

Cylinder Identification Guidelines

Product Labels & DOT Hazard Class Labels

Very useful – if suspect, confirm with other features below

Cylinder Markings – 49 CFR 178

DOT code indicates working pressure, e.g. DOT 3 AA 2250, DOT 3 A 480 – last number is pressure
DOT 8 or 8A = acetylene

Cylinder Appearance

Low pressure (usually a liquefied gas) = fat cylinder, welded seams, footrings
High pressure = seamless construction, tall and narrow, thick walled

CGA Valve numbers

240: anhydrous ammonia

320: carbon dioxide

330: toxic, sometimes corrosive

346: breathing air

350: flammable gas (e.g., hydrogen, methane)

510: flammable gas (e.g., acetylene, butane)

540: oxygen

580: high-pressure inert gas (e.g., nitrogen, argon, helium)

660: ammonia, chlorine, various specialty gases – corrosive, toxic, oxidizer, flammable – need to sample

705: corrosive, usually anhydrous ammonia, can be various methylamines

820: chlorine

Other Features:

Wrench-operated valve (no handwheel), threaded cap on outlet = corrosive

Two fusible plugs on collar = acetylene

Left-handed thread on outlet = flammable

Color

Not a useful indicator unless you are sure of the vendor and their color scheme

More details on CGA valve numbers and pressure relief devices available in the Handbook of Compressed Gases, published by the Compressed Gas Association

Introduction Cylinder Information

The drawings of valve outlets and connections shown on pages xviii - xix are those now in use by Matheson Tri-Gas and in common use by the compressed gas industry. Whenever possible, valve outlets standardized by the Compressed Gas Association are used.

Gas	CGA Valve Outlet & Conn. No. CGA/UHP CGA
Acetylene	510
Air, Breathing	346
Air, Industrial	590*
Allene	510**
Ammonia, Anhydrous	705**
Ammonia, Electronic	660/720
Argon	580*/718
Argon-3500 psig	680***
Argon-6000 psig	677
Arsine	350/632
Boron Trichloride	660**/634
Boron Trifluoride	330**/642
1,3-Butadiene	510*
Butane	510*
Butenes	510*
Carbon Dioxide	320*/716
Carbon Monoxide	350*/724
Carbonyl Fluoride	660
Carbonyl Sulfide	330**
Chlorine	660/728**
Cyanogen	660
Cyanogen Chloride	660
Cyclopropane	510*
Deuterium	350*
Dichlorosilane	678/636
Dimethylamine	705**
Dimethyl Ether	510*
2,2-Dimethylpropane	510
Disilane	350/632*
Ethane	350*
Ethyl Chloride	300*
Ethylene	350*
Ethylene Oxide	510**
Fluorine	679

Gas	CGA Valve Outlet & Conn. No. CGA/UHP CGA
Germane	350/632
Halocarbon 12 (Dichlorodifluoromethane)	660*/716
Halocarbon 13 (Chlorotrifluoromethane)	660/716
Halocarbon 13B1 (Bromotrifluoromethane)	660
Halocarbon 14 (Tetrafluoromethane)	320*/716
Halocarbon 23 (Fluoroform)	660/716
Halocarbon 114 (2,2-Dichlorotetrafluoroethane)	660*/716
Halocarbon 115 (Chloropentafluoroethane)	660*/716
Halocarbon 116 (Hexafluoroethane)	660/716
Halocarbon 142B (1-Chloro-1,1-difluoroethane)	510
Halocarbon 1113 (Chlorotrifluoroethylene)	510
Helium-3500 psig	680***
Helium	580*/718
Hexafluoropropylene	660*
Hydrogen	350*/724
Hydrogen-3500 psig	695***
Hydrogen Bromide	330**/634
Hydrogen Chloride	330**/634
Hydrogen Fluoride	660**/638
Hydrogen Selenide	350/632
Hydrogen Sulfide	330**/722
Isobutane	510*
Isobutylene	510*
Krypton	580/718

Gas	CGA Valve Outlet & Conn. No. CGA/UHP CGA
"Manufactured Gas B"	350
Methane	350*
Methyl Bromide	330
3-Methyl-1-butene	510
Methyl Chloride	660*
Methyl Fluoride	350
Methyl Mercaptan	330**
Monomethylamine	705**
Neon	580*/718
Nitric Oxide	660/712
Nitrogen	580*/718
Nitrogen-3500 psig	680***
Nitrogen-6000 psig	677
Nitrogen Dioxide	660
Nitrogen Trioxide	660
Nitrous Oxide	326*/712
Octafluorocyclobutane	660*
Oxygen	540*/714
Oxygen Mixtures Over 23.5%	296
Perfluoropropane	660*/716
Phosgene	660
Phosphine	350/632
Phosphorus Pentafluoride	660**
Propane	510*
Propylene	510*
Silane (High Pressure)	350/632
Silicon Tetrafluoride	330**/642
Sulfur Dioxide	660**
Sulfur Hexafluoride	590*/716
Trimethylamine	705**
Vinyl Bromide	510
Vinyl Methyl Ether	510
Xenon	580**/718

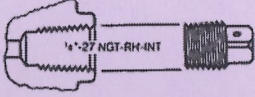
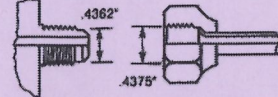
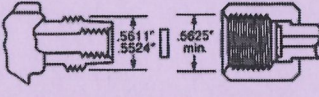
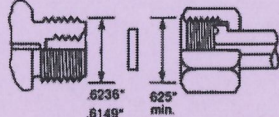
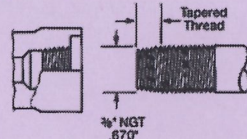
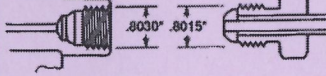
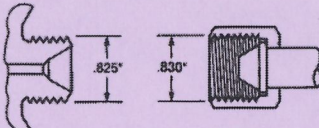
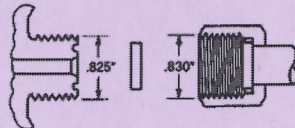
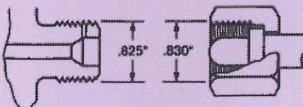
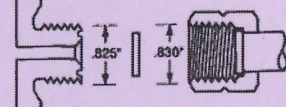
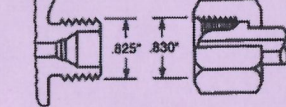
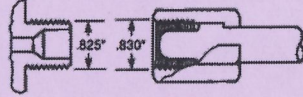
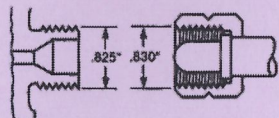
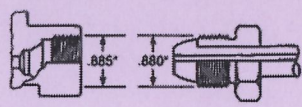
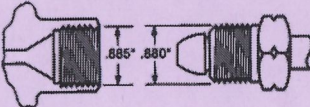
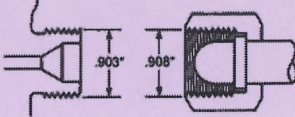
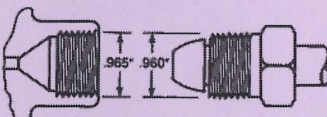
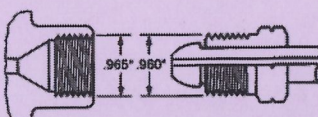
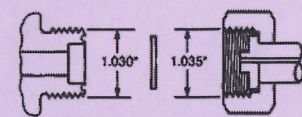
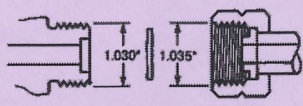
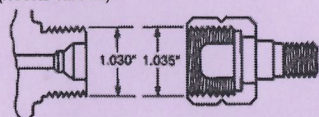
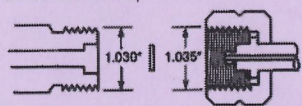
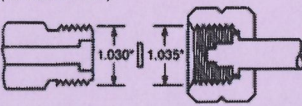
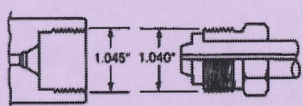
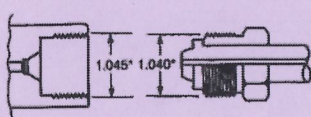
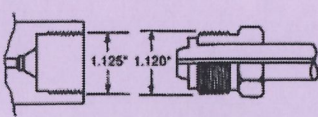
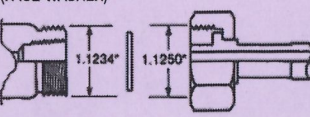
*Lecture bottles use CGA No. 170

**Lecture bottles use CGA No. 180

***For information on CGA 680 and 695 connections contact your nearest Matheson Tri-Gas office.

*, **NOTE: The CGA 170 is authorized for non-corrosive gases packaged in lecture bottles. The CGA 180 is authorized for all gases packaged in lecture bottles.

Compressed Gas Association Cylinder Valve Fitting Specifications

<p>CGA 160 1/8"-27 NGT-RH-INT</p> 	<p>CGA 165 .4375"-20 UNF-2A-EXT (1/4" SAE FLARE)</p> 	<p>CGA 170 .5625"-18 UNF-2A-RH-EXT</p> 	<p>CGA 180 .625"-18 UNF-2A-RH-EXT</p> 
<p>CGA 240 3/8"-18 NGT-RH-INT</p> 	<p>CGA 296 .803"-14 UNS-2B-RH-INT (BULLET NIPPLE)</p> 	<p>CGA 300 .825"-14 NGO-RH-EXT (CONICAL NIPPLE)</p> 	<p>CGA 320 .825"-14 NGO-RH-EXT (FLAT NIPPLE)</p> 
<p>CGA 326 .825"-14 NGO-RH-EXT (SMALL ROUND NIPPLE)</p> 	<p>CGA 330 .825"-14 NGO-LH-EXT (FLAT NIPPLE)</p> 	<p>CGA 346 .825"-14 NGO-RH-EXT (LARGE ROUND NIPPLE)</p> 	<p>CGA 347 .825"-14 NGO-RH-EXT (LONG ROUND NIPPLE)</p> 
<p>CGA 350 .825"-14 NGO-LH-EXT (ROUND NIPPLE)</p> 	<p>CGA 500 .885"-14 NGO-RH-INT (BULLET NIPPLE)</p> 	<p>CGA 510 .885"-14 NGO-LH-INT</p> 	<p>CGA 540 .903"-14 NGO-RH-EXT</p> 
<p>CGA 580 .965"-14 NGO-RH-INT</p> 	<p>CGA 590 .965"-14 NGO-LH-INT</p> 	<p>CGA 660 1.030"-14 NGO-RH-EXT (FACE WASHER)</p> 	<p>CGA 670 1.030"-14 NGO-LH-EXT (FACE WASHER)</p> 
<p>CGA 677 1.030"-14 NGO-LH-EXT (ROUND NIPPLE)</p> 	<p>CGA 678 1.030"-14 NGO-LH-EXT (RECESSED WASHER)</p> 	<p>CGA 679 1.030"-14 NGO-LH-EXT (TIPPED NIPPLE)</p> 	<p>CGA 680 1.045"-14 NGO-RH-INT</p> 
<p>CGA 695 1.045"-14 NGO-LH-INT</p> 	<p>CGA 703 1.125"-14 NGO-LH-INT</p> 	<p>CGA 705 1.125"-14 UNS-2A-RH-EXT (FACE WASHER)</p> 	<p>CGA 973 PIN-INDEXED YOKE, PINS 11-24</p> 