

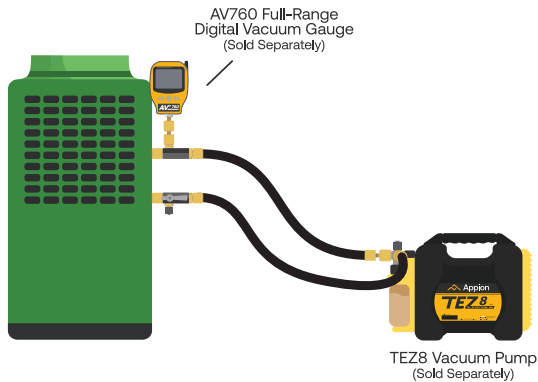


# FAST EVACUATION KIT

# **SPEEDKIT-V**

## Quick Start Guide

### 1-2 Port Systems



## How to setup the SpeedKit-V for **Optimal Flow & Fast Evacuation**

### Setup Notes - General

- 1 - Connect Valve Core Removal Tools to all available ports on the system; one low side port and one high side port at a minimum. **Always remove valve cores for unrestricted refrigerant flow.**
- 2 - Connect the vacuum gauge as far from the pump as possible; on a spare port, or side port of a Valve Core Removal Tool. **Vacuum pressures do not equalize as fast as high pressures.**

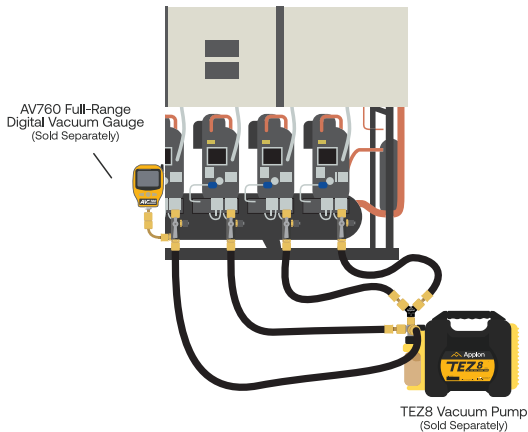
### Setup Notes - 2 Port Systems

- 3 - Connect 1/2 in. hoses to all available Valve Core Removal Tools for maximum flow. For single port systems, ensure the expansion valve and solenoid valves are open.
- 4 - For vacuum pumps with multiple ports, connect directly to the vacuum pump for full flow. For full flow on single port pumps, use a Speed-Y™ in place of a manifold.

### Setup Notes - Multi-Port (3+) Systems

- 5 - Connect the Speed-Y™ to the largest port available on the vacuum pump. The SpeedKit-V includes one 3/8 in. and one 1/2 in. Speed-Y™.
- 6 - The expansion of the available ports on the vacuum pump will now enable manifold-less full flow connections to multiple ports of larger equipment and 3-pipe A/C systems. Multi-port systems will require the purchase of additional Valve Core Removal Tools and hoses.

### 3+ Port Systems



**NOTE:** Multi-port setups require purchase of additional MegaFlow™ Basics Kits: (Part# MGABAS 1/4 in. or Part# MGABRO 5/16 in.)

### Recommended Evacuation Accessories & Products

Product	Description	Part #
Vacuum Pump	TEZ8-8 CFM Vacuum Pump	TEZ8
Evacuation Hose Kit	MegaFlow™ Basics Kit	MGABAS (1/4 in.) MGABRO (5/16 in.)
Full-Range Vacuum Gauge	AV760 Full-Range Wireless Digital Vacuum Gauge	AV760
Vacuum Pump Oil	Ultimate Deep Seal Vacuum Pump Oil	TZM1PK (cartridge) TZMGLN (gallon)

### MegaFlow™ SpeedKit-V Contents

Product	Part #
(2) 1/4 in. MegaFlow™ Valve Core Removal Tools	MGAVCT (1/4 in.)
(2) 5/16 in. MegaFlow™ Valve Core Removal Tools	MGAVCR (5/16 in.)
(2) 1/2 in. Vacuum-Rated 6 ft. Hoses	MH120006EAK
(2) Appion Speed-Y's	(1) SPDY38 (1) SPDY12
(1) SpeedKit Tool Bag	PK7520

# Important Evacuation Tips

- **Remove valve cores before evacuation -**

Valve cores and core depressors block up to 90% of all flow and will limit the flow of any vacuum pump to  $\approx 0.2$  CFM. [Fig. 1]

- **Use as many 1/2 in. vacuum-rated hoses during evacuation as possible -**

Larger hoses have greater flow and will result in faster evacuation when used correctly.

- **Connect hoses directly to the vacuum pump -**

Direct connections to the pump have better flow and less chance to leak compared to being connected to a manifold.

- **Monitor condition of oil during evacuation -**

Vacuum pump oil is one of the biggest influences on the speed of evacuation. Clean oil will allow the system to be evacuated to a much deeper vacuum than contaminated oil. Stalled evacuations are often the result of dirty, contaminated oil. A vacuum pump can only pull as deep as the vapor pressure of its sealing oil. As the oil collects contaminants and moisture during evacuation, this vapor pressure rises. Clean oil restores vacuum pump efficiency and can save hours or days on an evacuation. Oil should be changed early and as needed for fast evacuation. [Fig. 2] This could be multiple times on one job!

- **Use a digital vacuum gauge to monitor progress -**

The only way to verify a complete evacuation is with a digital vacuum gauge. A full-range gauge is recommended for complete visibility.

- **Connect the vacuum gauge to the system as far from the pump as possible -**

For a system to be adequately hydrated, a deep vacuum must be achieved throughout the entire system and not just at the point where the vacuum pump is connected. Unlike pressure, vacuum will not quickly equalize across all points of the system. For the most accurate reading of vacuum depth throughout the system, connect the vacuum gauge at an access port that is furthest from the vacuum pump. It is possible for one end of the system to be evacuated to 1,000 microns while another end - far from the vacuum pump - can still be at 10,000 microns. [Fig. 3]

- **Do not use 1/4 in. hoses and charging manifolds for evacuation -**

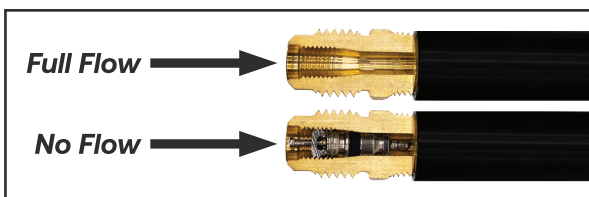
A standard 1/4 in. hose and manifold are not meant for evacuation and will limit the flow of any vacuum pump to  $\approx 1$  CFM (with the valve core removed). [Fig. 4]

- **Do not run the vacuum pump for multiple jobs without changing the oil -**

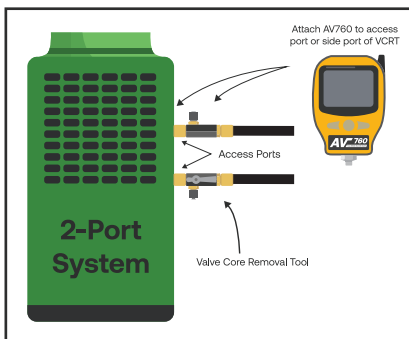
Dirty oil equates to slow evacuation and can damage the pump. Oil should be changed when needed!

- **Do not tighten hoses and port caps with tools -**

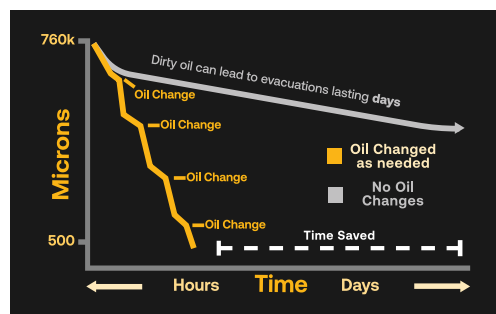
Gaskets can be damaged if overtightened, creating a leak. Hand tighten only!



[Fig. 1] Access Port Cutaway



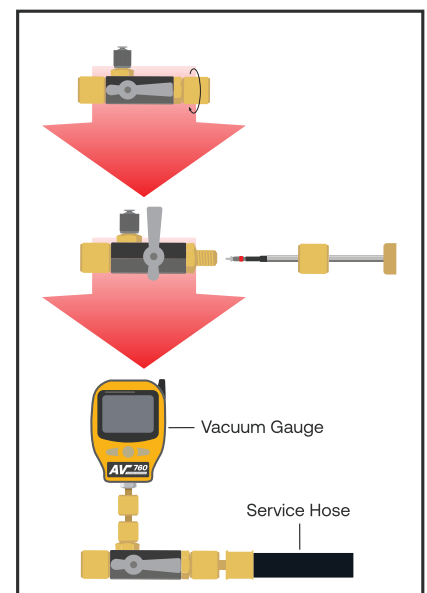
[Fig. 3] Correct vacuum gauge placement



[Fig. 2] Time savings of changing vacuum pump oil during a job

6 ft. 1/4 in. hose through valve core	40 min	$\approx 0.2$ CFM
6 ft. 1/4 in. hose with core removed	19 min	$\approx 1$ CFM
6 ft. 1/2 in. hose with core removed	3 min	$\approx 3$ CFM

[Fig. 4] Evacuating a 10-ton system to 500 microns



[Fig. 5] Valve Core Removal Tool Usage