




YELLOW JACKET®

BULLET™ Vacuum Pump

A two-stage rotary vane oil-sealed pump that pulls down to 25 microns or better



The BULLET™ pulls down to 25 microns or better, protecting from contaminants and non-condensable gasses in the HVAC system, which can damage components, reduce efficiency and cause system failure.

- 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
- Internal intake check valve to help prevent 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 for well-balanced carrying
- Tethered port caps stay with the pump
- Stable base; wide-stance metal with rubber overlay
- Made in the USA 

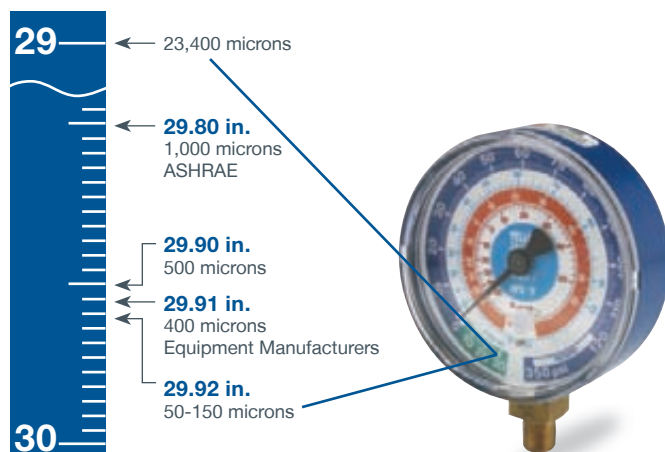
Domestic	Model 93603		Model 93605		Model 93600	
Free air displacement	3.0 cfm		5.0 cfm		7.0 cfm	
Number of stages	2-stage rotary vane		2-stage rotary vane		2-stage rotary vane	
Field blankoff	25 microns		25 microns		25 microns	
Intake	1/4" x 3/8" x 3/8"		1/4" x 3/8" x 3/8"		1/4" x 3/8" x 3/8"	
Motor	1/2 hp - 1725 rpm		1/2 hp - 1725 rpm		1/2 hp - 1725 rpm	
Thermal overload protection	Yes		Yes		Yes	
Voltage (single phase)	115V/60 Hz		115V/60 Hz		115V/60 Hz	
Power cord	6' - motor mounted switch - U.S. plug		6' - motor mounted switch - U.S. plug		6' - motor mounted switch - U.S. plug	
Oil capacity	33.5 oz. (0.991 L)		30 oz. (0.9 L)		28 oz. (0.828 L)	
Dimensions	16.25" L x 6.25" W x 8.25" H (41.3 cm x 15.9 cm x 21 cm)		16.25" L x 6.25" W x 8.25" H (41.3 cm x 15.9 cm x 21 cm)		16.25" L x 6.25" W x 8.25" H (41.3 cm x 15.9 cm x 21 cm)	
Net weight	29.1 lbs. (13.2 kg)		30.0 lbs. (13.6 kg)		31.6 lbs. (14.3 kg)	
Export	EU/UK 93613	AU/NZ 93623	EU/UK 93615	AU/NZ 93625	EU/UK 93610	AU/NZ 93620
Detachable IEC Cord type	EU/UK	AU/NZ	EU/UK	AU/NZ	EU/UK	AU/NZ
Free air displacement	85/70 L/M		142/120 L/M		200/165 L/M	
Motor	1/2 hp - 1725 rpm/1425 rpm		1/2 hp - 1725/1425 rpm		1/2 hp - 1725/1425 rpm	
Voltage (dual phase)	115/230V / 50-60 Hz		115/230V / 50-60 Hz		115/230V / 50-60 Hz	
Dimensions	17" L x 6.25" W x 8.25" H (43.2 cm x 15.9 cm x 21 cm)		17" L x 6.25" W x 8.25" H (43.2 cm x 15.9 cm x 21 cm)		17" L x 6.25" W x 8.25" H (43.2 cm x 15.9 cm x 21 cm)	
Net weight	32.1 lbs (14.6 kg)		33 lbs (15 kg)		34.5 lbs (15.7 kg)	

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.

Standard Lo-Side Gauge

Shows vacuum in inches. A ±1% gauge would be accurate to ±7600 microns when calibrated at a full vacuum (which is generally not the case with this type of gauge).



Only an electronic vacuum gauge can precisely measure the level at which non-condensable gas is removed from system.

Why a Vacuum Pump?

ASHRAE recommends evacuation to below 1000 microns for moisture removal and below 500 microns after replacing a compressor. 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 25 Microns

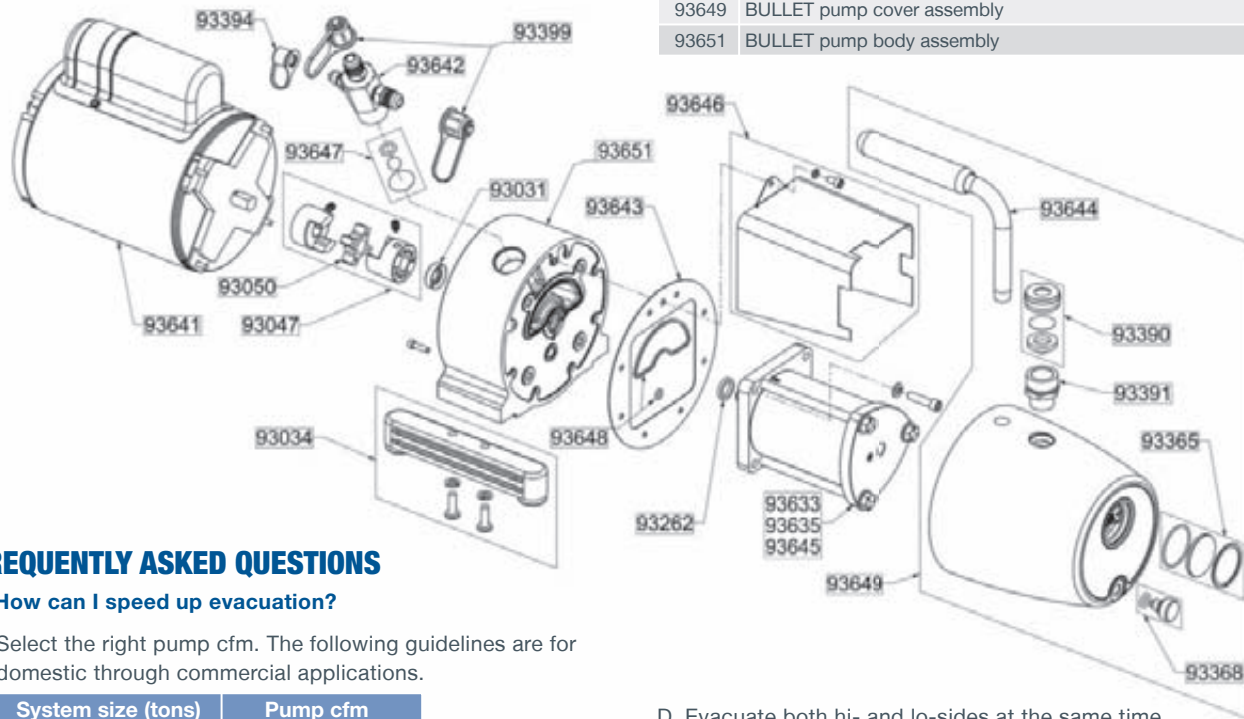
1000 microns equal only 0.039 inches of mercury, a measurement that cannot be made with a mechanical gauge, or determined by evacuation time or the sound of the pump. A popular tool that can measure vacuum at evacuation levels below 1000 microns is an electronic vacuum gauge.

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.

BULLET™ REPLACEMENT PARTS



BULLET™ replacement parts	
UPC#	Description
93031	Shaft seal
93034	Universal pump leg (1)
93047	Drive coupling (including spider)
93050	Coupling spider for 93047
93262	Cartridge locate ring
93365	Sight glass
93368	Oil drain
93390	Oil fill cap
93391	Oil fill fitting
93394	1/4" Flare cap and strap
93399	3/8" Flare cap and strap
93513	1/2 hp motor (115-230V / 50-60 Hz)
93633	BULLET 3 cfm (85 L/M) cartridge
93635	BULLET 5 cfm (142 L/M) cartridge
93641	1/2 hp Motor 115V/60HZ
93642	3/8", 3/8" and 1/4" Male flare intake fitting
93643	BULLET pump cover gasket
93644	BULLET pump handle
93645	BULLET 7 cfm (200 L/M) cartridge
93646	BULLET cartridge baffle
93647	BULLET anti-suckback assembly
93648	BULLET cartridge gaskets
93649	BULLET pump cover assembly
93651	BULLET pump body assembly



FREQUENTLY ASKED QUESTIONS

1. 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
10-30	4.0
30-45	6.0
40-50	7.0
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.

F. Use a heat gun.

2. Does extension cord length affect performance?

To ensure proper starting and running performance from your YELLOW JACKET pump, always use a minimum 12 gauge extension cord for lengths up to 100 feet. Extension cords over 100 feet are not recommended.