



COMPRESSED GAS ASSOCIATION, INC.

SAFETY BULLETIN

SB-42—2010

14501 GEORGE CARTER WAY, SUITE 103

CHANTILLY, VA 20151

703-788-2700

cga@cganet.com

INCREASED PRESSURE RATING OF GAS TRAILER OUTLET CONNECTIONS

The maximum pressure ratings for high pressure gas trailer connections as detailed in the fourth edition of CGA V-10, *High Pressure Gas Trailer Connections*, have been modified as outlined in Table 1 [1]. These high pressure gas trailer connections are used to make the connection between the gas trailer and the gas supplier or user's equipment.

Table 1—Maximum pressure ratings for high pressure gas trailer connections¹

CGA connection number	Original rating	New rating
1340	3000 psig at 120 °F (20 680 kPa at 48.9 °C)	3500 psig at 70 °F (24 130 kPa at 21.1 °C)
1350	3000 psig at 120 °F (20 680 kPa at 48.9 °C)	3500 psig at 70 °F (24 130 kPa at 21.1 °C)
1440	3000 psig at 120 °F (20 680 kPa at 48.9 °C)	3500 psig at 70 °F (24 130 kPa at 21.1 °C)
1450	3000 psig at 120 °F (20 680 kPa at 48.9 °C)	3500 psig at 70 °F (24 130 kPa at 21.1 °C)
1540	3000 psig at 120 °F (20 680 kPa at 48.9 °C)	3000 psig at 70 °F (20 680 kPa at 21.1 °C)
1550	3000 psig at 120 °F (20 680 kPa at 48.9 °C)	3500 psig at 70 °F (24 130 kPa at 21.1 °C)

These modified ratings could result in an increase in the supply pressure at the gas trailer connection. At a minimum, the following precautions shall be followed for the safe operation of downstream equipment:

- Users of high pressure gas trailers shall verify that all components which could be exposed to the supply pressure are rated for at least the marked service pressure of the gas trailer. The marked service pressure is located on the data plate attached to the gas trailer. Components could include but are not limited to hoses, pressure regulators, pressure gauges, valves, piping, flanges, fittings, gaskets, etc.; and
- Users connecting to gas trailers shall ensure that the connection is marked with the CGA connection number in accordance with CGA V-10 [1].

For many years, high pressure gas trailers have been safely used to transport and store compressed gases at facilities where large volumes of gas are needed. In most instances, these high pressure gas trailers are filled by gas packagers and then transported to locations where they are connected to manifold header stations or regulators that supply gas to plant distribution systems.

Before the development and publication of a common standard for trailer connections in CGA V-10, several different connections were used to connect trailers to manifold stations or plant distribution systems [1]. These connections were not marked with any standard CGA connection numbers but could have been marked with a maximum rated service pressure, or other markings.

¹ kPa shall indicate gauge pressure unless otherwise noted as (kPa, abs) for absolute pressure or (kPa, differential) for differential pressure. All kPa values are rounded off per CGA P-11, *Metric Practice Guide for the Compressed Gas Industry* [2].

When the first edition of CGA V-10 was published in 2001, the standard gas trailer connections it addressed were limited to a maximum pressure rating of 3000 psig at 120 °F (20 680 kPa at 48.9 °C), which is approximately 2640 psig at 70 °F (18 200 kPa at 21.1 °C) [1]. This pressure rating is similar to pressure ratings specified in CGA V-1, *Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections* [3]. However, tube manufacturing companies currently offer tubes at higher pressure ratings, which can result in higher supply pressures.

In order to take advantage of these higher pressure ratings, the pressure ratings of the connections needed to be modified rather than defining new connections for these high pressure gas trailers. The existing connections were originally tested and qualified for a pressure rating of 3500 psig at 70 °F (24 130 kPa at 21.1 °C), using CGA V-1 testing criteria [3].

References

Unless otherwise specified, the latest edition shall apply.

[1] CGA V-10, *High Pressure Gas Trailer Connections*, Compressed Gas Association, Inc., 4221 Walney Rd., 5th Floor, Chantilly, VA 20151. www.cganet.com

[2] CGA P-11, *Metric Practice Guide for the Compressed Gas Industry*, Compressed Gas Association, Inc., 4221 Walney Rd., 5th Floor, Chantilly, VA 20151. www.cganet.com

[3] CGA V-1, *Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections*, Compressed Gas Association, Inc., 4221 Walney Rd., 5th Floor, Chantilly, VA 20151. www.cganet.com

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Work Item 08-112
Cylinder Valve Committee

FIRST EDITION: 2010

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