



Gas Station® Calibration Gases

for Blood Gas Instrumentation and Other Clinical Applications

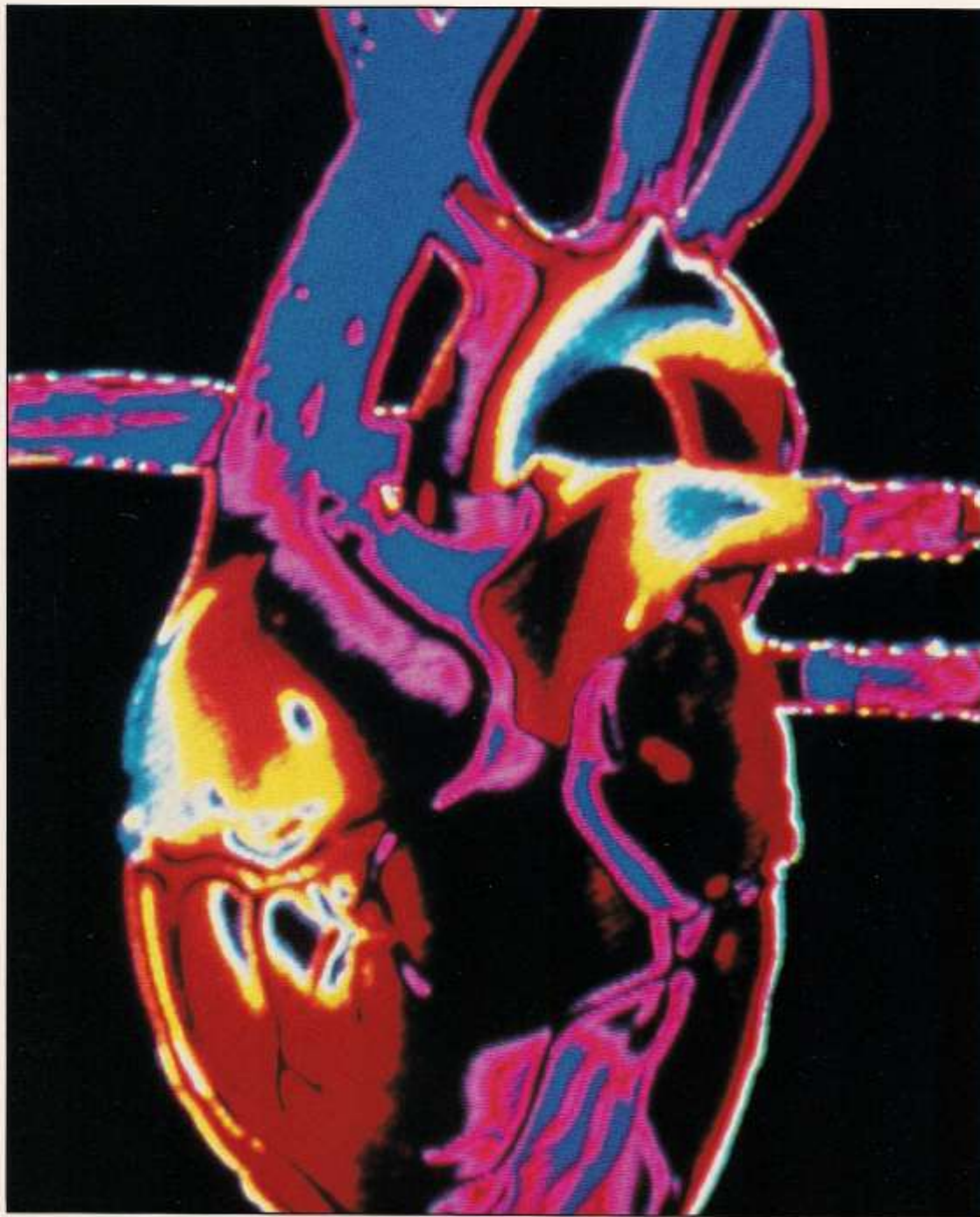


Image created using digital subtraction angiography.

Gas Station® Returnable & Disposable Compressed Gas Cylinders

Accuracy in Gas Standards

High accuracy blood gas standards are essential to your Quality Assurance and Quality Control programs. The Gas Station® calibration standards are manufactured using precise gravimetric methods, providing an accuracy of $\pm 0.03\%$ absolute. This means, for example, 10% CO₂, balance N₂ standard has an accuracy of 10.00 \pm 0.03%. These standards are analyzed using instrumentation calibrated with standards traceable to NIST Standard Reference Materials.

Pure gases such as carbon dioxide meet the stringent standards for purity. The carbon dioxide has a minimum assay of 99.99%. A certificate of analysis (COA) is available on request. Please specify the lot number when requesting a COA.

Quality Calibration Gases

The Gas Station® calibration gases are available in returnable cylinders or in disposable cylinders. The returnable cylinders require a deposit, the disposable cylinders do not. The returnable cylinder has a long life and can be refilled many times. U.S. Department of Transportation (DOT) regulations control the refilling and retesting. The disposable cylinders are manufactured in compliance with DOT regulations and are manufactured from high pressure tube steel. Each cylinder is pressure tested before filling. The disposable cylinders can be recycled. Please refer to the following CRS information.

Questions concerning these gases, the cylinders and regulators can be answered by your CMS Sales Representative.



Cylinder Recycling Service

CMS now offers a new program to recycle high pressure disposable compressed gas cylinders. The recyclable cylinder is labeled with a special CRS label. Just call the 800 number provided on the CRS label to obtain recycling information. Instructions for returning the cylinder to the recycling center will be sent along with a return label for each cylinder. (UPS requires that the return cylinders are boxed.)



Cylinder Size	Dimensions* Inches	Weight** Pounds	Fill * Pressure
Returnable, Refillable			
H	9 x 55	110	1750
M **	7 x 46	64	1750
ER **	4 x 30	14	1750
Disposable, Recyclable			
ED **	4 1/2 x 24	14	2200
YD	3 1/4 x 9 1/2	2.5	810
PD *	3 x 10 1/2	.5	240

* Including valve

** 810 psig when filled with Carbon Dioxide



CMS Mission Statement

Provide Quality Products and Services at Fair Prices and **ALWAYS** Meet Customer Requirements.

Gas Station® Clinical Calibration Gases

Blood Gases

Instrument Manufacturer	CMS No.	Gas Product Data				Recommended Regulators
		Cyl. Size	Pressure (psig)	Volume (liters)	CGA Outlet	Part No.
Ciba-Corning Equivalent						
10% CO ₂ , bal N ₂	316-194	ER	1750	570	973	270-011/270-012
5% CO ₂ , 12% O ₂ , bal N ₂	316-195	ER	1750	570	973	270-011/270-012
10% CO ₂ , bal N ₂	316-196	M	1750	2550	500	270-011/270-012
5% CO ₂ , 12% O ₂ , bal N ₂	316-197	M	1750	2550	500	270-573
10% CO ₂ , bal N ₂	316-198	H	1750	5100	500	270-573
5% CO ₂ , 12% O ₂ , bal N ₂	316-199	H	1750	5100	500	270-573
10% CO ₂ , bal N ₂	316-200	ED	2200	560	973	270-011/270-012
5% CO ₂ , 12% O ₂ , bal N ₂	316-201	ED	2200	560	973	270-011/270-012
Radiometer Equivalent						
Carbon Dioxide 99.99%	316-202	ER	830	1240	940	309-105/309-107
Carbon Dioxide 99.99%	316-203	M	830	5500	320	309-705/309-107
Carbon Dioxide 99.99%	316-204	YD	830	161	940	309-105/309-107
Carbon Dioxide 99.99%	316-205	ED	830	1240	940	309-105/309-107
10% CO ₂ , 12% O ₂ , bal N ₂	316-206	ED	2200	860	973	270-011/270-012
AVL Equivalent						
Carbon Dioxide 99.99%	316-202	ER	830	1240	940	309-105/309-107
Carbon Dioxide 99.99%	316-203	M	830	5500	320	309-105/309-107
Carbon Dioxide 99.99%	316-204	ED	830	1240	940	309-105/309-107
Nova Biomedical Equivalent						
10% CO ₂ , bal N ₂	316-194	ER	1750	570	973	270-011/270-012
5% CO ₂ , 20% O ₂ , bal N ₂	316-207	ER	1750	570	973	270-011/270-012
10% CO ₂ , bal N ₂	316-196	M	1750	2550	500	270-573
5% CO ₂ , 20% O ₂ , bal N ₂	316-208	M	1750	2550	500	270-573
10% CO ₂ , bal N ₂	316-198	H	1750	5100	500	270-573
5% CO ₂ , 20% O ₂ , bal N ₂	316-209	H	1750	5100	500	270-573
10% CO ₂ , bal N ₂	316-200	ED	2200	560	973	270-011/270-012
5% CO ₂ , 20% O ₂ , bal N ₂	316-210	ED	2200	560	973	270-011/270-012

Other Applications

Application	CMS No.	Gas Product Data				Recommended Regulators
		Cyl. Size	Pressure (psig)	Volume (liters)	CGA Outlet	Part No.
Pulmonary Function						
0.3% CO, 10% He, 21% O ₂ , bal N ₂	316-211	ER	1750	570	973	270-011/270-012
0.3% CO, 10% He, 21% O ₂ , bal N ₂	316-212	H	1750	5100	500	270-573
0.3% CO, 10% He, 21% O ₂ , bal N ₂	316-213	ED	2200	560	973	270-011/270-012
Microbiology						
10% CO ₂ , 5% O ₂ , bal N ₂ (campylobacter)	316-214	ED	2200	560	580	270-011/270-012
Carbon Dioxide 99.9% (anaerobic)	316-215	ED	830	1240	940	305-105/305-107
Fuel Gas - Flamephotometry						
Propane 99.2% (Instrument Grade)	316-216	CS/12-PD	110	400g	600	

Deposits

Description	CMS No.	Cyl. Size
Returnable Cylinder Deposit	316-228	ER
Returnable Cylinder Deposit	316-229	M
Returnable Cylinder Deposit	316-230	H

Pressure Regulators

Pressure reduction regulators are essential to the gas delivery system. High pressure in the cylinder is reduced in two stages or in one stage. Two stage regulators are more precise and combine two regulators in one. CMS medical regulators are machined from solid brass bar stock and chrome plated. The precise flexing diaphragm, rather than a piston used in conventional regulators results in greater accuracy and more consistent flow. An external self-resealing relief valve protects against over-pressurization and reseals automatically when the pressure returns to normal. The proven valve seat assembly used in more than 2 million regulators assures reliability and a long trouble-free life.

Single Stage Regulators

The single stage regulator provides an economical pressure reducing system for applications requiring less precise pressure control than the two stage regulators shown below. The regulators are constructed with large stainless steel diaphragms which are resistant to cracking, bulging and corrosion.

Regulator Part Number	For Cylinder Type	CGA Outlet Type	Connection Type	Cylinder Pressure Gauge psig	Delivery Pressure Gauge
316-223	ED/ER	973	Pin-indexed	0-4000	0-100
316-224	ED/ER	940	Pin-indexed	0-4000	0-100
316-225	ED/ER	930	Pin-indexed	0-4000	0-100
316-226	M/H	500	Nut & nipple	0-4000	0-100



Single Stage Regulator

Two Stage Regulators

Two stage regulators minimize flow changes as the supply cylinder empties. Readjustment is not required once the flow has been set. These regulators are ideal for use with blood gas and other analytical instrumentation. The regulator is equipped with two external self resealing safety valves.

Regulator Part Number	For Cylinder Type	CGA Outlet Type	Connection Type	Cylinder Pressure Gauge psig	Delivery Pressure Gauge
316-217	ED/ER	973	Pin-indexed	0-4000	0-30
316-218	M/H	500	Nut & nipple	0-4000	0-30
316-219	ED/ER	930	Pin-indexed	0-4000	0-30
316-220	ED/ER	940	Pin-indexed	0-4000	0-30
316-221	ED/ER	580	Nut & nipple	0-4000	0-30
316-222	ED/ER	350	Nut & nipple	0-4000	0-30



Two Stage Regulator

ED/ER Cylinder Stand

Lightweight cylinder stand provides an easy-to-use support. Part No. 269-438.



ED/ER Cylinder Stand

Manufactured by:



Scott Medical Products
PLUMSTEADVILLE, PA 18949-0310

Manufactured exclusively for:



Curtin Matheson Scientific, Inc.
P.O. Box 1546
Houston, TX 77251-1546
(713) 820-9898

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