



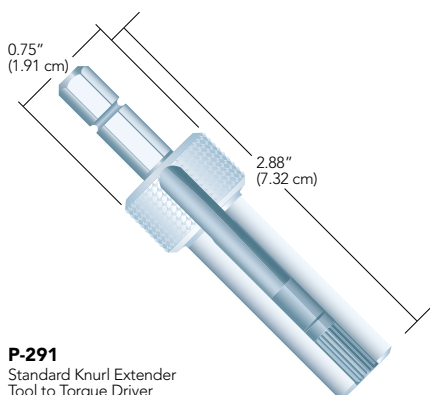
Fittings Tools

Tightening Tools for VHP & Other Fittings

- › Configured for the optimum torque to provide assurance of a strong connection
- › Prolongs the lifetime of reusable fittings by not overtightening
- › Available for multiple fitting head styles

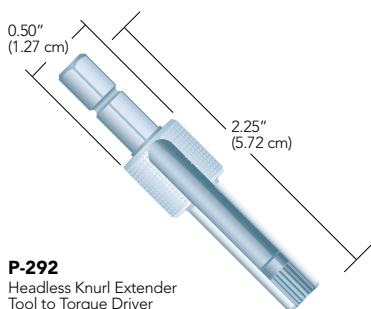
VHP-1000

VHP Wrench
1/4 in Hex 10 in-lbs (1.13 N-m)



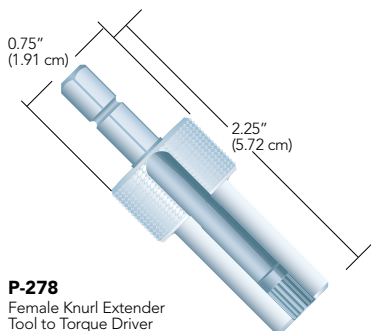
P-291

Standard Knurl Extender
Tool to Torque Driver



P-292

Headless Knurl Extender
Tool to Torque Driver



P-278

Female Knurl Extender
Tool to Torque Driver

This new line of tightening tools is designed for the VHP fittings and can also be used with any fitting in this chapter described to have a corresponding head style to the tool listed below. There are three styles of tightening tools available for various applications. The Torque Tools (VHP-1000 and VHP-2000) are breakaway torque wrenches designed to deliver a precise amount of torque to the fitting system. These torque wrenches come calibrated according to ISO 6789:2003 ($\pm 6\%$ of setting) and have been tested extensively with the reusable VHP fittings on page 60. Choose the appropriate torque delivered and the proper head style to work with the VHP fittings, increasing the ease of use with these fittings.

The VHP-4000 Torque Driver couples with the specially designed Extender Tools listed below and provides an externally adjustable torque setting. This tool along with the appropriate Extender Tools will tighten any IDEX Health & Science knurled polymer fitting in your system. Reference the head style found in the tables at the bottom of each page for information on the proper Extender Tool to select.

Because of the small hex-head on the M4 fittings (VHP-900 and VHP-920), a custom wrench, the VHP-9000, is available in the table at the bottom of the page 51.

Extender Tools






These tools can be used to tighten most of our knurled nuts in hard to reach places. See the application note on this page for knurl size and corresponding extender tool.

For precise tightening, the extender tools listed with 1/4" hex drives are designed to adapt to any torque wrench with a female 1/4" socket, such as the VHP-4000 Torque Driver on page 51. The tools featured on this page also include the FlushNut™ wrenches, used to tighten the FlushNuts found throughout this chapter and described in detail on page 51.



APPLICATION NOTE

The drawings represent actual size of the various knurled head designs of the IDEX Health & Science nuts featured in this chapter. Select the appropriate extender tool for the knurl pattern of the nut you've selected.

FEMALE KNURL	STANDARD KNURL	HEADLESS KNURL
		
STANDARD MICRO KNURL	MICRO HEADLESS KNURL	
		



Removal Tool

Use the LT-300 Removal Tool to detach LiteTouch® and Super Flangeless™ Ferrules from tubing. Simply slide the appropriate tool blade slot between the lock ring and the ferrule body. With a slight twist, the ring will pop off, releasing the ferrule from the tubing. *Please Note: This Removal Tool will not work with the LT-135x Ferrule System.*

Wrenches

For your convenience, we offer wrenches in three standard sizes. You will need two A-304 wrenches to tighten most nuts into unions found on page 36 (for union 1593, you need one A-304 and one A-320 wrench).

The IDEX Wrench is slotted to fit over 1/16" and 1/8" OD tubing, and has 1/4" and 5/16" internal hex ends, to engage with the heads of the hex-head fittings most commonly used with IDEX Health & Science valves and the stainless steel fittings listed on page 59.

Fittings Tools

Part No.	Description	Use With Head Style	Torque Delivered	Qty.
VHP TIGHTENING TOOLS				
F-347	Extender Tool to Torque Driver	FlushNut (1/4-28)	—	ea.
N-291	Extender Tool to Torque Driver	Micro Headless	—	ea.
P-268	Extender Tool to Torque Driver	1/4" Hex	—	ea.
P-278	Extender Tool to Torque Driver	Female Nut Knurl	—	ea.
P-279	Extender Tool to Torque Driver	Micro Nut Knurl	—	ea.
P-291	Extender Tool to Torque Driver	Standard Nut Knurl	—	ea.
P-292	Extender Tool to Torque Driver	Headless Nut Knurl	—	ea.
P-1000	Standard Knurl Torque Tool	Standard Knurl	4 in-lbs (0.45 N-m)	ea.
VHP-1000	VHP Torque Tool	1/4" Hex	10 in-lbs (1.13 N-m)	ea.
VHP-2000	VHP Torque Tool	1/4" Hex	14 in-lbs (1.58 N-m)	ea.
VHP-4000	VHP Torque Driver	Extender Tool 1/4" Drive	Adjustable between 2–12 in-lbs (0.23–1.35 N-m)	ea.
VHP-9000	4 mm Wrench	4 mm Hex	—	ea.
EXTENDER TOOLS				
Part No.	Description	Material		Qty.
P-291	Extender Tool for Standard Head Nuts, with 1/4" Hex Drive	Aluminum		ea.
P-298	Extender Tool for Standard Head Nuts	Delrin®		ea.
P-299	Extender Tool for Standard Head Nuts	Aluminum		ea.
P-399	Extender Tool for Standard Head Nuts, Short	Aluminum		ea.
P-297	Extender Tool for Headless Nuts	Aluminum		ea.
P-292	Extender Tool for Headless Nuts, with 1/4" Hex Drive	Aluminum		ea.
P-277	Extender Tool for Standard Micro Nuts	Aluminum		ea.
N-290	Extender Tool for Micro Headless Nuts	Aluminum		ea.
P-278	Extender Tool for Female Nuts, with 1/4" Hex Drive	Aluminum		ea.
MISCELLANEOUS TOOLS				
A-304	Wrench, 1/4" x 5/16"	Steel		ea.
A-305	Wrench, 1/2" x 9/16"	Steel		ea.
A-320	Wrench, 3/8" x 7/16"	Steel		ea.
6810	IDEX Wrench, 1/4" x 5/16"	Steel		ea.
F-345	FlushNut Wrench for 10-32 Threaded Fittings	Steel/Plastic Handle		ea.
F-346	FlushNut Wrench for 1/4-28 Threaded Fittings	Steel/Plastic Handle		ea.
LT-300	Removal Tool for LiteTouch and Super Flangeless Ferrules	Steel/Plastic Handle		ea.
M-150	Swaging Tool for TinyTight Fittings, for 6–40 MINSTAC Port	SST		ea.