Located in Boise Idaho, Norlab has been producing and distributing calibration gas mixtures and specialty gases in refillable and non-refillable cylinders since the late 1970s. We offer a complete line of specialty gas products including environmental, industrial hygiene, medical and special application mixes, as well as multi-component hydrocarbon mixtures, pure gases up to 99.9999%, and all related gas control equipment. Norlab has what you need.

Our gas blending capabilities include EPA protocol mixes, primary standards produced gravimetrically with accuracies to ±.02% absolute, as well as certified and unanalyzed mixes produced to less stringent tolerances. NIST traceability certification can be provided.

Our complete line of gas control equipment includes fixed flow, multi-flow, demand flow, and pressure reducing regulators. Accessories include cases, stands, cylinder transport bags, gas sample bags, and tubing. Norlab also offers manifolds, filters, fine metering valves and cylinder changeover systems.

With over 100 years of combined industry experience, our highly trained staff understands the unique requirements of the specialty gas user. You can trust in Norlab products as our quality program is ISO 9001:2015 certified.

Please contact us for more information or to find your nearest Norlab distributor.
The Convenient and Cost-Effective Way to Handle Calibration Gas Mixtures

These smaller, convenient and portable steel cylinders, recommended for non-reactive gas mixtures and pure gases such as argon, helium and nitrogen, don’t require a deposit or have a monthly rental charge. With a wide range of capacities for any field calibration requirement, they eliminate over-purchasing when small quantities are needed. They are easy to handle, less expensive to ship and occupy very little space.

Non-Refillable Steel Cylinders

17 Liter Cylinder (P)
- Contents: 17 liters (0.6 cu. ft.)
- Pressure: 240 PSIG
- Outlet: CGA 600
- Weight: 1.1 lbs.
- Dimensions: 3” x 10 ½”
- D.O.T. Specs: 39 NRC
- Regulator: 400 Series

34 Liter Cylinder (H)
- Contents: 34 liters (1.2 cu. ft.)
- Pressure: 500 PSIG
- Outlet: CGA 600
- Weight: 1.4 lbs.
- Dimensions: 3” x 10 ½”
- D.O.T. Specs: 39 NRC
- Regulator: 400 Series

103 Liter Cylinder (J)
- Contents: 103 liters (3.6 cu. ft.)
- Pressure: 1000 PSIG
- Outlet: C-10 ½" - 18 UNF
- Weight: 2.3 lbs.
- Dimensions: 3 ¾” x 13 ½”
- D.O.T. Specs: 39 NRC
- Regulator: 500 Series 6000 Series 8000 Series

550 Liter Cylinder (E)
- Contents: 550 liters (19.5 cu. ft.)
- Pressure: 2200 PSIG
- Outlet: Varies with the gas
- Weight: 12.9 lbs.
- Dimensions: 4 ¼” x 20 ½”
- D.O.T. Specs: E8990 NRC 6000 Series 900 Series HP Series
- Regulator: 6000 Series 8000 Series

221 Liter Cylinder (M)
- Contents: 221 liters (7.5 cu. ft.)
- Pressure: 260 PSIG
- Outlet: CGA 165 (¼” SAE flare 45°)
- Weight: 6.3 lbs.
- Dimensions: 9” x 16 ½”
- D.O.T. Specs: 39 NRC
- Regulator: 700 Series
Mixture Stability in a Lightweight, Portable Package

We recommend these compact, lightweight aluminum cylinders for gas mixtures that are not stable in steel cylinders. Typical gas blends for these cylinders include ammonia, chlorine, hydrogen sulfide, nitric oxide, nitrogen dioxide and sulfur dioxide. They are available in capacities from 11 liters (0.4 cu. ft.) to 116 liters (4.0 cu. ft.) and can be transported in a Norlab carrying case or bag.

**34 Liter - Select (F)**
- Contents: 34 liters (1.2 cu. ft.)
- Pressure: 580 PSIG
- Outlet: C-10 ¾"-18 UNF
- Weight: 1.2 lbs.
- Dimensions: 2 ¾" x 11 ½"
- D.O.T. Specs: ISO 7866
- Regulator: 500 series 6000 series 8000 series

**58 Liter - Select (G)**
- Contents: 58 liters (2.0 cu. ft.)
- Pressure: 1000 PSIG
- Outlet: C-10 ¾"-18 UNF
- Weight: 1.2 lbs.
- Dimensions: 2 ¾" x 11 ½"
- D.O.T. Specs: ISO 7866
- Regulator: 500 series 6000 series 8000 series

**58 Liter - Select (Z)**
- Contents: 58 liters (2.0 cu. ft.)
- Pressure: 500 PSIG
- Outlet: C-10 ¾"-18 UNF
- Weight: 2.2 lbs.
- Dimensions: 14 ¾" x 3 ½"
- D.O.T. Specs: 3AL 1000
- Regulator: 500 Series 6000 Series 8000 Series

**116 Liter - Select (U)**
- Contents: 116 liters (4.0 cu. ft.)
- Pressure: 1000 PSIG
- Outlet: C-10 ¾"-18 UNF
- Weight: 2.2 lbs.
- Dimensions: 14 ¾" x 3 ½"
- D.O.T. Specs: 3AL 1000
- Regulator: 500 Series 6000 Series 8000 Series

SELECT SERIES Cylinders with SGS technology

We bring innovation to the disposable cylinder customer.

- **Our dependable** cylinders and valves are manufactured using high grade alloys and components ensuring greater gas stability over the life of the mix.
- **Two versatile** cylinders available that cover all current sizes from 34 liter through 116 liter. We also offer several valve options depending on the gas standard required.
- **100% recyclable** and refillable with no deposits or daily rental fees, these cylinders are returnable or can be recycled locally.

To find out more about our Select Series cylinders, contact Norlab customer service at 800.657.6672 or send us an email at norlabcs@norco-inc.com.
Aluminum and Steel Refillable Cylinders

Our refillable cylinders are available in multiple sizes and can be filled with a variety of custom, pure and calibration standard mixes. These refillable steel and aluminum cylinders could be just the perfect solution you need to optimize your gas yield.

<table>
<thead>
<tr>
<th>Steel Cylinder (K)</th>
<th>Aluminium Cylinder (ALQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet: CGA - Various</td>
<td>Outlet: CGA</td>
</tr>
<tr>
<td>Weight: 114 lbs</td>
<td>Weight: 31 lbs</td>
</tr>
<tr>
<td>Dimensions: 9&quot; x 51&quot;</td>
<td>Dimensions: 7&quot; x 33&quot;</td>
</tr>
<tr>
<td>Regulator: Various</td>
<td>Regulator: Various</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aluminium Cylinder (30A)</th>
<th>Aluminium Cylinder (ALS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents: 30 cu. ft.</td>
<td>Contents: 140 cu. ft.</td>
</tr>
<tr>
<td>Outlet: CGA</td>
<td>Outlet: CGA</td>
</tr>
<tr>
<td>Weight: 15 lbs</td>
<td>Weight: 51 lbs</td>
</tr>
<tr>
<td>Dimensions: 7&quot; x 16&quot;</td>
<td>Dimensions: 8&quot; x 48&quot;</td>
</tr>
<tr>
<td>Regulator: Various</td>
<td>Regulator: Various</td>
</tr>
</tbody>
</table>

Pressure Reducing Regulators

These regulators are intended for primary pressure control of non-corrosive, high purity gases for applications requiring constant pressure control and delivery regardless of supply pressure variations.

**Specifications**
- **Body:** Brass bar stock
- **Diaphragm:** 316L stainless steel
- **Seat:** PTFE Teflon
- **Seals:** PTFE Teflon

**Delivery Ranges**
- 0-15 PSIG - 0-125 PSIG
- 0-50 PSIG - 0-250 PSIG
- 0-500 PSIG

These regulators are intended for primary pressure control of ultra-high purity or corrosive gases for applications requiring constant pressure control and delivery regardless of supply pressure variations.

**Specifications**
- **Body:** 316L stainless steel bar stock
- **Diaphragm:** 316L stainless steel
- **Seat:** PTFE Teflon
- **Seals:** PTFE Teflon

**Delivery Ranges**
- 0-15 PSIG - 0-125 PSIG
- 0-50 PSIG - 0-250 PSIG
- 0-500 PSIG
Regulators & Accessories

Calibration Kits and Cases
Norlab has custom calibration cases for portable cylinders. Our two, three, or four-bottle cases provide a safe and convenient way to transport and store your Norlab calibration standards. Add a fixed-flow, multi-flow or pressure reduction regulator to complete your kit. We also have a hands-free, two cylinder carrying bag that you can belt around your waist or carry over your shoulder.

- 500A Hard Case: holds 4 ea. 17 liter or 34 liter cylinders
- 500B Hard Case: holds 1 ea. 58/103/116 liter cylinder and 2 ea. 17/34 liter cylinders
- 500C Hard Case: holds 3 ea. 58/103/116 liter cylinders
- 500D Hard Case: holds 2 ea. 17 liter or 34 liter cylinders
- 500F Hard Case: with pick and pluck foam
- 505 Hard Case: holds 2 ea. 58/103/116 liter cylinders
- CTB100 Transport Bag: holds 2 cylinders
- FEP Teflon FEP tubing (for chlorine)
- TY2002 Tygon tubing

Calibration Kits and Cases
Norlab has custom calibration cases for portable cylinders. Our two, three, or four-bottle cases provide a safe and convenient way to transport and store your Norlab calibration standards. Add a fixed-flow, multi-flow or pressure reduction regulator to complete your kit. We also have a hands-free, two cylinder carrying bag that you can belt around your waist or carry over your shoulder.

- 500A Hard Case: holds 4 ea. 17 liter or 34 liter cylinders
- 500B Hard Case: holds 1 ea. 58/103/116 liter cylinder and 2 ea. 17/34 liter cylinders
- 500C Hard Case: holds 3 ea. 58/103/116 liter cylinders
- 500D Hard Case: holds 2 ea. 17 liter or 34 liter cylinders
- 500F Hard Case: with pick and pluck foam
- 505 Hard Case: holds 2 ea. 58/103/116 liter cylinders
- CTB100 Transport Bag: holds 2 cylinders
- FEP Teflon FEP tubing (for chlorine)
- TY2002 Tygon tubing

Multiflow Regulators
Use the 6000 Series regulators with 58, 103 and 116 liter non-refillable cylinders with a C-10 (5/8"-18 UNF) inlet connection. They are also configured for use on returnable cylinders with pressures to 2400 PSIG. With eight flow settings from 0.1 LPM to 7 LPM, they are compatible with non-reactive and reactive gas mixtures. Use 1000 PSI gauges for non-refillable and 3000 PSI gauges for refillable cylinders.

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Gauge Material &amp; Pressure</th>
<th>Inlet Fitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLB-6-CGA*</td>
<td>Brass 3000 PSI</td>
<td>C-10</td>
</tr>
<tr>
<td>NLB-6-CGA*</td>
<td>S.S. 3000 PSI</td>
<td>C-10</td>
</tr>
<tr>
<td>NLB-6-C10</td>
<td>0-1200 PSI</td>
<td>C-10</td>
</tr>
</tbody>
</table>

*The appropriate Compressed Gas Association valve number will be determined by the specific pure gas or gas mixture (e.g. 6-330 for mixtures containing hydrogen sulfide).

The 8000 Series regulators are used for calibration of instruments that draw the gas mixture with an internal pump. Constructed of stainless steel and aluminum, they are compatible with reactive and non-reactive gas mixtures. They supply flows of 0.1 LPM to 3.0 LPM, and are suitable for use with high pressure refillable cylinders as well as non-refillables.

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Inlet Fitting</th>
<th>Cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td>8C10</td>
<td>C-10</td>
<td>34/58/103/116 liter</td>
</tr>
<tr>
<td>8S80</td>
<td>CGA 580</td>
<td>Refillable</td>
</tr>
<tr>
<td>8S90</td>
<td>CGA 590</td>
<td>Refillable</td>
</tr>
<tr>
<td>8S330</td>
<td>CGA 330</td>
<td>Refillable</td>
</tr>
<tr>
<td>8S660</td>
<td>CGA 660</td>
<td>Refillable</td>
</tr>
</tbody>
</table>

Part Number ............ 4903
Inlet Fitting .......... C-10
Cylinder ................. 34/58/103/116 liter
New, smaller size. Compatible with reactive and non-reactive gases.
Regulators & Accessories

Preset Flow Regulators
Flow Control and Pressure Reducing Regulators

400 Series single-stage, piston-style regulators are designed to deliver a preset flow of non-corrosive gases in the 17 liter or 34 liter non-refillable cylinders with CGA 600 inlets. Each regulator comes with a cylinder pressure gauge.

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLB 411</td>
<td>1.5 LPM</td>
</tr>
<tr>
<td>NLB 413</td>
<td>0.25 LPM</td>
</tr>
<tr>
<td>NLB 414</td>
<td>0.3 LPM</td>
</tr>
<tr>
<td>NLB 417</td>
<td>0.5 LPM</td>
</tr>
<tr>
<td>NLB 418</td>
<td>1.0 LPM</td>
</tr>
</tbody>
</table>

 Specifications
- Maximum inlet pressure: 500 PSIG
- Inlet fitting: CGA 600
- Outlet fitting: 3/16" hose barb
- Temperature operating range: 0-140°F

Norlab’s trigger control regulator allows both bump and calibration testing and controlled or continuous delivery. The 517TR series regulators are available in several flow rates.

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLB 513 TR</td>
<td>0.25 LPM</td>
</tr>
<tr>
<td>NLB 517 TR</td>
<td>0.5 LPM</td>
</tr>
</tbody>
</table>

 Specifications
- Maximum inlet pressure: 1000 PSIG
- Inlet fitting: 5/8"-18 UNF (C-10)
- Outlet fitting: 3/16" connection
- Temperature operating range: 0-140°F

The 500 Series regulators are single-stage, piston-style, regulators designed to deliver a preset flow of non-reactive and low-level reactive (less than 100 PPM)* gas mixtures from 34, 58, 103 and 116 liter non-refillable cylinders having a 58"-18 UNF (C-10) inlet connection.

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLB 511</td>
<td>1.5 LPM</td>
</tr>
<tr>
<td>NLB 512</td>
<td>2.5 LPM</td>
</tr>
<tr>
<td>NLB 513</td>
<td>0.25 LPM</td>
</tr>
<tr>
<td>NLB 516</td>
<td>0.3 LPM</td>
</tr>
<tr>
<td>NLB 517</td>
<td>0.5 LPM</td>
</tr>
<tr>
<td>NLB 518</td>
<td>1.0 LPM</td>
</tr>
</tbody>
</table>

 Specifications
- Maximum inlet pressure: 1000 PSIG
- Inlet fitting: 5/8"-18 UNF (C-10)
- Outlet fitting: 3/16" hose barb
- Temperature operating range: 0-140°F

*Low-level reactive gases slowly react with the “wetted” brass parts of the 500 Series regulators. In order to minimize loss of calibration accuracy, the regulator must be removed from the cylinder after each use. Norlab’s 6000 Series regulator is recommended for extended use with reactive calibration gas mixtures.

Pressure Reducing Regulator

The lightweight construction and small size of the 700 Series regulators make them ideal for our 221 liter cylinders.

 Specifications
- Maximum inlet pressure: 400 PSIG
- Operating temperature range: 35°F-150°F
- Inlet fitting: CGA 165
- Outlet fitting: 1/4" NPTF
- Delivery pressure range: 0-25 PSIG

 Material of Construction
- Body: Brass
- Diaphragm: Viton
- Seat: Acetol
- Seal: Viton
- Bonnet: Acetal

Cylinder Devalving Tools

<table>
<thead>
<tr>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGA 600: Fits on 17 or 34 liter steel cylinders.</td>
</tr>
<tr>
<td>Part Number: NLB 600DV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGA C-10: Fits on 34, 58, 103, or 116 liter disposable cylinders.</td>
</tr>
<tr>
<td>Part Number: NLB C10DV</td>
</tr>
</tbody>
</table>
### Pure and Rare Gases
- Air, Ultrapure, HCF, Zero
- Argon, 99.998% - 99.9999%
- Helium, 99.995% - 99.9999%
- Hydrogen, 99.99% - 99.9999%
- Krypton, 99.9985+% 
- Methane, 99.0% - 99.99%
- Neon, 99.9988+% 
- Nitrogen, 99.998% - 99.9999%
- Oxygen, 99.99% - 99.9999%
- Sulfur Hexafluoride, 99.9%
- Xenon, 99.9985%

### Special Application Mixtures
- Laser Mixes
- Flame Ionization Mixes
- Nuclear Counter Mixes (P-10)
- Electron Capture Mixes (P-5)
- Leak Detection Mixes
- Boiler Efficiency Mixes

### Industrial Hygiene Mixtures
**Non-Reactive**
- Carbon Dioxide in Nitrogen
- Carbon Monoxide in Air
- Hexane in Air or Nitrogen
- HCFCs in Air or Nitrogen
- Isobutylene in Air
- Methane in Air
- Methane, Carbon Monoxide in Air
- Oxygen in Nitrogen

**Reactive**
- Ammonia in Air or Nitrogen
- Chlorine in Nitrogen
- Ethylene Oxide in Nitrogen
- Hydrogen Sulfide Quad Mixtures
- Nitric Oxide in Nitrogen
- Nitrogen Dioxide in Air or Nitrogen
- Sulfur Dioxide in Air or Nitrogen

### Hydrocarbon Mixtures
- Natural Gas Standards
- Transformer Oil Standards
- Butane Standards
- Ethylene Standards
- 1,3 Butadiene Standards

### Medical Mixtures
- Blood Gas Mixtures
- Lung Diffusion Mixtures
- Anaerobic Mixtures
- Sterilant Gas Mixtures
- Helium/Oxygen Mixtures

### Environmental Mixtures
**EPA Protocols**
- Carbon Dioxide in Air or Nitrogen
- Carbon Monoxide in Air or Nitrogen
- Nitric Oxide in Nitrogen
- Sulfur Dioxide, Nitric Oxide in Nitrogen
- Oxygen in Nitrogen

### VOC Mixtures
- Acetone in Nitrogen
- Benzene in Nitrogen
- BTEX Mixes
- Carbon Tetrachloride in Nitrogen
- MEK in Nitrogen
- Styrene in Nitrogen
- Toluene in Nitrogen
- Xylene in Nitrogen