



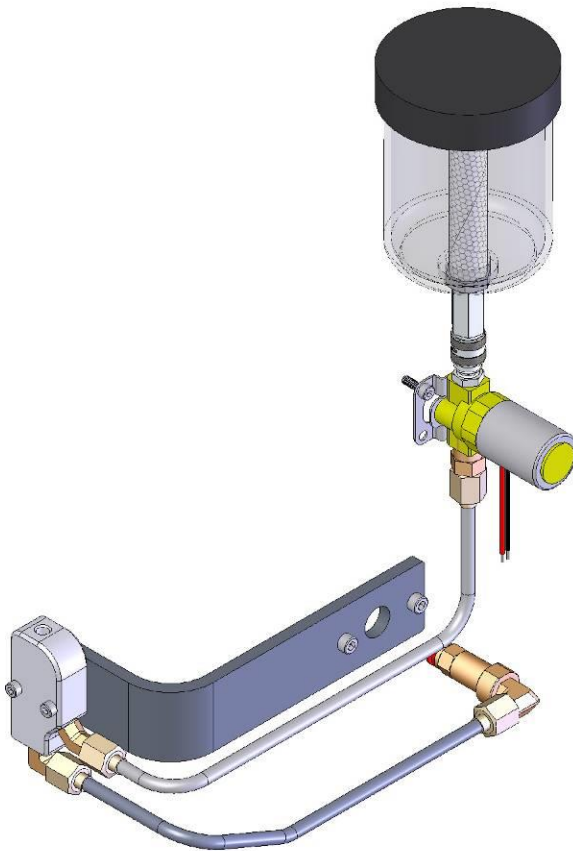
TECHNICAL GUIDE

ANTI-SPATTER SPRAYER

SR-500 – for TT Reamer

TS-500 – for Discontinued Reamer

RS-500 – Stand Alone Unit



- **INSTALLATION**
- **OPERATION**
- **MAINTENANCE GUIDE**
- **TROUBLESHOOTING**
- **TECHNICAL DATA**
- **ASSEMBLY VIEW & PARTS LIST**
- **ORDERING INFORMATION**

*Certified ISO9001: 2008
Please read instructions prior to use.
Save this manual for future reference.*

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THANK YOU...

...for selecting a Tregaskiss TOUGH GUN™ Sprayer. Manufacturing operations demand extremely dependable robotic equipment. With this in mind, the TOUGH GUN Sprayer was designed and engineered to be a reliable tool to support high production volumes within a robotic cell. As the name implies, the TOUGH GUN Sprayer is made from durable materials and components engineered to perform in a rugged, robotic welding environment.

The instructions and illustrations in this technical guide make it easy for you to maintain your TOUGH GUN Sprayer. **Please read, understand, and follow all safety procedures.** Keep this Technical Guide booklet as a handy reference when ordering complete guns, parts and special options.

For technical support and special applications, please call the Tregaskiss Technical Service Department at 1-855-MIGWELD (644-9353) or fax 1-877-737-2111. Our trained technicians are available between 8:00 a.m. and 5:00 p.m. EST and will answer your application or repair questions.

Tregaskiss also manufactures complete robotic MIG guns systems designed and engineered to perform as a team in the high-volume robotic production environment. Components include TOUGH GUN Robotic Air-Cooled and Water-Cooled MIG Guns, TOUGH GUN Clutch and Gun Mounting Arms. Contact your Tregaskiss representative for further information.

WARRANTY

Product is warranted to be free from defects in material and workmanship for the period specified below after the sale by an authorized Buyer. Should there be a defect please refer to our Return Merchandise Policy.

PRODUCT	WARRANTY PERIOD
TOUGH GUN™ Robotic MIG Guns	180 days
TOUGH GUN Reamer	1 year
TOUGH GARD™ Spatter Cleaner	1 year
TOUGH GUN Robotic Peripherals (Clutch, Sprayer, Wire Cutter, Mounting Arms)	1 year
Low-Stress Robotic Unicables (LSR Unicables)	2 years

Tregaskiss reserves the right to repair, replace or refund the purchase price of non-conforming product. Product found not defective will be returned to the Buyer after notification by Customer Service.

Tregaskiss makes no other warranty of any kind, expressed or implied, including, but not limited to the warranties of merchantability or fitness for any purpose. Tregaskiss shall not be liable under any circumstances to Buyer, or to any person who shall purchase from Buyer, for damages of any kind including, but not limited to any, direct, indirect incidental or consequential damages or loss of production or loss of profits resulting from any cause whatsoever, including, but not limited to, any delay, act, error or omission of Tregaskiss.

Genuine Tregaskiss parts must be used for safety and performance reasons or the warranty becomes invalid. Warranty shall not apply if accident, abuse, or misuse damages a product, or if a product is modified in any way except by authorized Tregaskiss personnel.

GENERAL SAFETY

Before installation or operation of the TOUGH GUN Sprayer, please read and understand all safety precautions listed below. Failure to follow these instructions may result in personal injury or damage to the equipment.

1. Do not remove or deface warning and instruction labels from the unit.
2. Ensure that all equipment in the area is disabled and locked out before setting up, adjusting or conducting any work.
3. Ensure that electrical and pneumatic power to unit is off before setting up, adjusting, or conducting any work.
4. Check that electrical and pneumatic connections comply with the codes applicable to your country and state.
5. Keep hands away from unit while in operation.
6. For additional safety information, please refer to the following publications:

ANSI STANDARD Z49.1, SAFETY IN WELDING AND CUTTING,
American Welding Society, 550 LeJeune Rd. P.O. Box 351040, Miami, FL 33126

ANSI STANDARD, SAFETY OR ROBOTS AND ROBOT SYSTEMS,
American National Standards Institute, 1430 Broadway, New York, NY 10018

NFPA STANDARD 70-1978. NATIONAL ELECTRIC CODE,
National Fire Protection Association, 1470 Atlantic Avenue, Boston MA 02210

CALIFORNIA PROPOSITION 65 WARNING

This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer.

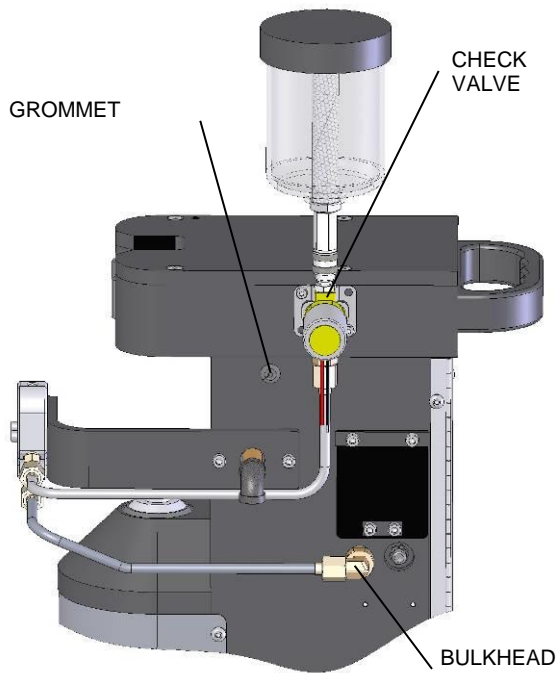
This product contains chemicals, including lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. *Wash hands after use.*

(California Health & Safety Code Section 25249.5 at seq.)



1.0 – INSTALLATION

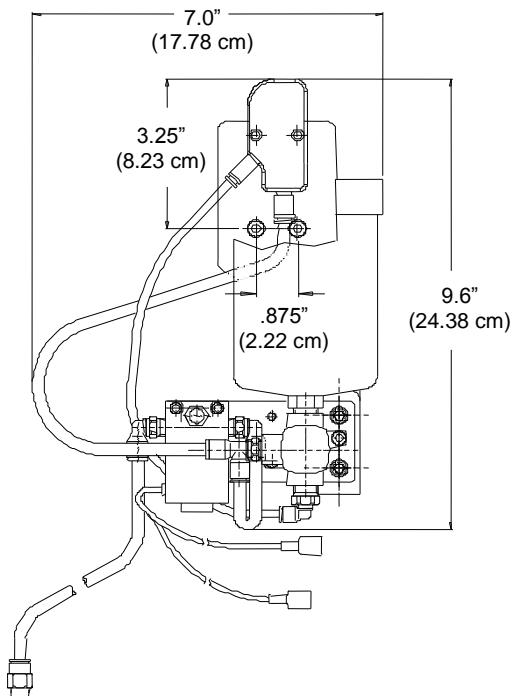
1.1 MOUNTING SR-500 SPRAYER FOR NEXT GENERATION TOUGH GUN REAMERS



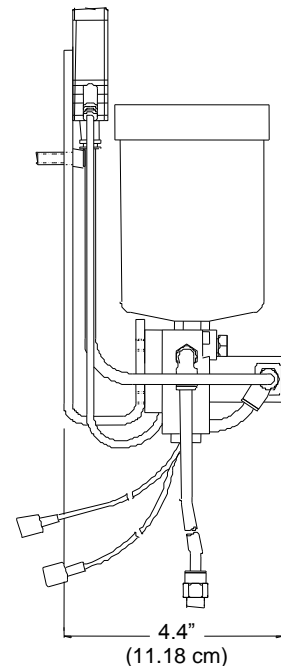
The Next Generation TOUGH GUN Reamer has all the necessary mounting holes for installation of the SR-500 spray unit.

- Remove plug from side of frame detail and replace with bulkhead fitting (supplied).
- Attach spray head bracket to Reamer using two (2) screws (supplied).
- Attach spray head to reamer using two (2) screws (supplied).
- Pass wires through grommet and then through the specified hole in reamer frame.
- Plug reservoir into check valve using quick connect fittings.

1.2 MOUNTING RS-500 SPRAYER (STAND-ALONE UNIT)

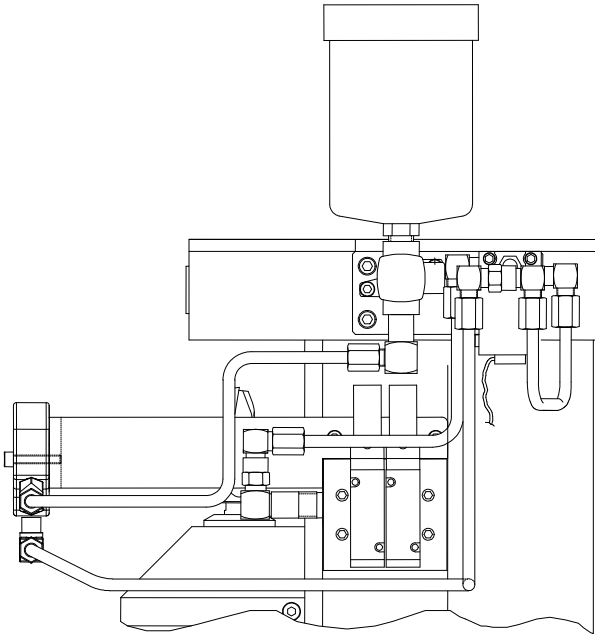


MOUNTING BRACKET
PART # RS-500-6



- The sprayer should be installed within the weld cell at a convenient location. Be sure to consider movable fixtures and the confines of the robot.
- Each sprayer comes complete with all required installation hardware and mounting brackets.

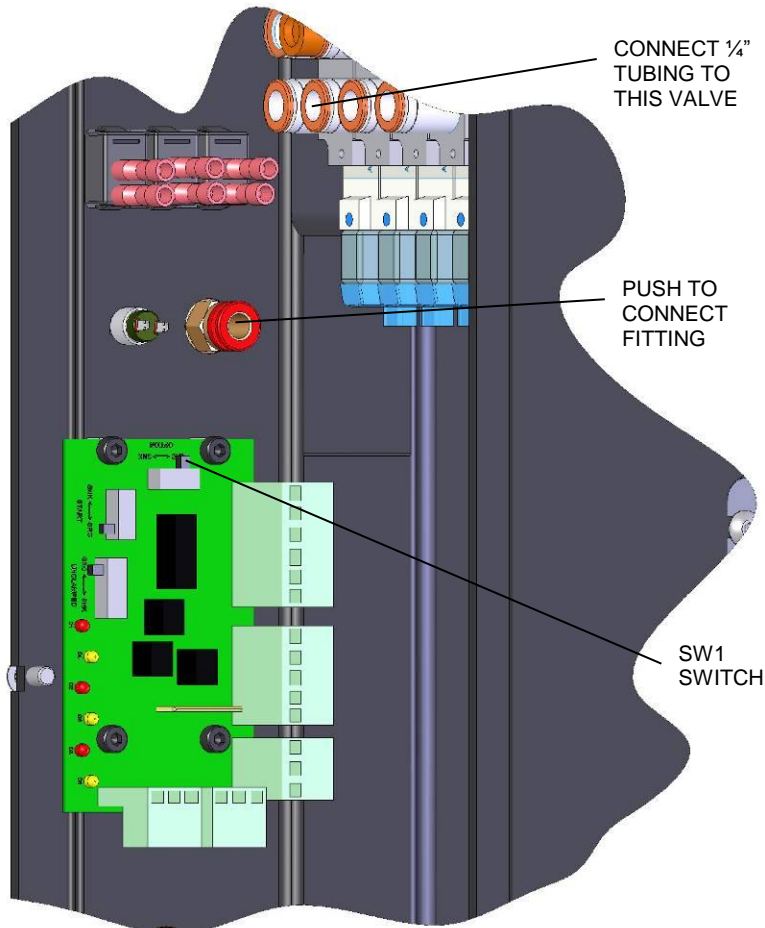
1.3 MOUNTING TS-500 SPRAYER FOR DISCONTINUED REAMERS



The TOUGH GUN Reamer has all necessary mounting holes for installing the TS-500 spray unit.

- Remove center plug from Reamer valve package, and replace with 90° air fitting.
- Attach spray head bracket to Reamer using (2) 10-24 screws (supplied).
- Attach valve block to Reamer using (2) 1/4" screws (supplied).
- Pass wires through hole in Reamer frame.
- Thread reservoir into valve block.

1.4 SR-500 ELECTRICAL AND PNEUMATIC HOOK-UP



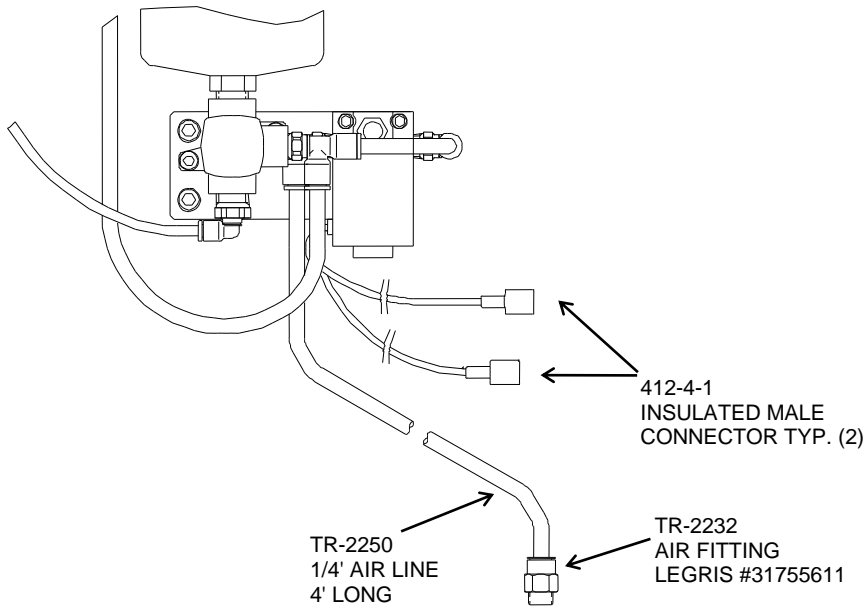
ELECTRICAL CONNECTIONS

- Set option switch (SW1) to sourcing or sinking depending on your robot configuration.
- See M064 Reamer Manual (Section 1) for proper switch configuration.
- NOTE: Leads are not polarity sensitive.

PNEUMATIC CONNECTIONS

- Install 90 degree fitting into bulkhead connector on outside of reamer frame.
- Install stainless line kit onto spray head and to check valve.
- Install push-to-connect fitting on other side of the bulkhead fitting (inside of reamer frame).
- Install 8" piece of 1/4" tubing to push-to-connect fitting, remove lower plug from sprayer valve (2nd from left) and install other end of tubing.

1.5 RS-500 ELECTRICAL AND PNEUMATIC HOOK-UP



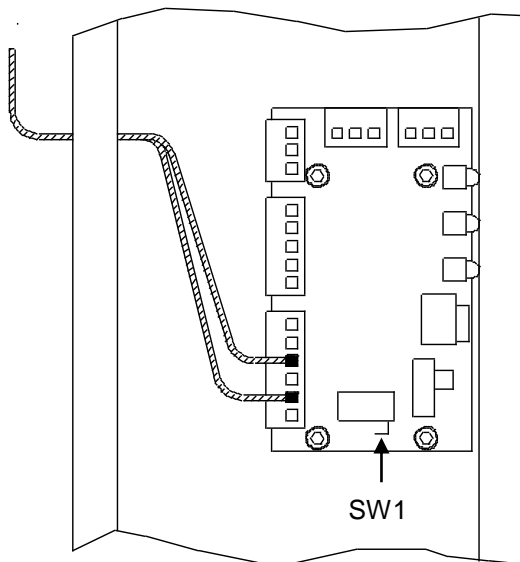
ELECTRICAL

To interface the sprayer with controller, two electrical connections are required.
1 wire - 24 VDC
1 wire - Ground

PNEUMATIC

Recommended air supply should be dry filtered air at 80-100 psi (5.0 - 7.0 bar).

1.6 TS-500 ELECTRICAL HOOK-UP

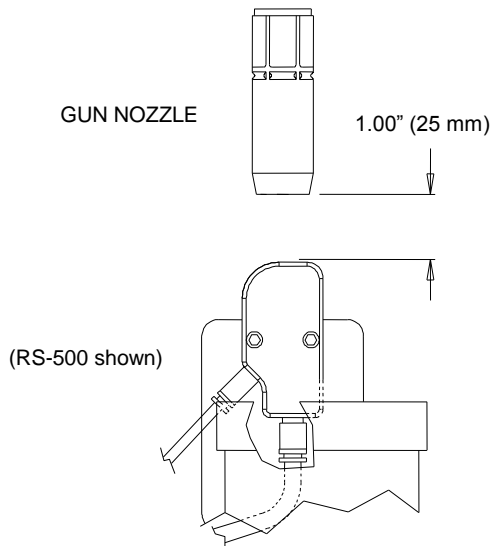


- Set option switch (SW1) to sourcing or sinking depending on your configuration.
- See Reamer Technical Manual (pg. 5) for proper switch configuration.

NOTE: Leads are not polarity sensitive.

2.0 – OPERATION

2.1 PROGRAMMING EVENTS SEQUENCE SR-500, RS-500 AND TS-500



- Program robot so that nozzle is centrally located 1" (25 mm) above spray head. Depending on configuration of nozzle and contact tip, position of nozzle may have to be adjusted to ensure proper coverage.
- Set output signal initially at 0.5 seconds and adjust timer as necessary to suit your process.
- **IMPORTANT:** If using Air Blast option on robotic gun, do not activate when over spray head. Failure to do so may clog the spray head orifice.

3.0 – MAINTENANCE

DAILY	Ensure fluid level in reservoir is maintained. Inspect spray operation to ensure adequate anti-spatter compound is being applied.
WEEKLY	Inspect unit for air leaks or damaged supply and interface lines which may cause unit to malfunction.
QUARTERLY	Inspect unit for build-up of residue from anti-spatter compound which could eventually restrict fluid flow or cause unit to malfunction. Residue should be visible in reservoir or nozzle assembly. If excessive, should clean or flush with recommended solvent for anti-spatter compound.
YEARLY	Inspect unit for damage or excessive wear of components. Replace if required.

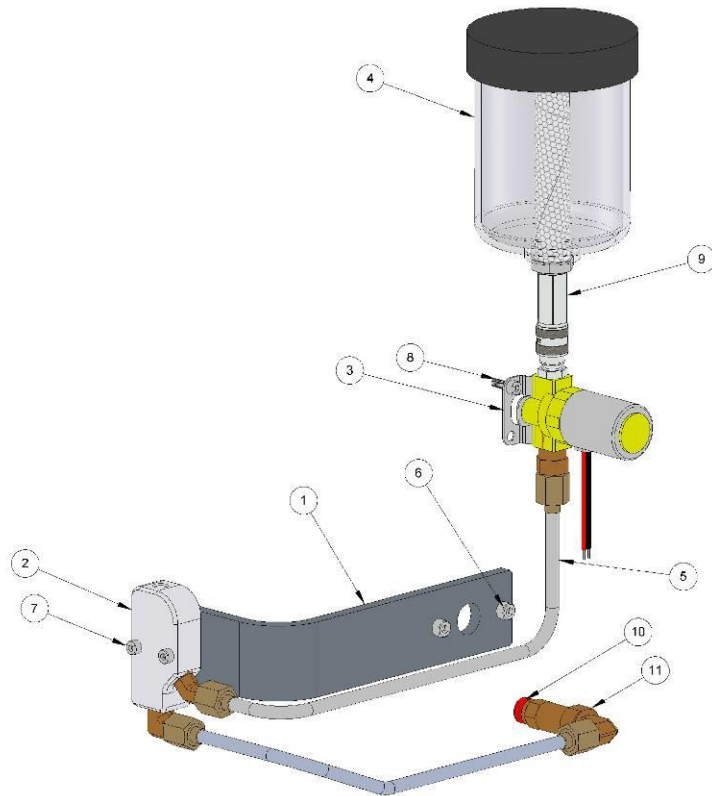
4.0 – TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
NO AIR FLOW NO ANTI-SPATTER	<ul style="list-style-type: none"> • OUTPUT TO UNIT NOT FUNCTIONING • FUSE BLOWN • LOSS OF AIR SUPPLY • FAULTY SOLENOID VALVE 	<ul style="list-style-type: none"> • CHECK OUTPUT SIGNAL AND CABLE • INSTALL NEW FUSE • CHECK AIR SUPPLY • CHECK AIRLINE AND NOZZLE FOR BLOCKAGE • CHECK SOLENOID VALVE AND REPLACE IF REQUIRED
AIR FLOW BUT NO ANTI-SPATTER	<ul style="list-style-type: none"> • NOZZLE POSITION INCORRECT ON SPRAY HEAD • SPOOL IN VALVE BLOCK STUCK • FLUID LINE BLOCKED • FAULTY CHECK VALVE • INADEQUATE AIR PRESSURE 	<ul style="list-style-type: none"> • ADJUST NOZZLE POSITION ON SPRAY HEAD • REPAIR OR REPLACE VALVE BLOCK • CLEAN OR REPAIR FLUID LINE • REPLACE CHECK VALVE • ENSURE 80 PSI
SPRAY HEAD PLUGGED		<ul style="list-style-type: none"> • CLEAN SPRAY HEAD

5.0 – ASSEMBLY VIEW & PARTS LIST

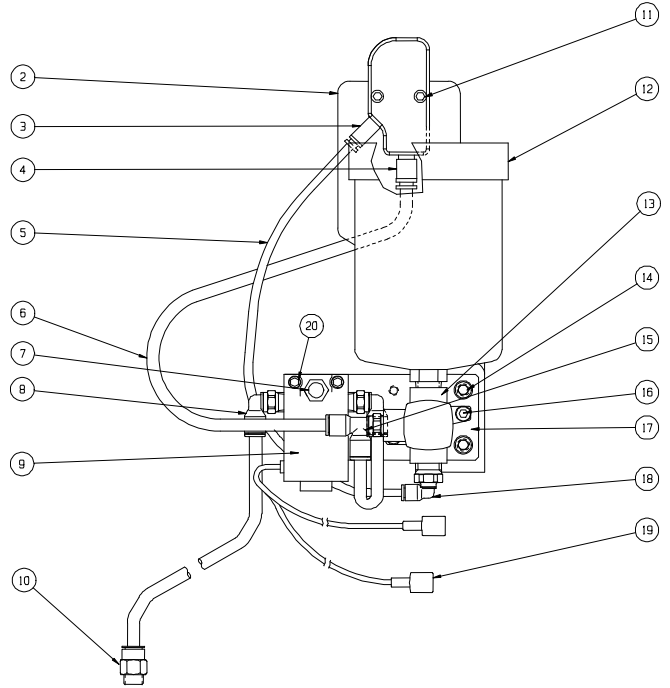
5.1 SR-500 SPRAYER FOR NEXT GENERATION TOUGH GUN REAMERS

PART#	DESCRIPTION
1	SR-500-1 SPRAYER BRACKET
2	TS-500-15 SPRAY HEAD
3	NOT SELLABLE CHECK VALVE - SMC P/N VDW31-5G-4-02N-F
4	RR-1320 RESERVOIR
5	SR-500-50 SPRAYER STEEL LINE KIT
6	NOT SELLABLE SHCS - M5 x 0.8 x 16 mm
7	NOT SELLABLE SHCS - M4 x 0.7 x25 mm
8	NOT SELLABLE SHCS - M4 x 0.7 x12 mm
9	TS-500-40 SPRAYER QUICK CONNECTS
10	TR-2232 AIR FITTING - 1/4" SMC
11	SR-500-51 BULKHEAD FITTING



5.2 RS-500 SPRAYER (STAND-ALONE UNIT)

PART #	DESCRIPTION
1	RS-500-1 SPRAY HEAD (WITH AIR FITTINGS)
2	RS-500-6 BRACKET
3	RS-500-23 AIR FITTING
4	TR-2322 AIR FITTING
5	TS-500-30 AIR LINE - 5/32" (4' LONG)
6	TR-2250 AIR LINE - 1/4" (4' LONG)
7	RS-500-20 VENT PLUG
8	TR-2235 AIR FITTING (2 REQ'D.)
9	TS-500-28 SOLENOID VALVE
10	TR-2232 AIR FITTING
11	NOT SELLABLE 10-24 x 1" S.H.C.S.
12	RR-1320 RESERVOIR
13	TS-500-20 CHECK VALVE
14	NOT SELLABLE 1/4-20 x 0.75" S.H.C.S.
15	NOT SELLABLE 10-24 x 1/4" S.H.C.S.
16	TS-500-24 AIR FITTING
17	TS-500-29 MOUNTING PLATE
18	TS-500-27 AIR FITTING
19	412-4-1 INSULATED MALE CONNECTOR
20	NOT SELLABLE 8-32 x 1 1/8" S.H.C.S.



TECHNICAL DATA

Dimensions

Height: 10.8" (274 mm) **Width:** 8.0" (203 mm)

Depth: 4.4" (112 mm)

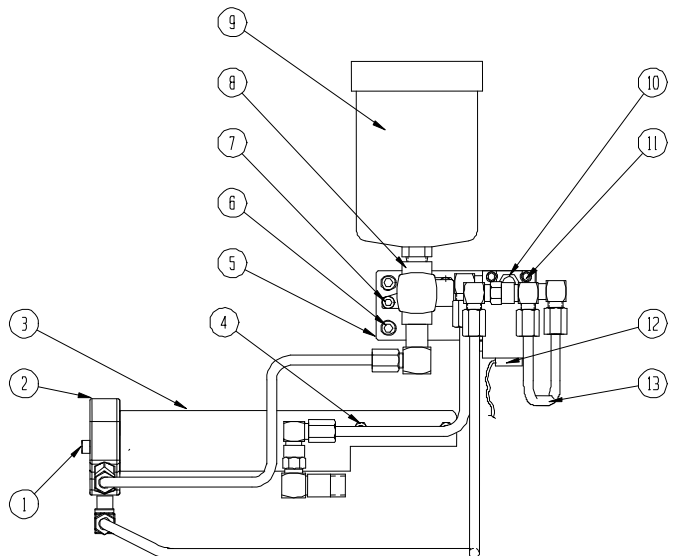
Weight: 4.2 lbs. (9.2 kgs)

Electrical: 24 volts DC, 2.5 watts

Pneumatic: 80-90 PSI at 16 C.F.H.

5.3 TS-500 SPRAYER FOR DISCONTINUED REAMERS

PART #	DESCRIPTION
1	NOT SELLABLE 10-24 x 1" S.H.C.S.
2	TS-500-15 SPRAY HEAD (WITH FITTINGS)
3	TS-500-1 SPRAY HEAD BRACKET
4	NOT SELLABLE 10-24 x 5/8" S.H.C.S.
5	TS-500-29 MOUNTING PLATE
6	NOT SELLABLE 1/4-20 x 0.75" S.H.C.S.
7	NOT SELLABLE 10-24 x 1/4" S.H.C.S.
8	TS-500-20 CHECK VALVE
9	RR-1320 RESERVOIR
10	RS-500-20 VENT PLUG
11	NOT SELLABLE 8-32 x 1 1/8" S.H.C.S.
12	TS-500-28 SOLENOID VALVE
13	TS-500-50 STEEL LINE KIT



TECHNICAL DATA

Electrical: 24 volts DC, 2.5 watts

Pneumatic: 80 - 100 psi at 16 CFM
(same supply as TOUGH GUN Reamer)

6.0 – ORDERING INFORMATION

PART #	DESCRIPTION
SR-500	Next Generation TOUGH GUN Reamer Mounted Sprayer
RS-500	Optional Stand Alone Sprayer Unit
TS-500	Mounted Sprayer for Discontinued Reamer Styles



For Technical Support:

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International Phone: +1-519-737-3000

Email: techservices@tregaskiss.com

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