



MACHINE EQUIPMENTS

Model LV227 Liquid Transfer & Vapor Reclaim Machine



Model LV227

A unique machine for Chemori 227™ (HFC-227ea) Liquid transfer and Vapor recovery provide a fast and efficient solution to transfer HFC-227ea.

The LV227 unit is designed to transfer and recover HFC-227ea in the most efficient way. There are two separate sections in the LV227 unit. The first section completes the transfer of the liquid HFC-227ea from cylinder to cylinder and its pressurization with nitrogen at 24 or 42 bar. The second section allows the residual vapor of HFC-227ea to be recovered from the source/storage cylinder/ tank.

DESCRIPTION

The Model LV227 machine is designed to transfer liquid HFC-227ea efficiently and its Vapor Recovery unit saves cost on reclaiming HFC-227ea vapor in a storage tank. It is a fast and efficient solution to transfer HFC-227ea with a single unit machine.

Since it is able to reclaim the maximum amount of HFC-227ea from the source/storage cylinder/tank, the LV227 unit is particularly cost effective.

TECHNICAL FEATURES

Pump Specifications

FLOW RATE (kg/min)	6
MAXIMUM WORKING PRESURE (bar)	70

Recovery Section Specifications

FLOW RATE (kg/min)	0.7
MAXIMUM WORKING PRESURE (bar)	21
RECOVERY EFFICIENCY (%)	ABOUT 90%

Overall Specifications

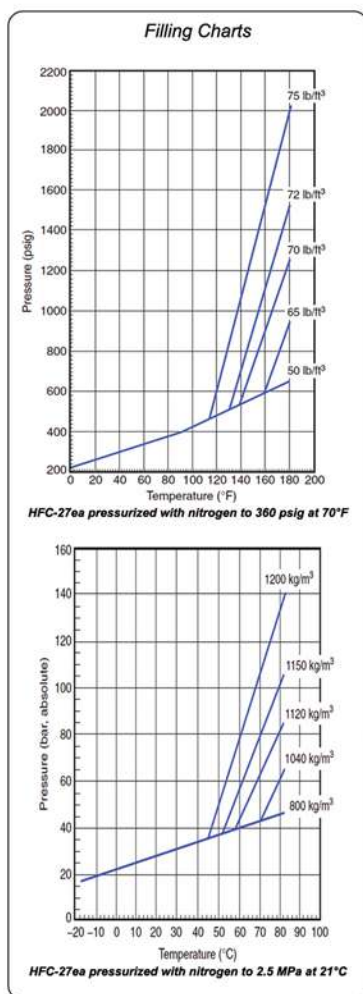
VOLTAGE/FREQUENCY (VAC/Hz)	400/50
POWER (kW)	4
DIMENSIONS (Length x Width x Height) (mm)	1250X700X1590
WEIGHT (kg)	300

* Other voltages are available upon request

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Standard Accessories Required

1) Filling Electronic Control Scale Platform type 1.2 m x 1.2 m square with Digital Display	Max. 2000KG in 1KG Increment	1 unit
2) Source Cylinder Inlet & Out hoses complete with adaptor Assembly	25mmØ x 3 meters	2 nos
3) Receiving Cylinder inlet hose complete with adaptor Assembly	20mmØ x 3 meters	1 no
4) Filling Adaptor Assemblies	For ½ inch, 1 inch, 1 ½ inch 2 ½ inch & 4 inch Chemori Valve Assemblies	1 set each, total 5 sets
5) Gas filling chart	In Metric & In Imperial Units	2 nos



Accessories on request

6) Refrigerant Leak Detector

Features:

- ▶ Tri-colour, six-segment visual leak size indicator display 18 alarm levels
- ▶ LED Leak Size Indicators
- ▶ Seven levels of sensitivity adjustments provide an increase of up to 64x including our unique ScanMode
- ▶ Battery test function with true voltage indication
- ▶ Mute feature silences audible alarm
- ▶ Reset Button for instant re-calibration
- ▶ Detachable probe
- ▶ High efficiency pump
- ▶ Detects ALL Halogenated Refrigerants, including R-410A
- ▶ Constant Power Indication
- ▶ Carrying case and spare sensing tip included
- ▶ Tactile keypad control



CR XP-1A

Full featured but easy to use, the original TIF detector.

The detector offers the detachable, flexible probe with micro-pump, leak intensity indicators, and all the features you have come to know and trust. Includes the patented SCAN mode that revolutionized leak detection.

7) Leak Standards

Leak standards are available in either chlorine based R12 refrigerant or the new environmentally safe fluorine based R134a as a standard product.

These standards can be used to accurately calibrate existing leak detector products that require an external accurate leak source. In addition, they are a valuable instrument for verifying the accuracy of the new micro-processor based industrial leak detectors containing an internal leak standard for automatic self calibration. Each model contains a laboratory grade glass capillary tube which is matched to the refrigerant composition and the pressure required to provide an accurate test leak rate.



Leak Rates

Std. cc/Sec

3×10^{-5}

10×10^{-5}

10×10^{-4}

oz/year R12

17×10^{-2} or (0.17)

5.6×10^{-1} or (0.56)

5.6×10^0 or (5.6)

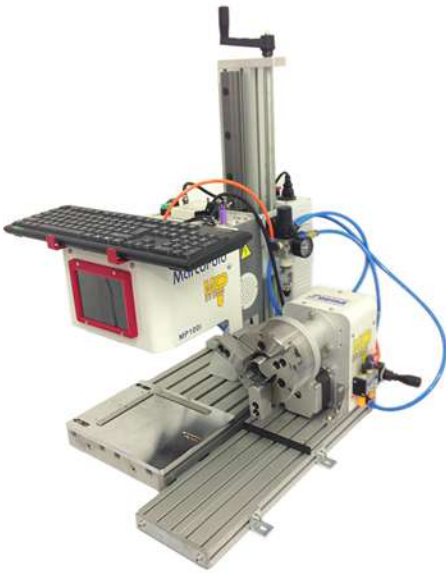
oz/year R134a

14×10^{-2} or (0.14)

4.7×10^{-1} or (0.47)

4.7×10^0 or (4.7)

Nozzle Drilling and Marking Equipment



Nozzle Marking and Label Marking Machine

P/N: CR MMP100i



Nozzle Drill Station

P/N: CR MRF-25

NOZZLE DRILL STATION

Chemori Field Nozzle Drilling Stations requires a vertical/mill press with attached work table, bench model. It provides the most secure and rigid placement of the nozzles to be drilled as well as allowing for precision movement of the nozzle during the drilling process. Floor mounted drills are also allowed for use in Chemori Field Nozzle Drilling Stations, however are not recommended as they do not provide the same level of precision as the aforementioned models.

Hand drills are strictly PROHIBITED for use in Chemori Field Nozzle Drilling Stations.

INDEXING/ DIVIDING HEAD

An indexing head is required as part of the drill press assembly. The indexing head provides secure fastening of the nozzle to the drilling station. In addition the indexing head, when attached to the drill press, allows for precise angular rotations of the nozzle, ensuring even, accurate and correct spacing of drill points.

DRILL BITS

Chemori Field Nozzle Drilling Stations are required to contain the following sets of drill bits:

- Wire Gauge Set #1-60
- Fractional Inch, 1/16" - 21/32" in 1/64" increments, 39 pieces
- Lettered bits A-Z, 26 pieces
- Center Point Punch
- Countersink bits, #2 for holes 0.25" and smaller, #5 for holes larger than 0.25"
- Burr Tool

Chemori recommends that drill bits are made from Cobalt Steel. Drill bits may also be made from high speed or high carbon steel and can be coated with black oxide or any titanium nitride (TiN, TiAlN, TiCN).

DRILL LUBRICANT

Chemori recommends that drill lubricant be applied throughout the drilling process. It reduces the effort required to drill the nozzles as well as extending the drill bit operational lifespan and reducing the amount of drill bit breakages. Chemori recommends the use of Tap Magic Aluminum or equivalent non-flammable lubricant.

INSPECTION EQUIPMENT

To ensure that Chemori nozzle holes have been accurately drilled a set of Digital Callipers accurate to 0.0005" are required. In addition pin gauges are to be used to check drill diameter and uniformity of the drilled hole. Pin gauges are required for measuring nozzle port diameters measuring 1/2" or less.

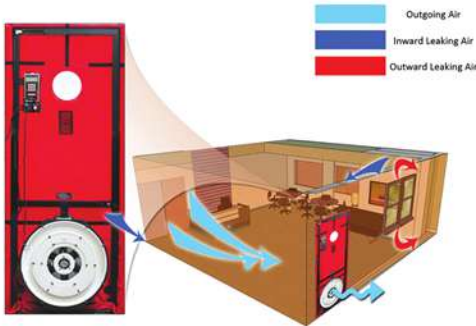
NOZZLE MARKING & LABEL MARKING MACHINE

All Chemori nozzles must be marked with the correct CR part number, with the option to put the logo of the drill station of its manufacture on the top of the nozzle. The marking machine must be able to neatly and permanently engrave the part number on to the nozzle directly and at varying font sizes.

Building Air Tightness Testing Systems

DESCRIPTION

Blower Door tests are utilised to measure the air tightness level of building envelopes, diagnose and demonstrate air leakage problems, estimate natural infiltration rates, estimate efficiency losses from building air leakage, and certify construction integrity.



Blower Door Features

- Lightweight and rugged injection molded fan housing.
- Quick and accurate flow measurements from 300 to 6,300 CFM (141 to 2,973 l/s, 510 to 10,700 m³/h). Optional rings C,D and E will measure down to 11 CFM (5 l/s, 19m³/h)
- Solid state variable speed fan control.
- Compatible with both pressurization and depressurization testing.
- Fan flow is reversible for diagnostic testing.
- Both 110V and 220V models available

Automated Testing Options

Automated testing provides computerized control of the Blower Door fan and automated capture of the building pressure and fan flow measurements. This feature reduces operator error, ensures that tests are conducted the same way every time, and improves test accuracy in windy weather. Automated testing even includes a "Cruise Control" feature for maintaining a constant building pressure during diagnostics or air sealing. In addition to a user supplied laptop computer, automated testing requires:

- DG-700 Gauge (Standard equipment) or an APT Data Acquisition Box
- TECTITE Software
- Cabling to connect the Blower Door System to your laptop computer



DG-700 Pressure and Flow Gauge with New Cruise feature

Multi-fan Blower Door Systems

"Anatomy of the Minneapolis Blower Door"

1. Lightweight, Durable Door Frame and Panel
2. DG-700 Pressure and Flow Gauge
3. 2 Fan Speed Controller
4. Powerful and Reliable Calibrated Fan
5. Automated Testing Options

FST Digital Enclosure Test Kit

The FST Digital Enclosure Test Kit is designed specifically to satisfy the peak pressure and hold time requirements of NFPA 2001. The Minneapolis Blower Door™ has long been recognized as the best designed and supported building airtightness testing system in the world. Combined with specialized accessories and testing procedures developed by The Energy Conservatory, the Minneapolis Blower Door™ is the system of choice for utility DSM programs, energy raters, HVAC contractors and weatherization professionals.

Features:

- DG-700 Digital Pressure / Flow Gauge
- Direct Reading 4 Digit LCD Display
- Compact, 6300 CFM Fan
- Fully Collapsible Aluminum, Commercial Sized Door Frame
- EIT Quick Test 2001 Enclosure Integrity Test Software
- Handheld digital gauge, compact fan, collapsible aluminum frame
- Complete Test Kit



Building Air Tightness Testing Systems

Standard Minneapolis Blower Door Kit includes:

- Fan with variable speed controller.
- DG-700 Pressure and Flow Gauge
- Five piece adjustable aluminium door frame and frame case.
- Fabric door panel with viewing window.
- Two Flow Rings (A and B) and No Flow Plate.
- Padded attache case to hold gauge, manuals, tubing, speed controller, and fabric panel, with room for a laptop computer and other documents.



The Minneapolis Duct Blaster® is used to measure the airtightness of duct work.



The Exhaust Fan Flow Meter is used to measure exhaust flow through bath fans and other outlets



The TrueFlow® Air Handler Flow Meter is used to measure the total amount of air moving through an air handler.

The hard cases shown below are rugged and are suitable for shipping the equipment from location by UPS or the airlines which also resist the abuse the equipment often receives when used by a number of different technicians. The soft, padded cases listed below are more compact and easier to carry but not quite as rugged.

OPTIONAL CASES

CR 88113-1

Padded, zippered Cordura Blower Door Fan, black

CR 88113-2

Padded attache case to hold gauges, manuals, hoses, speed controller and nylon frame cover with room for laptop computer and other documents.

CR 88113-3

Custom hard case for Blower Door Fan, room for drop cords, door cover and miscellaneous items, black. 24¼"x11"x27" case wt 26 lbs. with fan 65 lbs.

CR 88113-4

Custom hard case for FST Special Door Frame, all-weather design with continuous "O" ring seal against water and dust. Heavy gauge molded HOPE with reinforced ribbing, six clamping latches and provision to add your padlock for security, black. Now with wheels and extra handle for easy portability. Supplied with foam for internal padding. 54½"x17¼"x6" case wt. 20 lbs. with frame 41 lbs.

CR 88113-5

Custom hard case will hold gauges, manuals, hoses, speed controller and nylon frame cover with room for laptop computer and other documents. Matches CAS-550 with all-weather design with continuous "O" ring seal against water and dust. Heavy gauge molded HOPE with reinforced ribbing, four clamping latches and provision to add your padlock for security, black. Supplied with foam for internal padding. 20¾"x16¼"x9¼" case wt. 12 lbs., with control module 22 lbs.

