

SF₆ gas Top-Off kit, KPA-1043-1 or KPA-1043-2
operation instructions



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Safety for life



Eaton's Cooper Power series products meet or exceed all applicable industry standards relating to product safety. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Eaton employees involved in product design, manufacture, marketing, and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high voltage lines and equipment and support our "Safety For Life" mission.

Safety information

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians who are familiar with this equipment should install, operate, and service it.

A competent technician has these qualifications:

- *Is thoroughly familiar with these instructions.*
- *Is trained in industry-accepted high and low-voltage safe operating practices and procedures.*
- *Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.*
- *Is trained in the care and use of protective equipment such as flash clothing, safety glasses, face shield, hard hat, rubber gloves, hotstick, etc.*

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in equipment damage only.

Safety instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

DANGER

Hazardous voltage. Contact with hazardous voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

G103.3

WARNING

Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage.

G101.0

WARNING

This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply can result in death, severe personal injury and equipment damage.

G102.1

WARNING

Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install, or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.

G122.3

Product information

Introduction

Service Information MN285010EN provides connection and operation instructions for the SF₆ Gas Top-Off kit. Before installing or operating this kit, carefully read and understand the contents of this manual.

Read this manual first

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before connecting or operating this equipment.

Additional information

These instructions cannot cover all details or variations in the equipment, procedures, or process described, nor provide directions for meeting every possible contingency during installation, operation, or maintenance. For additional information, contact your Eaton representative.

Acceptance and initial inspection

Each SF₆ Gas Top-Off kit is completely assembled and inspected at the factory. It is in good condition when accepted by the carrier for shipment.

Upon receipt, inspect the carton for signs of damage. Unpack the kit and inspect it thoroughly for damage incurred during shipment. If damage is discovered, file a claim with the carrier immediately.

Handling and storage

Be careful during handling and storage of the control to minimize the possibility of damage. If the kit is to be stored for any length of time prior to installation, provide a clean, dry storage area.

Quality standards

ISO 9001 Certified Quality Management System.

Description

The SF₆ Gas Top-Off kit is for use with VFI and RVAC Padmounted Switchgear tank. It is used to Top-Off the SF₆ gas in the switchgear tank to the desired pressure.

Read and understand the MN285004EN Installation, Operation, and Maintenance manual before using the SF₆ Gas Top-Off Kit with Type VFI padmounted switchgear. Read and understand the MN285003EN Installation, Operation, and Maintenance manual before using the SF₆ Gas Top-Off Kit with Type RVAC padmounted switchgear.

Operation

Connecting to the SF₆ cylinder

Note: A pressure regulator must be used to Top-Off the SF₆ gas. The SF₆ Gas Top-Off kit can be ordered with or without a regulator. A regulator ordered with the Gas Top-Off kit has a separate operating manual. Please consult that manual for correct operation of the regulator.

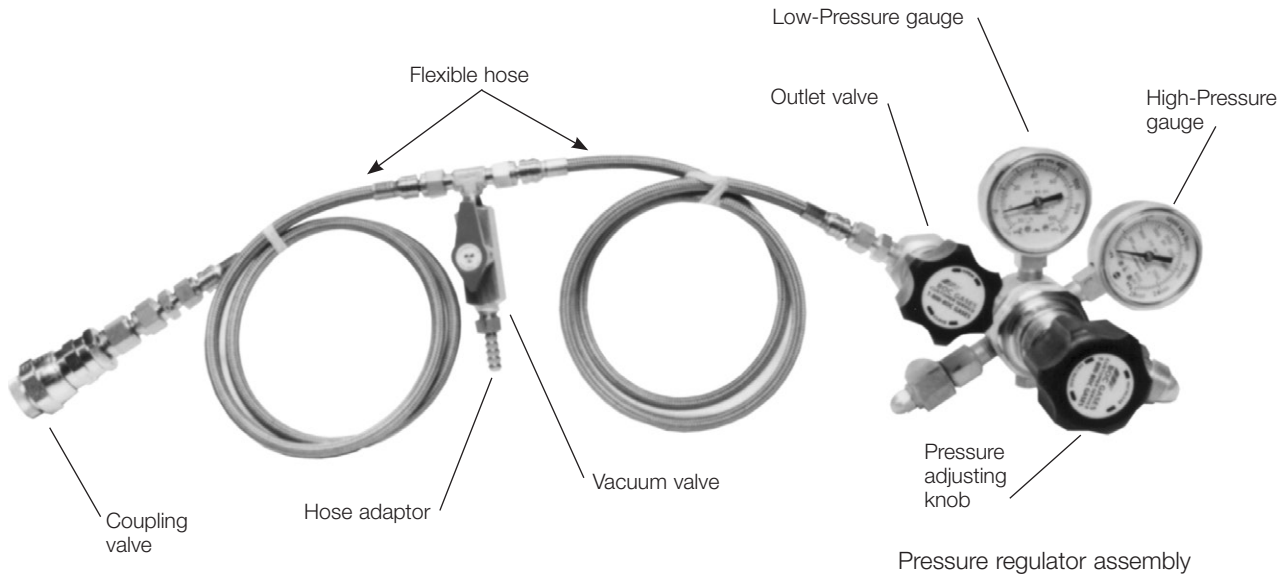
1. Connect the flexible hose to the pressure regulator if it was not ordered as part of the kit. See Figure 2.
2. Close the outlet valve of the regulator.
3. Open the SF₆ cylinder valve.
4. The high-pressure gauge of the regulator indicates the SF₆ cylinder gas pressure. Set the fill pressure limit on the low-pressure gauge with the pressure adjusting knob. Refer to the chart on the switchgear tank to determine the desired fill pressure for the current ambient temperature. See Figure 3.

Evacuating the fill line

Follow these steps to evacuate the air from the fill line. Do this to ensure that only SF₆ Gas is put into the switchgear tank.

1. Connect 3/8" tubing from a vacuum pump to the hose adapter. See Figure 2.
2. Open the vacuum valve.
3. Run the vacuum pump for 15 seconds and then close the vacuum valve.
4. Open the outlet valve of the regulator for a few seconds to fill the line with SF₆ gas.

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Figure 1. Gas Top-Off kit with pressure regulator accessory

Connecting to the switchgear tank

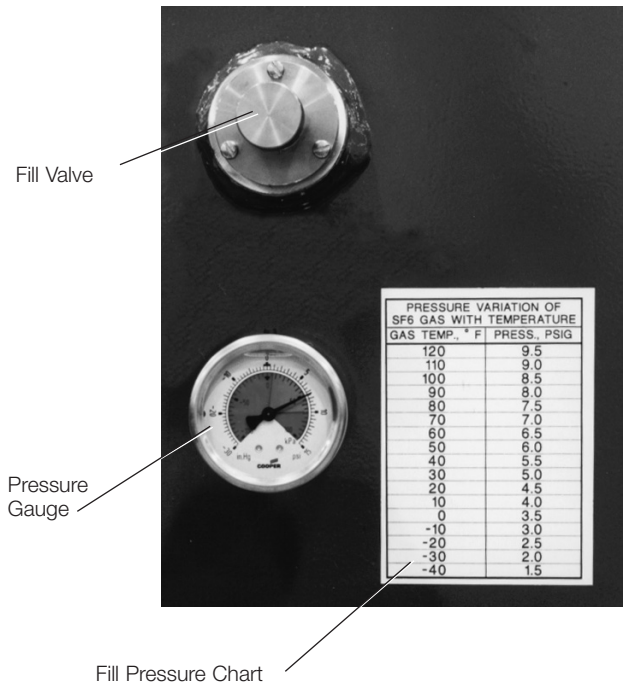
Connect the coupling valve (see Figure 2) to the fill valve of the SF₆ switchgear tank (see Figure 3).

Topping off the SF₆ gas

1. Verify the quality of SF₆ gas in the cylinder to be used.
2. Slowly open the outlet valve of the regulator. See Figure 2.
3. Refer to the chart on the switchgear tank to determine the maximum fill pressure for the current ambient temperature. See Figure 3. When the pressure gauge of the switchgear tank indicates the maximum pressure, close the outlet valve of the regulator.

Disconnecting switchgear tank

1. Close all the valves of the SF₆ Gas Top-off kit and the SF₆ cylinder. See Figure 2.
2. Remove the coupling valve from the switchgear tank.



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Figure 2. Switchgear tank valve, pressure gauge, and fill pressure chart

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