CLASS 3305 04 - GAS ACCESSORY DEVICES – Combination Quick Disconnect / Manually Operated Valve

CLASS 3305 84 - GAS ACCESSORY DEVICES – Combination Quick Disconnect / Manually Operated Valve

Certified to U.S. Standards

Trade Name: COUPLE-SAFE

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Inlet (inch)</th>
<th>Outlet (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/375</td>
<td>⅝ NPT(F)</td>
<td>⅝ NPT(F), ½ SAE Flare</td>
</tr>
<tr>
<td>3/375M</td>
<td>⅝ NPT(F)</td>
<td>⅝ NPT(F), ½ SAE Flare</td>
</tr>
</tbody>
</table>

APPLICABLE REQUIREMENTS

ANSI Z21.41b-2010-CSA 6.9b-2010 – Addenda to the Second Edition
MARKINGS

All markings and instructions are in compliance with the above mentioned requirements. (See Figures: 4, 8, 9, 28-30)

Markings are Class I Integral: stamped or otherwise formed into the Quick Disconnect Device Plug body and the Socket Sleeve.

Quick-Disconnect Devices shall bear a clear and permanent marking of the following:

- The manufacturer’s identifying marking (plug and socket), M.B. STURGIS, INC. logo or “Couple-Safe”;
- The direction of gas flow (socket), “\(^{\text{FLOW}}\)”;  
- The maximum operating pressure (socket), “1/2 PSI MAX”;
- Symbol of the organization making tests for compliance with this standard (plug and socket), “\(^{\text{©}}\)”;  
- 4 Digit Date code marking: the first and second digits shall indicate the calendar year in which the device is manufactured, the third and fourth digits shall indicate the week in which the device was manufactured (plug and socket), “YYWW”; and
- “For Indoor/Outdoor Use” and “-40°F”

ALTERATIONS

No alterations were required.

FACTORY TESTS

_The submitter shall ensure that the following factory tests are conducted at the frequency specified and the results are documented and made available for review by CSA field services representatives:_ (See “Att1 Manufacturing And Production Test Plan)

ANSI Z21.41-CSA 6.9 – _Quick Disconnect Devices For Use With Gas Fuel Appliances_

**A. GENERAL:** There shall be adequate facilities (quality control and assurance programs) for producing subsequent products identical to the certified design and provisions for tests and inspection of assemblies necessary to ensure safe and uniform products.

**B. DETAILS OF TESTS REQUIRED:** Part III Manufacturing And Production Tests

Part III: Manufacturing And Production Tests

3.1
The manufacturer shall use a program to qualify raw materials, parts, assemblies and purchased components.

3.2 **Leakage (2.1.1):** 100% of all Quick Disconnect Devices shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 2.0 inches water column and 21 inches water column.

3.3
Leakage (2.1.1): Once a year, a Quick Disconnect Devices shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 2.0 inches water column and 21 inches water column.

Leakage (2.1.2): Once a year, a Quick Disconnect Devices shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 2.0 inches water column and 21 inches water column at a temperature of -20°F or -40°F as applicable for certification and usage.

Safety tests (1.5): Once a year, a Quick Disconnect Device will be tested and shall checked for leakage per 2.1.1.

Strength tests (1.6): on complete valves: Once a year

1.6.1 Suspended Weight: No deformation, breakage and shall checked for leakage per 2.1.1.
1.6.2 Turning Effort: No deformation, breakage and shall checked for leakage per 2.1.1.
1.6.3 Impact: No cracking or breaking allowed.
1.6.4 Static Load: Shall checked for leakage per 2.1.1.
1.6.5 Drop: Shall checked for leakage per 2.1.1.
1.6.6 Bending Moment (Side Force): Shall checked for leakage per 2.1.1.

High temperature operation (2.3): Once a year, a Quick Disconnect Device will be tested and shall not leak greater than 1.0 cubic foot in 10 minutes at 14.0 inches water column.

Continued operation tests (2.4): Once a year, a Quick Disconnect Device will be tested and shall not leak.

3.4
The manufacturer’s test method(s) shall be capable of relating back to the test(s) specified in the standard.

ANSI Z21.15-CSA 9.1 – *Manually Operated Gas Valves For Gas Appliances And Hose End Valves*
Part III: Manufacturing And Production Tests

3.1
The manufacturer shall use a program to qualify raw materials, parts, assemblies and purchased components.

3.2
The manufacturer shall test each device for:

Leakage at room temperature(2.2): 100% of all manual valves shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 2.0 inches water column and 3 PSI.

3.3
The manufacturer shall test annually for:

Continued Operation test (2.4): Once a year, a manual valve shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 2.0 inches water column and 3 PSI after cycling.

Low Temperature Operation test (2.5): Once a year, a manual valve shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 2.0 inches water column and 3 PSI or have a greater than allowable torque at low temperature operation.

Leakage (at high temperature) (2.2): Once a year, a manual valve shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 2.0 inches water column and 3 PSI.

Strength tests (1.8): on complete valves: Once a year

1.8.1 Bending Moment: No cracking or breaking allowed shall be checked for leakage per 2.2.
1.8.2 Turning Effort: No deformation, breakage and shall checked for leakage per 2.2.
1.8.3 Impact: No cracking or breaking allowed.

Side Load test (2.6): Once a year, a manual valve shall be tested and shall not leak in excess of 20 cubic centimeters of air per hour when subjected to air pressures of 21.0 inches water column with a 12 pound load applied radially to the stem.
SPECIAL INSTRUCTIONS FOR FIELD SERVICES

This certification does not extend to the substitution of materials or changes in the construction or composition of products, nor factory location without prior written authorization.

COMPONENT SPECIAL PICKUP

No component special pickup required.

DESCRIPTION

Model Number Breakdown

<table>
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<tr>
<th>Models:</th>
<th>Description</th>
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<tr>
<td>3/375</td>
<td>Quick Disconnect Device (QDD) with integral Manually Operated Valve. Device is of “360 Brass” construction for the Socket and Plug; utilizing a hand-operated positive locking 360 Brass or Nylon-6 Socket Sleeve; 302 Stainless Steel Sleeve Spring; 302 Stainless Steel Retaining Ring with three 302 Stainless Steel (Clamping) Balls (retract Socket Sleeve to connect and disconnect). The ball-bearings ride a perpendicular conical groove for positive locking the socket to the plug. Assembly utilizes a manual gas valve with a.</td>
</tr>
<tr>
<td></td>
<td>• The Socket (female coupler) portion has a ⅜ NPT(F) inlet connection. The Socket is a two piece design with the Coupling Assembly and Ball-valve Assembly incorporating the inlet connection sealed with a Buna-N Rubber O-Ring. The Coupling Assembly incorporates a spring actuated poppet valve assembly (302 Stainless Steel Bottom Guide, Spring; Nylon-6 Top Guide; 360 Brass Stem, Member; 301 Steel Retainer; and a Eutectic Alloy Solder Pellet) for automatic means of gas shut-off utilizing a Buna-N Rubber Seat when disconnected to prevent internal leakage. A Viton Rubber O-Ring is used to seal against the Plug during connection to prevent external leakage. The Ball-valve Assembly is of 360 Brass construction for the Body, Stem and Ball; Teflon for the Ball Seats; Nitrile-Butadiene Rubber for the Stem Seal; Zinc Alloy Handle; 304 Stainless Steel Sleeve Stop. A mechanical link prevents disconnection of the Plug from the Socket if the manual valve is in the open position.</td>
</tr>
<tr>
<td></td>
<td>• The Plug (male nipple) portion has a ⅜ NPT(F) or ½ SAE Flare outlet connection (Part Number 401207 and 401213 respectively).</td>
</tr>
</tbody>
</table>


Specifications

Rated Inlet Pressure: ½ PSI

Ambient Operating Temperature Range: -40°F to 200°F

Flow Capacity: 42,000 Btu/hr. (Based on a 1000 Btu per cubic foot gas, a specific gravity of 0.64 at a 0.3 inch pressure drop.)
Mounting position: Multipoise
Inlet connection: ¾ NPT(F)
Outlet connection: ¾ NPT(F) or ½ SAE Flare

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<td>104072</td>
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<td>03A Model 3/375M Connector with Knob Assembly and modified inlet</td>
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<td>18 Poppet Member for Model 3</td>
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<td>23 Keeper</td>
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<td>26 Seat-Solid</td>
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<td>27 Body 3/8 NPT(F) x 11/16-24</td>
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<td>B02</td>
<td>28 Plug, CSN-375 x 1/2 Male SAE Flare</td>
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<td>401207</td>
<td>D01</td>
<td>29 Plug, CSN-375 x 3/8 NPT(F)</td>
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<td>401229</td>
<td>A00</td>
<td>30 Socket Sleeve, CSN-375</td>
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TESTS

The actual test results are maintained in the CSA International, Cleveland, Ohio, U.S.A. facility. The certification of the listed products is authorized on the basis of compliance with the applicable requirements.

The following testing is applicable for certification:
ANSI Z21.41-CSA 6.9

Part I. Construction:
1.1 Scope
1.2 General
1.3 Dimensions
1.4 Operation
1.5 Safety
1.6 Strength
1.7 Materials
1.8 Assembly
1.9 Instructions
1.10 Marking

Part II. Performance:
2.1 Leakage
2.2 Capacity
2.3 Durability at High Temperatures
2.4 Continued Operation
2.5 Season Cracking

Part III. Manufacturing and Production Tests:

ANSI Z21.15-CSA 9.1 (compliance with ANSI Z21.41-CSA 6.9 section 1.2.3 for CLASS 3305 04, 84)

Part I. Construction
Part II. Performance

OBSELETE requirements previously tested and listed to:
Cert. Lab Interim Req. No. 29 Quick Disconnect Devices For Use at High Pressure and Low Temp.

**Project Number: 2341109**
Update to the ANSI Z21.41b-2010 CSA 6.9b-2010 Addenda in accordance with CERTIFICATION NOTICE – Gas Products No. 219. Evaluated the suitability of usage at -40°F. Addition of plastic socket sleeve (part number 401229).
Testing was conducted at CSA International, Cleveland, Ohio, U.S.A. The actual test results are maintained in Documentum.

Partial testing was conducted on model “3/375”. Extension of compliant results for applicable testing shall come from previous certification.

Satisfactory results were obtained on the following tests:
ANSI Z21.41a-2005-CSA 6.9b-2005 Addenda
ANSI Z21.41b-2010-CSA 6.9b-2010 Addenda

Part I. Construction

1.1 Scope – DNA – extend from previously certified
1.2 General – DNA – extend from previously certified
1.3 Dimensions – DNA – extend from previously certified
1.4 Operation – DNA – extend from previously certified
1.5 Safety – DNA – extend from previously certified
1.6 Strength – DNA – extend from previously certified
1.7 Material – DNA – extend from previously certified
1.8 Assembly – DNA – extend from previously certified
1.9 Instructions – DNA – extend from previously certified
1.10 Marking – “Outdoor Use”, “-40°F”, and Nipple markings (1.10.1a, 1.10.2, 1.10.5)

Part II. Performance

2.1 Leakage -40°F leakage (2.1.2)
2.2 Capacity – DNA – extend from previously certified
2.3 Durability at High Temperatures
2.4 Continued Operation
2.5 Season Cracking – DNA – extend from previously certified
2.6 Low Temperature Operation
2.7 Marking Material Adhesion and Legibility – DNA – markings are CLASS I integral.

Part III. Manufacturing and Production Tests
# REVISION INDEX

**M. B. Sturgis, Inc.**

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<tr>
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<td>9/28/92</td>
<td>7/30/92 CGA Insp. Report</td>
<td>Replace instruction tag.</td>
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<td>3, 04</td>
<td>A.S.</td>
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<td>2</td>
<td>5/6/93</td>
<td>3/25/93</td>
<td>Update to ANSI Z21.41b-1992.</td>
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<td>AU</td>
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<td>4</td>
<td>07/28/97</td>
<td>Mfr's Ltr 06/20/97</td>
<td>Compliance with ANSI Z21.15-1997•CGA 9.1-M97</td>
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<td>MMM</td>
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<tr>
<td>5</td>
<td>01/04/99</td>
<td>Mfr's Ltr 12/23/98 112526-03</td>
<td>Add model 3/375M. Same as 3/375 with the hex on the inlet of the ball valve rounded off</td>
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<td>3A,19A</td>
<td>MDV</td>
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