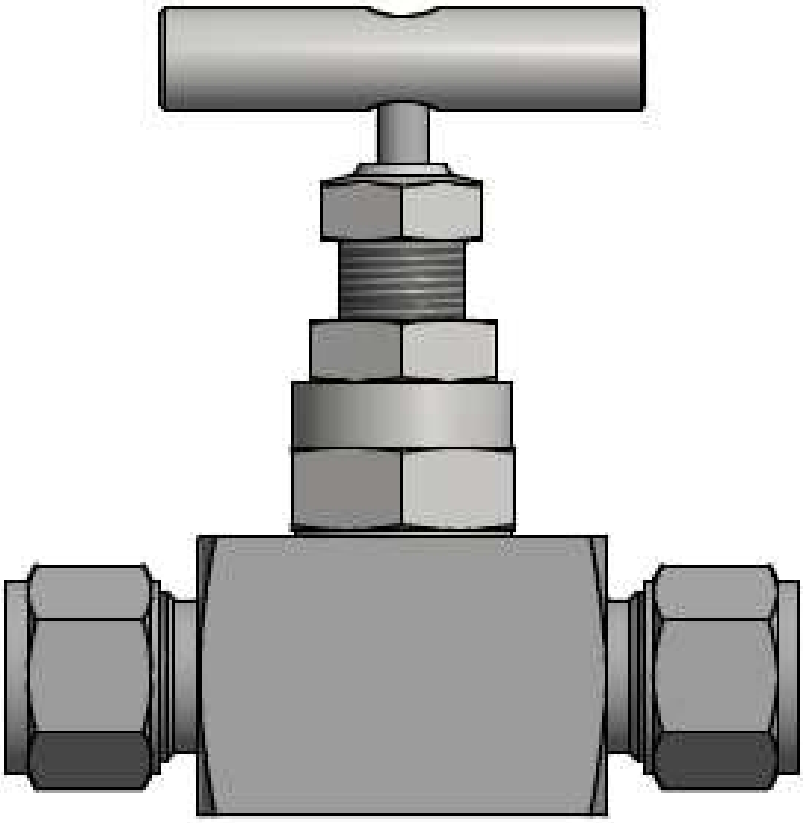
Parker Hannifin Corporation

Instrumentation

PARKER
TN6L Series Needle Valve
Installation Instructions
TN6L-INSTR



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WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your applications and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

ALL PARKER VALVES MUST PASS A RIGID OPERATIONAL AND LEAKAGE TEST BEFORE LEAVING THE FACTORY. IT IS RECOMMENDED AFTER ANY REASSEMBLY, THE VALVE SHOULD BE TESTED BY THE USER FOR OPERATION AND LEAKAGE. IF THESE INSTRUCTIONS ARE NOT FULLY COMPLIED WITH, THE REPAIRED PRODUCT MAY FAIL AND CAUSE DAMAGE TO PROPERTY OR INJURY TO PERSONS. PARKER HANNIFIN CANNOT ASSURE RESPONSIBILITY FOR PERFORMANCE OF A CUSTOMER SERVICED VALVE.

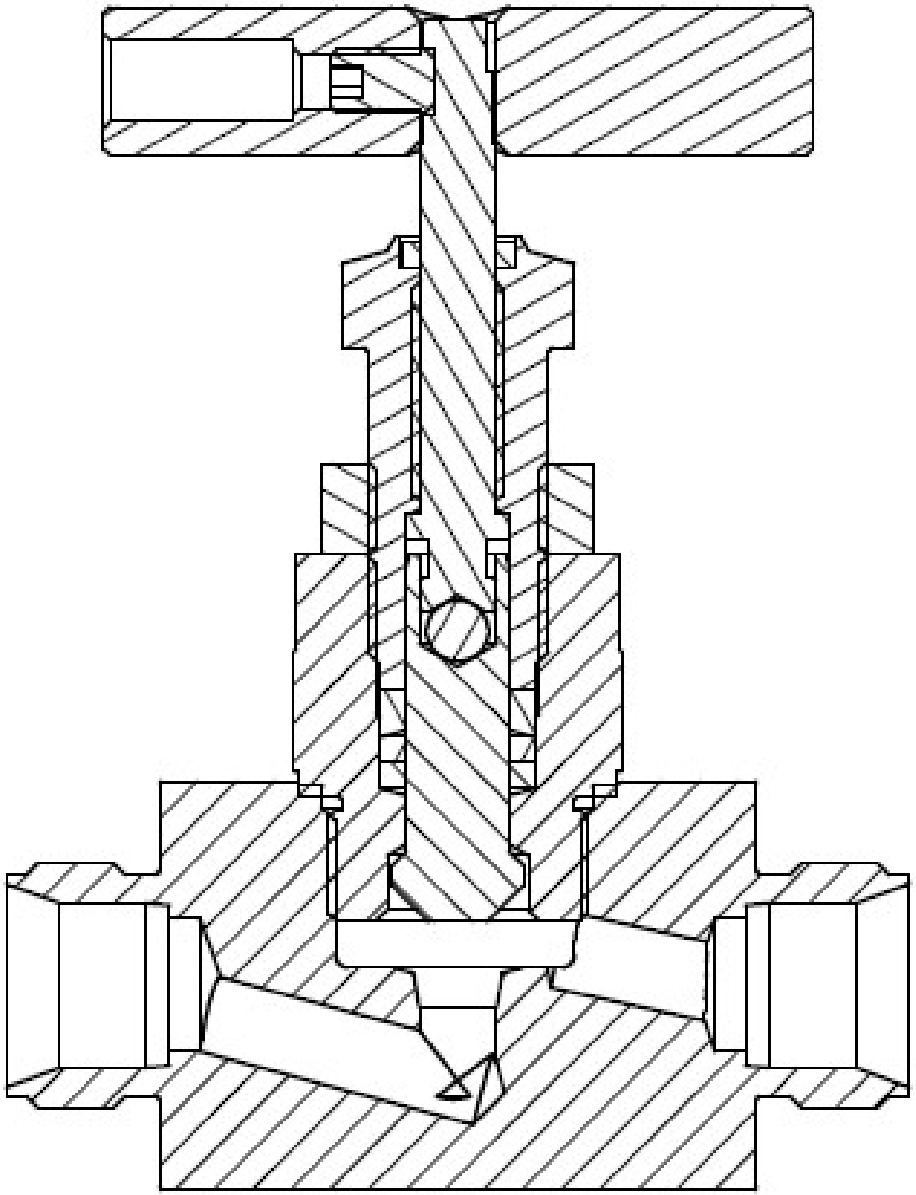

Figure 1: Size TN6L Needle valve

Cross-Sectional View

Table 1: Maximum Working Pressures and Temperatures

Valve Packing	Maximum Pressure	Maximum Temperature
Graphite Stem Packing	6000 psig at 32°F 41.4 MPa at 0℃	15 psig at 1000°F 0.1 MPa at 538℃
PTFE Stem Packing	6000 psig at 32°F 41.4 MPa at 0℃	15 psig at 500°F 0.1 MPa at 260℃

Table 2: Packing Nut

Hex Wrench Sizes and Tightening Requirements

Valve Size	Hex Wrench size	PTFE Stem Packing	Graphite Stem Packing
TN6L Model	18mm	25 ft-lbs (33.8 N-m)	25 ft-lbs (33.8 N-m)

Table 3: Lock Nut

Hex Wrench Sizes and Tightening Requirements

Valve Size	Hex Wrench size	Torque requirement
TN6L Model	21mm	150 in-lbs (16.8 N-m)

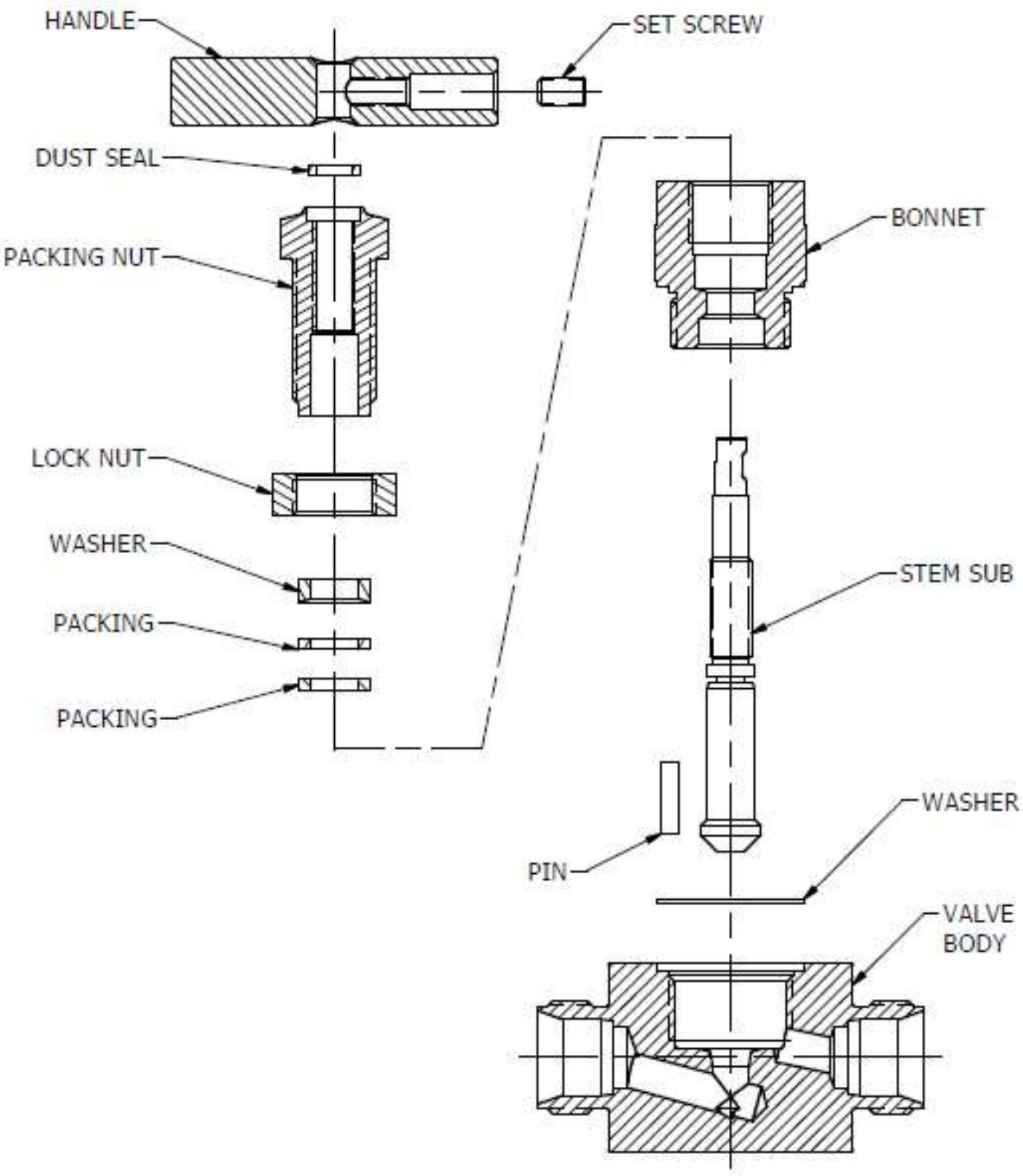

Figure 2: Size TN6L Needle valve Explode View

PACKING ADJUSTMENT

Packing adjustment may be necessary depending on many varied uses for the Valve. It is recommended that adjustment be made shortly after the initial installation and just prior to flow start-up.

1. Turn the Stem to the CLOSED position, finger-tight.

2. Grip the Packing Nut with a wrench as listed in Table 2. With another wrench (as list in table 3) loosen the lock nut.

3. Tighten the Packing nut 1/8 to 1/4 turn or torque to the values provided in table 2.

WELDED PORT CONNECTIONS

Careful welding procedures are recommended and welding should be performed by trained, qualified personnel. Socket weld ports require the tube be inserted into the socket until bottomed against the stop. The tube is then to be backed out approximately 1/16 of an inch and then welded. This procedure will help in avoiding excessive static stress on the weld.

Note: Weld process should be controlled. Make sure the temperature rise by welding not exceed the maximum allowed temperature of packing material at the packing area.

VALVE CONNECTOR MAKE-UP INSTRUCTIONS

MALE AND FEMALE PIPE PORTS

Wrench flats are provided on the Valve Body. It is recommended a smooth- jawed wrench or vise be used to grip the Valve Body.

1. On the male threaded part of the connection, apply a high quality pipe joint compound or PTFE tape made for this purpose. When PTFE tape is used, it is recommended two full turns of tape be applied. PTFE tape should not be overhanging or covering the first thread.
2. Engage the Valve and the other component part together, until hand-tight.
3. With a proper wrench, holding both the Valve and the component part, continue to tighten to achieve a leak-tight joint.

TUBE FITTING CONNECTIONS

1. Insert the tube into the Valve port until the tube bottoms out in the Valve Body. Care should be exercised to insure the tube is properly aligned with the Valve Body and port.
2. Normal make-up for US Customary port sizes 1 thru 3 (1/16 thru 3/16 inch) and SI port sizes 2 thru 4 (2 thru 4 mm) is 3/4 turn from finger tight. Normal make-up for US Customary port sizes 4 thru 16 (1/4 thru 1 inch) and SI port sizes 5 thru 25 (5 thru 25 mm) is 1 1/4 turn from finger tight. For larger port sizes consult Parker Ferrule Presetting Tool Instructions.

PLEASE FOLLOW THE ABOVE DIRECTIONS FOR COUNTING THE NUMBER OF TURNS FOR PROPER FITTING MAKE-UP. DO NOT MAKE-UP TUBE FITTINGS BY TORQUE OR "FEEL". VARIABLES SUCH AS TUBING AND FITTING TOLERANCES, TUBE WALL THICKNESS, AND THE LUBRICITY OF NUT LUBRICANTS CAN RESULT IN AN IMPROPERLY ASSEMBLED TUBE FITTING CONNECTION.