

# PENBERTHY

## application report

Section 2000  
Application Report 2772.1  
Issued 05/05  
Replaces 12/01

For: GAGECOCK FEATURES

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**BODY** – One piece machined from a casting or forging.

Straight Pattern – offered with an integral or threaded seat. Limits rod cleaning when used with end connected gages.

Offset Pattern – offered with an integral or threaded renewable seat. Allows rodable cleaning when used with end connected gages. Most common in the industry. Also allows vision length to equal vessel connections on side connect gages.

**TRIM** – internal components of the gagecock

Stem – has standard pitch or quick closing thread. Back seating stems available on some gagecocks allow packing to be replaced without taking gagecock out of service.

Stem Packing Retainer – retains the packing material in proper position on the stem.

Ball Check – safety feature that automatically shuts off flow through the gagecock should glass break in the gage. Available in pressure (standard) or vacuum styles.

Seat – (threaded) provides seating surface for stem to shut flow off. Can be replaced. (On integral seat gagecocks, the seat surface may be re-machined).

**CONNECTIONS** – three outlets provided for attachment to the gage, vessel and vent/drain.

Gage Connection – the connection of the gagecock that is perpendicular to the stem and attaches to the gage chambers using one of six possible connection styles:

Union – male or female tailpipe held to the gagecock body by a coupling nut. Available in 1/2" or 3/4" NPT. Eases installation. Gage can be removed for service while leaving gagecock installed to vessel.

Rigid – female NPT opening in gagecock body. Allows shortest vessel centers for a given vision length. Installation and disassembly not as easy as union style.

Socketweld – same as union and rigid style configuration. Minimizes leak possibilities but is more difficult to install and disassemble from the gage. Available in 1/2" male and female tailpipes, 3/4" male tailpipes and 1/2" and 3/4" female rigid connections depending on gagecock model.

Flanged – offers easy installation and disassembly from gage. Available in 1/2" and 3/4" sizes depending on gagecock model. More costly than other styles.

Spherical Union – allows for angular misaligned vessel taps. Available in 1/2" NPTF, NPTM, SWM, SWF and 3/4" NPTM, SWM. More costly than standard union.

Stuffing Box – allows connection of the gagecock to tubular glass or gage adapter used for thermal expansion and contraction. Available in 3/4" and 5/8" diameters.

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Section 2000  
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For: GAGECOCK FEATURES

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- Vessel Connection – the connection of the gagecock that is in line with the stem and attaches to the vessel using one of five possible connection styles.
- Union – (floating shank) allows up to 3/8" adjustment for varying vessel centers. Available in 1/2" NPTF and 1/2 and 3/4" NPTM depending on gagecock model. 1" NPTM available with non-floating shank.
- Solid Shank – rigid connection to vessel. No allowance for center to center variations. Integral seat gagecocks with this connection do not have ball checks. Minimize chance of leaks. Available in 1/2, 3/4 and 1" NPTM depending on gagecock model.
- Socketweld – mail tailpipe or shank (depending of gagecock model) is plain with no threads. Used for permanent welded connection to vessel. Minimizes leak possibilities but is more difficult to install and disassemble from the vessel. Available in 1/2, 3/4 and 1" sizes depending on gagecock model.
- Flanged – offers easy installation and disassembly from vessel. Sizes available: (in raised face, weld neck, ring type joint and lap joint) from 1/2" and up in 150# to 2500# ANSI. Gagecock rating limited to flanged rating depending on gagecock model. More costly than other styles.
- Spherical – allows for angular misaligned vessel taps. Available in 1/2" NPTF, NPTM, SWM, SWF and 3/4" NPTM, SWM. More costly than standard union.
- Vent/Drain Connection – the connection opposite the gage connection. Can be used for connecting piping, drain valve and gage or access to clean the gage, when using offset gagecocks. Available in 1/8, 3/8 1/2 and NPTF depending on gagecock model. Also available as socketweld or flanged.

### GAGECOCK OPTIONS

- Ball Check ASME B & PV – ball checks omitted are standard for ASME service. Optionally installed vertically in lower gagecock to lessen chance of sticking closed in corrosive steam applications. Upper gagecock seat is also etched to allow bypass is glass is broken.
- Hand Wheel/Lever with Quick Closing Feature – allows 1/4 turn for quick closing needs and chain operated gagecocks located in high places.
- Guard Rods – used with tubular glass gagecocks. Provides some protection to tubular glass. Two or four rods used per gagecock set depending on gagecock model.
- Protectors – used with tubular glass gagecocks. Available in refractive, wire glass, plastic and sheet metal protector types. Provides better protection than guard rods. Special protector nuts are required at additional cost for installation on most tubular gagecocks.