

Operating Instructions for the

Praxair *Grab 'n Go*® *Digital*
Advanced Medical Oxygen System

Before using or working with the *Grab 'n Go Digital* system, please read and understand the usage and safety instructions provided in this booklet.



The Praxair *Grab 'n Go*® *Digital* Advanced Medical Oxygen System provides an easy-to-use package for those who need medical oxygen from portable cylinders.

It is easy to use because the oxygen regulator, digital pressure gauge, and gas supply valve are combined and permanently attached to the gas cylinder as one system. This innovative design helps to eliminate difficulties in locating and attaching a separate regulator, thereby helping to save you time and money.

A digital pressure gauge, integrated low pressure alarm with an approximate time to system replacement, further helps to improve the quality of care for your patients. These new features are incorporated into the *Grab 'n Go*® *Digital* system and expands the *Grab 'n Go*® family of advanced respiratory systems.

Available on both aluminum E size (shown) and aluminum D size cylinders.

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Read these Instructions

Danger, Warning, Caution, and Note Statements

Dangers, Warnings, Cautions, and Notes appear throughout these operating instructions. A sample of each type of statement appears below. Within each sample, a definition of the statement type and its purpose is given.



Danger: Dangers alert you to an immediate hazard that causes serious injury or death and requires special precautions to be taken.



Warning: Warnings alert you to a potential hazard that causes serious injury or death under certain conditions.



Caution: Cautions alert you to a non-immediate or potential hazard or an unsafe practice that presents a minor threat of personal injury or damage to equipment, data, or processes.



Note: Notes emphasize or remind you of an important piece of information.

Safety Precaution Information

Please read and understand the following safety information before using or working with this system.

Pressurized oxygen vigorously accelerates combustion. The *Grab 'n Go Digital* system is equipped with a pressure-reducing regulator and contains several safety features that relieve pressure if a malfunction occurs. Any continuous or intermittent escape of gas from the regulator indicates a malfunction or a leak, and you must notify Praxair immediately.



Use No Oil. Do not lubricate any part of the cylinder, regulator, or connections with oil, grease, and other hydrocarbons or touch with oily or greasy hands, gloves or clothing due to the risk of combustion.



The *Grab 'n Go Digital* system cannot be used directly in the MRI bore. The system is MR Conditional, and suitable for use during MR imaging for MRI systems up to 3.0 Tesla.



Do not expose the cylinder to heat or direct sunlight or to any condition where the cylinder temperature exceeds 125°F (52°C).

The system is designed for use above 32°F (0°C). Flow may be delayed or prevented at low temperatures. Store the system indoors to protect it from temperature extremes and weather.



Danger: Do not smoke or allow open flames in areas where oxygen is stored or in use.



Warning: Keep the system out of reach of children.

This device is ONLY for use by, or on the order of, a physician. Do not activate the system unless you have been trained in its proper functioning or are under competent supervision.

Oxygen flow must be verified before administering to a patient.

Protect the cylinder from impacts and exposure of the system to dust, water, or other unfavorable environmental conditions which may affect its quality, reliability and safety. See section on Equipment Storage (page 7).

Clean cover with a clean lint-free cloth and water. DO NOT use flammable liquids such as alcohol to clean the system.



Caution: Never attempt to service the *Grab 'n Go Digital* system or to remove the regulator from the cylinder.

Never wrap the system in bedcovers or carry it under clothing.

Always turn the system off when not in use so that no oxygen flows from the outlet.



Note: This device has been evaluated for Ingress Protection (IP) and has a rating of IP36.

The cylinder contains high pressure U.S.P. (United States Pharmacopoeia) grade oxygen.

When in operation, always observe the cleaning and safety requirements described in these operating instructions to ensure a proper use of the oxygen.

The *Grab 'n Go Digital* system should be secured during use or when in storage.

Introduction



The Praxair *Grab 'n Go*[®] *Digital* Advanced Medical Oxygen System provides an easy-to-use package for those who need medical oxygen from portable cylinders. It is easy to use because the oxygen regulator and digital pressure gauge are combined and permanently attached to the gas cylinder as one unit. This innovative design eliminates difficulties locating and attaching a separate regulator, helping to save you time and money.

An integrated low pressure alarm with an approximate time to system replacement further helps to improve the quality of care for your patients. These new features are part of the *Grab 'n Go*[®] *Digital* system.

Product Overview and Specifications

The *Grab 'n Go Digital* system contains an integral regulator; a flow-adjusting knob to set the flow of oxygen in clearly numbered increments; an easy-to-read digital pressure gauge that displays a continuous indication of cylinder pressure; and a durable plastic housing that doubles as a convenient carrying handle.

With its distinctive electronic pressure gauge, the *Grab 'n Go Digital* system provides metered flow rates from 0.5 to 25 liters per minute (LPM) and a 50 PSI connection to supply auxiliary equipment at flow rates up to 100 LPM. Refer to the specifications chart on page 7 for more details.

The *Grab 'n Go Digital* system is manufactured to requirements of International Organization for Standardization (ISO) 10524-3 and Compressed Gas Association (CGA) Publication E-18.

Available on both aluminum E size (shown) and aluminum D size cylinders.

Grab 'n Go Digital Advanced Medical Oxygen System Specifications

Operating Limits	
Storage Temperature	-40°F to 125°F (-40°C to 52°C)
Operation Temperature	32°F to 125°F (0°C to 52°C)
Nominal Operating Parameters	
Flow Rates (LPM)	0.5, 1, 1.5, 2, 3, 4, 6, 8, 10, 15, 25
Auxiliary Port Pressure	50 PSI
Maximum Aux Flow Rate	100 LPM
Gas Type	Oxygen
Alarm Parameters	
Audible Alarm	10 minutes from 300 PSI or when below 300 PSI
Silence Period	2 minutes without tones
Visual Alarm	Flashes while alarming (not active in OFF position)

Equipment Storage

Store the *Grab 'n Go Digital* system indoors in a safe and well-ventilated area. Ventilation is important, since the system contains oxygen. Proper ventilation avoids oxygen accumulation if the system is inadvertently left on or develops a leak.

The *Grab 'n Go Digital* system should be stored where it will not fall over or be damaged by falling objects. Never store a system in an elevated location, because a fall could seriously damage the regulator or cylinder. If a system is dropped or knocked over, check to see that components are not damaged and that system connection remain secure.

Equipment Handling and Maintenance

Handle the *Grab 'n Go Digital* system safely. Avoid jarring or dropping of the system.

There is no maintenance required by the user. The flow of gas is metered through a series of fixed orifices inside the regulator. The *Grab 'n Go Digital* system is maintained and tested by Praxair. If the *Grab 'n Go Digital* system malfunctions or develops a leak, turn it off immediately, place it in a secure and well-ventilated area, mark the system as unserviceable, and notify Praxair.

DO NOT attempt to remove the regulator from the cylinder.

DO NOT use the system if the low battery indication is present.

System Replacement and Refill

The pressure gauge visible through the plastic housing gives a continuous reading of cylinder pressure, regardless of whether oxygen is flowing or not. To ensure proper functioning and an adequate supply of oxygen, replace the system whenever the gauge indicates 300 PSI or less.

The *Grab 'n Go Digital* system must be refilled with USP grade medical oxygen by Praxair or an authorized Praxair dealer.



Warning: Never attempt to remove the large cap from the system's fill port (B) (refer to page 9).

Intended Use

The *Grab 'n Go Digital* system is an integrated delivery system intended to provide supplemental oxygen, by Rx only, to neonates, pediatrics, and adults. The device is MR Conditional, and suitable for use during MR imaging for MRI systems up to 3.0 Tesla. The device is intended for limited duration use, such as would be necessary during patient transports.

The *Grab 'n Go Digital* system must be used only by trained medical personnel or under the guidance of trained medical personnel.

Setup

Before using a *Grab 'n Go Digital* system, inspect the barbed outlet port (C) and auxiliary connection port (G) for signs of physical damage or contamination, such as dust, dirt, oil, or grease. Ensure that the entire system is free of oil, grease, or other contaminants. If you observe the presence of foreign substances, do not attempt to remove them, or use the system. Refer to page 10 for additional precautionary statements.

If using a metered flow rate, attach the oxygen supply tubing to the barbed outlet port (C) located directly above the pressure gauge. If a 50 PSI connection is required, connect the *Grab 'n Go Digital* system using the auxiliary connection port (G) located adjacent to the pressure gauge on the right side of the system.



- A Alarm Silence Button
- B Fill Port (Never Remove Cap)
- C Barbed Outlet Port
- D Low Battery Indicator

Digital Gauge Detail



- E Flow Adjusting Knob
- F Low Pressure Indicator
- G Auxiliary Connection Port

Proper Usage



**Correct Position for
Flow Rate Setting**



**Incorrect Position for
Flow Rate Setting**

The *Grab 'n Go Digital* system is designed and tested to provide accurate, metered flow **ONLY** when positioned at the flow rates marked on the flow-adjusting knob.

DO NOT OPERATE THE SYSTEM BETWEEN MARKED FLOW RATE SETTINGS.

Remember that when connected to the barbed outlet port, oxygen flows properly only when the flow-adjusting knob is stopped at one of the numbered flow rates.

ALWAYS VERIFY THE FLOW OF OXYGEN AT THE PATIENT'S END OF THE TUBING BEFORE ADMINISTERING TO THE PATIENT.



Warning: If the intended flow rate is not marked on the flow-adjusting knob, **DO NOT ATTEMPT TO USE THE SYSTEM.** The use of higher flow rates on particular patient subpopulations can be unsafe. Consult the patient's physician if a different flow rate is required.

Instructions for Use

After Setup (refer to page 9) is completed:

1. Check the digital pressure gauge to ensure the presence of adequate oxygen contents. Also verify that there are no existing alarm conditions (such as a low pressure or low battery indications) within the digital display.

2. Select **Metered Flow** or **Auxiliary Flow**:

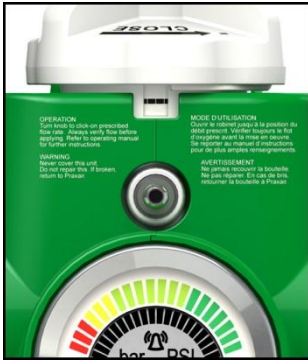
Metered Flow: To turn the system ON, rotate the flow-adjusting knob (E) clockwise from the OFF (—) position to an indicated numerical FLOW position (0.5, 1, 1.5, 2, 3, 4, 6, 8, 10, 15, or 25 LPM). The knob has a limited range of travel, about 300 degrees. Click-stops mark each flow rate. **Verify the flow at the patient's end of the tubing before applying.**

Auxiliary Flow: When using the auxiliary port on the *Grab 'n Go Digital* system, connect the oxygen supply hose to the auxiliary connection port (G). Rotate the flow-adjusting knob (E) clockwise until the auxiliary setting, marked with an A, is visible in the flow setting window and then verify flow at the device.

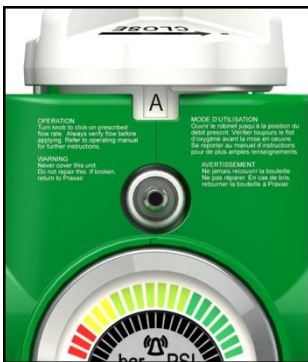
3. To turn the system off, turn flow-adjusting knob (E) counter-clockwise to the OFF (—) position. The OFF position is when the knob is completely rotated, meeting resistance, in the counter-clockwise direction and is indicated by (—) lines. If you still hear a hissing sound, do not try to force the knob past the positive stop at the OFF position. Hissing indicates a leak. Remove the system from service, turn the system off immediately, place it secure and well-ventilated area, mark the system as unserviceable, and notify Praxair.

Warning: Never connect a cannula, patient tubing or mask directly to the **AUXILIARY CONNECTION PORT**. The auxiliary connection port's flow rate is **not regulated**, and excessive flow to the patient will result. When the flow-adjusting knob (E) (refer to page 9) is in the "A" setting, no oxygen is supplied to the barbed outlet port (C) (refer to page 9).

Warning: Never attempt to repair any part of the *Grab 'n Go Digital* system. Any system repairs must be performed by an authorized Praxair representative.



Correct OFF Position



Correct Auxiliary Port Position





Caution: Never force the flow-adjusting knob.

If the low pressure alarm occurs during service, immediately replace the cylinder with one having adequate oxygen contents. If the time remaining is less than 10 minutes, the alarm may be temporarily silenced for two minutes by pressing the alarm silence button (A) (refer to page 9).



Note: Oxygen flow must be verified before administering to a patient.

Digital Gauge Instructions

The *Grab 'n Go Digital* system includes a digital high pressure gauge with integrated low pressure alarms. Setting the flow-adjusting knob (E) (refer to page 9) to any flow position, including the auxiliary A setting, results in an estimate of the remaining time of use at the flow selected. This remaining time of use is updated during use, and automatically adjusts with any change in flow rate.

The *Grab 'n Go Digital* system requires approximately 5 minutes in a flowing position before the calculated “time remaining” of product in the cylinder will be displayed.

Gauge Status

Display Description



When the *Grab 'n Go Digital* system is not in use:

- The cylinder pressure is displayed numerically.
- The fill level is displayed on the bar graph.



When the flow-adjusting knob is set to any ON position:

- A calculation is started to determine and estimate the remaining time (hrs:min) under the current set flow rate.
- The display alternates every 3 seconds back to pressure.
- The fill level is displayed on the bar graph.

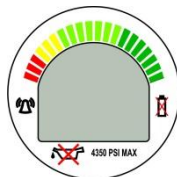


Once a time has been calculated and the flow-adjusting knob remains in any ON position:

- The remaining time (hrs:min) under the current set flow rate alternates every three seconds with the numeric pressure display.
- The fill level is displayed on the bar graph.

Battery Status

Display Description



If the battery is dead:

- The LCD display will be blank.
- The cylinder must NOT be used and must be returned to Praxair.



If the *Grab 'n Go Digital* system has a low battery:

- The low battery symbol flashes.



Caution: Although the *Grab 'n Go Digital* system will function with a low battery, it is recommended to remove the system from service, mark the system as unserviceable, and notify Praxair.

Alarm Status

Display Description



When the estimated time of use is 10 minutes or less:

- The audible alarm sounds.
- The red "Alarm" LED continuously flashes.
- The *Grab 'n Go Digital* system can be muted for two minutes.



Caution: Alarms are based on the time remaining under current use. An alarm will sound immediately if less than 300 PSI of usable pressure remains in the cylinder.

Frequently Asked Questions (FAQ)

How do I know if there is enough oxygen in the *Grab 'n Go Digital* system?

The amount of time remaining for use is based on the selected flow rate and the pressure contents at the time of initiating flow. To determine if there is sufficient oxygen in the system for use, the user must consider the cylinder contents, flow rate, and amount of time the system is required to be used. If you are unsure, it is recommended that a full *Grab 'n Go Digital* system be used.

How do I know if the pressure gauge display is working properly?

The display is working properly if there is a pressure reading when the *Grab 'n Go Digital* system is in the OFF state and, turning to a flow state, the digital display begins to calculate an estimate for the amount of time remaining. If the system display is blank, mark the system as unserviceable, and notify Praxair.

How do I know if there is sufficient battery life to use the *Grab 'n Go Digital* system?

If a battery alarm is not indicated, i.e. there is no flashing low battery LED on the gauge face or symbol on the LCD screen, there is sufficient battery in the *Grab 'n Go Digital* system. If there is an alarm indicated, the system should be removed from service as soon as possible and a new system used. However if nothing is displayed on the LCD screen, the battery is dead and the system should not be used, and notify Praxair for replacement.

When should the *Grab 'n Go Digital* system be replaced?

The *Grab 'n Go Digital* system must be returned to Praxair if any of the following conditions are met: **1.** The pressure falls below 300 PSI; **2.** The low battery symbol is flashing; **3.** There is no reading or indication on the gauge, meaning the battery is dead. **4.** The *Grab 'n Go Digital* system alarms when turned on.

How is the remaining time of use calculated?

Use of higher flow rates will shorten the time of use for the system. A change in flow rate will have a corresponding change in the remaining time of use. The *Grab 'n Go Digital* system requires approximately 5 minutes in a flowing position before a time can be calculated to ensure accuracy of the “time remaining” estimate.

Can the *Grab 'n Go Digital* system be used in an MRI environment?

The *Grab 'n Go Digital* system cannot be used directly in the MRI bore, but is otherwise suitable for use in MRI environments. The *Grab 'n Go Digital* system is MR CONDITIONAL up to 3.0 Tesla MRI environments. The *Grab 'n Go Digital* system should always be secured when in use or storage.

Troubleshooting

Grab 'n Go Digital System Troubleshooting Guide

The table below lists potential use problems and actions you can take to resolve them. If you are unable to resolve a problem, please contact Praxair.

Problem	Possible Cause(s)	What You Should Do
No Pressure Indicated	Dead battery on system	Turn it off immediately, place it outdoors, mark the <i>Grab 'n Go Digital</i> system as unserviceable and notify Praxair.
Time Remaining Not Displayed	No flow rate selected	Approximate time remaining is displayed only when the selector knob is turned to a flowing position. Check <i>Grab 'n Go Digital</i> system's flow adjustment knob position.
	Insufficient time to calculate usage rate	The <i>Grab 'n Go Digital</i> system requires approximately 5 minutes in a flowing position before a time can be determined. The <i>Grab 'n Go Digital</i> system will show "CALC" while calculating the time. Wait for 5 minutes to calculate.
	Insufficient pressure in cylinder	Check to ensure that there is a pressure of at least 300 PSI in the <i>Grab 'n Go Digital</i> system before use.
No Metered Flow and Alarm Keeps Sounding	Component failure	Turn the <i>Grab 'n Go Digital</i> system off immediately, mark it as unserviceable, and notify Praxair.
	Cylinder empty	Check to make sure there is sufficient pressure in the <i>Grab 'n Go Digital</i> system before use.
Flashing Alarm Icon	System on with low pressure	Check display to ensure pressure in <i>Grab 'n Go Digital</i> system. If not, turn off the system and replace with one having sufficient contents for use.
	Component failure	Turn it off immediately, mark the <i>Grab 'n Go Digital</i> system as unserviceable, and notify Praxair.
	Audible alarm has been inadvertently disabled	Turn it off immediately, mark the <i>Grab 'n Go Digital</i> system as unserviceable, and notify Praxair.

Recommended Reference Publications

Publication Title	Publication No.	Source
Safety Precautions and Emergency Response Planning Awareness: Oxygen, Nitrogen, Argon, Helium, Carbon Dioxide, Hydrogen, Fuel Gases	P-3499	Praxair, Inc. P.O. Box 44 Tonawanda, NY 14151-0044 Phone: 1-800-PRAXAIR (1-800-772-9247)
Guidelines for Handling Compressed Gas Cylinders and Cryogenic Liquid Containers	P-14-153	
Safety Data Sheet - Oxygen	P-4638	Praxair supplier, sales representative, the Call Center (1-800-PRAXAIR), our Web site (http://www.praxair.com), or write to Praxair Tonawanda, NY address above.
Additional copies of this publication	P-15-716	
Medical Gas Valve Integrated Pressure Regulators	CGA E-18	Compressed Gas Association 14501 George Carter Way Suite 103 Chantilly, VA 20151 Phone: (703) 778-2700 (http://www.cganet.com)
Characteristics and Safe Handling of Medical Gases	CGA P-2	
Hazards of Oxygen in the Health Care Environment	CGA SB-31	
Pressure Regulators for Use with Medical Gases, Part 3 – Valve Integrated Pressure Regulators	ISO 10524-3	International Organization for Standardization 1, ch. de la Voie-Creuse, CP 56 CH-1211 Geneva 20, Switzerland (http://www.iso.org)

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