets UL 94 V-0)	Steel, black enamel	Polycarbonate (Meets UL 94 V-0)	Polypropylene
Window	Glass	Glass	Glass	Glass
Pressure Relief Back	Polycarbonate (Meets UL 94 V-0)	300 SS	Polycarbonate (Meets UL 94 V-0)	Polycarbonate
Process Connection Material	Brass, 316L SS, Monel 400®	Brass, 316L SS, Monel 400®	Brass, 316L SS, Monel 400®	Brass, 316L SS, Monel 400®
Movement	SS, rotary design, Teflon® S coated pinion and bearings	SS, rotary design, Teflon® S coated pinion and bearings	SS, rotary design, Teflon® S coated pinion and bearings	SS, rotary design, Teflon® S coated pinion and bearings
Pointer	Micrometer adjustable, aluminum	Micrometer, adjustable, aluminum	Micrometer, adjustable, aluminum	Micrometer, adjustable, aluminum
Agency Approval	CRN	CRN	CRN	CRN

Note: ***PLUS!***™ design is not recommended for gauges expected to be exposed to temperatures over 200°F (93°C). This includes gauges subject to autoclaving

ashcroft.com
info@ashcroft.com
1.800.328.8258

ASHCROFT®
Trust the shield.®

PLUS!™ Performance

Available in all of these pressure gauges!

	1259	1209	T5500 & 6500	T5500E
Dial Size	4½″	4½″	4½″, 6″, 8½″	100mm (4½″)
Accuracy	±0.5% of span (ASME B40.100 Grade 2A)	±0.5% of span (ASME B40.100 Grade 2A)	±1% of span (DIN EN 837-1)	±1% of span (DIN EN 837-1)
Process Connection	¼ NPT, ½ NPT	¼ NPT, ½ NPT	¼ NPT, ½ NPT	¼ NPT, ½ NPT
Bourdon Tube Material	316L SS, Monel 500®	316L SS	316L SS, Monel 400®	316L SS
Dampening	***PLUS!***™ Performace (XLL OPT.)	***PLUS!***™ Performace (XLL OPT.)	***PLUS!***™ Performace (XLL OPT.)	***PLUS!***™ Performace (XLL OPT.)
Ranges	Vac., compound, 15 to 20,000 psi	Vac., compound, 15 to 20,000 psi	Vac., compound, 15 to 20,000 psi	Vac., compound, 15 to 15,000 psi
Case Type	Solid front with pressure relief back	Solid front with pressure relief back	T5500: Open front T6500: Solid front with pressure relief back	Open front
Case Material	PBT Polybutylene terephthalate (Meets UL 94 V-0)	316L SS	304 SS (316L SS OPT.)	304 SS
Ring Material	PBT Polybutylene terephthalate (Meets UL 94 V-0)	316L SS	304 SS (316L SS OPT.)	304 SS
Window	Glass, safety glass, acrylic (OPT.)	Acrylic	T5500: Glass T6500: Safety glass	Safety glass
Pressure Relief Back	PBT Polybutylene terephthalate (Meets UL 94 V-0)	316L SS	304 SS, 316L SS (OPT.)	304 SS
Process Connection Material	316L SS	316L SS	316L SS, Monel 400®	316L SS, Monel 400®
Movement	304 SS adjustable	304 SS adjustable	304 SS adjustable	304 SS adjustable
Pointer	Micrometer adjustable, aluminum	Micrometer adjustable, aluminum	Adjustable, aluminum (316 SS OPT.)	Adjustable, aluminum
Agency Approval	CRN	CRN	CRN, ATEX (OPT.)	CRN, RoHS
Power Supply Requirements	NA	NA	NA	Supply voltage: 12-30 Vdc Supply current: 20 mA (Max.) Output signal: 4-20 mA Isolation voltage: 350 Vac
Electrical Termination	NA	NA	NA	Type B Universal box cable connector DIN EN 175301-803 Angle connector

Note: ***PLUS!***™ design is not recommended for gauges expected to be exposed to temperatures over 200°F (93°C). This includes gauges subject to autoclaving

ashcroft.com
info@ashcroft.com
1.800.328.8258

ASHCROFT®
Trust the shield.®

PLUS!™ Performance

Available in all of these pressure gauges!

	1009	1008S SS	1032
Dial Size	2½″, 3½″, 4½″, 6″	63mm, 100mm	2½″, 3½″, 4½″
Accuracy	Dry: 1% full scale (ASME B40.100 Grade 1A) Liquid Fill: ±1.5% of span	1.6% full scale (ASME B40.100 Grade 1A)	1.5%-2% depending on range
Bourdon Tube Material	2½″, 3½″: 316 SS 4½″, 6″: Bronze, 316 SS, Monel®	316 SS	316 SS
Dampening	***PLUS!***™ Performace (XLL OPT.)	***PLUS!***™ Performace (XLL OPT.)	***PLUS!***™ Performace (XLL OPT.)
Process Connection	¼ NPT, ½ NPT	⅛ NPT, ¼ NPT, 100mm: ½ NPT	1½″, 2″ Tri-Clamp®
Ranges	Vac., compound to 30,000 (4½″ & 6″ only) 2½″ & 3½″ to 15,000 psi	Vac., compound to 15,000 psi	Vac., compound, 15 to 1,000 psi
Case/Ring Material	304 SS w/ Crimped Ring or Bayonet	304 SS w/ Crimped rIng	304 SS, bayonet ring
Case Style	Open front	Open front	Open front
Movement	2½″, 3½″: Power*Flex*™ 4½″, 6″: SS	SS, Power*Flex*™	SS, Power*Flex*™
Window	2½″, 3½″: Polycarbonate 4½″, 6″: Glass	Polycarbonate	2½″, 3½″: Polycarbonate 4½″: Glass
Clean & Stem in Place (CIS, SIP)	NA	NA	Temp. limits to 300°F (140°C)
Autoclave or Sterilize	NA	NA	Temp. limits to 280°F (138°C) with Polysulfone window
Agency Approval	CRN, RoHS	CRN, RoHS	Meets 3A Standard 74

Note: ***PLUS!***™ design is not recommended for gauges expected to be exposed to temperatures over 200°F (93°C). This includes gauges subject to autoclaving

ashcroft.com
info@ashcroft.com
1.800.328.8258

ASHCROFT®

Trust the shield.®