



High Pressure Refillable Cylinders (HPC) and Equipment Including ISO 17025 Range



5ST / 5AL



10ST / 10AL



50ST / 50AL

Calgaz the world leader in calibration gases, is able to supply a wide range of gas mixtures in High Pressure refillable Cylinders (HPC) globally in addition to its non-refillable cylinder product offering. Calgaz is able to offer HPC mixtures for a wide variety of applications including:

Gas Detection / Safety - Breath Testing (BrAC) - Mud Logging - Marine

In addition, Calgaz can also supply a range of regulators compatible with the gas mixtures and cylinder threads supplied.

High Pressure Refillable Cylinders (HPC)

Characteristic				
Type	Water Volume	Pressure	Dimensions*	Weight**
5ST	5 litres	150 bar (2175 psi)	480 mm x 140 mm (18.9" x 5.5")	9 kg (20 lb)
5AL	5 litres	150 bar (2175 psi)	505 mm x 150 mm (20" x 6")	8 kg (18 lb)
10ST	10 litres	150 bar (2175 psi)	690 mm x 160 mm (27.2" x 6.3")	16 kg (35 lb)
10AL	10 litres	150 bar (2175 psi)	700 mm x 175 mm (27.6" x 6.9")	14 kg (31 lb)
50ST	50 litres	150 bar (2175 psi)	1520 mm x 230 mm (59.8" x 9")	70 kg (155 lb)
50AL	50 litres	150 bar (2175 psi)	1550 mm x 250 mm (61" x 9.8")	57 kg (125 lb)

* Cylinder heights are to the centre of outlet valve. Add 100mm or total absolute height with guard or cap.

**The weights are cylinder and valve without contents.

Specifications				
Type	Approvals	Type	Cylinder Valve	Recommended Equipment
Steel (ST)	ISO7866	Refillable	BS, CGA or DIN*	• Single Stage Brass • Two Stage Brass
Aluminium (AL)	ISO7866	Refillable	BS, CGA or DIN*	• Single Stage Stainless Steel • Two Stage Stainless Steel

Mixture Tolerances for standards mixtures

Minor components are certified to the following analytical tolerance:

2-20ppm = +/- 10%

21- 50ppm = +/- 5%

>51ppm = +/- 2%

ISO 17025 Mixtures

Calgaz has traditionally supplied gravimetric mixtures traceable back to NPL standards. The below gases are ISO 17025 offerings in HPC Cylinders.

Calgaz is able to supply a range of ISO 17025 accredited mixtures, especially suited to the Marine Industry, Breath Testing, Mud Logging and Offshore market as well as our traditional Gas Detection markets. Not all combinations of the below gases are available.

ISO 17025 Gas Offerings		
	Min	Max
H ₂ S	10 ppm	200 ppm
Ethanol	50 ppm	500 ppm
SO ₂	25 ppm	3000 ppm
CO ₂	0.5%	1.5%
	2.5%	30.0%
CO	25 ppm	500 ppm
CH ₄	1.5%	4.5%
NO	125 ppm	3000 ppm
NO ₂	5 ppm	200 ppm
NO _x	5 ppm	500 ppm
O ₂	1.0%	3.0%
	10.5%	23.5%

Balance Gas and Pure Gas Impurities

Nitrogen (5.0) <99.999%	
Impurities	Concentration
Oxygen (O ₂)	≤ 3 ppm
Moisture (H ₂ O)	≤ 4 ppm
Total Hydrocarbons (THC)	≤ 0.5 ppm

Hydrogen (5.0) 99.999%	
Impurities	Concentration
Nitrogen (N ₂)	≤ 5 ppm
Oxygen (O ₂)	≤ 2 ppm
CO / CO ₂	≤ 0.5 ppm
Moisture (H ₂ O)	≤ 3 ppm
Total Hydrocarbons (THC)	≤ 0.5 ppm

Methane (3.5) 99.5%	
Impurities	Concentration
Nitrogen (N ₂)	≤ 100 ppm
Oxygen (O ₂)	≤ 20 ppm
CO ₂	≤ 50 ppm
Moisture (H ₂ O)	≤ 20 ppm

Helium (5.0) 99.999%	
Impurities	Concentration
Nitrogen (N ₂)	≤ 4 ppm
Oxygen (O ₂)	≤ 2 ppm
CO / CO ₂	≤ 0.5 ppm
Moisture (H ₂ O)	≤ 2 ppm
Total Hydrocarbons (THC)	≤ 1 ppm

Equipment for HPC Cylinders

Calgaz HPC products can be supplied with a range of valves including BS, DIN and CGA. Cylinders are normally sold outright and so not subject to rental or the need to return.



R21



R31



718



802



804



1001



1002



1003



DFR 2003



DFR 2006

Regulators - R Series



R21



R31

Specifications

	Configuration	Inlet Pressure	Outlet Pressure	Body Port Size	Material	Stability	Weight
R21B	Single Stage	137bar (2000psi)	3.5 or 7 bar	1/4" NPT(F)	NI-Brass	Non-Reactive Gases	1.8 kg (4 lbs)
R21S	Single Stage	137bar (2000psi)	3.5 or 7 bar	1/4" NPT(F)	NI-Brass	Reactive Gases	1.8 kg (4 lbs)
R31B	Two Stage	137bar (2000psi)	3.5 or 7 bar	1/4" NPT(F)	NI-Brass	Non-Reactive Gases	2.1 kg (4.6lbs)
R31S	Two Stage	137bar (2000psi)	3.5 or 7 bar	1/4" NPT(F)	Stainless Steel	Reactive Gases	2.1 kg (4.6lbs)

Temperature Range: 40°F to 165°F (-40°C to 74°C)

Temperature Range 2 x 10 atm.cc/sec He

Connectors 1/4" NPT(F) to available with British Standard (BS), US CGA or DIN

Regulators - Other



Specifications							
	Inlet	Outlet	Fixed Flow	Stages	Max Inlet Pressure	Max Outlet Pressure	Gauge/Knob
718	1/4" NPT Internal	4.8mm (3/16") Barb	0.2 to 6.0 LPM	1	150 Bar (2200 Psi)	4.1 Bar (60 Psi)	0-205 Bar (0-3000 Psi)



Specifications						
	Inlet	Outlet	Variflow	Stages	Max Inlet Pressure	Max Outlet Pressure
802	1/4-18" NPT	4.8mm (3/16") Barb	0.5 Lit/Mn to 5.0 Lit/Mn	2	275 Bar (4000 Psi)	4.1 Bar (60 Psi)
804	1/4-18" NPT	4.8mm (3/16") Barb	0.5 Lit/Mn to 5.0 Lit/Mn	2	275 Bar (4000 Psi)	4.1 Bar (60 Psi)



Specifications						
	Inlet	Outlet	Stages	Max Inlet Pressure	Max Outlet Pressure	Gauge/Knob
1001	1/4-18" NPT	1/8" - 27 NPT	2	207 Bar (3000 Psi)	0-0.7 Bar (0-10 Psi)	0-207 Bar (0-3000 Psi)
1002	1/4-18" NPT	1/8" - 27 NPT	2	207 Bar (3000 Psi)	0-3.5 Bar (0-50 Psi)	0-207 Bar (0-3000 Psi)
1003	1/4-18" NPT	1/8" - 27 NPT	2	207 Bar (3000 Psi)	0-7 Bar (0-100 Psi)	0-207 Bar (0-3000 Psi)



Specifications							
	Inlet	Outlet	on-Demand Flow Rate	Stages	Max Inlet Pressure	Demand Pressure	Gauge/Knob
DFR 2003	1/4-18" NPT	4.8mm (3/16") Tubing	0 to 3 LPM	2	150 Bar (2200 Psi)	5.6mm (3" H2O)	0-207 Bar (0-3000 Psi)
DFR 2006	1/4-18" NPT	4.8mm (3/16") Tubing	0 to 3 LPM	2	150 Bar (2200 Psi)	5.6mm (3" H2O)	0-207 Bar (0-3000 Psi)



Contact Details

Americas

Global Headquarters

Houston, TX, USA
+1 713 624 8000

Customer Service and Manufacturing Facility

Cambridge, MD, USA
+1 800 638 1197

Europe, Middle East & Africa

Customer Service, Sales and Manufacturing Facility

Stoke-on-Trent, United
Kingdom
+44 1782 566897

Middle East Sales

Dubai, UAE
+971 56 131 2346

South East Asia & Australia

Customer Service and Distribution

Singapore
+65 62653788

China

Customer Service and Distribution

Shanghai
+86 21 6090 3711

info@calgaz.com

www.calgaz.com