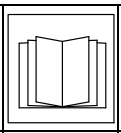
OWNER'S MANUAL

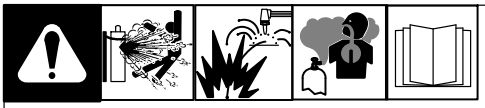
FORM: OM-263 764B 2015–01

Owner's Manual For Miller® Pipeline Flowmeters And Flowmeter/Regulator Combinations

1. Safety Symbol Definitions

	DANGER! – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text. Fsafe1 2013-10		Have only trained and qualified persons install, operate, or service this unit. Read the safety information at the beginning of these instructions and in each section. Call your distributor if you do not understand the directions. Oxysafe2 2013-10
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury**.** The possible hazards are shown in the adjoining symbols or explained in the text. Fsafe2 2013-10		Build-up of gas can injure or kill. Shut off compressed gas supply when not in use. Always ventilate confined spaces or use approved air-supplied respirator. Oxysafe3 2013-10
NOTICE ☞	*Indicates statements not related to personal injury.* *Indicates special instructions.* Fsafe3 2013-10		Welding sparks can cause fire or explosion. Move flammables away. Do not weld on closed tanks or barrels, or on containers that have held combustibles – they can explode. Clean tanks or barrels properly. Oxysafe4 2013-10
	Cylinders contain gas under high pressure and can explode if damaged. Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, and sparks. Always secure cylinder to running gear, wall, or other stationary support. Flowmeters contain gas under high pressure and can cause personal injury if improperly operated or maintained. In addition to the standard safety rules for the use of compressed gases, observe the following precautions for this equipment: Do not tamper with preset regulator adjusting screw or over-pressurization could occur. Do not connect the flowmeter inlet to any pressure source capable of exceeding 100 psig (689 kPa). Do not use solvent or cleaning fluid to clean the polycarbonate flow tube or cracks may develop; use only soap and water to clean flow tube. Oxysafe1 2013-10	**CALIFORNIA PROPOSITION 65 WARNINGS** Welding or cutting equipment produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.) This product contains chemicals, including lead, known to the state of California to cause cancer, birth defects, or other reproductive harm. *Wash hands after use.* Fsafe4 2013-10	

2. Safety Precautions – Read Before Using



⚠ **Do not use this equipment unless you are trained in its proper use or are under competent supervision. Follow the procedures described in this booklet every time you use the equipment. Failure to follow these instructions may cause fire, explosion, asphyxiation, property damage, or personal injury. This equipment must be used in accordance with all Federal, State, and local regulations as well as DOT (Department of Transportation) and CGA (Compressed Gas Association) regulations. Contact your gas supplier for more information on the proper use of compressed gases.**

⚠ **Do not use this equipment with gases and pressures other than those for which it is intended. Inspect all equipment before use. Do not use damaged, defective, or improperly adjusted equipment. Do not use if grease or oil is present on equipment or if equipment is damaged. Have equipment cleaned/repaired by a qualified person.**

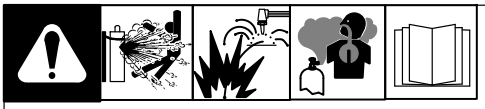
There are numerous hazards associated with the use of compressed gases. These hazards vary with each gas, with the equipment utilized, and with the particular application. In addition to adhering to the operating instructions and safety rules listed in these instructions, the user should be aware of additional hazards and safe operating practices peculiar to his equipment and application, and should consult with the equipment manufacturer and compressed gas supplier.

These instructions are applicable to pipeline flowmeters and flowmeter/regulators used with oxygen, nitrogen, helium, hydrogen, argon, carbon dioxide, and compressed air. Smith flowmeter/regulator combinations consist of a single- or two-stage pressure regulator and a pressure compensated flowmeter. The pressure regulator is designed for connection to a compressed gas cylinder with a pressure of 3000 psig (20,684 kPa) or less. Most regulators are similar in appearance with the principal difference being at the inlet connection. Inlet connection standards are established by the CGA (Compressed Gas Association).

It is important that the inlet connection of the regulator be properly mated with the supply valve connection as specified by the established standards for the service intended. Checking proper mating will avoid putting the regulator into the wrong service. The regulator adjusting screw has been preset and locked to deliver the correct operating pressure. As the cylinder pressure changes, the regulator holds the operating pressure within a narrow range for accurate flowmeter readings. The pipeline flowmeter is supplied without a regulator for use on a regulated gas pipeline with gas supply delivered at the pressure for which the flowmeter is calibrated. Each flow tube is calibrated to indicate volume flow rate with a particular gas, pressure, and float at 70°F (21.1°C). Accurate indication requires use with the gas for which the flow tube was calibrated. The correct operating gas and pressure are printed on each flow tube.

☞ *Information contained in this data sheet is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information, and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and no warranty of any kind is made with respect thereto. This information is not intended as a license to operate under or a recommendation to practice or infringe and patent of this Company or others covering any process, composition of matter of use. Since the Company shall have no control of the use of the product described herein, the Company assumes no liability for loss or damage incurred from the proper or improper use of such product.*

3. Putting The Flowmeter/Regulator Into Service



Be certain you are using the proper regulator for the gas (specified on flow tube) and service application. This instruction is applicable to oxygen, compressed air, and inert gases.

Inspect equipment (flowmeter/regulator) before use. Do not use if grease or oil is present on equipment or if equipment is damaged. Have equipment cleaned/repaired by a qualified person.

Inspect the supply connection for evidence of dirt, oil, or grease. Wipe supply connection clean with a lint-free cloth. Open supply valve to blow out any loose, foreign material then close the supply source valve before attaching the regulator or flowmeter.

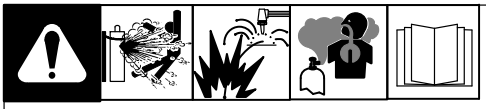
⚠ **Never blow out a hydrogen cylinder valve since friction from the flow of the gas can ignite hydrogen/air mixture.**

For combination units, install the regulator on the source supply valve and tighten inlet nut firmly with a wrench. For pipeline units, connect the flowmeter inlet to a properly regulated source; **never connect flowmeter to a cylinder**. For accuracy, the flowmeter tube must be in the vertical position.

Close the flowmeter flow control valve by turning the flowmeter knob clockwise. Slowly open the supply valve.

Adjust desired flow by turning the flowmeter knob counterclockwise to increase flow and clockwise to decrease flow. The indicated flow is read at the center of the float. Do not adjust flow by turning the preset regulator adjusting screw as this will change the operating pressure and give an inaccurate reading. If the adjustment screw has been tampered with, return the unit to a qualified repair facility for calibration.

4. Removing Flowmeter/Regulator From Service



Close the supply source valve.

Vent the gases in the flowmeter and regulator to the atmosphere as follows:

Turn the flowmeter control knob fully clockwise.

Vent system and remove the hose from the flowmeter outlet.

Slowly open the flowmeter flow control valve until all gas is vented from the flowmeter and regulator.

Disconnect the flowmeter/regulator from the supply source, if necessary.

If the unit is removed from service, install cap plugs to protect the inlet nipple and outlet fitting from dirt, contamination, or mechanical damage.