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Oxford Valves OV-VFR-500 Series

Vari-Flow Regulators for Calibration Gas and Handheld Gas Detector Applications

Product Overview

The Oxford Valves **OV-VFR-500 Series** is a range of Vari-Flow regulators designed for calibration gases, handheld gas detectors, portable gas calibration systems, and applications requiring selectable preset flow rates.

Vari-Flow regulators use a single-stage design and provide the user with a series of preset constant flow rates. The dial on the top of the regulator is used to manually select the required flow rate.

The OV-VFR-500 Series includes stainless steel and aluminium anodised C10 regulator configurations with selectable flow rate options, C10 inlet connection, barb outlet connection, and gauge options.

What Is a Vari-Flow Regulator?

A Vari-Flow regulator is a gas regulator that allows the user to choose from a series of preset flow rates. Unlike a fixed flow regulator, which is supplied for one constant flow rate, a Vari-Flow regulator gives the user multiple flow options within one regulator.

This makes it useful where different gas detectors, calibration caps, tubing setups, or test procedures require different flow rates.

Series Structure

Series Name: OV-VFR-500 Series

Product Type: Vari-Flow regulators

Model Range: OV-VFR-501 to OV-VFR-502

Inlet Connection: 5/8" x 18UN C10

Outlet Connection: 3/16" barb, 4.8 mm

Applications: Calibration gas, handheld gas detectors, bump testing, gas detector calibration, and portable gas cylinder packages

Browse by Regulator Type

Stainless Steel Vari-Flow Regulator

The stainless steel Vari-Flow regulator is suitable for applications requiring stainless steel construction and is commonly selected for reactive gas applications.

Aluminium Anodised Vari-Flow Regulator

The aluminium anodised Vari-Flow regulator provides a lightweight configuration for compatible non-reactive gas applications.

Applications

Oxford Valves OV-VFR-500 Series Vari-Flow regulators are used in:

- Calibration gas delivery
 - Handheld gas detector calibration
 - Gas detector bump testing
 - Portable calibration gas cylinders
 - C10 calibration gas cylinders
 - Gas detection service kits
 - Laboratory test gas applications
 - Environmental monitoring equipment
 - Industrial safety gas detection systems
 - Marine gas detection calibration
 - Portable gas analysis applications
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Suitable Markets

The OV-VFR-500 Series is suitable for:

- Calibration gas suppliers
- Gas detection equipment suppliers
- Gas detector calibration service providers
- Specialty gas companies
- Industrial gas companies
- Environmental monitoring companies
- Laboratories and analytical instrument users
- Marine safety suppliers
- Oil, gas, petrochemical, and refinery safety teams
- Gas cylinder package suppliers
- International distributors and technical buyers

Key Features

- Single-stage Vari-Flow regulator design
- Multiple preset constant flow rate options
- Manual flow selection using top dial
- Suitable for calibration gases and handheld gas detectors
- C10 inlet connection
- 3/16" barb outlet, 4.8 mm
- Stainless steel and aluminium anodised configurations
- Stainless steel or brass gauge options depending on model
- Flow rate options available up to 15.0 L/min depending on selected flow table
- Suitable material options for reactive and non-reactive gas applications, depending on model
- Manufactured under ISO 9001 quality processes
- Oxford Valves branded product range

Model Comparison Table

Oxford Valves Model	Type	Material Config uration	Maxim	Flow Rates	Inlet Conne ction	Outlet Conne ction	Gauge	Weight
			um Inlet Pressur e					

Oxford Valves Model	Type	Material Configuration	Maximum Inlet Pressure	Flow Rates	Inlet Connection	Outlet Connection	Gauge	Weight
OV-VFR-501	C10 Vari-Flow regulator	Stainless steel	0 to 1200 psig / 83 bar	Refer flow rate tables	5/8" x 18UN C10	3/16" barb, 4.8 mm	Stainless steel, 0 to 1500 psig / 103 bar	0.460 kg
OV-VFR-502	C10 Vari-Flow regulator	Aluminium silver anodised	0 to 1200 psig / 83 bar	Refer flow rate tables	5/8" x 18UN C10	3/16" barb, 4.8 mm	Brass, 0 to 1500 psig / 103 bar	0.200 kg

Stainless Steel Vari-Flow Regulator

OV-VFR-501

C10 Vari-Flow Regulator, Stainless Steel

The OV-VFR-501 is a stainless steel C10 Vari-Flow regulator designed for calibration gases and handheld gas detectors. It uses a single-stage design and provides a series of preset constant flow rates selected manually using the top dial.

Specification	Detail
Product type	C10 Vari-Flow regulator
Body	Stainless steel
Neck	Stainless steel
Piston	Stainless steel
Seats and seals	Teflon, Viton and Buna-N
Bonnet	Aluminium black anodised
Maximum inlet pressure	0 to 1200 psig / 83 bar
Gas suitability	Stainless steel for reactive gases
Flow rates	Refer flow rate tables
Inlet connection	5/8" x 18UN C10

Specification	Detail
Outlet connection	3/16" barb, 4.8 mm
Gauge	Stainless steel, 0 to 1500 psig / 103 bar
Weight	0.460 kg

Typical applications:

Reactive gas calibration mixtures, C10 calibration gas cylinders, handheld gas detector calibration, gas detector bump testing, and portable calibration gas systems.

Aluminium Anodised Vari-Flow Regulator

OV-VFR-502

C10 Vari-Flow Regulator, Aluminium Anodised

The OV-VFR-502 is a lightweight aluminium anodised C10 Vari-Flow regulator designed for calibration gases and handheld gas detectors. It provides selectable preset flow rates through a top dial and is suitable for compatible non-reactive gas applications.

Specification	Detail
Product type	C10 Vari-Flow regulator
Body	Aluminium silver anodised
Neck	Aluminium silver anodised
Piston	Brass
Seats and seals	Teflon, Viton and Buna-N
Bonnet	Aluminium black anodised
Maximum inlet pressure	0 to 1200 psig / 83 bar
Gas suitability	Aluminium anodised for non-reactive gases
Flow rates	Refer flow rate tables
Inlet connection	5/8" x 18UN C10
Outlet connection	3/16" barb, 4.8 mm
Gauge	Brass, 0 to 1500 psig / 103 bar
Weight	0.200 kg

Typical applications:

Lightweight calibration gas kits, C10 calibration gas cylinders, handheld gas detector

calibration, bump testing, and portable test gas applications using compatible non-reactive gases.

Flow Rate Options

The OV-VFR-500 Series provides selectable preset flow rates. The required flow table should be selected based on the gas detector, calibration adaptor, tubing setup, sampling arrangement, and application requirement.

Flow Rate Table 1

0 – 0.3 – 0.5 – 1.0 – 1.5 – 2.0 – 2.5 – 3.0 – 5.0 – 6.0 – 7.0 – 8.0 L/min

Flow Rate Table 2

0 – 0.15 – 0.3 – 0.5 – 0.75 – 1.0 – 1.25 – 1.5 – 1.75 – 2.0 – 2.5 – 3.0 L/min

Flow Rate Table 3

0 – 0.5 – 1.0 – 1.5 – 2.0 – 2.5 – 3.0 – 5.0 – 6.0 – 7.0 – 10.0 – 15.0 L/min

Inlet Connection

The OV-VFR-500 Series uses the following inlet connection:

5/8" x 18UN C10

The inlet connection must match the cylinder valve or gas package connection.

Outlet Connection

The OV-VFR-500 Series uses the following outlet connection:

3/16" barb, 4.8 mm

The outlet connection should be matched with the calibration tubing, instrument connection, or gas delivery setup.

Material Selection Guide

Stainless Steel Configuration

The stainless steel configuration is typically selected for applications requiring stainless steel construction and is suitable for reactive gas applications.

Relevant model:

- OV-VFR-501

Aluminium Anodised Configuration

The aluminium anodised configuration provides a lightweight regulator option for compatible non-reactive gas applications.

Relevant model:

- OV-VFR-502

Vari-Flow vs Fixed Flow Regulators

Regulator Type	How It Works	Typical Use
Vari-Flow regulator	Allows selection from multiple preset flow rates	Applications where different gas detectors or procedures require different flow rates
Fixed flow regulator	Delivers one preset constant flow rate	Standard calibration kits and repeatable bump testing
Demand flow regulator	Supplies gas only when the instrument demands flow	Pump-based gas detectors and sampling instruments

A Vari-Flow regulator is useful when one regulator needs to support several flow rate requirements.

Gas Compatibility Notes

Gas compatibility depends on the gas mixture, concentration, moisture content, regulator material, seat and seal material, pressure, temperature, and service conditions.

As a general guide:

- Stainless steel configurations are selected for reactive gas applications.

- Aluminium anodised configurations are used for compatible non-reactive gas applications.
 - Teflon, Viton, and Buna-N sealing materials should be checked against the gas mixture and operating conditions.
 - Final regulator selection should be based on the complete gas mixture and application.
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Safety Notes

Vari-Flow regulators are pressure control components and must be selected, installed, used, and maintained by trained personnel.

The correct regulator should be selected based on:

- Cylinder connection
- Maximum inlet pressure
- Required flow range
- Gas compatibility
- Regulator material
- Seat and seal material
- Outlet connection
- Gauge requirement
- Calibration procedure
- Instrument requirement

Do not use any Vari-Flow regulator outside its specified pressure rating, material compatibility, flow setting, or intended application.

Quality Statement

Oxford Valves supplies the OV-VFR-500 Series as part of its branded range of precision gas valves and regulators.

Products are manufactured under ISO 9001 quality processes and are intended for calibration gas, specialty gas, industrial gas, gas detection, and portable cylinder applications.

Technical Notes

- Vari-Flow regulators provide multiple preset flow rate options.
- Flow selection is controlled using the top dial.
- The inlet connection is 5/8" x 18UN C10.
- The outlet connection is 3/16" barb, 4.8 mm.
- Maximum inlet pressure is 0 to 1200 psig / 83 bar.
- Gas compatibility should be checked before final product selection.
- Pressure ratings must not be exceeded.
- Gauge material and regulator material depend on the selected model.
- Final regulator selection should be based on cylinder connection, gas mixture, inlet pressure, required flow rate, material compatibility, and application.



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