JAVAC

# VacMaxx


## High Speed A/C Evacuation Kit

# Introducing the Javac VacMaxx

*Revolutionizing HVAC System Evacuation!*

Experience a new era in HVAC system evacuation with the Javac VacMaxx, a cutting-edge hose kit meticulously engineered to accelerate the vacuum process and enhance efficiency like never before. Say goodbye to the limitations of standard refrigeration hoses, as the VacMaxx boasts larger internal diameter hoses, exclusively designed and crafted by Javac for optimal performance.

## Key Features:

### *Unmatched Speed and Efficiency:*

The Javac VacMaxx is tailored to evacuate HVAC systems swiftly and efficiently. With its larger internal diameter hoses, it significantly reduces evacuation times, allowing you to complete projects faster and more reliably.

### *Outgas-Free Technology:*

Bid farewell to concerns about outgassing commonly associated with standard refrigeration hoses. The VacMaxx features advanced materials that eliminate outgassing, ensuring a clean and contaminant-free evacuation process for your HVAC systems.

### *Precision Engineered Vacuum Fittings:*

The VacMaxx is equipped with KF16 vacuum fittings, renowned for their precision and reliability. These fittings utilize a clamping mechanism, guaranteeing a secure and airtight connection that eliminates the risk of vacuum leaks, providing peace of mind during every evacuation.

### *Versatility at Its Core:*

No matter the HVAC system you're working with, the Javac VacMaxx is designed to adapt seamlessly. The kit includes a comprehensive selection of fittings and connections, making it compatible with a wide range of systems, ensuring you have the right tools for any job.

Upgrade your HVAC evacuation process with the Javac VacMaxx – where speed, efficiency, and reliability converge to set a new standard in the industry. Elevate your workflow, reduce downtime, and experience the future of HVAC system maintenance with Javac VacMaxx.

## VacMaxx ***Elite*** Evacuation Kit Includes

P/N: VMAXELITE

| Part | Part No. | Qty |
|---|---|---|
| Carry Case | JAVTBOX | 1 |
| 1.5M VacMaxx Hose | JVMX15 | 3 |
| KF-16 Vacuum Clanps | 18341 | 5 |
| Centering ring and O-ring | 88346J | 6 |
| Stainless Steel Tee KF-16 | 88471 | 1 |
| KF-16 Stainless Steel vacuum clamps | KF16THCL | 1 |
| Valve core removal tool | HS1430 | 2 |
| 1/4" SAE x KF-16 Adaptor | KF1625SAE | 2 |
| 5/16" SAE x KF-16 Adaptor | KF16516SAE | 2 |
| 3/8" SAE x KF-16 Adaptor | KF1638SAE | 1 |
| 1/2" SAE x KF-16 Adaptor | KF1650SAE | 1 |
| 1/4" SAE x KF-16 Adaptor 45 Degree | KF1625SAE45 | 2 |
| 1/4" SAE Shrader depressor tool | HS1222 | 1 |
| 5/16" SAE Shrader depressor tool | HS1223 | 1 |
| Replacement KF-16 O-rings | ES23970176 | 2 |
| Replacement Rubber Seals | RHS14 | 2 of ea |

## VacMaxx ***Installer*** Kit Includes

P/N: VMAXINSTALLER

| Part | Part No. | Qty |
|---|---|---|
| Carry Case | JAVTBOX | 1 |
| 1.5M VacMaxx Hose | JVMX15 | 2 |
| KF-16 Vacuum Clanps | 18341 | 3 |
| Centering ring and O-ring | 88346J | 4 |
| Stainless Steel Tee KF-16 | 88471 | 1 |
| KF-16 Stainless Steel vacuum clamps | KF16THCL | 1 |
| Valve core removal tool | HS1430 | 1 |
| 1/4" SAE x KF-16 Adaptor | KF1625SAE | 1 |
| 5/16" SAE x KF-16 Adaptor | KF16516SAE | 1 |
| 3/8" SAE x KF-16 Adaptor | KF1638SAE | 1 |
| 1/2" SAE x KF-16 Adaptor | KF1650SAE | 1 |
| 1/4" SAE x KF-16 Adaptor 45 Degree | KF1625SAE45 | 1 |
| 1/4" SAE Shrader depressor tool | HS1222 | 1 |
| Replacement KF-16 O-rings | ES23970176 | 1 |
| Replacement Rubber Seals | RHS14 | 1 of ea |

## VacMaxx ***Essentials*** Evacuation Kit Includes

P/N: VMAXESSENTIALS

| Part | Part No. | Qty |
|---|---|---|
| Carry Case | JAVTBOX | 1 |
| 1.5M VacMaxx Hose | JVMX15 | 1 |
| KF-16 Vacuum Clanps | 18341 | 1 |
| Centering ring and O-ring | 88346J | 2 |
| KF-16 Stainless Steel vacuum clamps | KF16THCL | 1 |
| Valve core removal tool | HS1430 | 1 |
| 1/4" SAE x KF-16 Adaptor | KF1625SAE | 1 |
| 3/8" SAE x KF-16 Adaptor | KF1638SAE | 1 |
| 1/2" SAE x KF-16 Adaptor | KF1650SAE | 1 |
| Replacement KF-16 O-rings | ES23970176 | 1 |
| Replacement Rubber Seals | RHS14 | 1 of ea |

## Steps to Ensure a Swift Evacuation Process:

The Elite and Installer Kits include an accessory tee fitting, enabling the connection of an additional hose. This proves beneficial when transitioning from the vacuum pump to the service ports. Consolidating the two ports into a single port does not significantly impact evacuation times, as each hose is rated at 16 CFM conductance speed at 1,000 microns.

1. Prioritize purging the system with dry nitrogen during tubing assembly.

2. Conduct a nitrogen sweep by purging from the suction to the liquid side of the system to remove any moisture or particulates.

3. After a nitrogen sweep, pressurize the system with nitrogen, maintaining it at the manufacturer's recommended test pressure for the minimum recommended time to ensure a leak-free system.

4. Vent the nitrogen and remove the Schrader cores from the system.

5. Whenever possible, consider evacuating from both sides of the system using two 1-meter hose lengths directly connected to the system and the vacuum pump. Evacuating from both sides ensures a rapid evacuation and aids in achieving faster and more effective dehydration.

6. Initiate the vacuum pump with the gas ballast open, closing it at 10,000 to 12,000 microns. Monitor the vacuum readings closely, as the system may drop rapidly. A vacuum pump typically cannot achieve full vacuum with the ballast open.

7. Close the gas ballast and evacuate to the target pressure, usually 200 to 300 microns below the maximum allowable decay pressure. For proper system dehydration, let the vacuum pump run below the target for 1 to 60 minutes.

8. Isolate the system from the vacuum pump by SLOWLY closing the core tools to remove any gas trapped in the ball valve. Observe the rate of system rise in a decay or leak test. A slight rise followed by a slowdown in the leak rate indicates a dry and tight system. If the vacuum rise rate does not slow, it suggests a potential leak. If the system rises and levels off near 2,000 to 3,000 microns, the system is likely tight but still wet, requiring further evacuation time.

9. With core tools closed, release the refrigerant charge into the system. Reinstall the valve cores after attaching them loosely to the back of the core tool and venting the air from the core compartment to prevent the introduction of air into the system.

# Ensuring Leak-Free Performance with VacMaxx

Let's acknowledge a universal truth – "everything leaks!" However, what truly matters is the leak rate. The efficiency of your pump and vacuum rig relies on overcoming leaks in hoses and connections. Therefore, a low leak rate is pivotal for achieving optimal evacuations. VacMaxx hoses, boast an impressively low leak rate and exhibit exceptional resistance to water adhesion. This unique feature ensures that VacMaxx hoses efficiently transfer all the work done by your vacuum pump from the pump inlet to the end of the hose, right where it belongs.

To assess your rig for significant leaks, let's start by examining the vacuum pump. For HVAC applications, your vacuum pump should be capable of pulling at least 50 microns, ideally reaching below 20 microns of mercury. Follow these steps to check your pump's ultimate pull:

Test the Pump:

1. Begin with fresh, clean, high-quality vacuum pump oil.
2. Cap the hose ports and attach a micron gauge directly to the 1/4" port on the pump with a brass coupling.
3. Start the pump, close the gas ballast, and let it run for at least 10 minutes.
4. Record the vacuum level after 10 minutes for future reference. If the pump cannot pull below 50 microns, consider servicing or replacing it.

Attach the VacMaxx Hose:

1. Connect your vacuum rig or a vacuum and core tools to a (user-supplied) brass tee fitting.
2. Attach this setup to your micron gauge at the end of the rig, forming a continuous loop.

Degas and Dehydrate:

1. Start the pump and allow it to run for at least 10 minutes to degas and dehydrate the hoses. For brand new hoses, this process may require additional time.

Performance Test:

1. After 10 minutes, isolate the pump by closing the blocking valve or shutting off the vacuum pump.
2. Break the vacuum by loosening a connection on the rig. The hoses should remain dry.
3. Retighten the connection and immediately restart the vacuum pump and evacuation.
4. Let the pump run for an additional 5 minutes and confirm that you can pull below 100 microns at the far end of the rig. This dynamic test ensures that the pump and vacuum rig collectively achieve the desired vacuum at the system inlet.

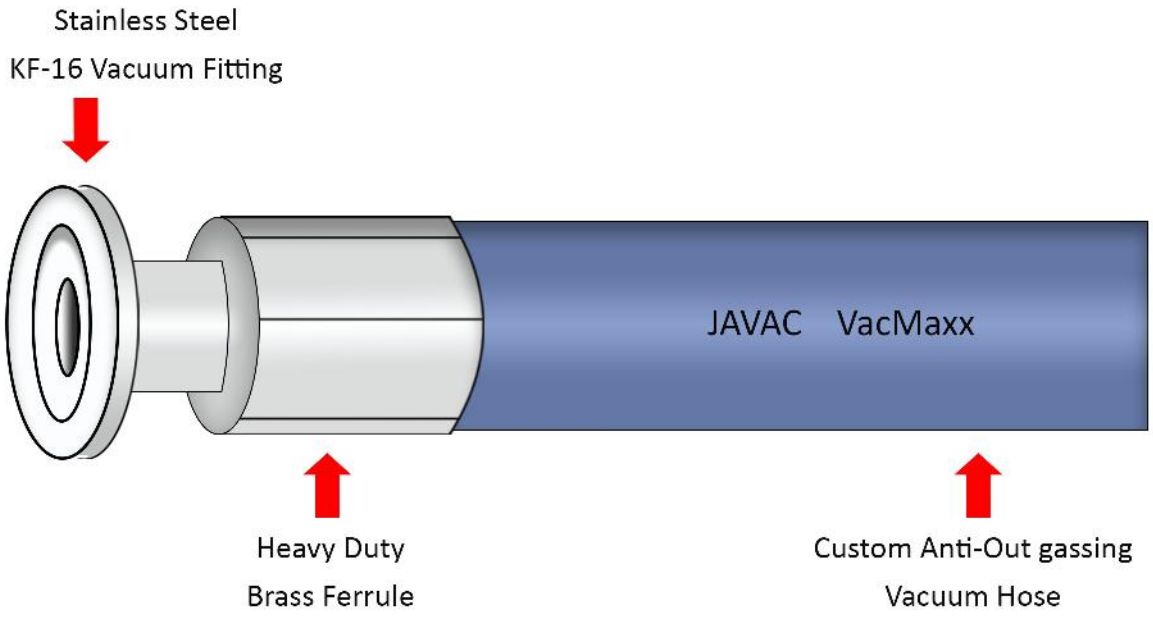
Note: After 5 minutes, your vacuum rig should achieve 100 microns or less. VacMaxx typically meets the following results:

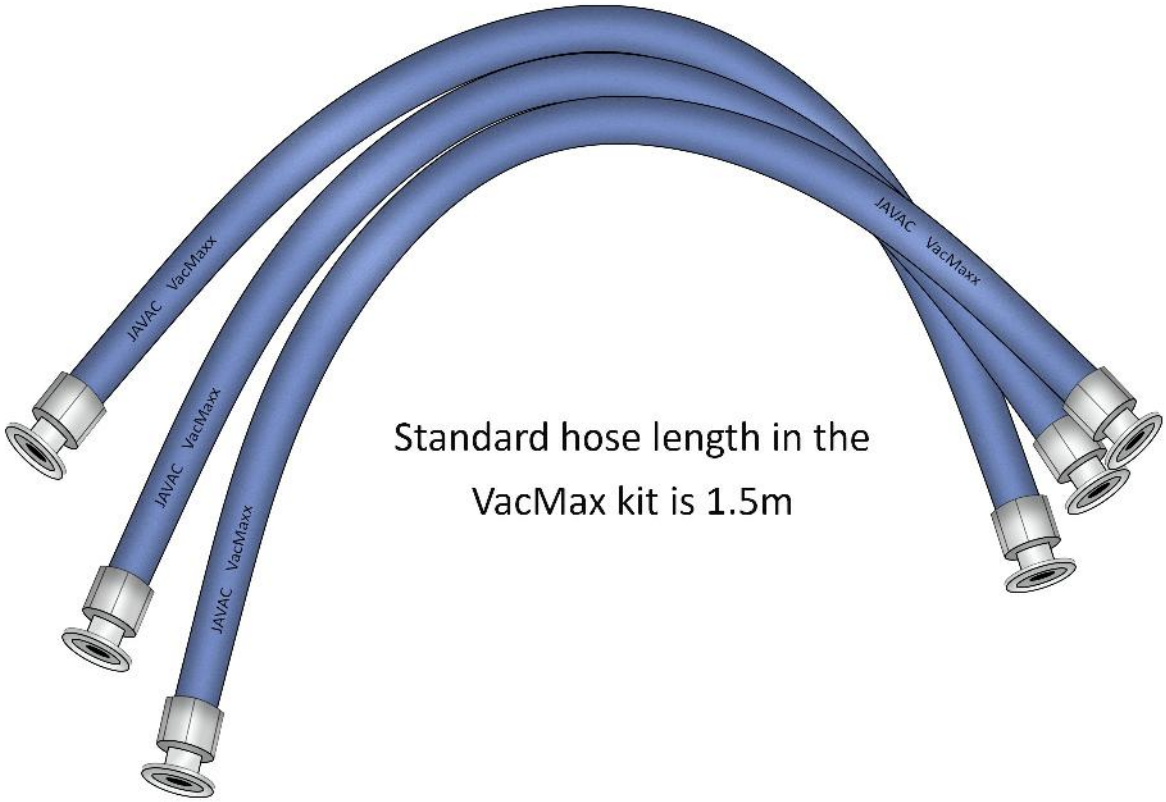
- Pump ultimate pulldown = 50 microns → VacMaxx 100 microns or lower
- Pump ultimate pulldown = 25 microns → VacMaxx 50 microns or lower
- Pump ultimate pulldown = 10 microns → VacMaxx 30 microns or lower

Count on VacMaxx hoses for a reliable and efficient vacuum evacuation process.

# Javac Custom Hose Design

Javac's new vacuum hose design has eliminated past issues including out-gassing, leak points and size restriction. Each hose includes stainless steel face sealing connections, a heavy duty brass hose ferrule and a specially formulated hose. The hose has a 16mm internal diameter, 3mm wall thickness and internal spiral wire to prevent imploding.



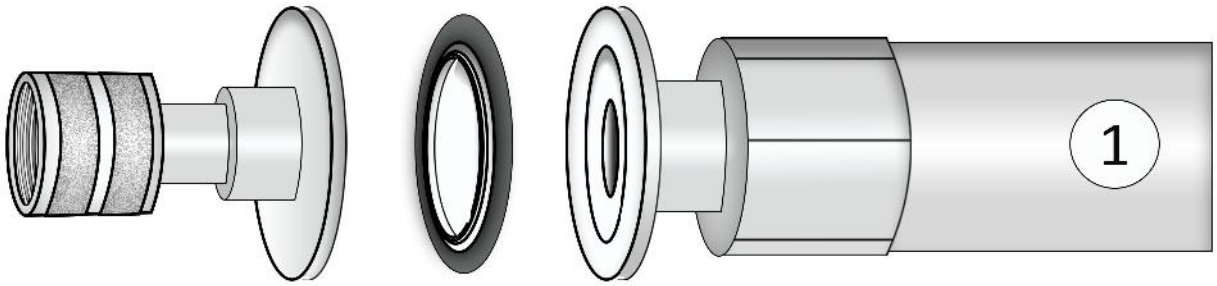
# Assembly of the vacuum fittings

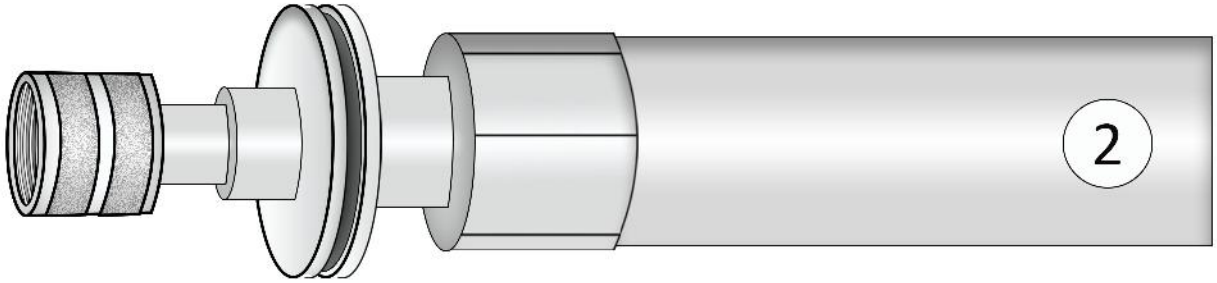
When assembling VacMaxx evacuation hose connections, always make sure the sealing faces are clean and dry to allow for correct sealing.

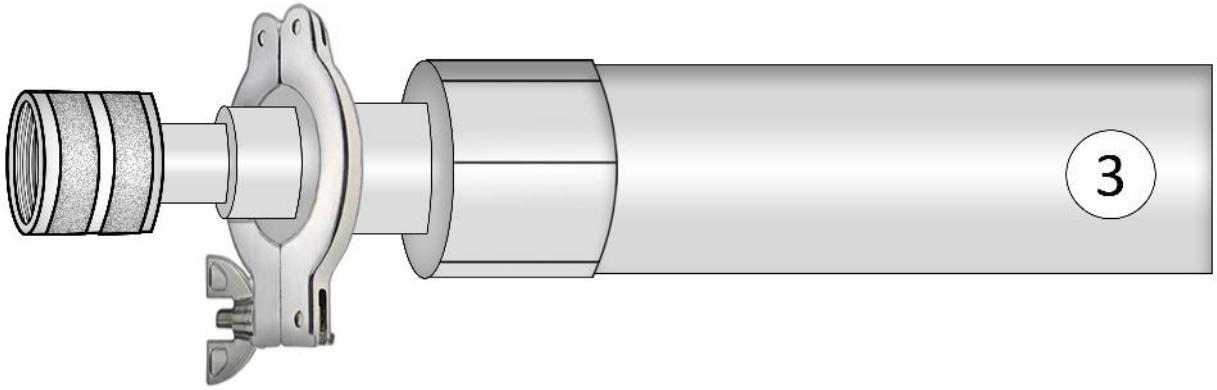
**(1)** Each connection that is assembled will require a centering ring and o-ring to be located between the 2 faces.

**(2)** When the sealing faces are pushed together the centering ring will self locate making sure the o-ring is in the correct position.

**(3)** Next fit the clamp around the connections and use the wingnut to tighten the assembly.



# Refrigerant Connections

**(1)** 1/4" SAE x KF16 - Connects from the main hose to smaller vacuum pumps, Core removal tool and refrigerant shutoff valve.

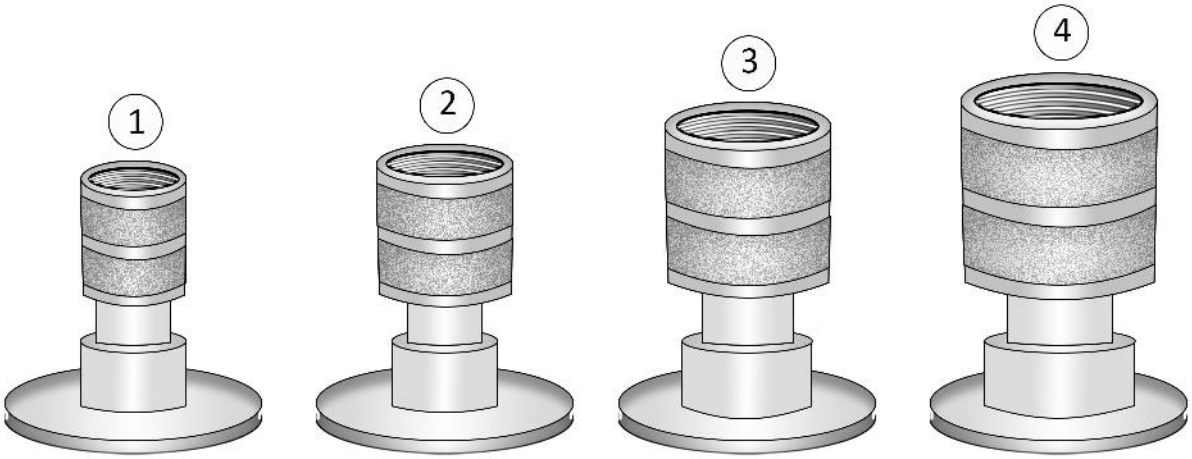
**(2)** 5/16" SAE x KF16 - Connects from the main hose to the Core removal tool and refrigerant shutoff valve.

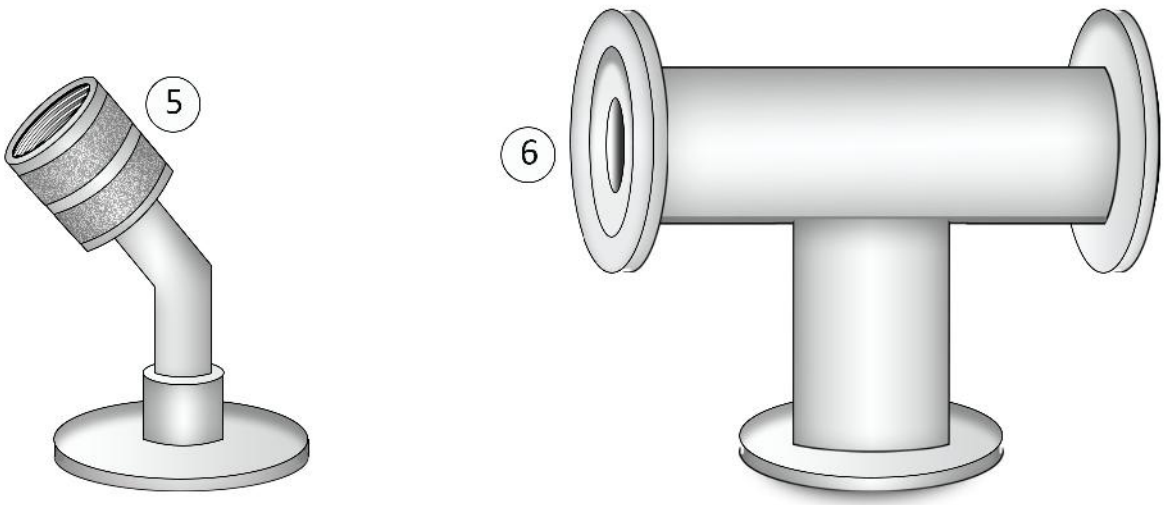
**(3)** 3/8" SAE x KF16 - Connects from the main hose to the vacuum pump.

**(4)** 1/2" SAE x KF16 - Connects from the main hose to the vacuum pump.

**(5)** 1/4" SAE x KF16 x 45 Degree stem - Connects from the main hose to smaller vacuum pumps, Core removal tools and the refrigerant shutoff valves when in tight spaces.

**(6)** Stainless Steel KF16 Tee - Connects the vacuum pump to two sets of hoses.



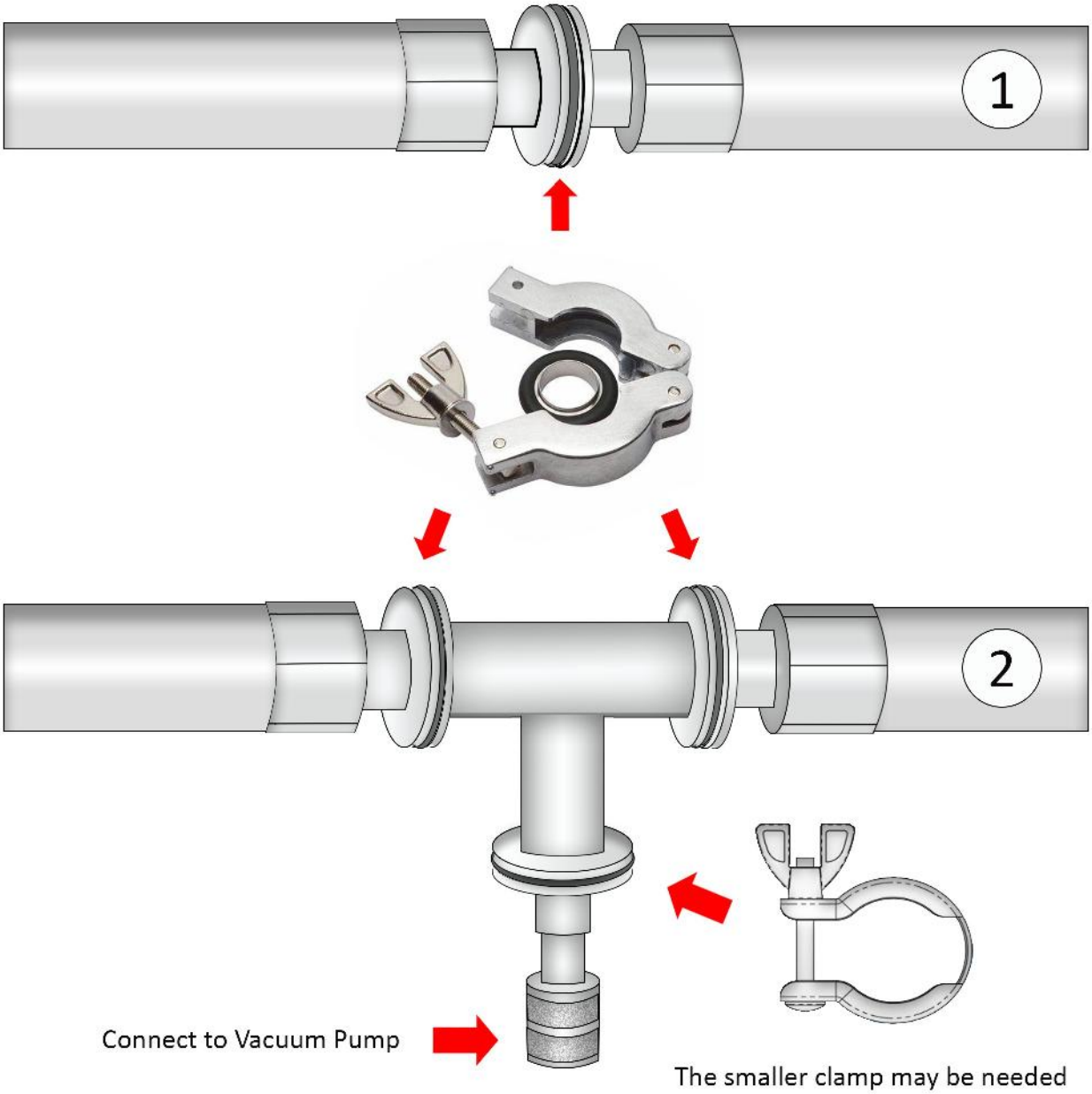



# Multi hose Setup

The VacMaxx hose kit has been designed in a way so that it will adapt to any type of A/C system. Simply take any of the vacuum connection fittings, hoses or adaptors and link them together with our simple self centering o-ring and clamp system. These KF16 vacuum connections are the most efficient way of sealing.

**(1)** Hoses can be connected together to achieve longer length.

**(2)** If you want to connect to both the hi and low ports on the A/C system use the tee adaptor provided.

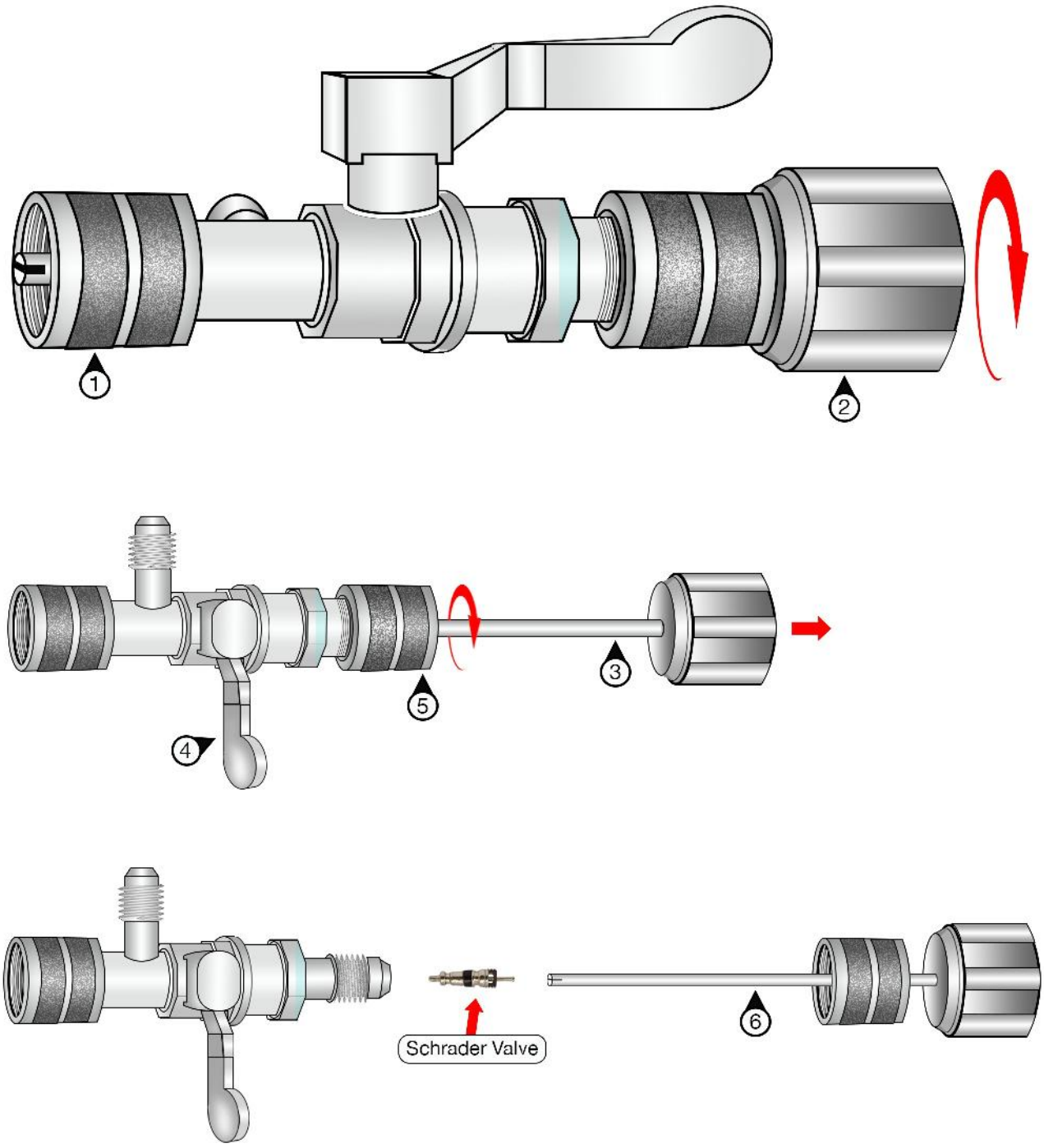



The smaller clamp may be needed for the fitting that is attached to the vacuum pump.

## Using the Valve removal tool

**(1)** Screw the 1/4” or 5/16” on to the air-conditioning system service valve.
**(2)** Turn the rear spindle until it locates onto the schrader valve. Then unscrew anti-clockwise until the schrader valve is free.
**(3)** Pull out the rear spindle all the way until it stops.
**(4)** Close the main valve to seal the A/C system.
**(5)** Un-screw the rear fitting anti-clockwise.
**(6)** Remove the rear assembly and schrader valve.

***You can now use the rear fitting to connect the VacMaxx hose connections.***



# Single or Multiple Hose setups

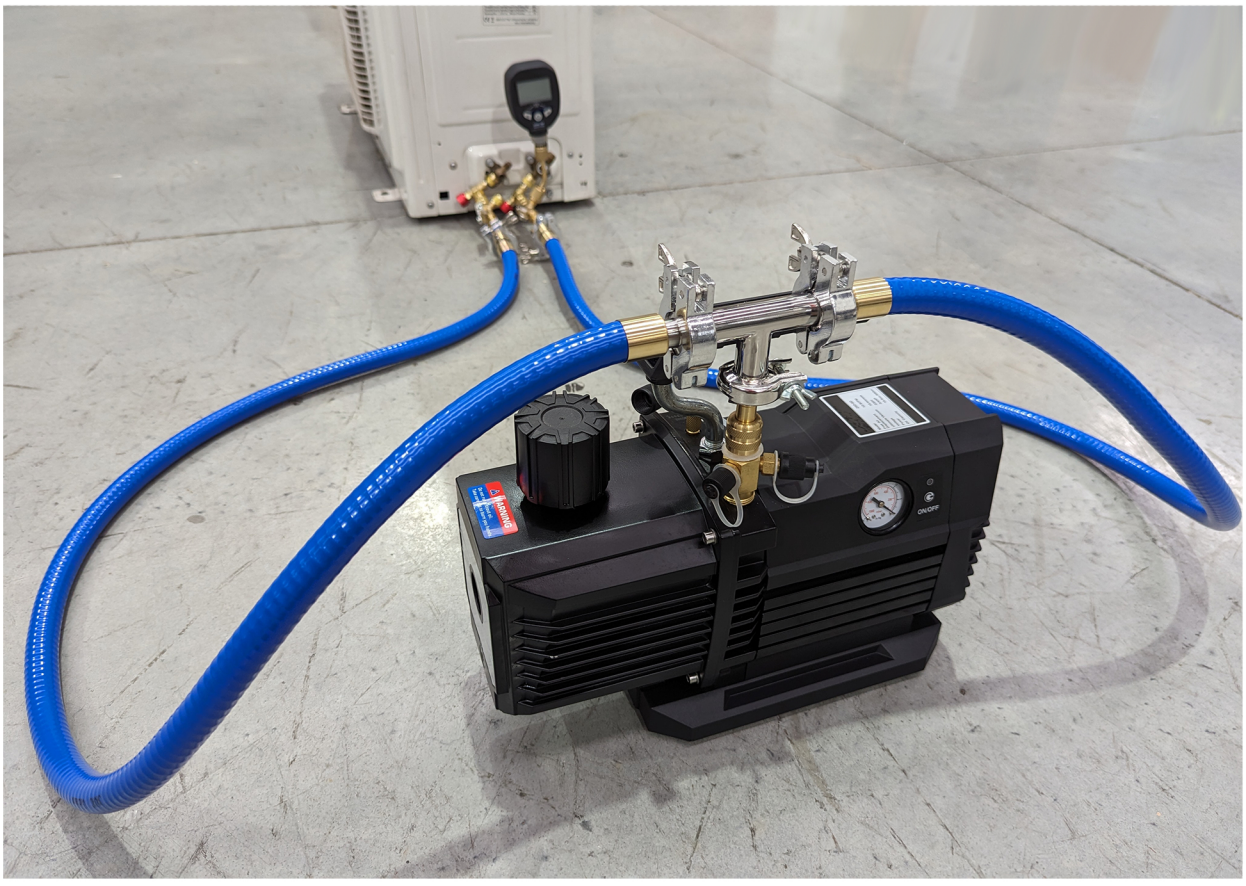
The amount of hoses you can connect depends on how many service ports the HVAC System has.

The top picture is showing a setup on a system with one servive valve. The bottom picture is showing a dual hose setup on a system with 2 service valves.

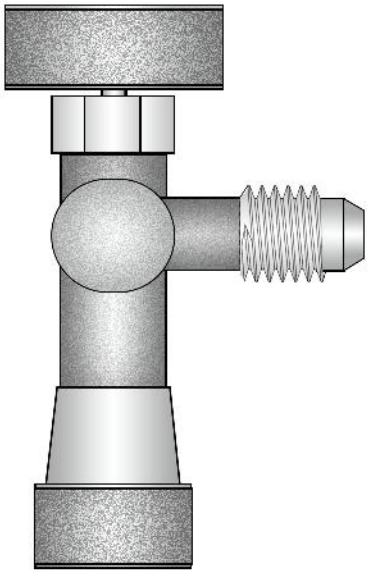
On both systems the service valves where angled down and the refrigerant valves was needed.

You can also see the Javac Acravac Pro vacuum gauge is connected. This gauge comes with a 1/4” FxF adaptor that is compatible with the VacMax series.

The new Javac Ultravac and Shark vacuum pumps are compatible with VacMaxx as they have a 1/2”SAE inlet fitting.



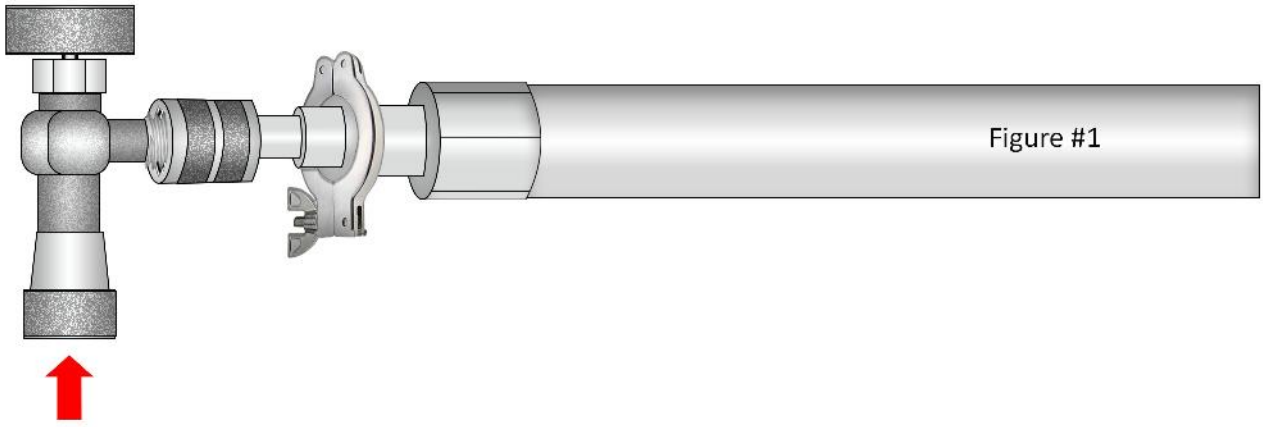
# Refrigerant Control Valve

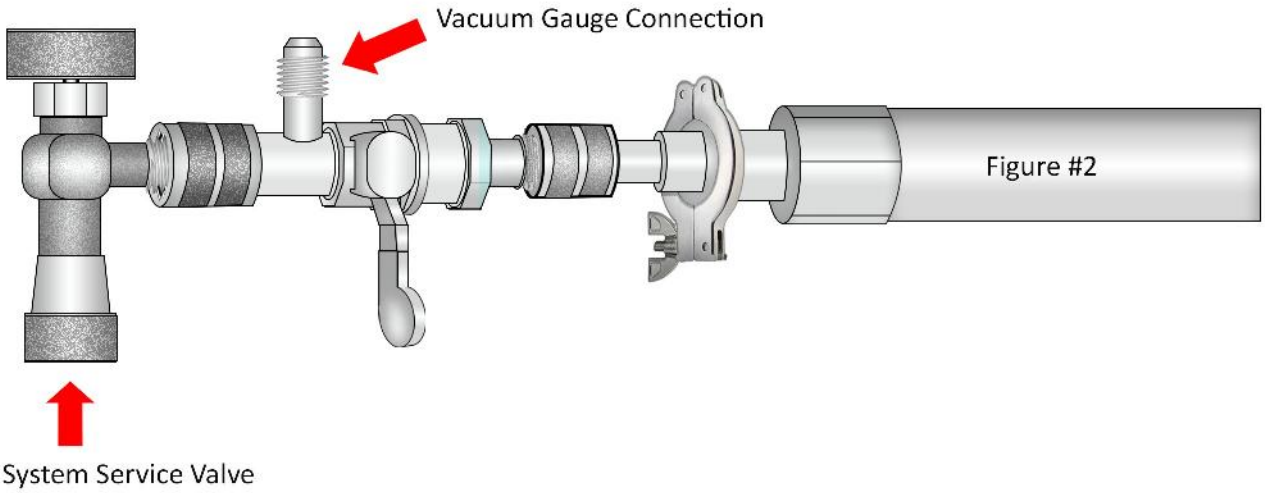


The refrigerant control valve can be used on systems when the service valve is in a tight location or to close to the ground.
When the control valve is turned clockwise the depressor extends and will open the schrader valve on the system. Remember to release the schrader valve before removing from the system.

***Figure 1;***
If you are not using a vacuum gauge in this part of your setup, you can connect the VacMaxx hose directly to the control valve.

***Figure 2;***
If you are going to use a vacuum gauge in this part of your setup then you need to include the core removal tool. In this configuration you can also use the shutoff valve to isolate the vacuum pump and do a pressure rise test.



# Connection with the Service Valves

Encountering challenging positions of A/C unit service valves is not uncommon.
To address potential connection issues, we have introduced two adaptors designed to streamline the process.

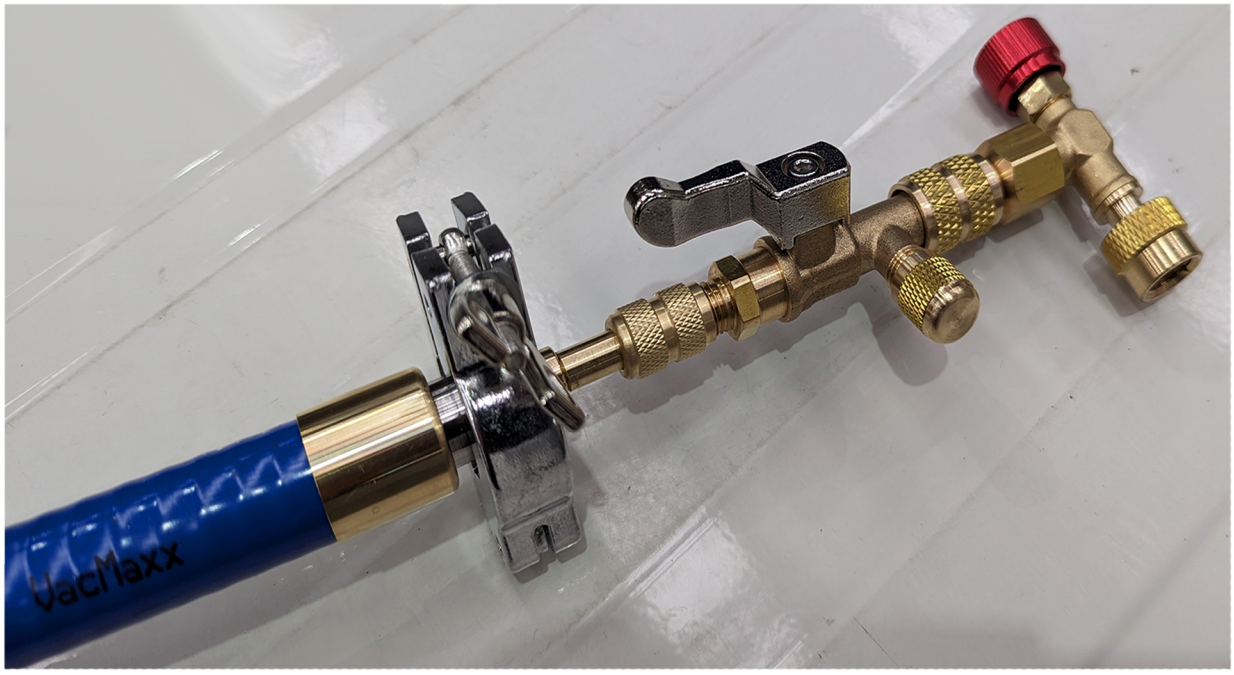
The first solution is the refrigerant depressor valve, which facilitates a right-angle connection for your hose. By winding it in, this adaptor depresses the Schrader valve effectively.

The second component is a KF-16 vacuum connector to 1/4” SAE. This vacuum fitting seamlessly attaches to your hose using the O-ring and clamp assembly.

Additionally, connect the 1/4” end to the rear of the core removal tool after removing the Schrader.

For enhanced flexibility, both fittings can be used in conjunction if required.

It's important to note that these fittings are not included in the basic Essentials kit.



# *VacMaxx Accessories*

| Part | Stock Code | Description | Part | Stock Code | Description |
|---|---|---|---|---|---|
|  | JAVTBOX | VacMax plastic case with foam insert |  | RHS14<br>RHS516<br>RHS38<br>RHS12 | 1/4" Rubber Seal<br>5/16" Rubber Seal<br>3/8" Rubber Seal<br>1/2" Rubber Seal |
|  | 18341 | KF-16 Aluminium vacuum clamps |  | KF1625SAE | 1/4" SAE x KF-16 Adaptor |
|  | 88346J | Centering ring and O-ring |  | KF16516SAE | 5/16" SAE x KF-16 Adaptor |
|  | ES23970176 | Replacement O-ring |  | KF1638SAE | 3/8" SAE x KF-16 Adaptor |
|  | JVMXH1M<br>JVMXH15M<br>JVMXH2M | 1M VacMaxx Hose<br>1.5M VacMaxx Hose<br>2M VacMaxx Hose |  | KF1650SAE | 1/2" SAE x KF-16 Adaptor |
|  | 88471 | Stainless Steel Tee KF-16 |  | KF1625SAE4 | 1/4" SAE x KF-16 Adaptor 45 Degree |
|  | KF16THCL | KF-16 Stainless Steel vacuum clamps |  | HS1222 | 1/4" SAE Shrader depressor tool |
|  | HS1430 | Valve core removal tool |  | HS1223 | 5/16" SAE Shrader depressor tool |

# Caution and Safety:

VacMaxx hoses and hose assemblies are only intended and designed for sealed system evacuation.

VacMaxx hoses are not intended (or rated) to be used for pressure or refrigerant transport. The O-rings used for the vacuum seal will dislodge under positive pressure and may expose the operator to refrigerant liquid or vapor, if present in the hose.
Refrigerant can cause burns or eye damage/loss. Always where gloves and goggles when working on or around refrigerants.

## Safely Handling AC/R Service Tools

AC/R service tools and equipment, such as recovery machines, refrigerant hoses, and valve core removal tools, are for use by technicians that are **professionally trained and certified** in the safe handling of refrigerant, and safe refrigerant recovery techniques.

- Do not operate or work with temporary connections involving refrigerant when fatigued or under the influence of alcohol or drugs.
- Never defeat the safety features of Appion tools and equipment.
- Do not operate Appion tools with missing, broken, or unauthorized parts. Remove broken or altered equipment from service immediately.

### PERSONAL PROTECTIVE EQUIPMENT AND MSDS

**⚠ WARNING** When working with refrigerants, always use the appropriate Personal Protective Equipment (PPE), including eye and hand protection. Basic safety precautions should always be followed to reduce the risk of personal injury.

**⚠ WARNING** Read all Material Safety Data Sheets (MSDS) for any compounds that you are likely to encounter during operation. Failure to do so could lead to injury or death.

### USE ALL REASONABLE PRECAUTIONS DURING USE

Some situations may require additional safety precautions to ensure your personal safety. Follow all guidelines and industry standard safety precautions before, during and after use.

**⚠ DANGER**

### REFRIGERANT EXPOSURE CAN BE HARMFUL OR TOXIC

| WHAT CAN HAPPEN | HOW TO PREVENT IT |
|---|---|
| Refrigerant vapors may be harmful or toxic when inhaled. | Work in well ventilated areas. In enclosed areas, mechanical ventilation should provide at least four air changes per hour. |
| Temporary connections, such as hoses or ball valves, may fail and allow refrigerant to escape, leading to unexpected refrigerant exposure. | Always wears gloves and eye protection when connecting and removing service tools and equipment from systems, even when you do not expect high volumes of refrigerant. |