

# Afrox Scientific Regulators

Precision matters in  
everything we do



# Afrox Scientific Regulators

## When 99.99% just isn't good enough.

Afrox scientific knows that in your business there is simply no room for error. When dealing with ultra high purity gases our scientific gas regulators are designed to perform:

- Reliably
- Accurately
- Effectively

As precision matters in everything we do

## In-depth knowledge and four decades of experience

Over four decades, Afrox has gained in-depth knowledge of the gas needs of analytical chemists, quality control managers, metallurgists, and other laboratory professionals.

## From a position of excellence

The basic premise for developing our Scientific products was simply to design and manufacture the best in the field.

- The product range is designed to meet most laboratory requirements
- The materials chosen are the most suited to each component
- Innovative, elegant solutions
- Quality and reliability are not pursued, they are inherent

## Feature and benefits of AFROX Scientific regulators

Some of the more important features and benefits of Afrox Scientific regulators include:

- Highest quality materials used for seat areas
- Metal-to-metal sealing between body and diaphragm
- Lower volume gas cavity reduces gas contamination
- Bonnet or body mount options for ease of operation
- Dual scale pressure gauges
- Captive pressure knob to avoid over pressurisation
- Unique quad flow design for improved performance
- Bar stock construction ensures sturdy design

## Unique quad-flow design encapsulated valve

- The purpose of the encapsulated valve is to spread gas evenly in the gas cavity, minimising pressure fluctuations and offering superior flow characteristics
- They are available in brass and stainless steel, depending on the application. Brass encapsulated valves use a sintered metal filter, while stainless steel ones use stainless 316 alloy filters, both of which stop dust particles as small as 5 microns from reaching critical seating areas within the valve
- The benefits of using an encapsulated valve are improved durability, safety and better performance

## A complete range of gases for your needs

Afrox Instrument grade and HiQ gases and Scientific regulators should be used in laboratory and other specialised applications. These include gas chromatography, and all types of spectrophotometry including atomic absorption, flame, optical emission, inductively coupled plasma and x-ray fluorescence spectrometry.

## A proven track record

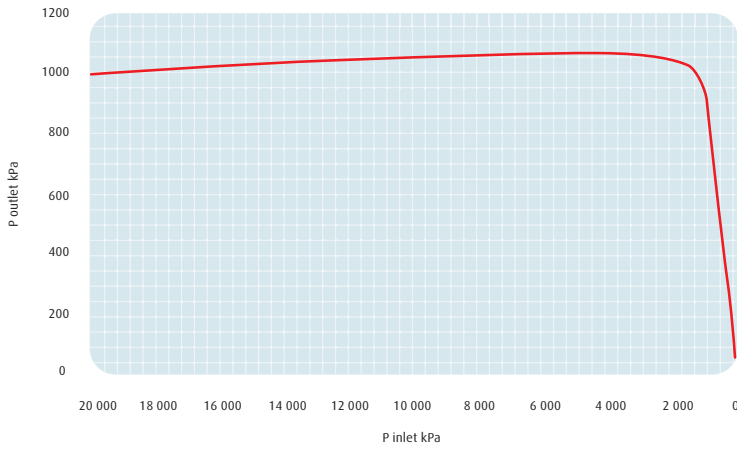
- Encapsulated valves can be Helium certified to  $1 \times 10^{-8}$  scc/sec
- Certificates available on request
- Wide product range available: brass chrome plated body, stainless steel body with either a single or dual-stage option and single stage line option. See attached graphs for performance specifications
- Tested to various international standards: CGA-E4, EN ISO 2503, AS 4267, UL 252

## Focus on safety for every application

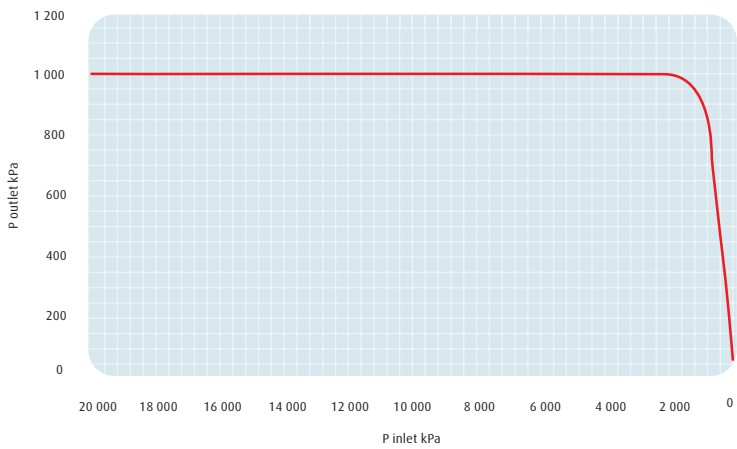
- Design and construction of every unit to minimise risk of injury and damage
- Each unit individually tested and certified
- Complete set of use and care instructions
- Additional user training as required
- Safety audits will help identify improvement opportunities



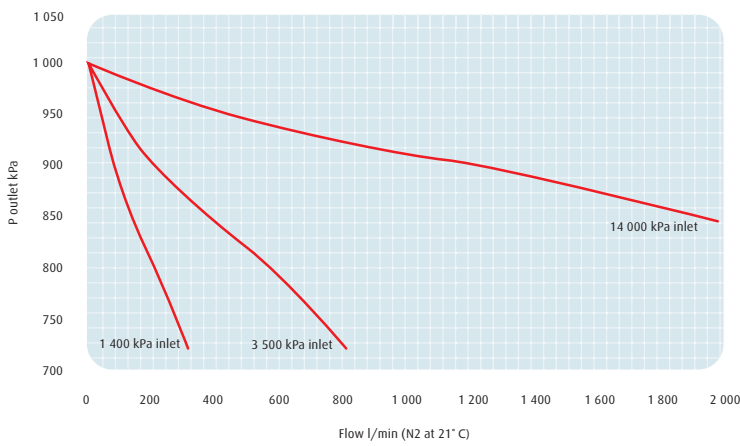
## Typical performance for the four types of our top-of-the-range regulators



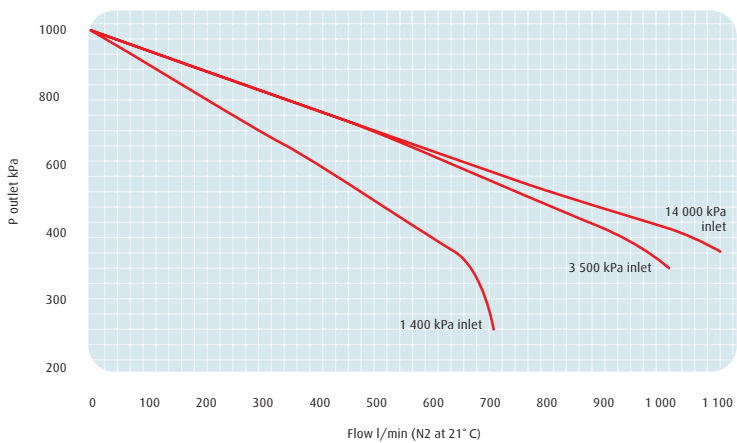
Output pressure versus cylinder pressure for brass single-stage



Output pressure versus cylinder pressure for brass multi-stage

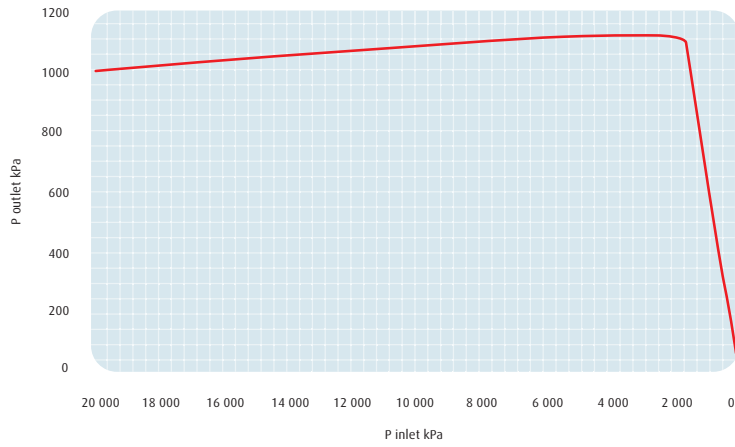


Pressure/flow relationship for brass single-stage

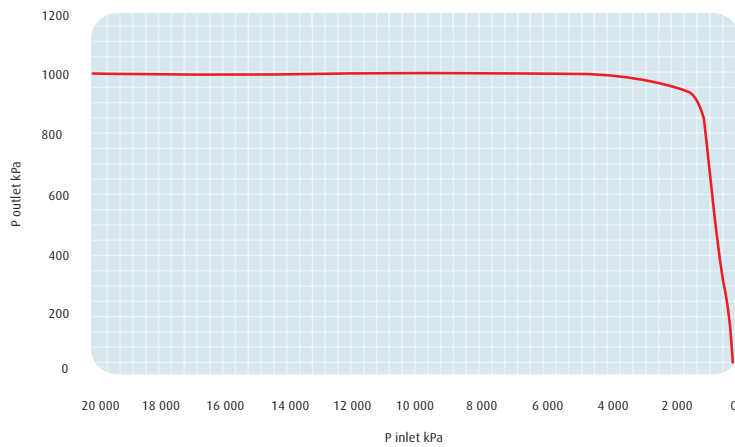


Pressure/flow relationship for brass multi-stage

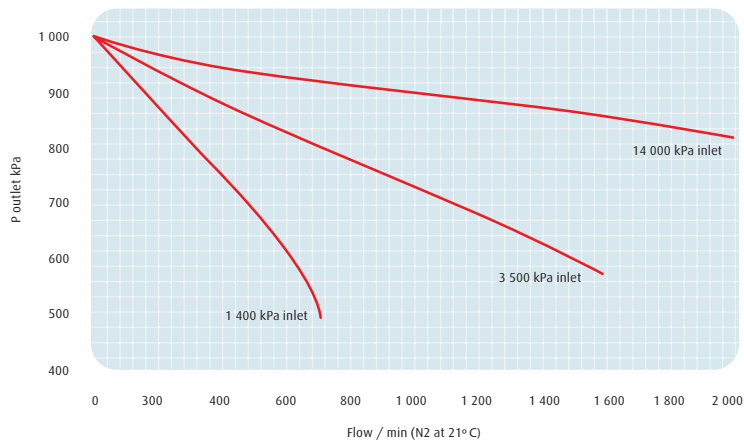




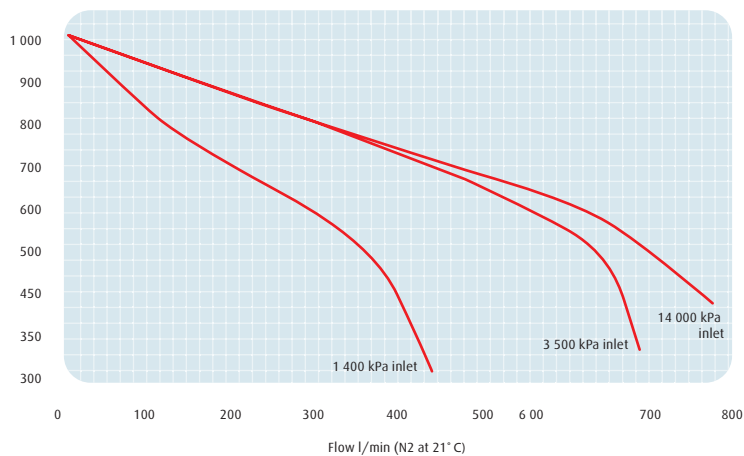
Output pressure versus cylinder pressure for stainless steel single-stage



Output pressure versus cylinder pressure for stainless steel multi-stage



Pressure/flow relationship for stainless steel single-stage



Pressure/flow relationship for stainless steel multi-stage



- 1 Cylinder connection (Inlet stem and nut)
- 2 Control knob and bonnet for control of outlet pressure
- 3 Inlet pressure gauge
- 4 Outlet pressure gauge
- 5 Regulator body
- 6 Stainless steel diaphragm
- 7 Spring assembly
- 8 Supply line connection
- 9 Encapsulated valve
- 10 Over-pressure relief valve

Part no.	Type	Outlet pressure	Description
W019110	REG SG NON FLAM	10 bar	Brass with a stainless steel diaphragm suitable for O <sub>2</sub> , Air, Ar, He, and non-flammable non-toxic mixtures.
W019120	REG SG FLAM IS	10 bar	Brass with a stainless steel diaphragm suitable for H <sub>2</sub> , CO, P10, Ethylene, Methane, and flammable toxic mixtures
W019130	REG SG N2 IS	10 bar	Brass with a stainless steel diaphragm suitable for N <sub>2</sub>
W019140	REG SG CO2 IS	10 bar	Brass with a stainless steel diaphragm suitable for CO <sub>2</sub>
W019141	REG SG SF6 IS	10 bar	Brass with a stainless steel diaphragm suitable for SF6
W019150	REG SG N2O IS	10 bar	Brass with a stainless steel diaphragm suitable for N <sub>2</sub> O
W019210	REG SG NON FLAM	10 bar	Brass with a stainless steel diaphragm suitable for O <sub>2</sub> , Air, Ar, He, and non-flammable non-toxic mixtures.
W019220	REG SG FLAM MS	10 bar	Brass with a stainless steel diaphragm suitable for H <sub>2</sub> , CO, P10, Ethylene, Methane, and flammable toxic mixtures
W019230	REG SG N2 MS	10 bar	Brass with a stainless steel diaphragm suitable for N <sub>2</sub>
W019240	REG SG CO2 MS	10 bar	Brass with a stainless steel diaphragm suitable for CO <sub>2</sub>
W019241	REG SG SF6 MS	10 bar	Brass with a stainless steel diaphragm suitable for SF6
W101535	REG SG LB NON-COR MS	10 bar	Brass with a stainless steel diaphragm suitable for lecture bottles containing non-corrosive gases
W019250	REG SG N2O MS	10 bar	Brass with a stainless steel diaphragm suitable for N <sub>2</sub> O
W019999	REG SG HIGH P IS	35 bar	Brass with a stainless steel diaphragm suitable for outlet pressures up to 3500kpa
W020120	REG SG AMMONIA IS	10 bar	Stainless steel with stainless steel diaphragm suitable for Ammonia
W020121	REG SG SO2 IS	0-1 bar	Stainless steel with stainless steel diaphragm suitable for SO <sub>2</sub>
W020160	REG SG COR IS	10 bar	Stainless steel with stainless steel diaphragm suitable for corrosive non flammable toxic mixtures
W020170	REG SG MIX FLAM/ COR IS	10 bar	Stainless steel with stainless steel diaphragm suitable for corrosive flammable toxic mixtures
W020250	REG SG LB COR MS	10 bar	Brass with stainless steel diaphragm suitable for lecture bottles
W020260	REG SG MIX COR MS	10 bar	Stainless steel with stainless steel diaphragm suitable for corrosive non flammable toxic mixtures
W020270	REG SG MIX FLAM/ COR MS	10 bar	Stainless steel with stainless steel diaphragm suitable for corrosive flammable toxic mixtures

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