INSTALLATION/OPERATION/MAINTENANCE MANUAL FOR
TYPE 24/24S MOONEY® RESTRICTOR

SCOPE
This manual provides installation, operation and main-
tenance instructions for the TYPE 24/24S MOONEY®
RESTRICTOR. Instructions for the FLOWGRID® PILOT
and VALVE will be found in separate manuals.

PRODUCT DESCRIPTION
The TYPE 24/24S MOONEY® Restrictor is an integral
part of a pilot system for the FLOWGRID® Regulator. It
is usually located in the pilot supply and affects the
response rate, stability, and sensitivity of the regulator.
The restrictor is available in both steel and stainless
steel constructions with a stainless steel rotor. The
TYPE 24/24S Restrictor can be used in many other
liquid and gas applications.

INSTALLATION
The following instructions apply to mounting the
TYPE 24/24S MOONEY® RESTRICTOR on the
FLOWGRID® PILOT and connecting to the pilot
system. Refer to the FLOWGRID® VALVE and
PILOT I/O/M manuals for start up procedures.

1. PERSONNEL: Installation of the Restrictor should be
made by qualified personnel familiar with high
pressure piping and pilot operated regulators.

2. PRIOR INSPECTION: Inspect the Restrictor for any
damage that might have occurred in shipping. If
already mounted on a regulator make sure the
regulator body, pilot lines, and inlet piping are clear
and free of foreign material.

3. ORIENTATION: The TYPE 24/24S MOONEY®
Restrictor should be installed so that the adjustment
indicator markings face the side of the regulator that
provides easiest access for pilot adjustment and valve
maintenance.

4. RESTRICTOR MOUNTING: Apply pipe dope to the
1/4" NPT threads on the male end of the restrictor
and screw directly into the INLET port of the PILOT.

NOTE: To avoid galling when stainless steel to stainless
steel connections are made use a lubricant (such as
NEVER SEEZ by Bostik®). For best results Lightly
lubricate the female threads. Mixing the lubricant with
pipe dope is also acceptable. When tightening do not
exceed more than 1/4 turn past the point the threads
start to bind.

5. RESTRICTOR INLET: A Filter (such as the TYPE 30
MOONEY® FILTER) upstream of the restrictor is
recommended. Run 3/8 inch tubing from the supply
tap to the inlet of the restrictor.

WARNING
Personal injury, equipment damage, or leakage due
to explosion of accumulated gas or bursting of pres-
sure containing parts may result if this RESTRICTOR
is overpressured or is installed where service condi-
tions could exceed the limits given in the specifica-
tion of the nameplate, or where conditions exceed
any ratings of the adjacent piping or piping connec-
tions. Verify the limitations of valve, pilot, and
restrictor to ensure these devices are not overpres-
sured. To avoid such injury or damage, provide
pressure relieving or pressure limiting devices (as
required by Title 49, Part 192, of the U.S. code of
Federal Regulations, by the National Fire Codes of
the National Fire Protection Association, or by other
applicable codes) to prevent service conditions from
exceeding those limits. Additionally, physical dam-
age to the valve/regulator could break the pilot or
restrictor off the main valve, causing personal injury
and/or property damage due to explosion of accu-
mulated gas. To avoid such injury and damage,
install the regulator in a safe location.
START UP AND OPERATION

1. Adjustment of the restrictor affects the response rate, stability, and sensitivity of the regulator. CLOSING the pilot restrictor (moving adjustment towards MIN setting) will result in higher gain (narrower proportional band), more sensitivity, and slower closing speeds. OPENING the pilot restrictor (moving the adjustment towards MAX setting) will result in less gain (increased proportional band), less sensitivity, and faster closing speeds.

NOTE: The TYPE 24/24S MOONEY® Restrictor itself does not require any special start up procedures.

2. START UP - ALL REGULATORS: Generally widening the proportional band when initially starting up a regulator (restrictor setting of "4" or higher) is recommended. This will insure maximum stability when starting the regulator. Consult the instruction manual for the valve and pilot being used.

MAINTENANCE

Restrictor parts are subject to normal wear and must be inspected and replaced as necessary. The frequency of inspection and replacement of parts depends on severity of service conditions or the requirements of local, state, and federal regulations.

DISASSEMBLY

1. After depressurizing main valve, pilot system and restrictor remove Rotor assembly by loosening Rotor Retainer.

2. Inspect Rotor and O-Rings for defects and replace if necessary.

ASSEMBLY

1. Lubricate O-Rings with Parker O-Lube, (or equivalent petroleum based lubricant) and place one on the Rotor Core and one on the Rotor Retainer.

2. Install Rotor Core back into the Restrictor Body and screw Rotor Retainer with O-Ring into place snugly.

NOTE: Overtightening an O-Ring Joint will not improve the seal. Screw in until metal parts make contact and snug slightly.

WARNING

Before disassembly make sure the regulator and restrictor have been isolated from the process by closing block valves on the inlet and outlet sides of the regulator. Safely release pressure and process fluid from body and pilot system. Failure to properly complete these steps may result in personal injury and property damage.

WARRANTY

LIMITED WARRANTY: Seller warrants title and that the goods manufactured by the Seller will be free from defects in materials and workmanship under normal use and service until the expiration of the earlier of twelve (12) months from the date of initial operation or eighteen (18) months from the date of shipment by Seller. Resale goods shall carry only the warranty extended by the original manufacturer to the original purchaser. If, within thirty (30) days after Buyer's discovery of any warranty defects, Buyer notifies Seller in writing, Seller shall, at its option, promptly repair or replace F.O.B. point of manufacture, that portion of the goods found by Seller to be defective. Goods repaired and parts replaced during the original warranty period shall be in warranty for the remainder of the original warranty period. This warranty is the only warranty made by Seller and can only be amended by a written instrument signed by an officer of Seller. Subject to this warranty and except as expressly provided IN SALES LITERATURE, GE MOONEY CONTROLS, GE INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR ANY OTHER MATTER WITH RESPECT TO ANY OF THE PRODUCTS.

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