

TRANSPORTABLE RECOVERY SYSTEM

VR11



RECOVERY EQUIPMENT

The VR11 unit is easily transportable and can be used for both liquid and vapor recovery.

The VR11 will help you recover the refrigerant charge from a chiller to meet the requirements of the Clean Air Act.

The VR11 will evacuate the chiller to 29" Hg vacuum using its 1 HP belt-driven vacuum pump rated at 40 microns and 10.6 cfm.

Rated in accordance with ARI Standard 740-98.

Unit Includes

- 1 NC50U Recovery Cylinder for Vapor
- 1 15 foot 3/4" hose
- 2 10 foot 3/4" hoses
- 1 6 foot 1/4" hose
- 1 Relief valve, set at 20 psig to purge non-condensables, if required
- 1 C165 filter drier

Specifications

Vapor recovery: 0.86 lbs./min.

Liquid recovery: Push/Pull 84 lbs./min.

Vacuum capacity: 29" Hg (20 AMP Service Required)

Power: 1 HP, 18.50 Amps, 115 Volt, 60 Hz, 1PH, (VR11)
1 HP, 6 Amps, 220 Volt, 50 Hz, 1PH, (VR11E)

Unit Weight: 246 Lbs

Shipping Weight: 296 Lbs

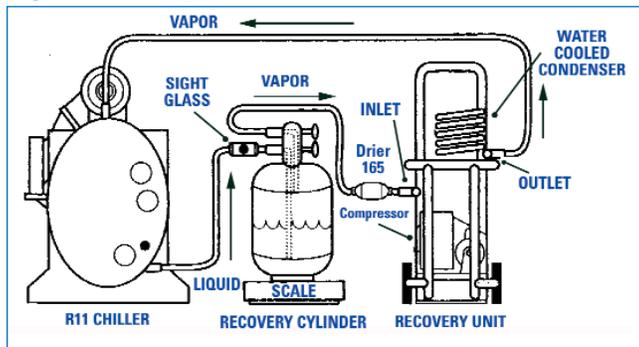
Dimensions: 28" L x 26" W x 45" H

Connections: 5/8" MFL

Applications

- Low pressure chillers
- Transportable by van or truck
- Easily removable within equipment and mechanical rooms

Liquid Recovery Diagram



Liquid recovery is done by using the push-pull method as shown in the diagram above. A lower pressure is created in the recovery cylinder which forces the liquid refrigerant from the chiller into the cylinder.

The pumping rate will increase if the chiller pressure is raised from 5 to 10 psig by raising the water temperature. The rate will also improve if a 3/4" or 1" connection is used at the chiller.

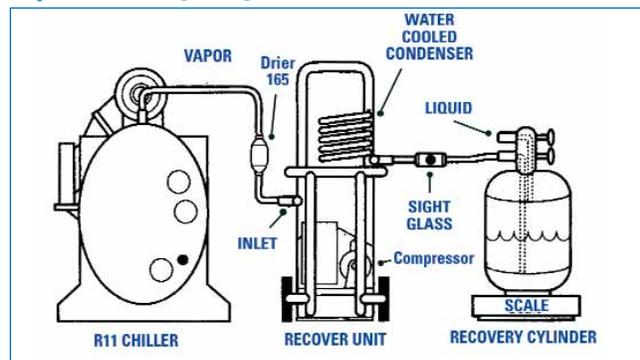
The VR11 includes one 50 pound recovery cylinder NC50U with a float-type shut-off switch. This switch will shut off the VR11 when the recovery cylinder is 80% full.

Additional, larger tanks, NRP model N250T, N665T etc. can be purchased separately if required.



For use with Group I
R11, R113, R123

Vapor Recovery Diagram



Once all the liquid has been recovered, the remaining vapor can be extracted with the recovery unit as shown in the diagram above.

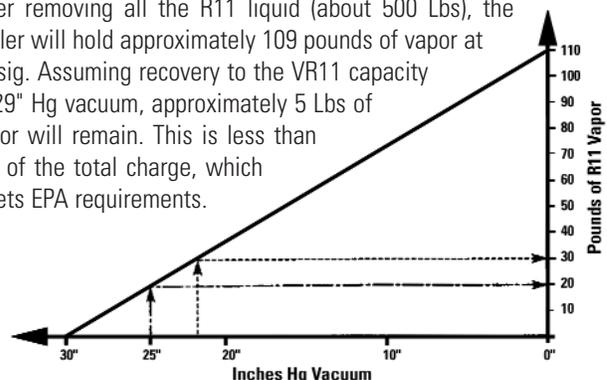
The VR11 utilizes a water cooled condenser which requires approximately 3 gpm of water between 40°F and 75°F.

As with liquid recovery, the recovery time is improved if the connections at the chiller are changed to 3/4" or 1".

R11 Vapor must also be recovered to meet EPA requirements

To illustrate the need to recover both liquid and vapor, take an example of a 350 ton chiller which has a charge of about 600 pounds of R11.

The chiller, which is about 15 feet long, has a combined evaporator/condenser volume of about 300 cubic feet. From standard refrigerant tables, 0 psig R11 vapor weighs .364 lb./ft³. After removing all the R11 liquid (about 500 Lbs), the chiller will hold approximately 109 pounds of vapor at 0 psig. Assuming recovery to the VR11 capacity of 29" Hg vacuum, approximately 5 Lbs of vapor will remain. This is less than 1% of the total charge, which meets EPA requirements.



Pounds of vapor left in a 350 Ton chiller at various vacuum levels