

ECOCYL® RSH. Portable HiQ® specialty gas solution.

Introduction

Many of today's industries need a broad range of analytical equipment. Analyzers and monitors are used to check for and measure environmental pollution, for quality control, process engineering etc. A wide range of gas mixtures is applied to calibrate the analytical equipment and to ensure its correct operation.

Normally, these mixtures are supplied in high-pressure or disposable gas cylinders. Depending on the consumption and the required mobility, the size of the cylinders varies from 1 to up to 50 liters.

Requirements

All gas cylinders require a regulator to reduce the pressure of the cylinder down to the normal process pressure of 3 to 4 bar. The protection cap of the cylinder does not cover the regulator. The result is a safety risk, especially when gas cylinders are transported or moved around during their use. Moreover, end users must be able to disconnect the regulator from one cylinder and connect it to another. For this, dedicated training is a necessity.

Solution

Linde has developed a unique and environmentally friendly solution to these problems. It is a small, refillable cylinder equipped with a valve, a fixed pressure regulator and a flow meter. These devices are fully integrated into the cylinder's protection cap. The result is a safe, easy and ready-to-use system. The end user only needs to open the cylinder valve and choose from the preset flow ranges.

The units are suited for non-corrosive pure gases as well as gas mixtures that contain non-corrosive as well as corrosive components. Not included in the product range for these units are pure oxygen, all oxidizing gases and oxidizing gas mixtures as well as liquefied flammable gases.

With ECOCYL® RSH, Linde covers the business area of truly portable cylinders with integrated equipment, fully protected by a proper cylinder cap. ECOCYL® RSH units are also available with practical shoulder straps.

Safety

Devices such as Linde's ECOCYL® RSH unit are also known by the abbreviation VIPRs (valve-integrated pressure regulators). Just like normal cylinder valves, VIPRs must be tested according to the transportable pressure equipment directive (TPED, European Council directive 1999/36/EC). Approved units are signed with the Greek letter π (pi), often followed by 4 digits.



Technical data overall unit

Diameter	9.5 cm / 3.7"
Height	44 cm / 17"
Weight (empty)	2.4 kg / 5.3 lb
Filling pressure	150 bar g / 2,200 psi g maximum
Gas volume	0.15 m ³ (gas-dependent)
Outlet pressure	3.8 bar g / 55 psi g
Manometer cylinder pressure	0-200 bar g / 0-3,000 psi g
Outlet flow (preset values)	0.25, 0.3, 0.5, 1.0, 1.5, 2.5 and 8.0 liters / minute
Outlet connection	6 and 8 mm hose connection
Inlet connection (cylinder)	7/8" x 16 UNF-2A
Inlet connection filling port	Customized

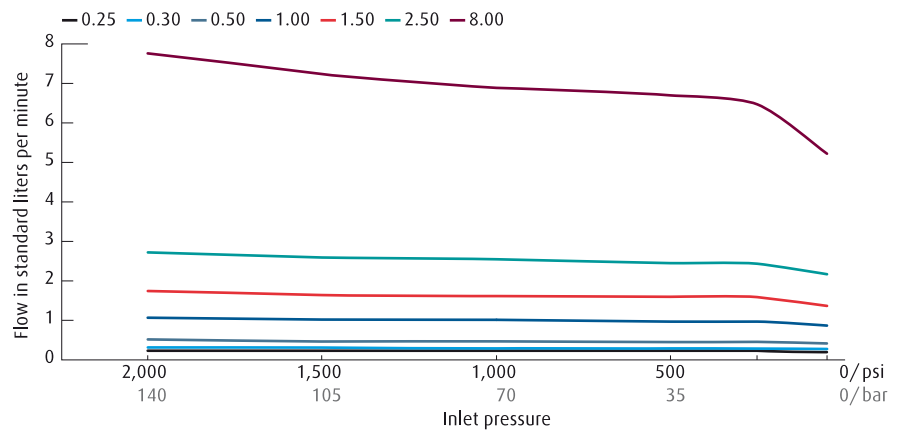
Technical data cylinder

Diameter	8.1 cm/3.2"
Height	33.5 cm/13.2"
Volume	1 liter
Weight	1.5 kg/3.3 lb
Material	Aluminum, AL6061
Filling pressure	150 bar g/2,200 psi g maximum (suited for a maximum operating pressure of 200 bar g/2,900 psi g to make future product expansion possible)
Test pressure	343 bar g/5,000 psi g
Tested according to	EN 1975 & DOT-3AL (manufacturer: Luxfer UK)
Valve connection	0.750" x 16 UNF-2B
Torque between valve and cylinder	114-121 Nm or 85-90 ft/lbs for Teflon rings 67-81 Nm or 50-60 ft/lbs for Viton rings

Technical data valve, regulator and flow selector combined

Main body	3.6 cm ² /1.43 square inches
Largest width	9.1 cm/3.6"
Height	10.4 cm/4.1"
Weight	0.63 kg/1.4 lb
Material	Stainless steel and aluminum
Surface treatment	Partly anodized and nickel-plated
Maximum pressure	150 bar g/2,200 psi g
Safety relief valve	5.3 (+/-10%) bar g/77 (+/-10%) psi g
Rupture disk	216-255 bar g/3,139-3,693 psi g - SS <i>Optional (only for DOT regulations): 3,024-3,360 psi g at 164 °F (copper, fusible)</i>
Valve connection	0.750" x 16 UNF-2A
Manometer cylinder pressure	0-200 bar g/0-3,000 psi g
Outlet pressure	3.8 bar g/55 psi g
Outlet flow (preset values)	0.25, 0.3, 0.5, 1.0, 1.5, 2.5 and 8.0 liters /minute
Outlet connection	6 and 8 mm universal hose connection

Flow curves for ECOCYL® RSH



Technical data protection cap

Diameter	9.15 cm/3.6"
Height	13 cm/5.1"
Weight	0.13 kg/0.29 lb
Material	Polyacetal
Screw connection tool sizes	3/32" and 7/64" hexagonal

Subject to change

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