



Viresolve[®] Pro Magnus Device Holder

User Guide

Notice

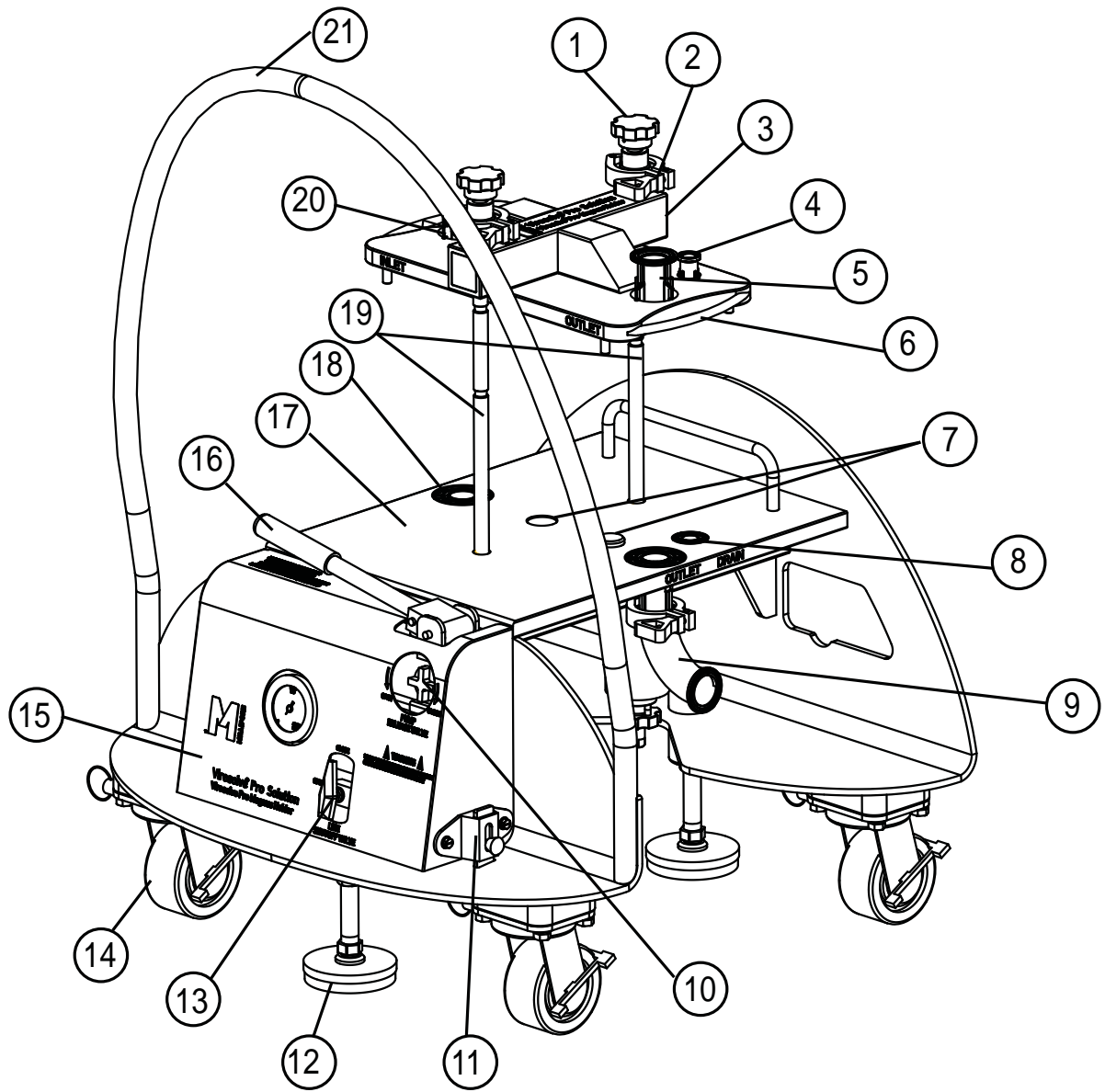
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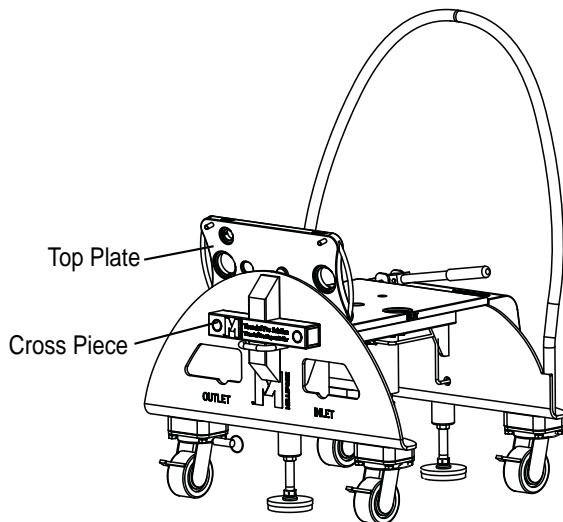
Parts List

Key	Description
1	Clamp Rod Knob
2	Split Clamp Assembly
3	Cross Piece
4	Disposable Vent Fitting
5	Inlet or Outlet Disposable Fitting (shown in outlet position)
6	Top Plate
7	Device Alignment Keys
8	Disposable Drain or Blank Fitting
9	User Supplied Elbow
10	Hydraulic Pump Release Valve
11	Hydraulic Pump Cover Latch
12	Leveling Pad
13	Hydraulic Line Shut-off Valve
14	Caster with Brake and Swivel Lock
15	Hydraulic Pump Cover
16	Hydraulic Pump Handle
17	Base Plate
18	Disposable Inlet or Outlet Fitting (shown in inlet position)
19	Clamp Rods
20	Disposable Inlet or Outlet Fitting (shown in inlet position)
21	Handle



Set Up

1. Place the Viresolve Pro Magnus Device Holder on a level surface. Lock the brakes on the casters by depressing the lever to the **ON** position. The swivel may be locked in 90° positions using the pin on the caster. Adjust one of the leveling pads (12) to stabilize the holder.
2. Open the hydraulic line shut off valve (13) and the hydraulic pump release valve (10).
3. Remove the clamp rods (19) by rotating the clamp rod knobs (1) counter clockwise. The rods may remain in place by pulling straight up on the knobs and removing the split clamp assembly (2).
4. Remove the top plate (6) (if installed), by removing the cross piece (3), then the top plate. Store the cross piece on the hanger on the back of the unit. Store the top plate on the bracket along the back of the unit.



5. The holder can be set up with the inlet and outlet on either the top or the bottom (preferred) of the holder. Use only Viresolve Pro Magnus Device disposable fittings with this holder (see parts list). All fittings must have the green gaskets in place.

Inlet and outlet on the bottom of the unit:

Insert the 1.5 inch disposable fittings into the inlet and outlet holes in the base plate (17). Insert the vent port blank or fitting (8) into the small hole in the base plate. Align the tabs on the fittings with

the slots in the counter bored holes and secure the disposable fittings by rotating 90°. Insert the 1.5 inch port blanks into the inlet and outlet holes in the top plate (6). Insert the vent port blank or fitting (8) into the small hole in the top plate.

Inlet and outlet on the top of the unit:

Insert the 1.5 inch disposable fittings (5, 20) into the inlet and outlet holes in the top plate (6).

Insert the vent port blank or fitting (4) into the small hole in the top plate. Align the tabs on the fittings with slots in the counter bored holes and secure the disposable fittings by rotating 90°.

Insert the 1.5 inch port blanks into the inlet and outlet holes in the base plate (17). Insert the vent port blank or fitting into the small hole in the base plate.

Note Devices are stamped with a B on the bottom and a T on the top. Ensure that the B is facing the base plate while installing device. The alignment key will prevent devices from locking into place if they are not properly oriented.

The small vent port (and drain) on the Viresolve Pro Magnus devices is on the inlet or upstream side of the device.

6. Place the first Viresolve Pro Magnus device on the base plate (17). Ensure that the alignment key engages. Place each additional device on top of the previous device, ensuring that the alignment keys engage.
- Note** The number of devices a holder can accommodate is determined by the clamp rods installed in the holder. Clamp rods and capacities are listed on page 11 in the Spare Parts and Accessories table.
7. When all of the devices are installed, place the top plate (6) with fittings installed on the top device. The alignment key must engage in the top device and the plate must lie flat.
8. Place the cross piece (3) on the top plate by aligning the holes with the pins on the plate.
9. Insert the clamp rods (19) (if removed) through the cross piece (3), into the base plate (17),

engaging the fixed nuts on the base of the hydraulic cylinders.

Note Do not drop the rod into the hole as this may damage the threads.

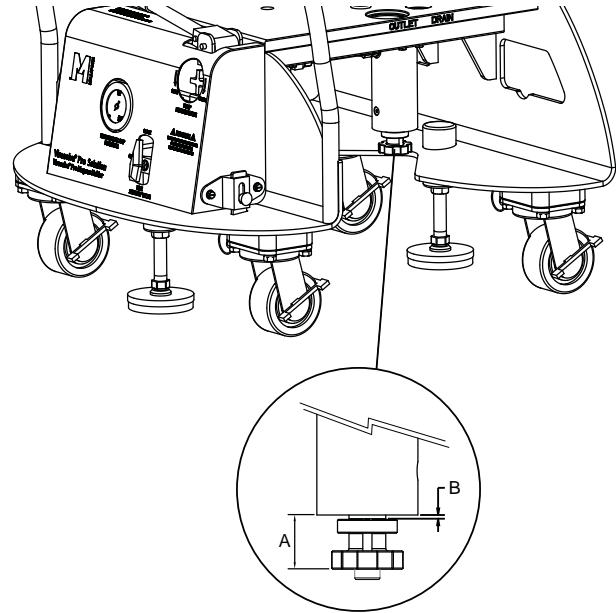
10. If the split clamps assemblies (2) and or knobs (1) were removed, replace them. The split clamp assembly should be installed on the rod using the groove directly above the cross piece.
11. Hand tighten the rods by rotating rod knobs (1) clockwise until the split clamp assembly is tight against the cross piece.

Note The threaded end of the clamp rod must be threaded fully into the hydraulic cylinders for the clamping mechanism to fully engage. Two or three threads of the clamp rod should be visible below the fixed nut at the base of the cylinder when the clamp rod is correctly installed and tight against the cross piece. If the hydraulic cylinder is not fully retracted, insure both hydraulic pump valves (10) and (13) are open and then manually retract the cylinders by tightening the clamp rods with the knobs by rotating clockwise. Adjust the position of the split clamp assembly closest to the cross piece.

12. Close the hydraulic pump release valve (10) and open the hydraulic line shut off valve (13).
13. Using the hydraulic pump handle (16), increase the hydraulic pressure until the pressure gauge on the holder reads 76 bar (1100 psi). Do not increase the pressure if the hydraulic line shut off valve is closed.
14. Once approximately 76 bar (1100 psi) is achieved on the gauge, close the hydraulic line shut off valve.

15. To ensure that the devices seal, verify that the piston does not extend more than **(B)** 40 mm (1.6 in.) from the base to the flange or **(A)** 76 mm (3.0 in.) from the base to the nut. If it does, relieve the pressure in the hydraulic system, retract the clamp rods and repeat steps 11 through 14.

Note When the devices are in operation the observed clamping pressure may increase up to 124 bar (1800 psi).



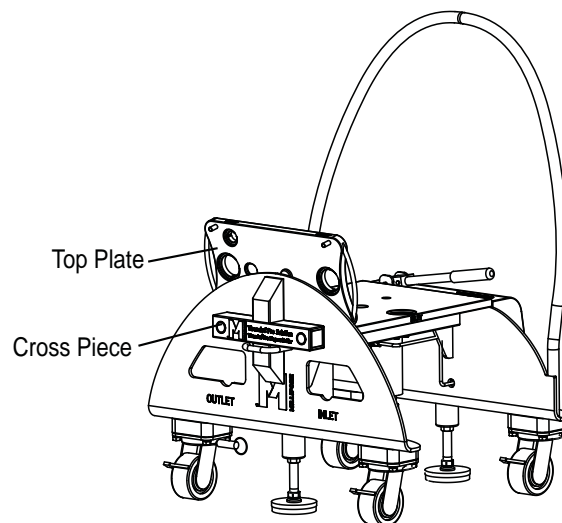
16. Attach the required input (feed) and output (filtrate) and any gauge or vent connections. The system is now ready for use.

Operation

Refer to the Viresolve Pro Magnus Device User Guide for operating parameters and instructions.

Disassembly

1. Ensure the devices are not under gas or liquid pressure, then remove the inlet and outlet connections.
2. Depressurize the hydraulic cylinders by opening the hydraulic line shut off valve (13) and the hydraulic pump release valve (10). Confirm that the hydraulic pressure gauge reads 0 psi.
3. Remove the clamp rods (19) by rotating the clamp rod knobs (1) counter clockwise. The rods may remain in place by pulling straight up on the knobs and removing the split clamp assemblies (2).
4. Remove the cross piece (3), then the top plate (6). Store the cross piece on the hanger on the back of the unit.
5. Remove the disposable fittings from the top plate by rotating until the tabs align with the slots, pull out, and discard. The top plate may be stored on the bracket along the back of the unit.



6. Unload all devices. Remove all of the disposable fittings from the base plate, inlet and outlet ports by rotating until the tabs align with the slots and pulling the fittings out.

Note Gaskets may stick together during disassembly.

7. All fluid contact surfaces (fittings and devices) are disposable. All other holder surfaces may be cleaned as necessary.

Hydraulic System Maintenance

These procedures should be performed if required by your facilities maintenance procedures or if recommended by an authorized Millipore representative.

Hydraulic Fluid Replacement

1. Depressurize the hydraulic cylinders by opening the hydraulic line shut off valve (13) and the hydraulic pump release valve (10). Confirm that the clamp pressure gauge reads 0 psi.
2. Place a drip pan under the hydraulic pump. Remove the drain plug on the pump.
3. Loosen the compression fitting nuts closest to each hydraulic cylinder and pull the steel tubing out of the fitting.
4. Replace and tighten the drain plug on the hydraulic pump.
5. Loosen and remove the hydraulic pump vent valve.
6. Pour approximately 300 mL of hydraulic fluid into hydraulic pump reservoir.
7. Replace the hydraulic pump vent valve and leave in the OPEN position.
8. Close the hydraulic pump release valve and ensure that the hydraulic valve is open. Operate the hydraulic pump until hydraulic fluid comes out of the steel tubing near the hydraulic cylinders.
9. Connect the steel tubing to each hydraulic cylinder.
10. Tighten each compression fitting approximately $\frac{3}{4}$ turn beyond finger tight.
11. Follow the procedures for Bleeding the System and Testing the System.

Hydraulic Gauge Replacement

1. Relieve the pressure in the hydraulic system by opening the hydraulic line shut off valve (13) and hydraulic pump release valve (10).
2. Close the hydraulic line shut off valve (13).
3. Place a drip pan under the pressure gauge and loosen the compression fittings attached to the cross fitting.
4. Disconnect the steel tubing from the cross and lift out the pressure gauge and cross fitting.
5. Place the cross in a vise and rotate off the gauge. Remove any pipe tape left inside the cross.
6. Tape the threads on the new gauge and install on the cross fitting. The connection must be tight and the gauge should point in the correct direction.
7. Connect the steel tubing to each of the other three connections to the cross.
8. Tighten each compression fitting approximately $\frac{3}{4}$ turn beyond finger tight.
9. Follow the procedures for Bleeding the System and Testing the System.

Hydraulic Pump Replacement

1. Relieve the pressure in the hydraulic system by opening the hydraulic line shut off valve (13) and hydraulic pump release valve (10).
2. Turn the hydraulic pump vent valve to the CLOSED position.
3. Close the hydraulic pump release valve (10).
4. Place a drip pan under the hydraulic pump and loosen the compression fitting nearest to the pump.
5. Disconnect the steel tubing from the pump.
6. Remove the mounting bolts from each side of the pump and slide the pump out of the mounting bracket.
7. Note the orientation of the elbow fitting attached

- to the outlet of the pump. Remove the elbow fitting and remove any pipe tape on the threads.
8. Tape the elbow fitting and install on the new pump outlet. The elbow must be tight and pointing in the same orientation as on the old pump.
 9. Slide the new pump onto the mounting bracket.
 10. Reinstall the two mounting bolts which hold the pump in place.
 11. Re-connect the steel tubing to the pump. Tighten the compression fitting approximately $\frac{3}{4}$ turn beyond finger tight.
 12. Follow the procedures for Bleeding the System and Testing the System.
4. Allow the system to sit for a minimum of 15 hours. The hydraulic system pressure should drop no more than 200 psi over the 15 hour period. No hydraulic connections should be wet or show evidence of leaking. If any hydraulic connections are wet, or if the hydraulic system pressure has dropped more than 200 psi, the system is NOT ready for operation. Check all connections and repeat the Bleed System and Test System procedures until the hydraulic system is secure.

Bleeding the System

1. Turn the hydraulic pump vent valve to the VENT position.
2. Adjust the clamp rods to allow the hydraulic cylinder pistons to extend to their full length.
3. Open the hydraulic line shut-off valve (13).
4. Close the hydraulic pump release valve (10).
5. Using the hydraulic pump, increase the hydraulic pressure until the pressure gauge reads 62-76 bar (900-1100 psi).
6. Relieve the hydraulic system pressure by opening the hydraulic pump release valve (10).
7. Repeat steps 4 through 6 two more times to allow any air in the system to be pushed back to pump reservoir.

Testing the System

1. Install one Viresolve Pro Magnus device in the holder.
2. Close the hydraulic pump release valve (10) and open the hydraulic line shut off valve (13).
3. Using the hydraulic pump, increase the hydraulic

Spare Parts and Accessories

Description	Catalogue Number
Clamp Rods for 1 to 3 Magnus 2.1 or 2.2 devices	VPMHRD0103
Clamp Rods for 1 to 5 Magnus 2.1 or 2.2 devices	VPMHRD0105
Clamp Rods for 1 to 7 Magnus 2.1 or 2.2 devices	VPMHRD0107
Split Clamp Insert	VPMHINSERT
Rod Knob	VPMHRDKNOB
Viresolve Pro Magnus Holder Fittings Kit (Standard) 2 ea 1.5 in. Sanitary Fittings 2 ea 1.5 in. Blank 1 ea Vent Fitting 1 ea Vent Blank	VPMHADAPSK
6 ea 1.5 in. Sanitary Fittings	VPMHADAPSF
6 ea 1.5 in. Blanks	VPMHADAPSB
6 ea Vent Fittings	VPMHADAPVF
6 ea Vent Blanks	VPMHADAPVB
Hydraulic Pump	MP0DHYPUMP
Hydraulic System Pressure Gauge	MP0DHYGAGE
Hydraulic Fluid	MP0DHFLUID
1.5 in. TC Clamp for use with Split Clamp Insert	YY2004045

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Technical Assistance

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