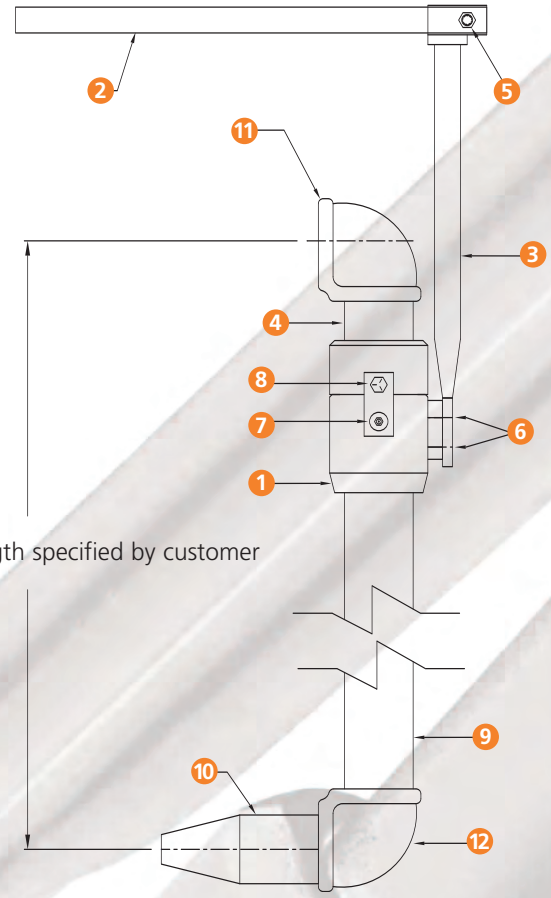
MAX2000® MUD GUNS

PSI™

Proven durability.
Highly productive.

The MAX2000® Mud Gun is designed for submerged service in pits and is available in the 2" and 3" sizes. Both sizes are low-pressure guns. The 3" unit is intended for high volume service, such as mud mixing systems that employ centrifugal pumps. All MAX2000® Mud Guns are available with handles, which aid in the 360° rotation of the swivel joints.



Desired length specified by customer

MAX2000®

MAX2000® Mud Gun – Low Pressure

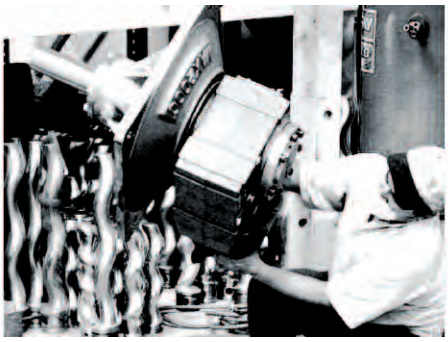
DWG#	Description
1	Swivel Assembly
2	Handle, Horizontal
3	Handle, Vertical
4	Top Nipple
5	Handle, Pivot Bolt
6	Handle, Attachment Bolts
7	Grease Zerk
8	Swivel Lock Bolt
9	Bottom Nipple
10	Discharge Nozzle
11	Top Elbow
12	Bottom Elbow

For reducing the amount of solid buildup in tank corners, MAX2000® Mud Guns are highly effective. Mud Guns also produce flow currents, which boost fluid movements and aid in the suspension or mixing of particles. In addition, Mud Guns can create an alternate product flow when used in conjunction with agitators.

MAX2000® Mud Gun 360° Swivel Joint.

Mud Gun Discharge Nozzle.






PSI™

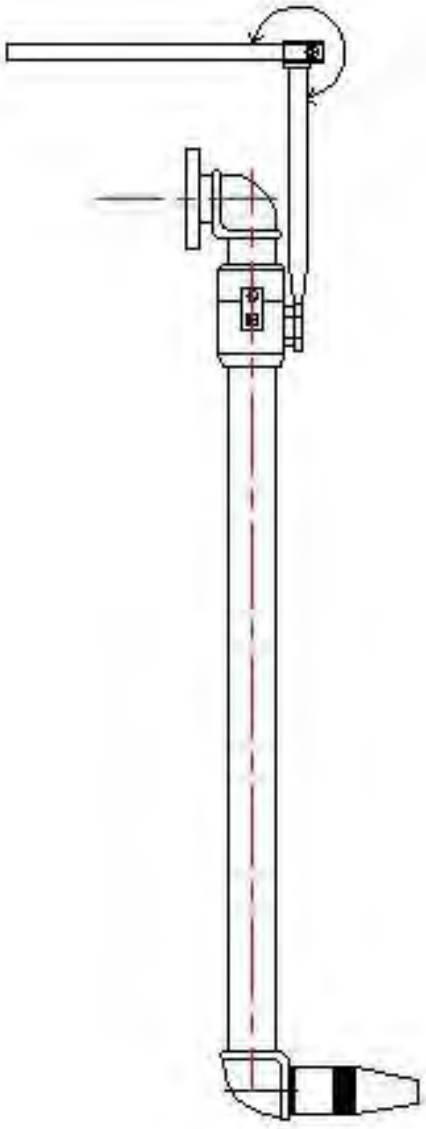
5119 Hiltonview Drive
Houston, Texas 77086

Phone (281) 893-4PSI (4774)
Toll-Free (866) 866-4PSI
Fax (281) 893-1027

WWW.PSIMAX2000.COM

MAX2000®
The Exclusive Line of PSI

3” LOW PRESSURE MUD GUN INSTALLATION, OPERATION, & MAINTENANCE MANUAL



PROCESS SOLUTIONS INT
Houston, Texas
Toll Free: 1-866-866-4774

Cautions and General Safety Rules

This manual contains important information concerning installation, operation, and proper maintenance of your Process Solutions Mud Gun. To prevent injury to personnel or equipment damage, this manual should be read by those responsible for the installation and operation of the PSI Mud Guns. In addition, the safety precautions below should be followed at all times.

- **TURN OFF. LOCK OUT, and TAG OUT** the electrical power supply to the pumps feeding the mud guns before servicing.

- Inspect the unit regularly, and replace damaged or worn components only with parts supplied by the original equipment manufacturer.

Before entering a mud tank for any reason, the mud agitators should be locked out and tagged out.

Table of Contents

List of Illustrations

Section 1 – Introduction

A. ROLE OF MUD GUNS

Mud guns are meant to provide supplemental or primary mixing in mud tanks depending on the number being used and the pit size. They are best used in tank corners to keep solids from settling and a mud agitator is placed in the tank center.

B. DESIGN FEATURES

The following features are included with all PSI 3" low pressure bottom type mud guns:

- **Jet Nozzle**

A molded replaceable wear resistant polyurethane jet nozzle is used. The bore for the nozzle is 5/8".

- **Swivel**

PSi 's standard swivel allows for 360° rotation to allow the operator to optimize the mud guns performance. The swivels are outfitted with a grease fitting to allow for lubrication of the swivels bearings.

- **Swivel Adjustment**

The swivels are outfitted with a collapsible handle. This allows for adjustment and then collapsing the handle to eliminate a trip hazard.

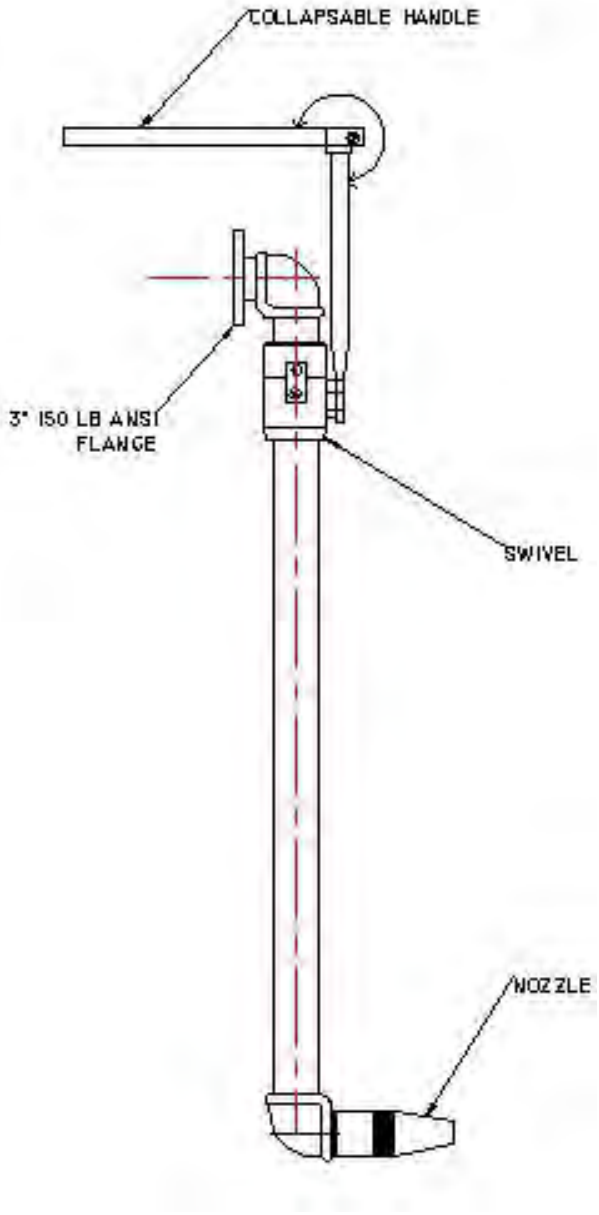


FIGURE 1.1 – MAJOR COMPONENTS

Section 2 – Installation

A. Locating the mud guns

Mud guns are to be located in the tank corners. The centerline of the nozzle is to be located about 6” off the tank bottom.

B. Connecting to the flow line:

PSI mud guns are outfitted with a 3” 150 lb ANSI flange at the inlet. This flange is to be connected to a matching flange from the feed pump. A gasket must be installed between the flanges to prevent leaking mud.

C. Lubricating the swivel

Lubricate the swivels with 3 shots of grease at installation. Use a NLGI no 2 multi purpose grease. See figure 2.1

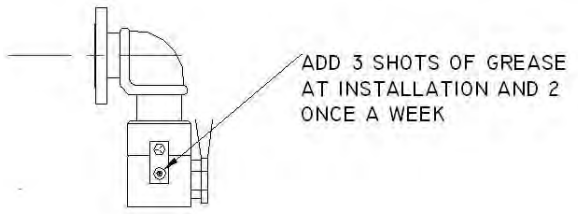


FIGURE 2.1: LUBRICATING

D. Pressure and Flow requirements:

Each mud gun requires 125-150 gpm of flow and 75 ft of head.at the nozzle.

E. DIMENSIONAL DATA

See figure 2.2 for dimensions of the Drillmec Drilling mud guns.

Section 2 – Installation

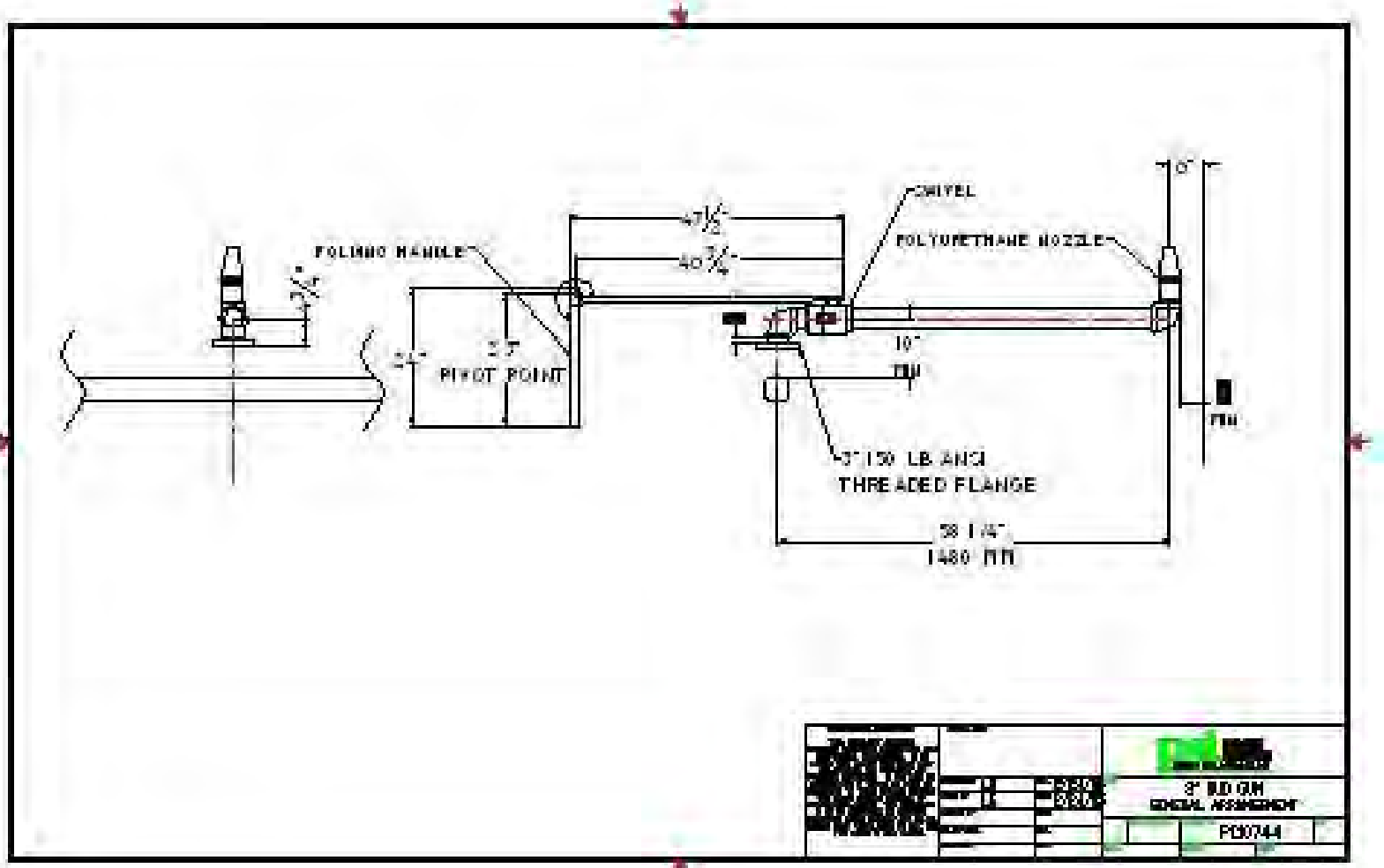


FIGURE 2.2: MUD GUN GENERAL ARRANGEMENT

Section 3 – Operation

A. STARTING THE MUD GUN

Once installation is complete, the unit can be started by turning the feed pump on. The direction of discharge may be modified to suit the operators requirements by rotating the swivel.

Section 4 – Maintenance

A. MAINTENANCE

The following tasks should be performed periodically:

1. Grease the swivel once a week. Add (2) shots of a multipurpose NLGI no 2 grease.
2. Visually inspect the mud gun assembly for any leaks, loose fittings once a week. Repair as required.
3. Inspect the mud gun jet nozzle for excessive wear. The nozzle has a 5/8" bore when new. The nozzle should be changed when the bore is 7/8" or higher. This should be done once a month.

B. ORDERING PARTS

Replacement parts for PSI mud guns can be ordered from Process Solutions International. See figure 4.1 for a parts drawing with part numbers. PSI maintains an inventory of stock replacement parts for immediate shipment.

C. RECOMMENED SPARE PARTS

The following is a recommended spare parts list for (2) years operation:

Part Number	Description	Qty
03-JN	JET NOZZLE	3
SW-3-R	SWIVEL REPAIR KIT	2

D. CONTACTING PSI:

Process Solutions
Houston, TX
Toll Free: 866-866-4774
Email: psimax2000@msn.com
Website:
http://www.psimax2000.com

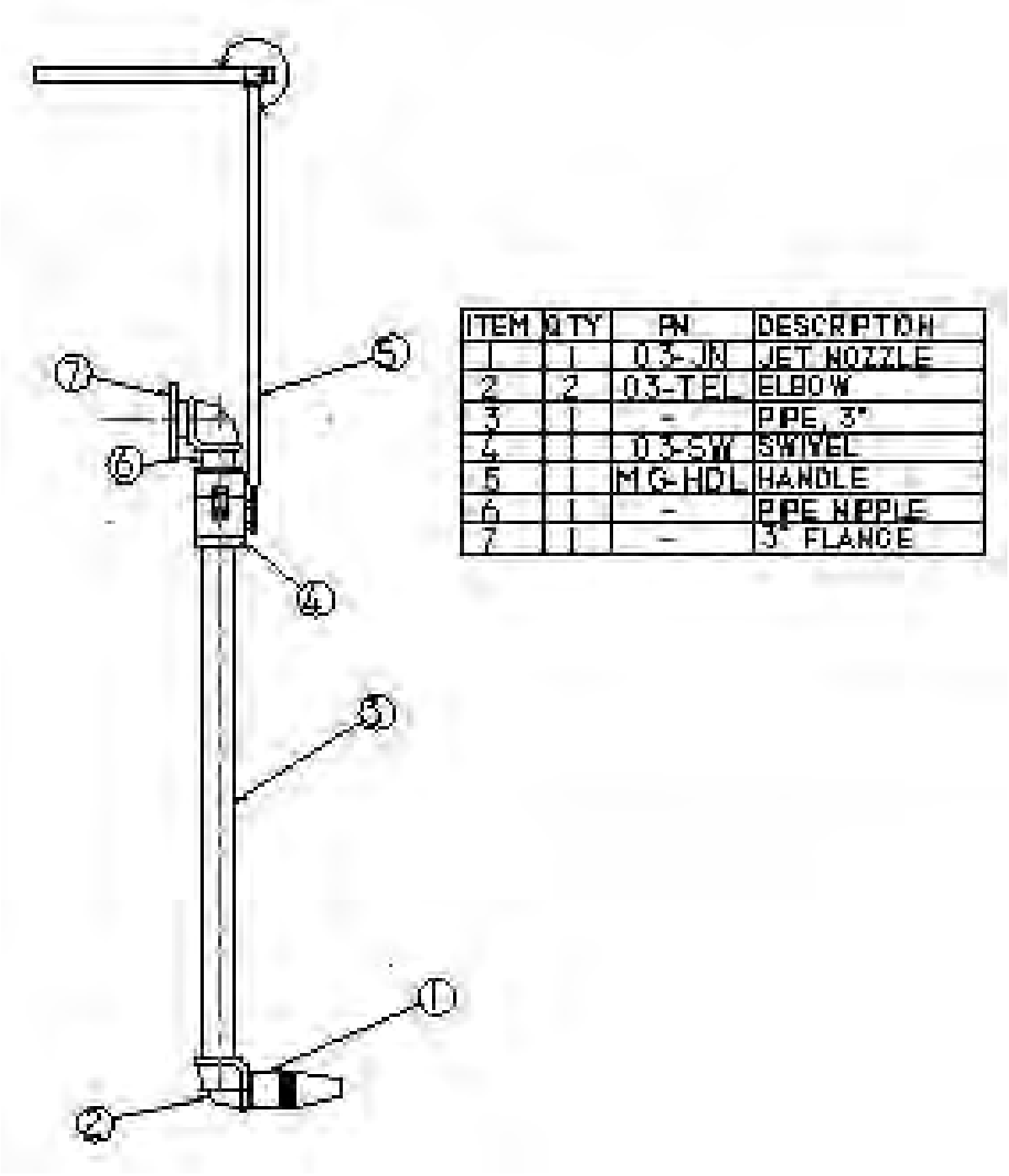


FIGURE 4.1: MUD GUN PARTS DRAWING