

SUPEREVAC™ VACUUM PUMP SYSTEMS






YELLOW JACKET®

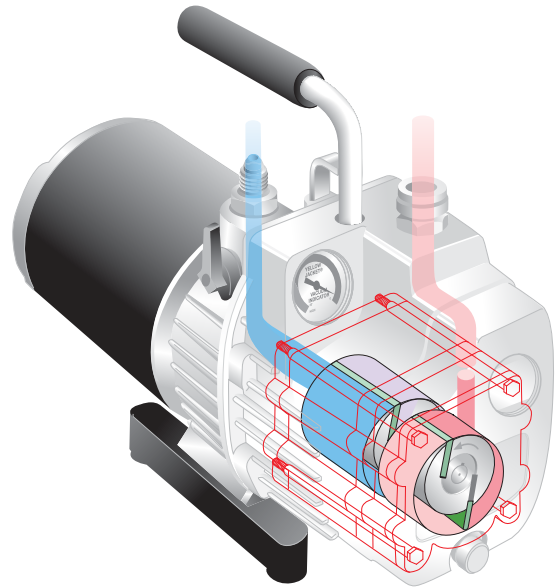
4, 6, 8 & 11 SUPEREVAC™ Vacuum Pumps

Pulls a deep vacuum of 15 microns or better, protecting from contaminants and non-condensable gases in the HVAC system, which can damage components, reduce efficiency and cause system failure



The SUPEREVAC™ vacuum pump is a highly efficient, two-stage rotary vane oil-sealed pump field-rated at 15 microns or better. The lower the micron rating, the better the pump performance.


- Isolation valve for oil changes without losing vacuum in the system
- Built-in vacuum indicator gauge
- Wide-mouth oil reservoir port for easier, cleaner filling. Doubles as pump exhaust—threaded to attach garden hose for exhausting to remote location
- Large oil sight glass for easy monitoring of oil level
- Large brass oil drain for easy access to fast oil changes
- Gas ballast valve keeps oil cleaner, longer during evacuation of wet systems
- Internal intake check valve prevents oil backup into the system during a power failure
- Intake filter screen keeps damaging particles from entering the pump
- Heavy duty rotors and bearings
- Heavy duty steel handle with lift hook for well-balanced carrying
- Tethered port caps stay with the pump
- Metal with rubber overlay base for stability
- Made in the USA 



For increased efficiency, the first stage exhausts into the second stage similar to using two single stage pumps connected together.

- Pump and first stage intake
- First stage compression
- Second stage intake
- Second stage compression
- Exhaust to atmosphere

Domestic	Model 93540	Model 93560	Model 93580	Model 93590
Free air displacement	4.0 cfm	6.0 cfm	8.0 cfm	11.0 cfm
Number of stages	2-stage rotary vane	2-stage rotary vane	2-stage rotary vane	2-stage rotary vane
Field blankoff	15 microns	15 microns	15 microns	15 microns
Intake	1/4" and 3/8" Male flare	1/4" and 3/8" Male flare	1/4" and 1/2" Male flare	1/4" and 1/2" Male flare
Motor	1/2 hp - 1725 rpm	1/2 hp - 1725 rpm	1/2 hp - 1725 rpm	1/2 hp - 1725 rpm
Internal capacitor thermal overload	Temperature rise 40° C	Temperature rise 40° C	Temperature rise 40° C	Temperature rise 40° C
Voltage (single phase)	115V/60 Hz	115V/60 Hz	115V/60 Hz	115V/60 Hz
Power cord	8' - motor mounted switch	8' - motor mounted switch	8' - motor mounted switch	8' - motor mounted switch
Oil capacity	36 oz.	34 oz.	43 oz.	39 oz.
Dimensions	16.25" L x 6" W x 11.50" H	16.25" L x 6" W x 11.50" H	17.50" L x 6" W x 11.50" H	17.50" L x 6" W x 11.50" H
Net weight	29.5 lbs. (13.4 kg)	31.5 lbs. (14.3 kg)	32.0 lbs. (14.5 kg)	32.5 lbs. (14.7 kg)

Export	9354x	9356x	9358x	9359x
Model #	93542 (95 L/M at 50 Hz)	93562 (142 L/M at 50 Hz)	93582 (190 L/M at 50 Hz)	93592 (260 L/M at 50 Hz)
US plug	(113 L/M at 60 Hz)	(170 L/M at 60 Hz)	(225 L/M at 60 Hz)	(310 L/M at 60 Hz)
Voltage*	115/220V, 50/60 Hz	115/220V, 50/60 Hz	115/220V, 50/60 Hz	115/220V, 50/60 Hz
Model #	93543 (95 L/M at 50 Hz)	93563 (142 L/M at 50 Hz)	93583 (260 L/M at 50 Hz)	93593 (260 L/M at 50 Hz)
Euro plug 	(113 L/M at 60 Hz)	(170 L/M at 60 Hz)	(310 L/M at 60 Hz)	(310 L/M at 60 Hz)
Voltage*	230V, 50 Hz	230V, 50 Hz	230V, 50 Hz	230V, 50 Hz
Model #	93544 (95 L/M at 50 Hz)	93564 (142 L/M at 50 Hz)	93584 (190 L/M at 50 Hz)	93595 (260 L/M at 50 Hz)
US plug	(113 L/M at 60 Hz)	(170 L/M at 60 Hz)	(225 L/M at 60 Hz)	(310 L/M at 60 Hz)
Voltage*	115/240V, 50/60 Hz	115/240V, 50/60 Hz	115/240V, 50/60 Hz	115/240V, 50/60 Hz
Model #	93547 (95 L/M at 50 Hz)	93567 (142 L/M at 50 Hz)	93587 (190 L/M at 50 Hz)	93597 (260 L/M at 50 Hz)
UK plug	(113 L/M at 60 Hz)	(170 L/M at 60 Hz)	(225 L/M at 60 Hz)	(310 L/M at 60 Hz)
Voltage*	230V, 50 Hz	230V, 50 Hz	230V, 50 Hz	230V, 50 Hz

Will not work with NH₃. See page 12 for NH₃ pump.

* All other specifications are same as domestic model above.

RECOVERY MACHINES
 SUPEREVAC SYSTEMS
 VACUUM AND CHARGING HOSES
 HOSE ADAPTERS, VALVES AND PARTS
 CHARGING SYSTEMS
 GAUGES
 ELECTRONIC INSTRUMENTS
 HEATING INSTRUMENTS
 LEAK MONITORS AND DETECTORS
 SYSTEM TOOLS

SUPEREVAC™ REPLACEMENT PARTS

CFM	1.5 —	Updated 1998-2005 4, 6, 8 (Label on front cover)	New 2005-present 4, 6, 8, 11 —
Handle assembly	—	93370	93370
Oil fill cap with seal	93390	93390	93390
Oil fill fitting	93391	93391	93391
Oil sight glass	93340	93365	93365
Oil drain plug	93368	93368	93368
4 cfm cartridge complete*	—	93441	93441
6 cfm cartridge complete*	—	93461	93461
8 cfm cartridge complete*	—	93481	93481
11 cfm cartridge complete*	—	—	93591
Shaft seal	93341	93031	93031
30" Vacuum gauge	93011	93011	93011
Vacuum gauge lens	93012	93012	93012
Gas ballast gasket with "O" ring	93368	93368	93368
"O" ring for gas ballast	93398	93398	93398
Intake fitting	93342	93393	—
Intake port gasket	—	—	93508
Rocker style switch	—	93117	93117
Oil cover gasket	93344	93369	93507
Drive coupling	—	93047	93047
Leg with screws	93034	93034	93034

* Complete cartridges with oil cover gasket. Completely assembled and pre-tested.

Replacement vanes (4 pak)			
UPC#	Description	UPC#	Description
93372	For 4.0 cfm 93420 and 93540	93376	For 8.0 cfm 93460 and 93580
93374	For 6.0 cfm 93440 and 93560	93378	For 11.0 cfm 93480 and 93590

SUPEREVAC™ PUMP 1.5 CFM



A more compact two-stage 1.5 cfm vacuum pump for smaller jobs such as appliance and small residential. Designed and built to the same quality specifications as the larger pumps.



Domestic	Model 93350
Free air displacement	1.5 cfm
Number of stages	2-stage rotary vane
Field blankoff	15 microns
Intake	1/4" and 3/8" Male flares and 1/2" Acme Male
Motor	1/6 hp – 1725 rpm
Thermal overload	Temperature rise 40° C
Voltage	115V/60 Hz
Power cord	8' foot cord
Oil capacity	16 oz.
Dimensions	10.5" L x 5.1" W x 9.2" H
Net weight	20 lbs.

SUPEREVAC™ PUMP FOR AMMONIA AND NH₃ SYSTEMS

Designed and built to the same quality specifications as other SUPEREVAC pumps. Features a pump exhaust that doubles as an oil fill port. 



	Model 93530	Model 93533
Free air displacement	8.0 cfm	190 l/m (50 Hz)
Number of stages	2-stage rotary vane	2-stage rotary vane
Field blankoff	15 microns	15 microns
Intake	1/2" Male pipe	1/2" Male pipe
Motor	1/2 hp – 1725 rpm	1/2 hp – 1425 rpm (50 Hz)
Thermal overload	Temperature rise 40°C	Temperature rise 40°C
Voltage	115V/60 Hz	230V/50 Hz*
Power cord	8' – rocker style switch	8' – rocker style switch
Oil capacity	43 oz.	43 oz.
Dimensions	16.75" L x 6.75" W x 16" H	16.75" L x 6.75" W x 16" H
Net weight	30.8 lbs. (14.0 kg)	32.5 lbs. (14.7 kg)

* The 93533 is factory wired for 230V. It can also be configured for 115V. Remove the motor switch plate and make connections as shown on the motor label.

FREQUENTLY ASKED QUESTIONS

1. Does extension cord length affect performance?

Increased length can decrease voltage, so use this as a voltage guide for selecting wire gauge.

Distance	Wire gauge
25'	16
50'	14
100'	12

2. How can I speed up evacuation?

A. Select the right pump cfm. The following guidelines are for domestic through commercial applications.

System size (tons)	Pump cfm
1-10	1.5
10-30	4.0
30-45	6.0
45-60	8.0
60 and above	11.0

B. Use clean vacuum pump oil. Milky oil is water saturated and limits pump efficiency.



C. Remove valve cores from both high and low fittings with a vacuum/charge valve tool to reduce time through this orifice by at least 20 percent.

D. Evacuate both hi- and lo-sides at the same time. Use short, 3/8" diameter and larger hoses.

E. SUPEREVAC™ manifolds can reduce evacuation time by over 50-60 percent. (page 14)

F. Use a heat gun.

HOW TO MEASURE AN “ADEQUATE” VACUUM

Many contractors pull the refrigerant out and think the work is done. In reality, when you get to 29 inches of vacuum (the green zone on your gauge), you are only half finished. Once the recovery machine has done its work, it's time to finish off the job with a vacuum pump.

Why a Vacuum Pump?

ASHRAE recommends evacuation to below 1000 microns, and after isolation a system must not rise above 2500 microns within several hours. Some equipment manufacturers call for evacuation to 400 microns to ensure that harmful water vapor is removed from the system.

When you have water vapor in your system, the risk of icing up capillary tubing and expansion valves becomes much higher. A high quality vacuum pump will be able to take you down to 200-500 microns. With the system almost completely free from water vapor, you are ready to put the refrigerant back in the system.


A thorough approach to evacuation ensures longer equipment life and reduced risk of problems.

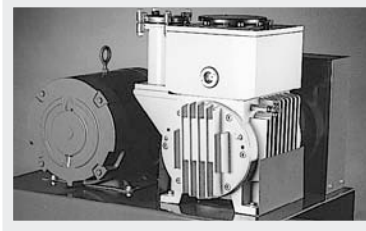
Use a Vacuum Gauge to Read Vacuum Down to 15 Microns

1000 microns equal only 0.039 inches of mercury, a measurement that cannot be made with a mechanical gauge, or determined by evacuation time or the sound of the pump. A popular tool that can measure vacuum at evacuation levels below 1000 microns is an electronic vacuum gauge.

The best place to measure vacuum is at the system, not at the pump. With a combination vacuum/charging valve, you can attach the electronic vacuum gauge directly to the system and isolate it from the pump, hoses and manifold for a true indication of the vacuum in the system. With a digital vacuum gauge, you can see the last evidence of moisture being removed and witness that the system has been dried out.

BELT DRIVE VACUUM PUMPS (0.88-17.7 cfm) by Hyvac Products


These two-stage pumps are lab rated at 0.1 micron and feature large oil capacity, vented exhaust, standard belt guards, motor capacitors and automatic overload protection. Optional exhaust filters available. 



UPC#	80200	80210	80220	80230	80240
cfm - free air (L/M)	0.88 (25)	2.79 (79)	5.6 (160)	10.6 (310)	17.7 (500)
Ultimate vacuum (lab)	0.1 micron	0.1 micron	0.1 micron	0.1 micron	0.1 micron
Stages	2	2	2	2	2
Motor hp (ODP)	1/4	1/3	1/2	1	1-1/2
Voltage (single phase)	115V/60 Hz	115V/60 Hz	115V/60 Hz	115V/60 Hz	115V/60 Hz
Pump rpm	580	525	525	525	550
Oil capacity	1 quart	1-1/2 quart	5 quarts	7 quarts	9 quarts
Gas ballast	Standard	Standard	Standard	Standard	Standard
Intake O.D.	9/16"	7/8"	1-1/4"	1-5/16"	1-13/16"
Dimensions (L x W x H)	15" x 10" x 11"	18" x 12" x 11"	18" x 13" x 16"	18" x 16" x 19"	21" x 20" x 20"
Shipping weight	70 lbs.	110 lbs.	135 lbs.	154 lbs.	242 lbs.

For special electrical requirements, contact factory. Some 50 Hz available for export.

VACUUM PUMP OIL


YELLOW JACKET vacuum pump oil is specially refined and formulated for extremely low vapor pressure and high pump efficiency at all temperature conditions to help keep your pump running for years. 

MSDS sheet on Web site

UPC#	Description
93091	Pint of vacuum oil - 24 per case
93092	Quart of vacuum oil - 12 per case
93094	Gallon of vacuum oil - 4 per case
93095	55 gallon drum



VACUUM PUMP ADAPTER

Convert a 3/8" or 1/2" vacuum pump intake into flare and Acme compatible fittings. 




UPC#	Description
36018	1/2" Pump adapter with 1/4" flare and 1/2" Acme Male fittings
19015	1/2" Replacement gaskets for 36018 (10 pak)
36019	3/8" Pump adapter with 1/4" flare and 1/2" Acme Male fittings
19011	3/8" Replacement gaskets for 36019 (10 pak)

VACUUM PUMP INTAKE REDUCER ADAPTER



UPC#	Description
19030	Rubber gasket "O" ring (10 pak) for 19130 and 19133
19130	3/8" Female fl. x 1/4" Male fl. adapter
19131	1/2" Female fl. x 3/8" Male fl. adapter
19132	1/2" Female fl. x 1/4" Male fl. adapter
19133	3/8" Female fl. x 1/2" Male fl. adapter
19160	1/2" Female fl. x 1/2" Male Acme adapter
93058	Rubber gasket "O" ring for 19131, 19132 and 19160

OIL EXHAUST FILTER

Screws onto the pump exhaust to eliminate oil mist. Use on 1.5, 4, 6, 8 and 11 cfm pumps. 



UPC#	Description
93386	Exhaust filter
93387	Replacement element

HEAT GUN

600° and 1000°F settings. Shockproof and tough housing is durable and lightweight. Use for:

- Coil defrosting
- Faster vacuums
- Drying out condensation in motors, clutches, etc.

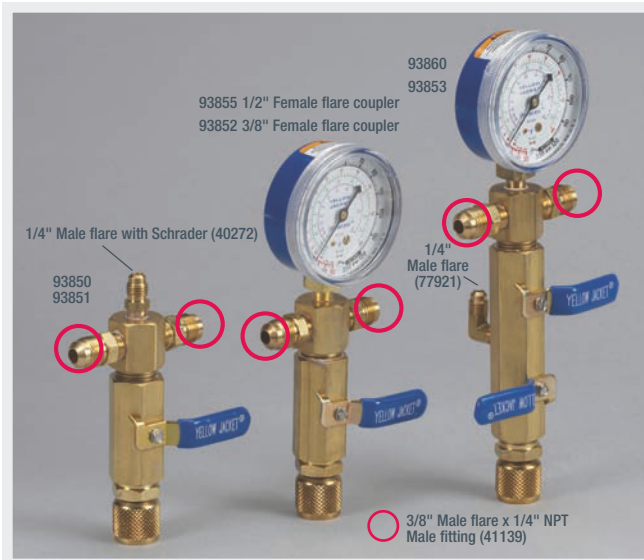


Kits include gun, adapters and case.

UPC#	Description
69092	Heat gun kit 115V - UL, CSA
69093	Heat gun kit 230V - Euro plug, CE

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SUPEREVAC™ EVACUATION MANIFOLDS



SUPEREVAC™ manifolds are engineered as system components for the SUPEREVAC pumps to help decrease vacuum time by over 50 percent and improve micron readings. Mounts with 1/2" or 3/8" Female flare quick coupler and provides easy connections for two 3/8" vacuum hoses.

- FlutterLess™ gauge
- Non-restricting, full flow valves for fast vacuum
- Convenient 1/4 turn full flow
- Extra port for electronic gauge
- Now includes step-down adapter to connect to 3/8" pump intake

3/8" Female flare coupler

UPC#	Description
93851	Single valve with 1/4" Schrader mount with 3/8" Female flare
93852	Single valve with lo-side gauge mount with 3/8" Female flare
93853	Two valves with lo-side gauge mount with 3/8" Female flare
19011	CH-11 gasket (10 pak)
19131	Pump step-down adapter - 1/2" Female flare x 3/8" Male flare

1/2" Female flare coupler

UPC#	Description
93850	Single valve with 1/4" Schrader mount with 1/2" Female flare
93855	Single valve with lo-side gauge mount with 1/2" Female flare
93860	Two valves with lo-side gauge mount with 1/2" Female flare
19015	CH-80 gasket (10-pak)
19027	1/2" Quad ring (10 pak)
19133	Pump step-down adapter - 3/8" Female flare x 1/2" Male flare

Additional replacement parts

UPC#	Description
19030	3/8" "O" ring (10 pak)
19096	Ball valve replacement handles (2 pak)
40272	1/4" Male flare with Schrader for 93850
41139	3/8" Male flare x NPT Male fitting
49002	Blue compound °F gauge
77921	1/4" Flare x 1/8" NPT Male elbow
93211	3/8" Flare cap with gasket
93854	1/2" Flare connector

SUPEREVAC™ EVACUATION SYSTEMS I, II & III



All system components are available separately, but system pricing makes I, II and III attractive buys.

All systems include a two-valve manifold and two 3/8" vacuum hoses for a fast vacuum. Vacuum valves, included with all systems, allow core removal and system isolation. This combination reduces vacuum time by over 50 percent compared to using a regular 1/4" manifold and evacuating through only one side.

System II adds 69075 electronic gauge and service valve wrench to the basic System I.

System III adds a 6 or 8 cfm SUPEREVAC™ pump to System II.

UPC# for 1/2"	Description	UPC# for 3/8"
93865	System I: 2-valve manifold, 2 16248 48" vacuum hoses, 2 valves	93866
93875	System II: all of above plus 69075 electronic vacuum gauge	93876
93886 (8 cfm)	System III: all of above plus a SUPEREVAC pump	93885 (6 cfm)
	CH-11 gasket (10 pak)	19011
19015	CH-80 gasket (10 pak)	

1/4" AND 5/16" BALL VALVE 4-IN-1 VACUUM/CHARGE VALVE & CORE TOOL



This versatile tool for the lo- or hi-side of a system does four jobs:

- 1. Vacuum valve.** Extra 1/4" side port on 18975 to attach electronic micron vacuum gauge right at system for greater accuracy.
- 2. Core removal access.** Lets you evacuate and charge through an unrestricted line for increased speed and higher vacuum.
- 3. Core replacement.**
- 4. Recovery valve.** Core removal speeds recovery process.

Made in the USA

For more details see page 30.

UPC#	Description
18971	1/4" Vacuum/charge valve without side port
18975	1/4" Vacuum/charge valve with side port
18981	5/16" Vacuum/charge valve without side port
18985	5/16" Vacuum/charge valve with side port

SUPEREVAC™ LCD VACUUM GAUGE

Full range from atmosphere to 1 micron

The SuperEvac™ LCD vacuum gauge combines thermocouple sensor technology with advanced electronics for precise readings and repeatability not found with thermistor sensors or analog meters.

Thermocouple technology has long been proven in laboratory and precision industrial instrumentation for sensing the deep vacuum range. Thermocouple sensors are factory calibrated and exhibit few of the electronic variances of thermistor sensors found in many other electronic gauges. Durable molded case with storage for sensor, cable and brass connector.

Specifications

- Response time: 3 seconds
- Calibration: Automatic
- Warm up: 3 seconds
- Sensor cable: 5.5' (167 cm) coiled
- Sensor connection: 1/4" Male flare
- Operating temperature range: 32° to 120°F (0° to 49°C)
- Display: 0.5" LCD with battery check
- Power: D cell battery, 70 hours continuous battery life
- Dimensions: 9" x 12.25" x 2.37" (230 mm x 310 mm x 60 mm)
- Accuracy: ± 20% of reading

UPC#	Description
69075	SUPEREVAC LCD vacuum gauge full range complete in case
69067	Optional ball valve to add to sensor 1/8" NPT Female x 1/4" Female flare
69071	Brass connector 1/4" Female flare x 1/4" Female flare
69073	Replacement sensor for 69070, 69075
19110	Optional coupler to add to sensor 1/8" NPT Female x 1/4" Female flare



69073 sensor

69071 connector

Thermocouple sensor features:

- No adjustments or warm-up. Stays calibrated after on/off switching and long evacuations
- Automatic battery compensation
- Automatic ambient temperature compensation
- Replacement sensor requires no calibration

LCD gauge features:

- Normal handling and jarring will not affect the LCD reading
- Case protects electronic circuitry and sensor
- Calibration standards traceable to NIST
- Precision circuitry controls sensor and translates sensor input into micron readings
- Made in the USA

DIGITAL LCD ECONOMY VACUUM GAUGE



Versatile — Connect to the YELLOW JACKET SUPEREVAC™ Vacuum Pump, in line with a tee fitting or directly to the system with YELLOW JACKET core removal tool 18975.

US Patent # 7,073,346

The digital LCD economy vacuum gauge indicates air and moisture have been removed from the system. Track down 14 increments from atmosphere to 25 microns to know that the system is clean and the vacuum pump is performing properly. Packaged complete with 9V alkaline battery and hanging hook.

- Unique thermal conductivity sensor automatically compensates for temperature with no calibration
- Simple On/Off controls
- Easy-to-clean sensor handles 450 psi positive pressure
- Rugged contractor-grade construction with tough ABS housing and solid state circuitry for accuracy
- Automatic battery saver shuts gauge off after 20 minutes with no reading changes
- Low battery indicator
- Calibration standards traceable to NIST
- Patented technology
- Made in the USA

To keep the 69080 vacuum gauge accurate, it is best to avoid oil contamination. Keep the sensor vertical whenever possible and connect the gauge directly to the system, away from the pump.


UPC#	Description
69080	Digital LCD vacuum gauge with battery, hook and pouch
69081	Optional soft-sided protective case
69079	Replacement battery door and screw
69095	Tee fitting

DELUXE LED VACUUM GAUGE

AC powered



Professional laboratory type instrument with 0.56" high bright LED readout is 100 percent automatic. Complete unit includes aluminum LED display unit, sensor with ball valve, cable, brass connector and carrying case.

- Thermocouple sensor technology for precise and repeatable accuracy
- Improved software expands sensing range from atmospheric pressure to 1 micron
- Calibration standards traceable to NIST
- Made in the USA 

Specifications

Response time: 3 seconds	Storage temperature range: -30° to 160°F (-34° to 65°C)
Calibration: Automatic	Power: 115V/60 Hz (230V available)
Warm up: 3 seconds	Power cord: 6'
Sensor cable: 9' (274 cm)	Dimensions: 4.25" x 5.5" x 1.5" (108 mm x 140 mm x 38 mm)
Sensor connection: 1/4" Male flare with isolation valve	Carrying case: 12.25" x 8" x 3.5" (310 mm x 203 mm x 89 mm)
Operating temperature range: -30° to 150°F (-34° to 65°C)	

UPC#	Description
69060	LED vacuum gauge kit complete with case, 115V
69063	LED vacuum gauge kit complete with case, 230V
69064	Sensor for 69060 and 69063
69065	9' sensor cable for above
69066	Carrying/storage case
69067	Ball valve for sensor 1/8" NPT Female x 1/4" Male flare
69071	1/4" Female flare connector
15006	Optional vibration isolation hose

MECHANICAL VACUUM GAUGES



Mechanical vacuum gauges for system installation. Bourdon tube type gauge. 1/8" NPT Male bottom fitting. CAUTION: Handle gauges carefully to assure full service life. See page 53 for further details.

UPC#	Description
69044	3 1/8" Vacuum gauge 0-30 inHg/760-0 Torr (mm)
69045	3 1/8" Vacuum gauge European version (1000-0 millibar/30-0 inch)


DIGITAL VACUUM GAUGE

Seven units of vacuum for confidence

This easy-to-use gauge shows that air and moisture have been removed from the system. Simple push of a button changes the display readout between 7 units of vacuum. **Each displays down to the equivalent of 10 microns of vacuum to let you know that your vacuum pump is clean and performing properly.** If the sensor gets dirty, simply plug a new sensor into the gauge, run through a quick calibration process and be back on the job within minutes.



US Patent # 7,073,346

- Unique patented thermal conductivity sensor automatically compensates for temperature
- Replaceable, cleanable, plug-in sensor (Part #69087) handles 450 psi positive pressure
- Displays seven different units of vacuum (microns, milliTorr, Torr, millimeters of mercury, millibar, kiloPascal and Pascal)
- 12" coiled sensor cord stretches to 24" for easy reach, connectivity and readability of display
- Low battery indicator
- Automatic shut-off after 20 minutes
- Calibration standards traceable to NIST
- 32° to 122°F (0° to 50°C) operating temperature range
- 12 oz. (340 g) with battery
- Approximately 25 hours continuous battery life
- Made in the USA 

UPC#	Description
69086	Hand-held vacuum gauge with fabric carry pouch
69087	Replacement sensor
69088	Replacement cable
69091	Replacement fabric pouch