Liberty

VENDOR SPEC SHEET / PLAST-O-MATIC

GGS Chemical Gauge Guard Spec Sheet

Unbreakable stainless steel instrument connection — isolates pressure/vacuum instruments from corrosive process fluid, as specified by LibertyCES.

OVERVIEW

GGS Series — Chemical Gauge Guards

> A gauge guard isolates and protects pressure or vacuum instruments on ultra-pure or highly corrosive fluid lines. A stainless steel hex insert eliminates the breakage that comes from overtightening a metal instrument directly into a plastic body — the standard failure mode on unprotected gauges.

Applications	Detail
Corrosive service	Demineralized water, sulfuric acid, hydrochloric acid, caustics
Chlorine service	Use with caution — consult factory for recommendations
Suspended solids / viscous fluids	Diaphragm barrier protects instrument from clogging

> **Materials of construction:** Grade 1, Type 1 Geon® PVC, Corzan® CPVC, Natural Polypropylene, Glass-Filled Polypropylene, or Kynar® PVDF. PTFE diaphragms are standard for gauges 0-30 PSI and greater; FKM elastomer diaphragms are used for 0-15 PSI and vacuum applications.


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PLAST-O-MATIC
VALVES, INC.


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6
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bar
psi
PLAST-O-MATIC
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DESIGN & OPERATION

Diaphragm Barrier & Pressure Ratings

A flexible diaphragm barrier separates process fluid from the instrument. The internal space on the instrument side is solidly filled with a fill liquid (mineral oil or deionized water) that transmits process pressure to the gauge without exposing it to the corrosive fluid.

Spec	Detail
Sensing area	2.07 sq. in.
Fill liquid volumetric capacity	1.03 cu. in.
Maximum working pressure	250 PSI in most configurations
Diaphragm rupture point	~400 PSI

Safety factor: For dangerous fluids such as acids, a minimum 4x safety factor should be adhered to, keeping process fluid pressure at 100 PSI or lower relative to the diaphragm's rupture point.

Removable housing design: Allows the diaphragm and lower housing cavity to be cleaned of particulate or scale without refilling or recalibrating the protected instrument — loosen 6 fasteners, pull the upper housing away, and the diaphragm/fill liquid stay captured in the retaining ring.

Snubber insert: An optional factory-installed insert that reduces pressure pulsations, provides more accurate readings, and extends gauge life by reducing needle fluctuation damage.

MATERIAL SELECTION

Maximum Gauge Rating by Fluid Line Temperature

> Maximum recommended gauge PSI at a given fluid line temperature (measured at 80°F/26°C ambient). Use the next column right if actual temperature falls between listed values.

Material	77°F	140°F	212°F
Geon PVC	0-250 PSI	0-57 PSI	N/R
Corzan CPVC	0-250 PSI	0-140 PSI	N/R
Natural Polypro	0-160 PSI	0-80 PSI	N/R
Glass-Filled Polypro	0-160 PSI	0-160 PSI	N/R
Kynar PVDF	0-250 PSI	0-150 PSI	0-90 PSI

> **Model number system:** Base part numbers are stamped for Geon PVC (e.g. GGTS030-PV). Change the material suffix for CPVC (-CP), Natural Polypro (-NP), Glass-Filled Polypro (-PP), or Kynar PVDF (-PF). Add "-C" for center-back mounted gauge, "-R" for removable housing, "-S" for transparent acrylic gauge shield, "-G" for glycerin-filled gauge face, or "-FP" for a gauge fill port.

OPTIONS

Spigot Mount, Gauge Shields & Fill Port

Option	Detail
Spigot process connection	Asahi or GF metric spigot (butt/socket fusion) or IPS spigot (butt fusion only) — PVC, CPVC, Natural Polypro, or PVDF
Gauge shield	Transparent acrylic, airtight/watertight, protects metal gauges from corrosive atmosphere and external shock — 2" diameter gauges or smaller only, not compatible with removable housing
Liquid-filled gauge face	USP Food/Pharma grade glycerin standard (add "-G" suffix); other fill liquids available on request
Gauge fill port	Add "-FP" suffix — allows field re-filling without disassembly


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NEXT STEP

Send LibertyCES the process data, not a part number.

Process fluid, concentration, fluid line temperature, required pressure range, and process connection type — that's what a real gauge guard spec review needs to start. Material selection and diaphragm choice both depend on the actual chemistry and temperature, not a catalog default.

Request a spec review

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