Chameleon®

Retractable Hose System

INSTALLATION GUIDE

H-P Products
Central Vacuums

IH-231 • Rev 2024

- Selecting the Right Power Unit
- Valve Placement Planning
- Tubing & Hose Storage Run Planning
- Rough-in New Construction
- Installation in Existing Homes
- Finishing

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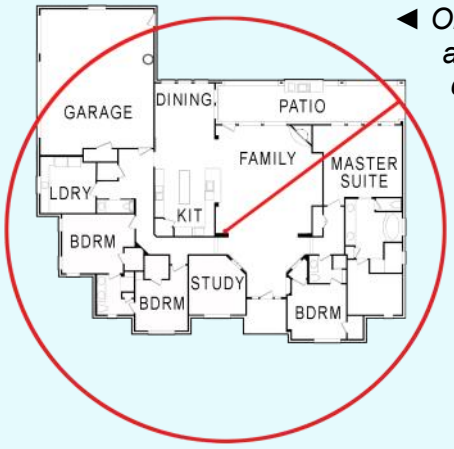
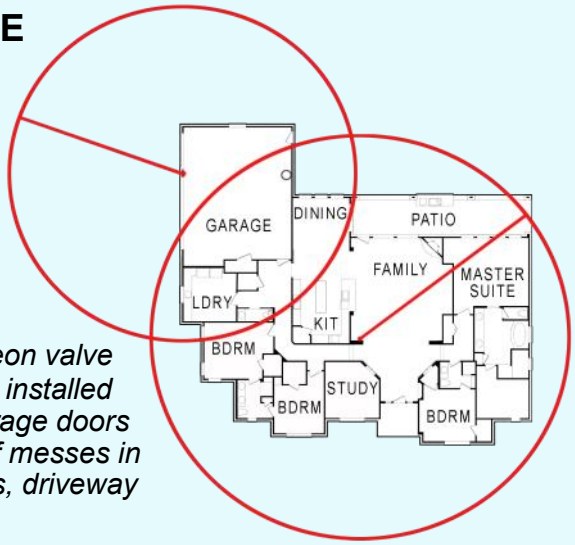
VALVE PLACEMENT FOR MAXIUM COVERAGE



◄ *One Chameleon valve with a 50' hose placed near a central archway, provided whole-hose cleaning coverage for this one-story, 2,100 sq. ft. home.*



► *A second Chameleon valve with a 40' hose was installed near the 3 large garage doors for fast clean-ups of messes in the garage, vehicles, driveway and workshop.*

PLANNING A SUCCESSFUL CHAMELEON INSTALLATION

To plan and execute the best and easiest installation possible while ensuring maximum performance, it is important to thoroughly review and be familiar with this manual, all instructions and videos.

IMPORTANT NOTICE

This Chameleon Installation Guide has been prepared for trained technicians who are experienced performing traditional Central Vacuum System installations and who are knowledgeable of all local building codes.

It is important that professional installers are used for Chameleon/ Spot valve installations to ensure homeowners will receive all the performance benefits these products are designed to deliver.

PARTS NEEDED FOR A CHAMELEON INSTALLATION

ROUGH-IN PARTS

- **Chameleon/Spot Rough-In Kit (80275 or 80275-LS)**
  includes valve box with *pre-installed plug insert and mud guard, hose stopper reducer coupling, screws, wire nuts and wire clip*

- **Retractable Hose System (RHS) Fittings *(Long-Radius Fittings)***

  - 90° RHS Elbow (5601W)
  - 45° RHS Elbow (5602W)
  - 22.5° RHS Elbow (5602W)

FINISH PARTS

- **Chameleon/Spot Finish Kit**
  includes door (3 colors available), screws, instructional sticker

  - White Door (80280W)
  - Black Door (80280B)
  - Almond Door (80280A)

- **Chameleon Hoses**

  - 30' Hose (80315-30)
  - 40' Hose (80315-40)
  - 50' Hose (80315-50)
  - 30' Hose *with Hose Sock* (80315-30-HS)
  - 40' Hose *with Hose Sock* (80315-40-HS)
  - 50' Hose *with Hose Sock* (80315-50-HS)

Sixty-foot hoses are also available if needed.
Hoses can also be modified by installer for custom sizes.

CHOOSING THE RIGHT POWER UNIT FOR THE JOB

Although the power unit isn't typically installed until the installation is complete, it is important to understand the requirements unique to a retractable system.

CHOOSING THE RIGHT POWER UNIT

The chart at right shows power unit recommendations based on home size (square footage), hose length and longest tube run. The longest tube run is measured from the exhaust location (including tubing used for exhaust) to the furthest valve from the power unit – it should be no longer than recommended.

Airflow is reduced with longer hoses, so a larger power unit is required to compensate for the loss of airflow. **Selecting a power unit with strong suction and substantial airflow is important for proper hose retraction and overall system performance.**

CHAMELEON POWER UNIT RECOMMENDATIONS

This is a standard guideline – each install is unique. Power units may need to be sized up or down depending on installation circumstances.

Units	Longest Tube Run*		
Hose Length	**30'**	**40'**	**50'**
Square Footage Coverage	**600-800**	**1200-1400**	**1800-2200**
DB/MX Models			
MX3500, DB5000	150'	125'	–
DB7000	175'	150'	150'
DB8000	175'	150'	150'
DB9000, DB10Max**	225'	200'	200'
Permanent Inverted Filter Models			
1700	175'	–	–
2300	175'	150'	150'
Filtered Cyclonic Models			
FC650, 990, CV2600	175'	150'	150'
FC1550, 1490, CV3400	200'	175'	175'
True Cyclonic Models			
566Q	150'	125'	–
760	200'	175'	175'
MaxAir	225'	200'	200'

* Split installation into two separate systems if longest tube run exceeds maximum allowance or if concurrent cleaning is desired.

** If a 60' hose is used (not recommended in most installations), a DB10Max power unit should be used.

LOCATION, LOCATION, LOCATION!

A retractable system takes a little extra time to plan. When determining valve locations, be conscientious of available space to make a viable tube run as well as any aesthetic considerations.

UP Orientation

DOWN Orientation

VALVE PLACEMENT

Correct valve placement allows a hose to reach every corner of the house including closets, ceilings, walls and drapes, while going around all furniture. The object is to provide maximum cleaning coverage with a minimum number of valves, but aesthetics and an accessible location are equally important.

quick tip!

Use a string the same length as the hose or a tape measure to determine the hose reach. Work from the far corners of the room towards the center.

Valves should NOT be located in the middle of open walls, behind doors or in obvious furniture locations. The most accessible locations are typically inside walls, hallways, and near doorways and archways. Determine the number and length of hoses the job will require.

quick tip!

Marking each mud cover with the length of hose needed will make it easier when installing the hoses at finish.

UP OR DOWN?

Another consideration when determining valve locations, is whether the tubing is running UP into the attic or ceiling space, or DOWN into a basement or crawl space. Although there are often conflicts between aesthetics and functionality, the general guideline is:

When tubing is running UP, the tops of valves and light switches should be the same height. When tubing is running down, the bottoms of valves and electric receptacles should be aligned.

Hoses pull out and retract much smoother when this guideline is followed. If there is pushback on the aesthetics, change the location to a less conspicuous area or install the valve inside a closet.

GARAGE OR OTHER LOCATIONS?

For retractable cleaning in a garage, a Chameleon valve is typically placed close to or between the large garage doors so vehicles, campers or boats do not need to be pulled into the garage to clean them.

As a rule of thumb (as long as valves can be placed in optimum locations):

- 50' hoses cover 1,800 to 2,200 sq. ft.
- 40' hoses cover 1,200 to1,400 sq. ft.
- 30' hoses cover 600 to 800 sq. ft.

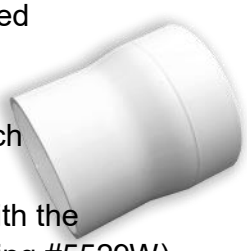
Hoses can be cut by an installer for situations where an "in between" length is required.

PLANNING THE TUBING and HOSE STORAGE RUN

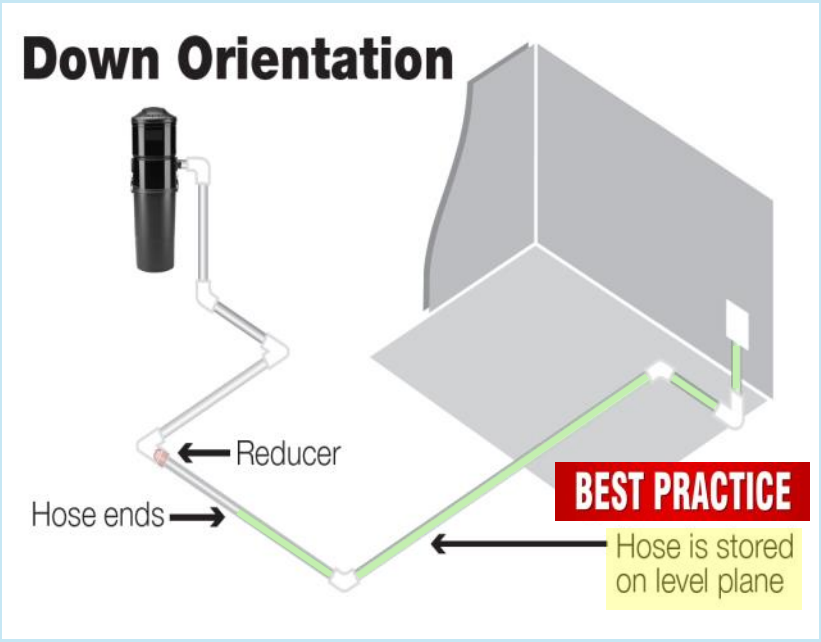
Once valve locations have been selected and verified, and the hose length is known for each valve, plan the routing of the tubing system.

THE TUBING HOSE STORAGE AREA

- Leave approximately **5-7%** extra tubing beyond the hose length determined during planning.
- **Only special large radius elbows (90s, 45s and 22.5s)** can be used in the hose storage tubing run of each Chameleon valve. **NO** standard fittings and TYs can be used where the hose is stored. Avoid placing long radius elbows closer than 24″ to each other.
- **A RHS hose stopper coupling, also known as a reducer,** (#5604W, which is included with the Chameleon Rough-In Kit) MUST be installed at the end of each hose storage area before using standard fittings (with the exception of a stop coupling #5529W). This prevents the hose from being retracted deeper into the tube system than intended or becoming stuck in a standard elbow or TY.
  Do NOT install the RHS hose stopper coupling (5604W), at the top of the rough-in box.



TYPICAL TUBING AND HOSE STORAGE RUNS



As much as possible, keep the hose storage run on the same plane. The tubing run will start at the valve and ultimately work its way toward the power unit. It's common to begin a tube run going in the opposite direction and make a U-turn toward the unit (top illustration).

PLANNING THE TUBING and HOSE STORAGE RUN

continued

Unlike conventional systems, retractable hose systems do not usually have a designated trunk and branch line configuration. They typically use a manifold-style design at the end of the hose storage runs (right). ►

REQUIRED FOR Spot®

For Spot Valves Only, the hose storage area needs to be planned with a minimum of 48″ of tubing prior to the reducer stopper coupling being installed. Spot valve MUST also be installed up so the hose storage area is always ABOVE the valve, never below, for the best possible user experience. However, if you need to take the tubing route down, go up first then U-turn down, as shown above.

STRAIGHTER IS BEST

The straighter the tube run, the greater the airflow (suction) to the hose. Also, using the least amount of bends or elbows in a run reduces the chance of clogging. Minimize the number of elbows in any single run (4 or less is best) and space them out.

WHERE TO INSTALL TUBING

Tubing can be installed in partitions, crawl spaces, under or between floor joists, on the face of walls or columns in the basement or in attics. If tubing is placed in attics, insulation should be laid over the tubing to reduce the possibility of condensation (moisture) forming inside the tubing.

REMINDERS

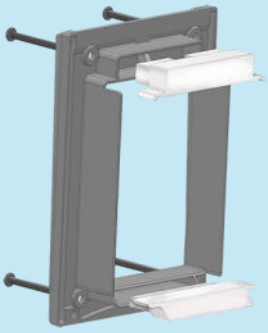
- Central vacuum tubing (not plumbing pipe) should always be used when installing Chameleon valves and the system, for optimum performance and compatibility to industry standard fittings.
- Use caution to not over tighten tubing support straps since this can sometimes cause a bind that inhibits hose retraction.
- Be extra vigilant when cleaning and de-burring tubing cuts so they don’t cause the hose sock to snag.

PLANNING – GATHER INFORMATION

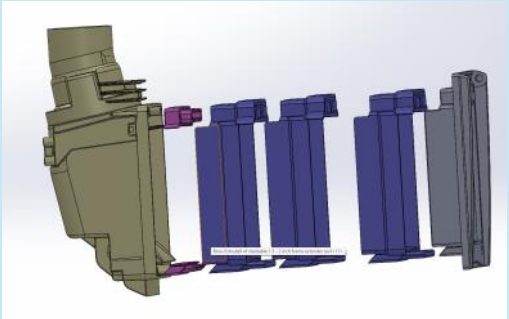
The more you know, the more likely you can pre-plan and prevent potential issues – consult with the builder and their subs if possible.

SOLUTIONS FOR WALL THICKNESSES OVER 1″

The Chameleon Valve alone is designed to accommodate various wall thicknesses up to 1″ without any modifications during installation. If you have a situation where the wall thickness is between 1″ and 1.5″, install a top and bottom spacer (white) with 4 screws (2-piece, 1/2” Spacer Kit #80390 ▼).



Stackable 1” spacers (#80601▼)are also available to add on for custom lengths.



BEWARE OF CLOSED CELL SPRAY FOAM

ISSUE

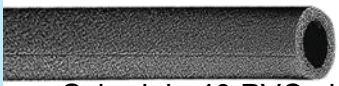
Tubing that stores the retractable hose and retractable hose fittings that are embedded in closed cell spray foam, can sometimes get so severely warped or rippled that it prevents the hose from passing through. Although only a small percentage of homes are using spray foam (closed cell variety) during construction, it is still necessary to thoroughly **consult with the builder, and ideally the insulators,** to get as much information as possible. If no foam is being used, no actions are needed. If spray foam is being used, it is most likely applied in exterior walls, garage ceilings, cathedral ceilings or underneath a flat roof.

SOLUTIONS

If installing a retractable hose storage run in an exterior wall where closed cell spray foam is being used, some options are:

- Avoid installation in exterior walls, if possible.
- Wrap tubing in semi-heavy cardboard (flattened shipping boxes) with slack between the tubing and cardboard to compensate for the foam’s pressure and expansion; secure with zip ties (photos at right).

- Wrap tubing with polyethylene pipe insulation ▼ for 2″ pipe, pre-slit, with a 3/8″ wall thickness – secure with zip ties.



- Schedule 40 PVC plumbing pipe can be substituted with conversion fittings used to attach to the Chameleon and the retractable hose fittings.

In ceiling areas, the foam is mostly applied to the upper third of the cavity, so either:

- Install tubing systems near the bottom of the cavity.
- Follow the same practice of wrapping the tubing in semi-heavy cardboard or pipe insulation, or substituting the schedule 40 as described above.

INSTALLING A CHAMELEON IN NEW CONSTRUCTION

Valves are typically located between studs, but away from plumbing, wiring and heat ducts. The plug insert and plaster guard are pre-installed for your convenience.

NEW CONSTRUCTION ROUGH-IN – *BEFORE DRYWALL*

1. Determine Valve Location
Keep height of valves consistent with either the light switch (up orientation) or the power receptacle (down orientation). Spot valves MUST be installed so the hose storage area is above the valve, never below. Once the exact valve location is selected, check for obstructions. If no obstructions are evident, drill a 2-9/16″ (65.1 mm) diameter hole in the center of the sole plate next to the stud. Stay clear of areas where electrical and plumbing holes have already been drilled.

2. Secure Valve Assembly
Attach valve to stud and verify it is level. Although both sides can be secured, only one is necessary for adequate holding strength.

3. Attach Tubing and Nail Guard
Push desired length of tubing into valve assembly after applying PVC glue to outside diameter of tubing – NEVER apply glue to the fitting. Tubing should only be cut with a tubing cutter to produce square ends. Diligently debur the inside and outside of tube ends to ensure smooth hose travel in and out of the hose storage area. Install a nail guard at the base of each side of the tubing to prevent the tubing from being damaged during construction.

4. Connect the Low-Voltage Wires
The Chameleon valve MUST be wired during rough-in. Connect low-voltage wire by securing with wire nuts. Attach to valve with wire harness clip – adheres to back of valve. Mounting screws, wire nuts and wire clip are included in rough-in kit.

Unlike traditional systems, the Chameleon valve is connected to low-voltage wire during rough-in.▶

INSTALLING A CHAMELEON IN EXISTING HOMES

Chameleon valve installation in an existing home can begin once:

- Valve locations have been verified.
- Hose lengths are known for each valve.
- The hose storage run and tubing system routing have been planned.

EXISTING HOME INSTALLATION

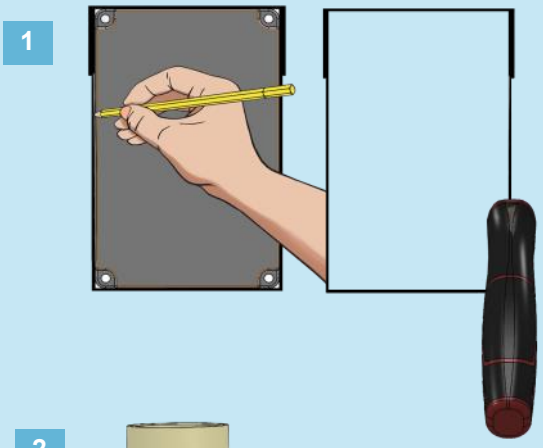
1. Remove Plaster Guard
Remove pre-installed plaster guard from valve assembly, and trace it as a template for the valve location. Cut the drywall outside the line.
NOTE: The top will need to be slightly larger, approximately another blade width, to accommodate the valve.

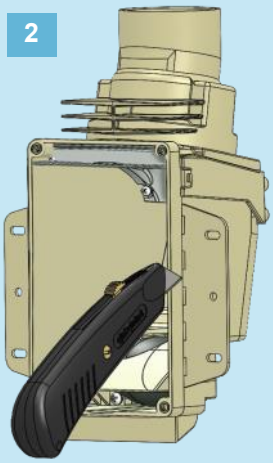
2. Remove Mounting Flanges
Remove mounting flanges from valve by carefully scoring them with a utility knife and breaking them off.

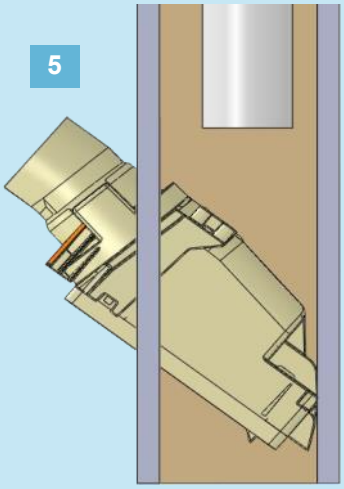
3. Cut Tubing and Deburr
Tubing should only be cut with a tubing cutter to produce square ends. Debur the inside and outside of tube ends to protect the hose sock from snags while going in and out of the hose storage area. Insert tubing into wall along with low-voltage wire.

4. Connect the Low-Voltage Wires
Connect low-voltage wires from valve to wires from tubing drop with wire nuts.

5. Insert Chameleon Valve
Insert valve assembly through the drywall hole (ball end first) and slightly lower the bottom of the valve assembly into the wall to expose and extend end of tubing. Apply PVC glue to the outside tubing diameter (NEVER in the fitting), then push the valve socket completely onto the glued tubing.



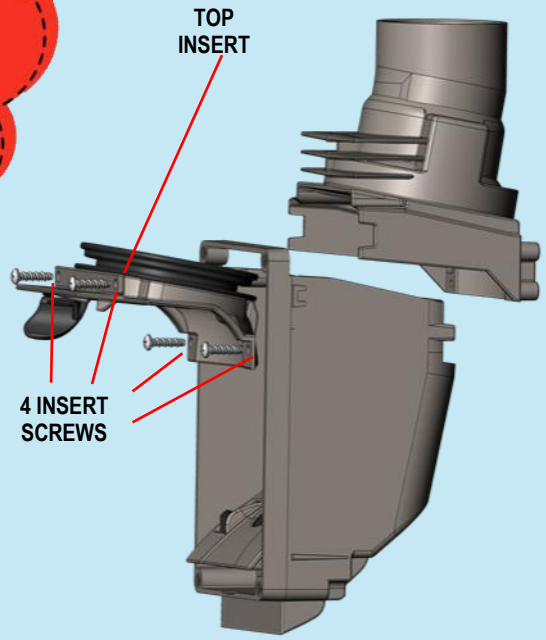




INSTALLING A CHAMELEON IN EXISTING HOMES

quick tip!

For extreme retrofit situations or for service reasons, the Chameleon valve box can be separated. First, remove the 4 insert screws then pull the top insert down and out. With the insert gone, locate and remove the 2 remaining screws from inside the box back. Remove the valve top by sliding it back and off. Then, insert the valve top into the drywall hole and push on-to the glued tubing. Reassemble the valve with 6 screws.



FINISHING THE SYSTEM – AFTER DRYWALL OR IN EXISTING HOMES

quick tip!

Multiple Valve Installation Tip

Leave the plug insert (white) securely in place in all valves until the hoses are all installed to allow the valve to seal. Only a sealed system will have adequate vacuum to retract the hose into the Chameleon valves when a hose is being installed. Once the hose is installed in a valve, that valve is sealed to allow for proper vacuum.

FINISHING THE CHAMELEON INSTALL – NEW & EXISTING

To complete the system, make any last tubing connections, hang the power unit, attach the valve doors and insert and retract the hoses.

Once drywall work is complete in new construction, remove the mud guard by first scoring around the perimeter of the mud cover to prevent damage to the paint and surrounding drywall. When the covers are removed (in both new and existing), note the hose length previously written on them during the planning stage for easier hose installation.

FINISHING NEW AND EXISTING

1. **Attach Door – Start Each Screw by Hand**
   Install the valve doors with the four screws included in the Chameleon finish kit. To avoid cross threading, start each screw by hand.

2. **Level Door**
   Make sure the door is level before tightening screws.

3. **Tighten Door**
   When tightening the holes adjacent to the door hinge, **open the door at a 90° angle** to install hinge-side screws for clearance. A screw gun or cordless drill can be used to tighten the valve in place. Be sure to set the clutch on the device at 1 or 2.

   NOTE: If you over tighten the screws, it can cause a bind in the hinge and inhibit operation.

quick tip!

4. **Temporary System Seal**
   The Chameleon valve is designed to be sealed with the hose cuff. However, until the hoses are installed, a temporary system seal is created with a red cap or white foam plug, depending when the valve was purchased. If you notice any difficulty installing a hose in a multi-valve installation, one or more of the caps may have fallen out. You can simply remove the mud cover and temporarily re-install the cap until all hoses are installed.

FINISHING THE INSTALL – NEW & EXISTING
RETRACTING THE HOSE

Socked hoses tend to be a little more stiff when coming out of the box. To expedite the hose installation, it's best to spread the hose out over a long distance and completely uncoil it, if possible (right). The socked hose will have some ripples in it, but will relax once installed.

INSTALLING THE HOSE

A LITTLE SILICONE MAKES A BIG DIFFERENCE!

To significantly increase the hose retraction:

1. Lift the door and remove the plug insert. Take a can of **Silicone Lubricant Spray (no greasy or wet lubricants)** with a long wand on it, and insert the wand up into the system. Turn on system. Give it 3-4 sprays, pausing a few seconds between each spray.

   NOTE: We recommend B'laster Industrial Strength Silicone Lubricant with Teflon Fluoropolymer ► (do **NOT** use the B'laster Garage Door Lubricant).

2. Also spray a little of the lubricant on the ball, rubbing it in with your finger as you rotate it. Wipe off any excess with a rag.

3. Turn the valve off. Pick up the hose cuff end and spray it with silicone, wiping off the excess with a rag.

4. Insert the hose cuff end into the valve until it clicks and stops. Turn on the system, rotate the hose cuff 90-degrees and partially cover the handle end of the hose with your hand. The hose will release and begin retracting into the tubing.

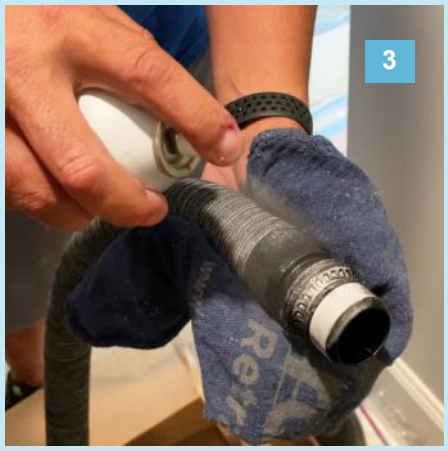
5. Once the hose is fully retracted, push the hose handle onto the rubber ball. The handle should seat easily on the ball. The vacuum will automatically turn off and seal the system.

◄ Install the instructional sticker inside the valve door.

Repeat above steps for each additional valve.

Installing the Hose

Watch Video



FINISHING THE INSTALL FOR NEW & EXISTING HOMES – *SHORTENING THE HOSE*

If a shorter hose is needed, the hose MUST be shortened on the handle end, NOT the cuff end.

SHORTENING THE HOSE

1. Locate the tabs on each side of the handle's underside, and use a fingernail or screwdriver to press tabs in towards the hose to release and remove the handle.

2. Thread away the black locking collar, keeping it on the hose. **NOTE:** Depending on how much shortening is necessary, it may make sense to unthread and remove the locking collar, then reinstall after hose is cut.

3. Remove black barbed insert by slicing the hose with a razor knife.

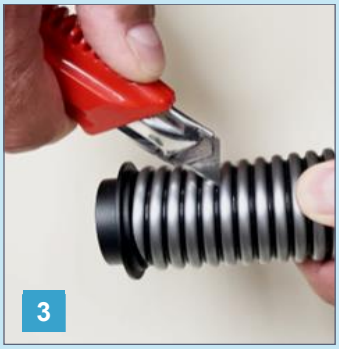
4. Shorten hose as needed with a good pair of scissors.

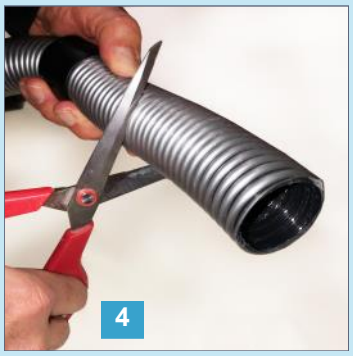
5. If hose has a sock, insert ¾″ of hose sock into the hose.

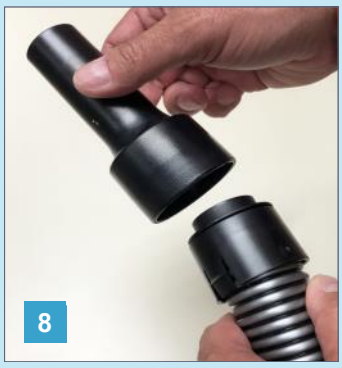
6. Push the barbed insert into the hose.

7. Thread the locking collar up to rest firmly and evenly against the insert bottom. It is critical not to over or under tighten the collar.

8. Attach the nozzle by re-engaging the tabs on each side (push outwards) – you should hear a "click" from each side.







OPTIONAL CAMPORT SEAL

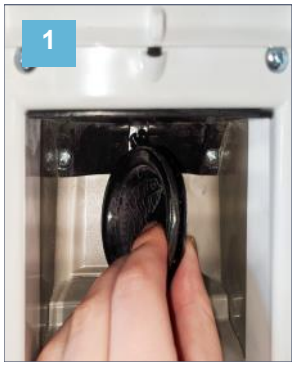
A CamPort Seal (80330) must be used when installing a Chameleon Hybrid Central Vac System that uses both Chameleon and standard inlet valves.
The CamPort Seal is installed in the Chameleon valve to seal the valve when the hose is removed, ensuring maximum airflow and suction to all other valves.

CAMPORT SEAL INSTALLATION

1. Insert the seal by placing one of the hinge nubs into the wear insert, then twist and snap the other nub into place. (The Chameleon logo should be visible when the seal is in the open position.)

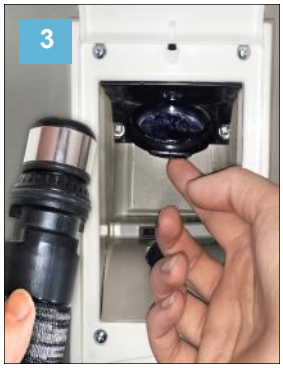
2. When the Chameleon hose is being stored or in use, the CamPort Seal is in the open position

3. When the Chameleon hose is removed to be used in standard valves, the seal is flipped up and closed.



CamPort Seal Simply Snaps into Place

CamPort Seal in OPEN position



CamPort Seal in CLOSED position

Chameleon® is patented and manufactured by

H-P Products, Inc.

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For more Chameleon installation, service
and marketing information go to:

https://www.centralvacinfo.com/chameleon