



U.S. Patents 8,522,630; 9,200,986

## Genie<sup>®</sup> Direct Drive 750 Adapter Installation & Operation Instructions

### Manufacturing Contact Information

**A+ Corporation, LLC** *Call for expert product application assistance:*  
41041 Black Bayou Rd. Phone: (225)-644-5255 Website: [www.geniefilters.com](http://www.geniefilters.com)  
Gonzales, LA 70737 Fax: (225)-644-3975 E-mail: [sales@geniefilters.com](mailto:sales@geniefilters.com)

### Safety Warnings

- ⚠ Failure to abide by any of the safety warnings below may result in equipment failure or serious injury and death.
  - ▶ Do not exceed any equipment pressure ratings. See Technical Specifications for limitations.
  - ▶ The probe must be installed to the process line by means of the appropriate size NPT female full port ball valve.
  - ▶ Only the wrench flats on the base can be used when installing into the process ball valve.
  - ▶ **DO NOT** use the wrench flats on the packing adjustment nut, located on the top of the base, for installation into process ball valve.
  - ▶ Not designed for external fire.
  - ▶ Prior to use in a system, a properly sized relief device is to be installed which limits the use to 110% of the MAWP.
  - ▶ This product may vent while being installed, operated, or maintained. The user should follow company safety practices concerning Personal Protective Equipment (PPE) as well as any and all OSHA, state and local regulations.

### Tools Required

- ▶ Flat blade screwdriver
- ▶ 1-3/8" open end wrench
- ▶ 7/16" open end wrench
- ▶ (2) 7/8" open end wrenches
- ▶ 1-3/16" open end wrench

### Fittings Required

- ▶ Appropriate size full port ball valve

## Technical Specifications

Technical Specifications	
<b>Maximum Pressure Rating</b>	<b>NPT:</b> 3,750 psig (258.6 barg)
<b>Temperature Ranges</b>	<b>Type 6 membranes:</b> -35°F (-37°C) to 185°F (85°C) <b>*Type 7 membrane:</b> Up to 300°F (149°C) <i>* Actual limit depends on sealing material chosen. Refer to Temperature Range Comparison Chart.</i>
<b>Maximum Recommended Flow Rate</b> Results in approx. 2 PSI pressure differential. For higher flow rates, contact the factory.	<b>Type 6 Best Rejection:</b> 1.6 LPM (3.4 CFH) (actual conditions) <b>Type 7 Highest Temps:</b> 3.4 LPM (7.1 CFH) (actual conditions)
<b>Port Sizes</b>	<b>Outlet:</b> 1/4" female NPT <b>Low Volume Outlet:</b> 1/16" female NPT <b>Auxiliary:</b> 1/8" female NPT (plugged from factory)
<b>Probe Lengths</b> For other lengths contact the factory.	<b>L:</b> 8", 12", 18", 24", 36", 48" Refer to dimensions on back.
<b>Process Connection Requirements</b>	3/4", 1" or 1.5" NPT full opening threaded or flanged valve Ball, gate and double block and bleed valves are all suitable for use as long as their inner diameter is not less than 3/4". 1" NPT or larger process connection required for seal welding.
<b>Wetted Materials</b> For Silcotek™ coatings, contact the factory.	<b>*Machined parts:</b> 316/316L stainless steel / ISO 15156-3 compliant and Kevlar® threaded bushing <b>All other metal parts:</b> stainless steel / ISO 15156-3 compliant <b>Sealing material:</b> User defined <b>Membrane:</b> Inert <i>*Other materials available on request.</i>



## Installation and Operation Instructions

### Step 1. Ensure the valve is closed

- ▶ The valve at the top of the probe must remain closed until the duration of installation. Ensure it is closed by using a flat blade screwdriver to turn the integrated outlet valve in the clockwise direction until it is snug.

### Step 2. Install to process valve

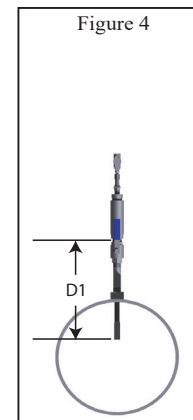
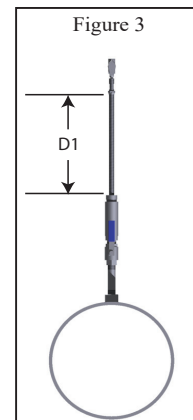
- ▶ Be sure the ball valve to the process line is closed
- ▶ Apply a thread sealant, such as Teflon<sup>®</sup> Tape, to the male threads on the bottom of the probe
- ▶ Install the probe to the process ball valve using a 1-3/8" open end wrench **ONLY** on the wrench flats on the base (see Figure 1)

### Step 3. Pressurize the probe

- ▶ Be sure the valve on top of the probe is closed
- ▶ Slowly open the ball valve to the process (see Figure 2)

### Step 4. Lowering the probe to proper depth

- ▶ Decide the depth needed for the probe (D1) by determining from the top of the full port process ball valve to the desired end of the probe in the pipeline (see Figure 4)
- ▶ Apply the depth (D1) to the probe from the top of the base up the threaded rod to determine the lowering stopping point (see Figure 3)
- ▶ Install the 2 depth marking nuts on the threaded rod at the predetermined lower stopping point. Using two 7/8" open end wrenches, rotate the upper nut clockwise and the lower nut counterclockwise simultaneously until the nuts are locked firmly in place.
- ▶ Lower the probe to the proper depth by using a 7/16" open end wrench only on the wrench flats of the threaded rod of the probe (Figure 5).



**continued...**

## Installation and Operation Instructions

### Step 5. Leak testing the probe connections

- ▶ Using a leak detector, check for leaks at the following locations: process connection, probe packing seal, the 1/4" connection to the top valve adapter, and additionally any other connection made during the probe installation.
- ▶ If leaking occurs through the probe packing gland, use a 1 3/16" open end wrench to tighten the packing seal plug until the leak stops. DO NOT OVERTIGHTEN.
- ▶ The amount of torque required to seal the packing gland will vary with process conditions and the sealing material. Seals with higher durometer require significantly more torque than lower durometer seals. These seals, at higher pressure, may require as much as 80 ft-lbs of torque to produce a leak tight seal. This table (left) shows the durometer hardness of elastomers available for Genie<sup>®</sup> Direct Drive™ Probes.
- ▶ Be aware that the packing gland may need to be tighten periodically as conditions change or as the packing material wears during insertion/retraction.

### Step 6. Establishing Flow

- ▶ Connect 1/4" NPT fitting to outlet connection.
- ▶ Run tubing from fitting to analyzer.
- ▶ Establish flow by using a flat blade screwdriver to slowly turn the integrated outlet valve in the counter clockwise direction until fully open.

20 ft-lbs of torque [MIN]
LOWER DUROMETER
Neoprene
Fluoroelastomer (FKM) Perfluoroelastomer (FFKM)
RGD resistant HNBR
RGD resistant HNBR 985 FKM Compound VG109-90 Peroxide Cured Buna
HIGHER DUROMETER
80 ft-lbs of torque [MAX]

## Model Numbering & Additional Part Numbers

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Your model number is determined by your specific needs. Choose options below.

<b>Sealing material</b>	0 = Neoprene rubber	J = RGD resistant HNBR	(other materials available upon request)
<b>Membrane type</b>	6 = Better Rejection; Rejects ALL types of liquids from vapor 7 = Highest Temps; Rejects ONLY high surface tension liquids		
<b>Process connection</b>	3 = ¾" NPT	4 = 1" NPT	6 = 1.5" NPT
<b>Probe insertion length</b>	8, 12, 18, 24, 36, 48 inches		
<b>Sealing material replacement</b> (Packing Gland)	Part # 75X-570 for PTFE/Neoprene rubber	Part # 75X-5J0 for RGD resistant HNBR	(sold separately)
<b>Membrane replacement</b>	Part # 75X-CMA-50_ (contains 1 complete assembly - sold separately)		
<b>Speed wrench</b>	Part # ACC-SW (sold separately)		
<b>Optional gauge</b>	Part # ACC-Q14KC (0-4,000 psig, sold separately)		

#### How to build the model number:

