AccuREG Pressure Regulator
USER MANUAL

CE
0197

Shanghai Xinghua Medical Equipment Co., Ltd.

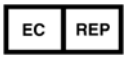
West No.1 Bridge, Zhoupu Pudong, Shanghai, China 201318

Tel: +86-21-58110711 Fax: +86-21-68152052 www.xhmedical.com

1. Introduction

This manual instructs a professional to install and operate the AccuREG Regulator. This provided for your safety and to prevent damage to the Regulator.

READ All INSTRUCTIONS BEFORE USING.

Symbol /Abbreviation	Description
	Use By
	Batch Code
	Caution
	Manufacturer
	Temperature Limitation
	Humidity Limitation
	Use No Oil
	Notified Body: TÜV Rheinland LGA Products GmbH
	Authorised Representative in the European Community
l/min	litres per minute
kPa	Kilopascal

2. Intended Use

AccuREG Regulator is a reliable, preset single stage, yoke type regulator. The regulator regulates the high pressure from a medical gas cylinder to a lower, constant pressure, which is similar to those from medical gas pipeline systems, for use with medical therapy equipment.

The gas supply from the regulator is delivered by an SIS compatible pressure outlet at reduced and regulated pressure. Outlet connection is the appropriate gas specific fitting.

 **Warning:**

- **Use the Regulator only for the purpose for which is intended.**
- **Always follow the instructions for attaching the Regulator to a gas cylinder.**

3. General Description

Pressure reduction is effected by an encapsulated pressure regulating valve, protected

by a unique triple filtration system in the high pressure side to protect the regulator and downstream device from entry of foreign particles. This regulator does not require user to adjust pressure.
A pressure gauge is fitted in the high pressure side of the regulator to indicate contents in gas cylinder.
A pressure relief valve is fitted to the outlet pressure side of the regulator to give protection against most seat failures. It is to vent a flow equivalent to the Standard discharge Q_1(see Section 13) at a pressure twice the nominal outlet pressure p_2 of the regulator.
Gas specific inlet and outlet connections allow the regulator to be connected only to the gas for which it is intended.

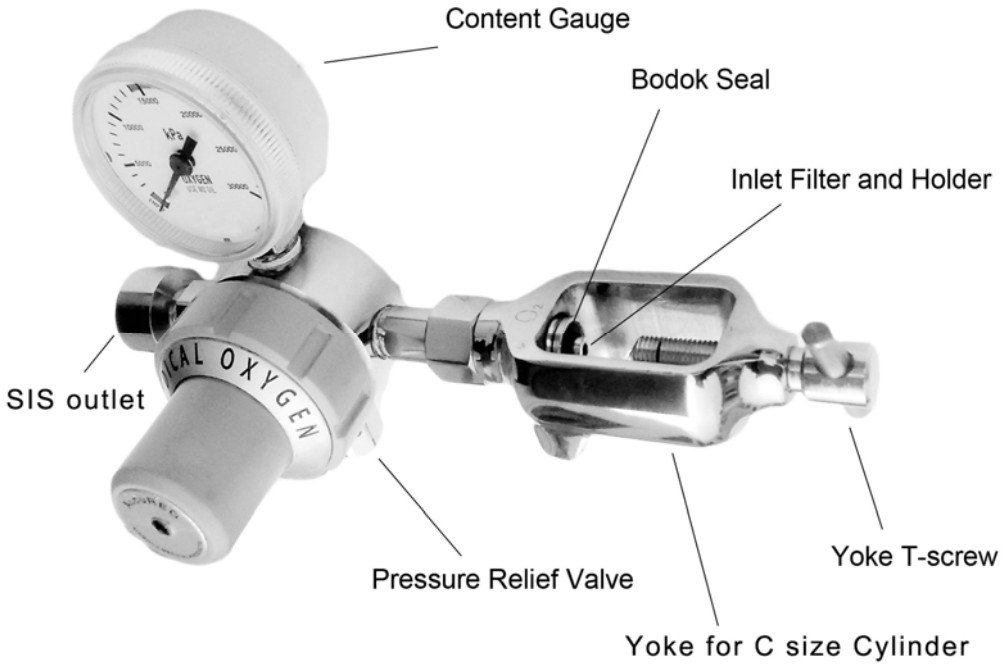
4. Parts Identification

4.1 Package Contents

Description	Qty
AccuREG Regulator	1
User Manual	1

Note: Always keep the user manual with the Regulator.

4.2 Pictorial Description



Note: There are no user controls or shut-off valves on this Regulator.

5. Safety Precautions and Warning

- DO NOT smoke in the area where oxygen is being administered.
- Oxygen is not flammable, however, all material that burns in air will burn much quicker while oxygen presenting. Never use any type of flame or flammable or explosive material on or near the Regulator.
- Always be certain the valve, Regulator and gasket are free from lubricant, oil or grease (including hand creams, etc.) to prevent the danger of fire or explosion. Oil or grease contamination is widely known to contribute to ignition in oxygen systems.
- To protect Regulator and downstream device, open cylinder valve **SLOWLY.**
- Without downstream device connected, do not open cylinder valve. The action may cause the damage of the Regulator.
- Turn off cylinder valve before remove downstream device.
- Turn off cylinder valve when not in use.
- Never alter the regulator in any way.
- Once pressure relief valve operates, close the cylinder valve and remove the regulator to service.
- Never tamper with the setting of the pressure relief valve.
- Do not allow fluids to enter Regulator.
- Do not submerse the Regulator in water.
- Keep gas cylinder safe and cool.
- Use only manufacturer approved spare parts when servicing.

Warning:

- **Personnel must make themselves familiar with the contents of this manual and the device function, before using any Regulator.**
- **Always keep the user's manual with the Regulator**
- **Do not use a flow outlet for driving any medical equipment.**
- **Only qualified personnel should repair this Regulator.**
- **If there is any damage, DO NOT USE and contact your provider.**

6. Inspection and Checks

6.1 Operational Inspection and Check

- Inspect Regulator free of oil or grease.
- Inspect all the connections and ensure all connections are tight and leak free.
- Check Bodok seal is in position
- Check the pressure gauge has no damage and the pointer reads zero when there is no inlet pressure.

Warning: **If any sign of damage or uncertain, DO NOT USE. Please remove the Regulator and refer servicing to qualified service personnel.**

6.2 Checking and replacing Bodok Seal

Apart from the Bodok Seal, there are no user-serviceable parts on the Regulator. Bodok seal must have a clean, undamaged appearance.

If any sign of damage, gently lever the Bodok seal out of position, insert a new one into

position.

6.3 Replacing the inlet filter

Replacement must be carried out by trained personnel only.

6.4 Preset Pressure and Regulator Seat Performance

This test should only be carried out by trained service personnel.

6.5 Leak Testing

Test for leaks as follows before putting the system into operation.

- Connect the Regulator to the cylinder.
- Pressurized the Regulator.
- Check all connections using an approved leak detector solution. Bubbles will appear if a leak is present.

Warning: **DO NOT use a leak Regulator. Refer servicing to qualified service personnel.**

7. Equipment Use

7.1 Connecting Regulator to Gas Cylinder

7.1.1 Remove product from package and inspect for damage. If product is damaged, contact your provider or manufacturer.
7.1.2 Inspect the cylinder valve to ensure it is not bent or damaged.
7.1.3 Ensure the regulator and cylinder valve are free of oil, grease or other contaminants.
7.1.4 Ensure the high pressure inlet port has a Bodok Seal in good condition.
7.1.5 Connect Regulator to cylinder valve.

a) Remove the protection capping from the cylinder valve.
b) Slightly open and close the cylinder post valve to clean the dust from the valve seat, and then re-close the valve.
c) Attach Regulator to cylinder post valve and align index pin with mating holes. DO NOT FORCE THE PINS INTO THE HOLES.
d) Hand-tighten Yoke T-screw clockwise until a leak tight seal is achieved.

Warning:

- **Position the Regulator so the cylinder valve opening is pointing away from the user and any other person(s).**
- **Any difficulty in connecting the Regulator to cylinder valve indicates a possible faulty.**
- **SLOWLY open cylinder valve when use.**
- **Do not open the cylinder valve until downstream device is connected to the Regulator.**

7.2 Connecting Downstream Device

7.2.1 Completely close the cylinder valve and downstream device.

7.2.2 Connect downstream device to Regulator.
7.2.3 SLOWLY open cylinder valve.

Note:

- Confirm there is enough gas in the cylinder for intended use.
- Check all connections for leaks.
- Operate the downstream device according to the instructions.
- Turn off cylinder valve when downstream device no longer in use.

7.3 Removing Downstream Device

7.3.1 Completely close the cylinder valve
7.3.2 Keep the downstream device open to bleed the residual pressure from the circuit.
7.3.3 Remove downstream device.

Warning:

- **Always close the cylinder valve first.**
- **Always remove the downstream device until the Regulator contents gauge reads zero.**

7.4 Removing Regulator from Gas Cylinder

7.4.1 Completely turn the cylinder valve clockwise to the off position.
7.4.2 Open the downstream device control knob to bleed the residual pressure from the circuit.
7.4.3 Turn off the downstream device and then remove it.
7.4.4 SLOWLY turn the Yoke T-screw anti-clockwise to allow pins to disengage from post and then remove Regulator.

8. Cleaning

Use a clean dampened cloth along with a pH neutral disinfectant to clean the external surfaces only, and then dry with paper towel.

CAUTION

No abrasive or solvent based cleaning solutions.
Do not allow any liquid enter the regulator.

9. Transport, Storage and Operating Conditions

Regulator should be transported, stored and operated in clean dry conditions as follows:

Ambient temperature	-18°C to 60ºC
Operation temperature	10°C to 40°C
Humidity	10% to 95% (relative humidity, non condensing)
Standard Conditions	25 ºC, 101kPa

10. Troubleshooting

Problem	Probable Cause	Remedy
No reading on pressure gauge	1. Cylinder valve closed 2. Cylinder empty 3. Malfunction of pressure gauge	1. Turn on cylinder 2. Replace cylinder 3. Replace gauge
Leak	1. Bodok Seal broken 2. T-screw loosen	1. Replace Bodok Seal 2. Tighten
No flow	Blockage in regulator	Replace regulator

11. Preventative Maintenance

Regular maintenance of the Regulator will reduce the possibility of sudden component failures.

11.1 Frequent Inspection

- Operational Check and Inspection (Section 6.1)
- Leaking testing (Section6.5)
- Preset Pressure and Regulator Seat Performance (Section6.4)

11.2 Annually Servicing

- Frequent Inspection (Section 8.1).
- Replace Bodok Seal and inlet filter (Section 6.2, 6.3).

11.3 Every Three Years Servicing

- Annually Servicing
- Check pressure relief valve
- Replace Regulator seat capsule

CAUTION

Maintenance only can be carried out by qualified service personnel.

12. Accessories and Spare Parts

12.1 Accessories

Our products are specifically designed and manufactured for use in conjunction with our accessories. Accessories designed by other manufacturers have not been tested by us and are not recommended for use with our products.

Description	Type
SimpFlow Flowmeter 0-15 L/min, type A	XCL-A-OXY
SimpFlow Flowmeter 0-15 L/min, type B	XCL-B-OXY
O2VAC Suction Unit	XS-A

12.2 Spare Parts

It is recommended that the user keep Bodok Seal in stock.

Description	**Part No.**
Bodok Seal	XCF26-OXY-13-04
Yoke for C size Cylinder	XCF26-OXY-13-00
Inlet Filter	XCF26-OXY-13-02

13. Specifications

Type	**Gas**	**Inlet Connection**	**Inlet Pressure p_1**	**Outlet Pressure p_2**	**Standard Discharge Q_1**
XCF26-OXY	Oxygen	EN ISO 407 (Pin-indexed Yoke)	20000 kPa @ 15 °C	400 kPa	125 l/min

Note:
SIS– Sleeve Indexed System, outlet connection complies with AS2896 for the nominated gas.

14. Warranty

Xinghua warrants to the purchaser that this equipment is free from defects in material and workman ship for a period of three years from the date of purchase. Terms and conditions apply.

IMPORTANT

Information contained in this manual is correct at the date of publication. The policy of Xinghua is one of continued improvement to their products. Because of this policy Xinghua reserves the right to make any changes which may affect instructions in this manual, without giving prior notice.

EC REP Authorised Representative in the European Community:
Liping SUN
Roosendaalsebaan 177, 2920 Kalmthout,Belgium

Part No.	Rev.	Date
XCF26-OXY-15	A/0	201005