TankJet® 75 & 75H Tank Cleaner

USER GUIDE

Spraying Systems Co.®
Experts in Spray Technology

MI-TJ75 & 75H
spray.com

CONTENTS

IMPORTANT! ***Read all instructions in this manual before operating machine.***

GENERAL SAFETY INSTRUCTIONS

READ AND FOLLOW INSTRUCTIONS:

WARNING: All safety related and operating instructions should be read before the nozzle is operated. Follow all operating instructions. Failure to do so could result in serious injury.

- **WARNING:** It is important to recognize proper safety precautions when using a pressurized spray system. Fluids under pressure can penetrate skin and cause severe injury.
- **WARNING:** When dealing with pressure applications, the system pressure should never exceed the lowest rated component. Always know your system and all component capabilities, maximum pressures and flow rates.
- **WARNING:** Before performing any maintenance, make sure all liquid supply lines to the machine are shut off and/or disconnected and chemical/fluid are drained.
- **WARNING:** The use of any chemicals requires careful control of all worker hygiene.
- **WARNING:** Spraying Systems Co. does not manufacture or supply any of the chemical components used in this equipment and is not responsible for their effects. Because of the large number of chemicals that could be used and their different chemical reactions, the buyer and user of this equipment should determine compatibility of the materials used and any of the potential hazards involved.
- **WARNING:** Before use, be sure appropriate connections are secure and made to withstand weight and reaction forces of the operating unit.
- **WARNING:** Spraying Systems Co. strongly recommends the use of appropriate safety equipment when working with potentially hazardous chemicals.

  This equipment includes but is not limited to:

  Protective hat
  Safety glasses or face shield
  Chemical-resistant gloves and apron
  Long sleeve shirt and long pants

NOTE: Always remember to carefully read the chemical manufacturer's label and follow all directions.

WARNING: DO NOT USE TO SPRAY FLAMMABLE LIQUIDS — SUCH USE COULD RESULT IN FIRE OR EXPLOSION CAUSING BODILY INJURY OR DEATH.

- **WARNING:** Never operate tank cleaning equipment in the open due to the potential of bodily injury.
- **WARNING:** It is important to operate equipment within the temperature range of all components. Also ensure that appropriate time lapses or proper safety equipment is used when handling components after they're exposed to high temperatures.
- **WARNING:** Remove equipment from the tank before attempting any repairs.
- **WARNING:** Proper hoisting procedures should be used when installing and removing all equipment.
- **WARNING:** If walking on top of a tank is deemed safe and is necessary, use proper safety precautions to protect individuals as well as the equipment.
- **WARNING:** Do not put any part of your body in the tank during operation of the tank cleaner. This is NOT a safe procedure for verification of operation.
- **WARNING:** To ensure the safety of the equipment as well the individuals using them, only use Spraying Systems Co. components.
- **WARNING:** When packaging and transporting, use structurally sound boxes or crates that can handle the weight of the equipment.
- **WARNING:** Tank cleaners should be flushed out with clean water before they're stored or shipped to minimize health hazards or cross contamination.
- **WARNING:** Do not use any equipment outside the intended purposes of the product. Misuse can result in personal injury or product damage.

The container being cleaned should be sealed as best as possible while the TankJet 75 models are running their cycle. The combination of temperature, cleaning solution, spray impact and the potential toxic materials being cleaned can cause a hazard to anyone in the path of the spray.

INTRODUCTION

The TankJet® 75 and 75H models are hydraulically driven rotating heads with nozzles ejecting streams of liquid for spanning internal tank surfaces to be cleaned, sanitized, treated, or rinsed. The TankJet 75H-2 or 75H-4 models feature an enclosed gear housing for hygienic option. Either model will provide a complete 360° indexing path in both planes, the index pattern will repeat every 45 revolutions. The TankJet 75-2 and the 75H-2 are specifically designed for 3" dia. openings, care must be exercised during insertion and retraction of this unit because of the nozzle swing span. The TankJet 75-4 and 75H-4 incorporates 2 nozzle hubs thus 4 nozzles, and is designed for 4.2" dia. openings. The units may be installed on a permanent basis (C.I.P.). Many types of fluids, sanitizers, detergents and caustics may be used through this unit to assist it's cleaning effectiveness. (Please note caution below.) The cleaning effectiveness of any unit is proportional to all the applicable variables, such as volume, pressure, chemicals, impingement, drainage, soils, etc. The unit will only operate properly when mounted in the vertical position (suspended or inverted) and can clean almost any type of contained area within its range.

Caution: If chemicals, hazardous materials, operations, and equipment are used in conjunction with this cleaning equipment, it is the responsibility of the user to establish appropriate associated safety and health practices. Prior to application, the user must consult and determine the applicability of regulatory (federal, state, local and facility) safety and environmental agency limitations.

SPECIFICATIONS

TANKJET 75-2 OR -4 HUB MODELS:

SSCO. PART #	DESCRIPTION
TJ75*-2-234	Standard Nozzle: 0.234 PSI: 150-300 | GPM: 17-24 | NPT
TJ75*-2-234LP	Low Pressure Nozzle: 0.234 PSI: 75-150 | GPM: 12-17 | NPT
TJ75*-4-125	Standard Nozzle: 0.125 PSI: 150-300 | GPM: 15-21 | NPT
TJ75*-4-172	Standard Nozzle: 0.172 PSI: 150-300 | GPM: 23-33 | NPT
TJ75*-4-172LP	Low Pressure Nozzle: 0.172 PSI: 75-150 | GPM: 15-23 | NPT

* Add B for BSPT connections after the model no.
Add SF for sanitary tri-clover flange after the model no.

See Tank Cleaning Catalog 75TJ for further flow and performance information.

TANKJET 75H-2 OR -4 HUB MODELS:

SSCO. PART #	DESCRIPTION
TJ75H*-2-234	Standard Nozzle: 0.234 PSI: 150-300 | GPM: 17-24 | NPT
TJ75H*-2-234LP	Low Pressure Nozzle: 0.234 PSI: 75-150 | GPM: 12-17 | NPT
TJ75H*-4-125	Standard Nozzle: 0.125 PSI: 150-300 | GPM: 15-21 | NPT
TJ75H*-4-172	Standard Nozzle: 0.172 PSI: 150-300 | GPM: 23-33 | NPT
TJ75H*-4-172LP	Standard Nozzle: 0.172 PSI: 75 -150 | GPM: 15-23 | NPT

* Add B for BSPT connections after the model no.
Add SF for sanitary tri-clover flange after the model no.

See Tank Cleaning Catalog 75TJ for further flow and performance information.

MATERIALS

- 316 Stainless Steel (UNS S31600)
- PTFE
- UHMW-PE

CONSTRUCTION

Referring to the Parts List on page 7 and 8, the unit comprises two basic components; the drive, consisting of the body, motor, rotor, and shaft; and the nozzle head, consisting of the nozzle body, bushings, nozzles, and elbow shaft.

PRINCIPLE OF ROTATION

The liquid enters the inlet cap (1) and then flows through the oblique and bypass holes in the motor (2) causing a swirling motion in the liquid. This swirling liquid goes down the outside of the vertical shaft (5) past the 6 tooth rotor (3) imparting rotation to the rotor and thus the vertical shaft. The liquid flows through the elbow shaft into the nozzle body (7), to be distributed out each off-set nozzle (12). The rotational speed of these units can be regulated through the use of various motor bypass plugs, which influences the fluid diversion to provide additional speed. Reference the Troubleshooting section and the Drawing Parts List for additional information and location.

CLEANING DIAMETER

The cleaning and wetting distances are a function of rotational speed and liquid pressure applied. The TankJet 75 has an effective cleaning diameter of 30 ft. (9.1 m).

INSTALLATION

The TankJet® 75 is easy to install as it has a single 3/4" female pipe thread connection (NPT or BSPT) or 1" sanitary tri-clover flange fitting. It may be installed on a tripod, a manhole cover, or suspended from a pipe. In all installations position TankJet 75 vertically upright or upside down and a suitable (200 mesh) strainer should be used to prevent dirt or scale from clogging the waterways or openings.

WARNING: In closed tanks, provisions should be made for adequate venting during operation to allow the escape of any gases or volatile vapors which may be produced during operation.

OPERATION

To start the unit, turn on the fluid. An in-line valve is required for a slow build-up of liquid pressure in the unit to prevent "water hammer". To stop the unit, turn off the liquid. The unit should always be handled carefully. If the unit is dropped or maltreated it may cause internal damage to the drive pod assembly, which in turn can affect the performance of the unit.

OPERATION & SPECIFICATION

Refer to drawing 75-2, 75-4 and 75H models for assembly and parts list.

Inlet Connection: 3/4" Female NPT or BSPT or 1" sanitary tri-clover flange

Operating Pressure Range: 75-300 psi (5.2-20.7 bar) (Based on Models)

Max. Operating Temp: 250° F (121° C)

Flow Capacity: 15 to 33 gpm (57 to 125 lpm) (Based on Models)

Head Rotation Speed: 7 to 17 rpm

Effective Cleaning Dia.: To 30 ft. maximum (9.1 m)

Recommended Strainer: 200 mesh (80 micron) (not included)

Approximate Weight and Dimensions:

Model	Inlet Conn.	Overall Length in. (mm)	Min. Tank Opening in. (mm)	Net Weight lbs. (kg)
75-2	Threaded	6.13 (156)	3.0 (76)	2.6 (1.2)
75SF-2	Sanitary Flange	7.13 (181)		2.9 (1.3)
75H-2	Threaded	6.25 (159)	3.0 (76)	2.6 (1.2)
75HSF-2	Sanitary Flange	7.25 (184)		2.9 (1.3)
75-4	Threaded	6.13 (156)	4.2 (107)	3.0 (1.4)
75SF-4	Sanitary Flange	7.13 (181)		3.3 (1.5)
75H-4	Threaded	6.25 (159)	4.2 (107)	3.0 (1.4)
75HSF-4	Sanitary Flange	7.25 (184)		3.3 (1.5)

TROUBLESHOOTING

Due to the simplicity of the unit, very few problems should occur. If any trouble should arise, the following steps may be taken: Refer to the Parts List.

A. Check unit for external damage, look for evidence of mishandling that may have damaged shafts, bearings, or alignment.

B. If the nozzle body fails to rotate and no liquid passes:

1. Check for liquid pressure and volume at the unit.
2. Check strainer for filter blockage.
3. Remove nozzles and check for obstructions.
4. While nozzles are off, recheck for flow through the nozzle body.

C. If the unit fails to rotate and sufficient liquid passes:

1. Check for freedom of rotation, by hand, in the vertical and rotational axis.
2. If the unit is free, insert a solid motor bypass plug. The motor bypass plug port is located in the top center of the motor. The purpose of the plug is to divert the pressurized fluid to the side drive holes of the motor, thus providing more driving power to overcome any frictional build-up that may occur after extended use. If the unit still does not rotate, check for:
   a. Contamination in the unit.
   b. Wear of any one of the following parts: the bushings, washers, and the rotor.
   c. Galling and straightness of the shafts.

D. Replace all defective parts.

WARRANTY

For newly purchased units the warranty is 18 months from the date of shipment or 12 months from the date of installation, whichever occurs first. This warranty includes manufacturing defects but does not cover the wear parts that include the bushings. This warranty will be void if parts other than those supplied by Spraying System Co. are used.

SERVICING

REPLACEMENT PARTS

When the machine requires replacement parts, only Spraying Systems Co. recommended components should be used to maintain proper machine operation and safety.

DISASSEMBLY

Be sure to use caution when handling the TankJet 75. When holding, make sure the nozzles are tightly screwed on the unit and then hold the unit from its nozzle not the body. The nozzle hub will rotate freely from the main body and the bevel gears can pinch skin and/or fingers. Refer to parts list at the back of the manual.

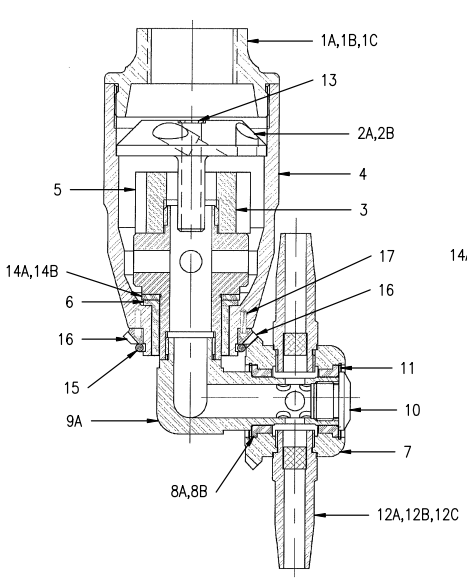
1. Unscrew inlet cap (1) and remove motor (2) from body (4)
2. Unscrew cap (10) from elbow shaft (9)
3. Remove nozzle body (7) from elbow shaft (9)
4. Place elbow shaft in a soft vise (9) and unscrew rotor (3) and vertical shaft (5)
5. Push out bushing (6) and washer (14) from body (4)
6. Unscrew nozzles (12) from nozzle body (7)
7. Remove rings (11) from body and pull out bushings (8)
8. Remove snap ring (15) and pull off gear (16)

ASSEMBLY

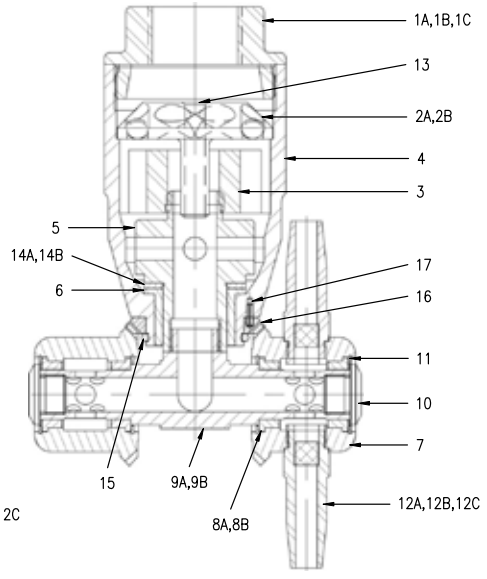
Be sure to use caution when handling the TankJet 75. When holding, make sure the nozzles are tightly screwed on the unit and then hold the unit from its nozzle not the body. The nozzle hub will rotate freely from the main body and the bevel gears can pinch skin and/or fingers. Refer to Parts List section.

1. Place gear (16) over body (4) until pin engages location pin (17) and install ring (15)
2. Press bushing and washer (6) and (14) into body (4)
3. Place shaft (5) into the body and screw to elbow shaft (9) and torque to 20 ft-lbs
4. Screw rotor (3) onto shaft (5)
5. Insert motor (2) in body (4)
6. Screw inlet cap (1) onto the body (4) and torque to 60 ft-lbs
7. Assemble bushings (8) into the nozzle body (7)
8. Assemble retaining rings (11) into the nozzle body (7)
9. Screw nozzles (12) into nozzle body (7) and torque to 15 ft-lbs
10. Assemble nozzle body (7) onto elbow shaft (9) and tighten cap (10) to torque value of 20 in-lbs

TJ75_-____-____TANKJET						
ITEM NO.	DESCRIPTION	PART NO.	TJ75_-2		TJ75_-4	
			QTY.	REPL. KIT	QTY.	REPL. KIT
1A	INLET CAP, 3/4" NPT	58796-1A-316SS	1		1	
1B	INLET CAP, 3/4" BSPT	58796-1B-316SS	1		1	
1C	INLET CAP, 1" FERRULE	58796-1C-316SS	1		1	
2	WATER MOTOR, 4 HOLES	SEE TABLE 2	1		1	
3	ROTOR, 6 TOOTH	58796-3-316SS	1		1	
4	MAIN BODY	58796-4-316SS	1		1	
5	VERTICAL SHAFT	58796-5-316SS	1		1	
6	BUSHING	58796-6A-PTFE	1	▲★	1	■ ◆
7	NOZZLE BODY, GEARED	58796-7-316SS	1		2	
8A	NOZZLE BODY BUSHING	58796-8-UHMWP	2	▲	4	■
8B		58796-8-TEF	2	★	4	◆
9A	ELBOW SHAFT	58796-9A-316SS	1		--	
9B		58796-9B-316SS	--		1	
10	SHAFT CAP	58796-10-316SS	1		2	
11	NOZZLE HUB RETAINING RING	58796-11-302SS	2	▲★	4	■ ◆
12A	NOZZLE ASSEMBLY (Ø.234")	58796-12A-316SS	2		--	
12B	NOZZLE ASSEMBLY (Ø.172")	58796-12B-316SS	--		4	
12D	NOZZLE ASSEMBLY (Ø.125")	58796-12C-316SS				
13	CENTER BYPASS KIT	ABCKTJ75-BYPASS	1		1	
14A	WASHER	58796-14-UHMWP	1	▲	1	■
14B		58796-14-TEF	1	★	1	◆
15	BODY RETAINING RING	58796-15-316SS	1		1	
16	BEVEL GEAR	58796-16-316SS	1		1	
17	ROLL PIN	58796-17-302SS	2		2	



TJ75-2



TJ75-4

HOW TO ORDER EXAMPLE:

TJ75_-_-___-___

- BLANK FOR 3/4" NPT, B – FOR 3/4" BSPT, SF FOR 1" FERRULE
- 2 NOZZLE, 4 NOZZLE
- NOZZLE SIZE
- LP FOR LOW PRESSURE

▲ ABCKTJ75-2 REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ▲)

■ ABCKTJ75-4 REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ■)

★ ABCKTJ75-2-TEF REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ★)

◆ ABCKTJ75-4-TEF REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ◆)

FOR REPLACEMENT PARTS & REPAIR KITS, CALL LOCAL REP.

TABLE 2: ITEM #2				
ITEM NO.	DESCRIPTION	PART NO.	TJ75_2. QTY.	TJ75_4 QTY.
2A	TJ75_ (ALL MODELS EXCEPT BELOW)	58796-2C-SS	1	1
2B	TJ75_-4-172	58796-2D-SS	--	1

TORQUE SPECIFICATIONS	
ITEM NO.	TORQUE
1A/1B/1C	60 FT – LBS.
5	20 FT – LBS.
10	20 IN – LBS.
12	15 FT – LBS.

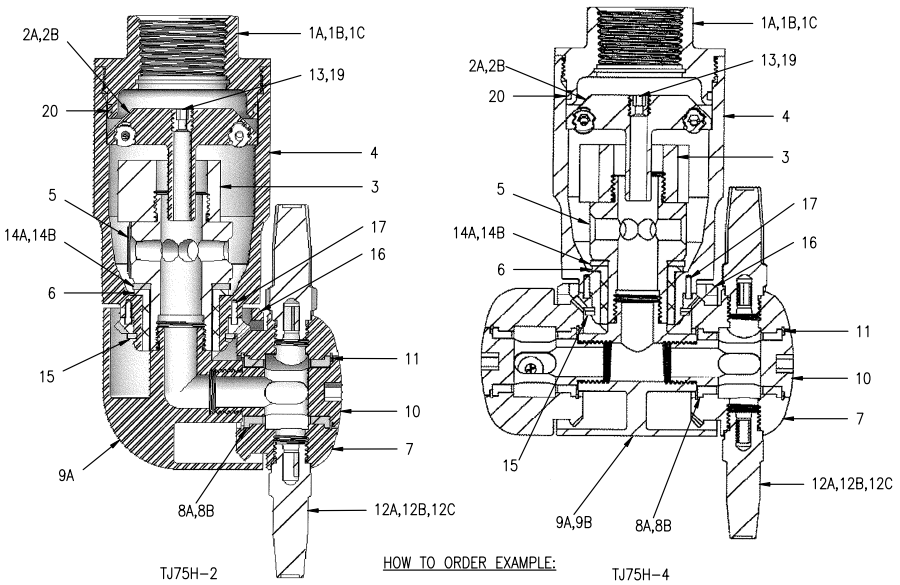
Description:

No. TJ75-2 OR 4-____-____,
No. TJ75B-2 OR 4-____-____ &
No.TJ75SF-2 OR 4-____-____
TANKJET®

Spraying Systems Co.®
Spray Nozzles and Accessories
P.O. Box 7900 - Wheaton, Il. 60187-7901

Rev. No. 4	Parts List No. PL TJ75
Ref. 58795	Sheet Of

TJ75H_–_____–____TANKJET						
ITEM NO.	DESCRIPTION		TJ75H–2–___ QTY.	REPL. KITS	TJ75H–4–___ QTY.	REPL. KITS
1A	INLET CAP, 3/4" NPT, 316 STAINLESS STEEL		1		1	
1B	INLET CAP, 3/4" NPT, 316 STAINLESS STEEL					
1C	INLET CAP, 1" FERRULE 316 STAINLESS STEEL.					
2A	WATER MOTOR, 4 HOLES, 316 STAINLESS STEEL	ALL MODELS EXCEPT BELOW	1		1	
2B		FOR TJ75H_–4–172	0		1	
3	ROTOR, 6 TOOTH, 316 STAINLESS STEEL		1		1	
4	MAIN BODY, 316 STAINLESS STEEL		1		1	
5	VERTICAL SHAFT – 1.75" LONG 316 STAINLESS STEEL		1		1	
6	BUSHING – PTFE		1	▲★	1	■◆
7	NOZZLE BODY GEARED, 316 STAINLESS STEEL		1		2	
8A	NOZZLE BODY BUSHING, UHMW–PE	12 HOLE	2	▲	4	■
8B	NOZZLE BODY BUSHING, TEF	DUPLEX	2	★	4	◆
9A	ELBOW SHAFT 316 STAINLES SSTEEL		1		0	
9B			0		1	
10	SHAFT CAP, 316 STAINLESS STEEL		1		2	
11	NOZZLE HUB RETAINING RING 302 STAINLESS STEEL		2	▲★	4	■◆
12A	NOZZLE ASSEMBLY (ø.234) 316 STAINLESS STEEL		2		0	
12B	NOZZLE ASSEMBLY (ø.172) 316 STAINLESS STEEL		0		4	
12C	NOZZLE ASSEMBLY (ø.125) 316 STAINLESS STEEL					
13	CENTER BYPASS RING, STAINLESS STEEL		SEE TABLE 1	●	SEE TABLE 1	●
14A	WASHER, UHMW–PE		1	▲	1	■
14B	WASHER, TEF		1	★		◆
15	BODY RETAINING RING, 316 STAINLESS STEEL		1		1	
16	BEVEL GEAR, 316 STAINLESS STEEL		1		1	
17	ROLL PIN (.066/.062), 302 STAINLESS STEEL		2		2	
19	SOLID PLUG, STAINLESS STEEL		1	▲●★	1	◆●■
20	INLET O–RING, EPDM		1		1	



HOW TO ORDER EXAMPLE:

TJ75H_–_–___–___

BLANK FOR 3/4" NPT THREAD
B–FOR BSPT THREAD
SF– FOR 1" FERRULE

2 NOZZLE
4 NOZZLE

LP FOR LOW PRESSURE

NOZZLE SIZE

▲ ABCKTJ75–2 REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ▲)
■ ABCKTJ75–4 REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ■)
● ABCKTJ75–BYPASS CENTER BYPASS KIT. (INCLUDES ALL ITEMS MARKED WITH ●)
★ ABCKTJ75–2–TEF REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ★)
◆ ABCKTJ75–4–TEF REPLACEMENT BUSHING KIT. (INCLUDES ALL ITEMS MARKED WITH ◆)

FOR REPLACEMENT PARTS & REPAIR KITS, CALL LOCAL REP.

● TABLE 1: ITEM 13		
DESCRIPTION	TJ75H–2 QTY.	TJ75H–4 QTY.
ø.063 HOLE (OPTIONAL)	1	1
ø.093 HOLE (OPTIONAL)		
ø.125 HOLE (SUPPLIED)		
ø.140 HOLE (OPTIONAL)		
ø.078 HOLE (OPTIONAL)		

TORQUE SPECIFICATIONS	
ITEM NO.	TORQUE
1A/1B/1C	60 FT – LBS.
5	20 FT – LBS.
10	20 IN – LBS.
12	15 FT – LBS.

Description:

No. TJ75H–2 OR 4–____,
No. TJ75HB–2 OR 4–____ &
No.TJ75HSF–2 OR 4–___–___
TANKJET®

Spraying Systems Co.®
Spray Nozzles and Accessories
P.O. Box 7900 - Wheaton, Il. 60187-7901

Rev. No.	DWG. NO. PL TJ75H
Ref. 58795	Sheet Of

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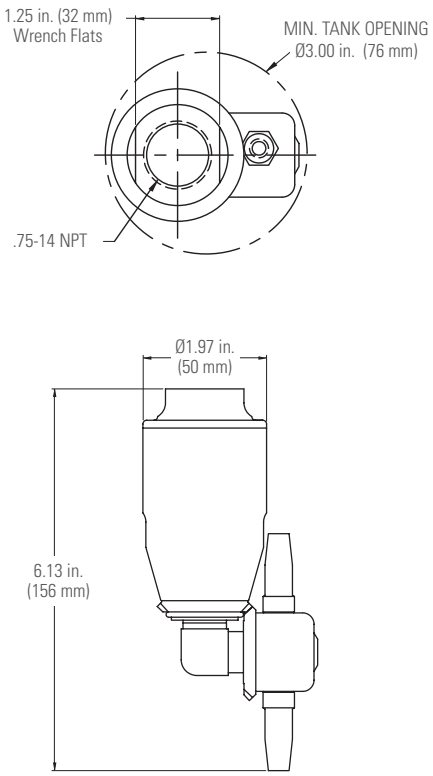
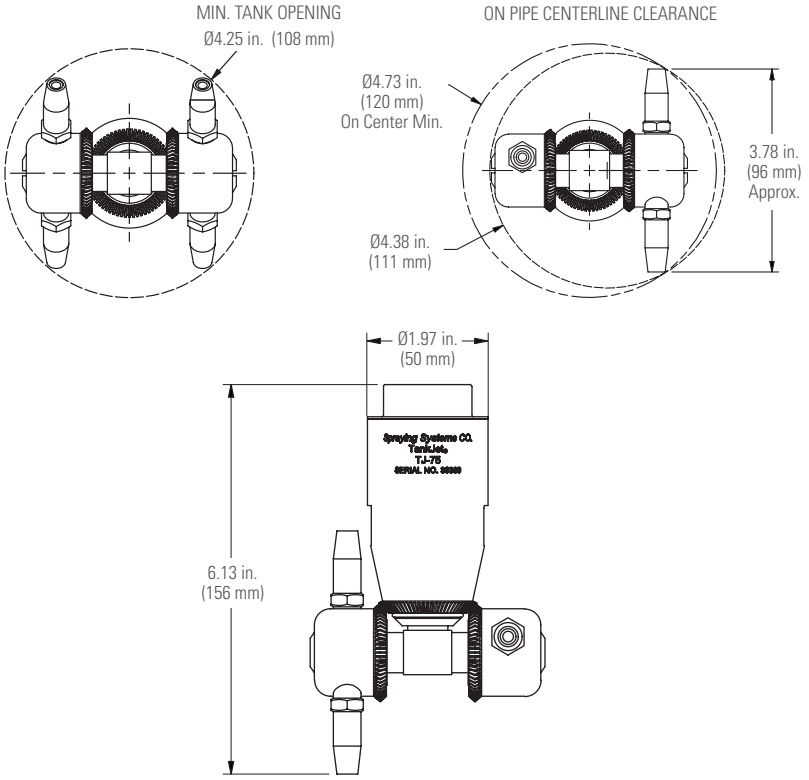
TANKJET® 75 & 75H DIMENSIONS

TANKJET® 75-2



TANKJET 75-4



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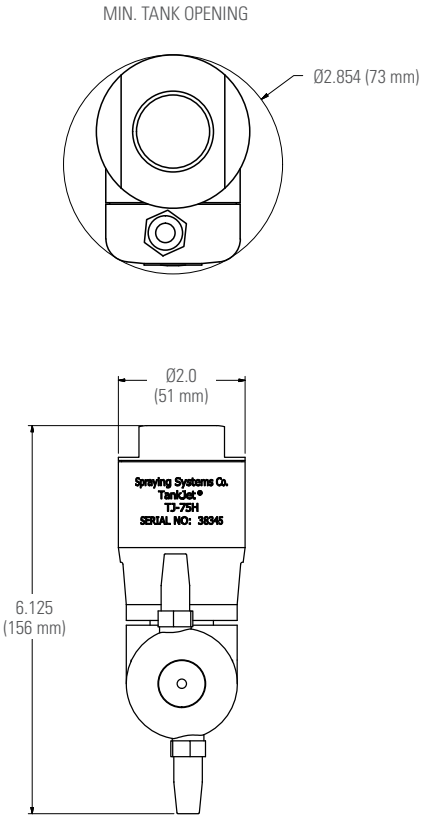

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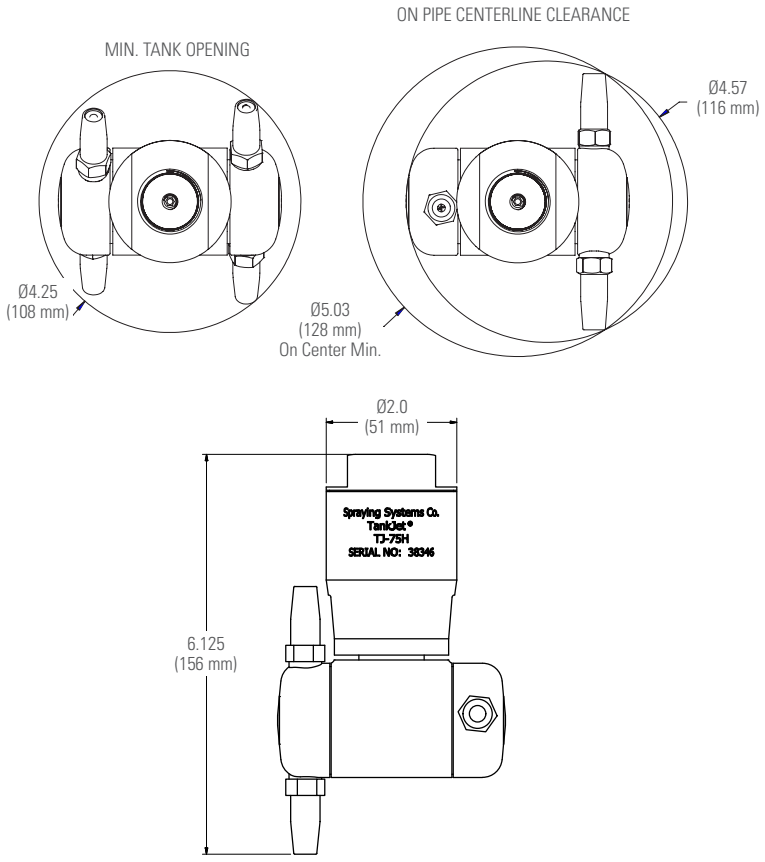

12/7/2020
Wheaton, Illinois, USA

EC DECLARATION OF INCORPORATION

We, **Spraying Systems Co.®**

North Avenue and Schmale Road, P.O. Box 7900,
Wheaton, IL 60187-7901
Tel: 1.800.95.SPRAY Intl. Tel: 1.630.665.5000
Fax: 1.888.95.SPRAY Intl. Fax: 1.630.260.0842
Visit our Website at http://www.spray.com for local representatives

in accordance with the following directive(s):

2006/42/EC	The machinery directive

hereby declare that:

Equipment	Tank Cleaning Devices, Fluid driven
Model number	TankJet®80, TankJet®75, TankJet®65

is in conformity with the applicable requirements of the following documents:

Ref. no.	Title	Edition/Date
EN ISO 4413	Hydraulic fluid power — General rules and safety requirements for systems and their components	2010
EN 12100	Safety of machinery – General principles for design Risk assessment and risk reduction	2010
BS EN ISO 14121-1	Safety of machinery – Risk assessment Part 1: Principles	2007
ASME- B31.1	ASME Code for Pressure Piping	2020

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable Essential Requirements of the Directives.

Signed by:

Robert J. Adams, P.E.
Director of Engineering-Industrial Division
Spraying Systems Co.

Spraying Systems Co.®
Experts in Spray Technology

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www.spray.com

