

Engineering Data

Bore:	5" & 5"	Min RPM:	300	Sump Capacity:	2.5 Quarts
Stroke:	3.5"	Max RPM:	750	Number of Belts:	3
Inlet Size:	1.5" NPT	Sheave OD:	16.75	Belt Section:	A
Discharge Size:	1.5" NPT	Sheave PD:	16.38		

		Nameplate Amp Ratings						
		115-1-60	200-3-60	230-1-60	230-3-60	460-3-60	575-3-60	
3HP	34	11	17.0	9.6	4.8	3.9		
5HP		17.5	28.0	15.2	7.6	6.1		
		Dba Sound Level (**)						

See Vacuum Pump Performance Chart—Sheet 120

Bare Pump Detailed Specifications

FRAME—The 100% cast iron frame is designed to support the overhung crankshaft. The cylinders bolt directly to the cast iron frame. Frame is completely sealed yet allows for maximum accessibility.

CRANKSHAFT—A unique overhung design supported by two heavy-duty ball bearings with replaceable crankpin bushing. Entire shaft is balanced with an integral counterweight to insure smooth operation.

CONNECTING RODS—Solid one-piece design. These simple, easy to maintain rods can be used only with an overhung crankshaft. Crankpin bushing inside the rod is precision ground requiring no alignment.

CYLINDERS—These are 100% cast iron, separately cast and individually bolted to the frame in a V-type configuration. The cylinders are precision honed for low oil carryover. Radial fins on the cylinders help remove heat and ensure 360 degree cooling of the cylinders.

PISTONS—Precision balanced aluminium piston provides smooth operation.

RINGS—There are four piston rings for sealing, compression, and oil control. The taper-faced compression ring and bevelled oil scraper ring provide quick seating. Two (2) three-piece oil control rings maintain proper lubrication on cylinder walls. Precision honing used in conjunction with the ring stack up means low oil carryover.

FLYWHEEL—The cast iron fan type flywheel forces a cyclone air blast to provide cooling for the deep finned cylinder. The flywheel is balanced to keep vibration to a minimum.

LUBRICATION—Splash lubrication of running parts is simple and reliable. Lubrication dippers are integral with connecting rods and cannot come loose.

VALVES—Reliable, time proven finger valves are quick acting and are made from premium grade stainless steel. Valve components are easily removable for maintenance.

LOW OIL LEVEL SWITCH—NEMA 1 low oil level switch prevents the unit from operating when oil level is low.

MANIFOLDS—Inlet and discharge manifolds provide for single-stage operation and ease of piping.

Simplex Detailed Specifications

BASE—The vacuum pump and motor are aligned and mounted on a heavy steel base.

RECEIVER—Receiver mounted units are ASME, National Board coded and include vacuum gauge, drain valve and service valve.

DRIVE—The drive is V-belt type with provision for easy adjustment of belt slack. An easily removed totally enclosed beltguard is supplied as standard equipment.

MOTOR—Standard AC motors are 1800 rpm, NEMA T frame with drip-proof enclosure, Class B insulation, 1.15 service factor, and grease lubricated ball bearings. Standard single-phase motor is 115/230. Standard three-phase motor voltages are 200, 230/460, and 575 volts.

CONTROLS—Units are equipped for automatic start/stop operation with NEMA 1 vacuum switch.

Duplex Detailed Specifications

RECEIVER MOUNTED—All duplex units include two bare vacuum pumps with two motors mounted on a single receiver. Each vacuum pump/motor configuration is designed to run as an independent vacuum unit; however, both units can run simultaneously should system demand require.

Options—Detailed Specifications

“E” SERIES STARTER (MTD. & WIRED) SIMPLEX UNITS—“E”-Series starters provide full voltage control of electric motors. They include thermal relays which protect the motor windings from harmful currents and resultant temperature rise caused by overloaded motor, low line voltage, or stalled rotor. Reset button and NEMA 1 enclosure (UL & CSA approved) included.

NEMA 4 DELUXE STARTER (MTD. & WIRED) SIMPLEX UNITS—NEMA 4 Deluxe starters provide full voltage control of electric motors. They include NEMA 4 enclosure, manual reset button, on/off switch, 120 volt control transformer, and thermal relays which provide overload protection. Fused control circuit complies with National Electric Code (UL & CSA approved).

“E” SERIES NON-COMBINATION ALTERNATOR (MTD. & WIRED) DUPLEX UNITS—This optional panel enables both vacuum pump units to operate in response to system demand. For example, if system vacuum dips below preset lower limit, vacuum pump A will start. If vacuum rises to upper limit set point, vacuum pump A will shut down. Next time system vacuum falls below lower limit, vacuum pump B will start. Should system vacuum demand require, both vacuum pump units will run simultaneously. Alternator panel includes (2) Definite Purpose (DP) starters with overloads, (1) on/off switch, fused control circuit, (2) reset buttons and NEMA 1 enclosure (UL & CSA approved).

COMBINATION DELUXE ALTERNATOR (MTD. & WIRED) DUPLEX UNITS—This optional panel enables both vacuum pump units to operate in response to system demand. For example, if system vacuum dips below preset lower limit, vacuum pump A will start. If vacuum rises to upper limit set point, vacuum pump A will shut down. Next time system vacuum falls below lower limit, vacuum pump B will start. Should system vacuum demand require, both vacuum pump units will run simultaneously. Alternator panel includes (2) Definite Purpose (DP) starters with overloads, (1) control relay for alternation, (2) on/off switches, fused control circuit, (2) fused disconnect switches with door interlock, (2) 120 volt control transformers, (2) reset buttons, and NEMA 1 or NEMA 4 enclosure (UL & CSA approved)

OUTDOOR MODIFICATION—Vacuum pump package is furnished with TEFC (1.15 SF) motor, NEMA 4 vacuum switch, and NEMA 4 Low oil level switch. This configuration can be used for outdoor installation.

Options—Healthcare Module

DUPLEX RECEIVER MOUNTED VACUUM MODULE—This duplex lubricated vacuum module is designed in accordance with NFPA-99 (2002 Edition) for Level 1 Medical Systems. It includes (2) vacuum pumps, discharge air manifold pump, system vacuum gauge, (2) full voltage open drip-proof motors with enclosed beltguard, ASME receiver with by-pass valve system with manual drain, pump isolation and check valves and galvanized pipe and fittings.

MOUNTED DUPLEX COMBINATION ALTERNATOR/DUPLEXING CONTROL PANEL—The vacuum module has a mounted and wired NEMA 12 enclosure, common power terminal block, (2) RK5 fusible disconnects, (2) DP starters, (2) 120 volt control transformers and control circuit fusing, (1) alternating relay. Each pump has power on light, run light, auto

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start and stop control, hand-off auto selector switch (spring return from hand to off), hourmeter, lag pump run alarm package with light, (1) N.O. and (1) N.C. dry contacts, and a horn and silence reset button.

INSTALLATION KIT—Installation kits contains (2) inlet flexible stainless steel hose for inlet manifold, discharge flexible stainless steel hose from service valve to system and (4) vibration pads for receiver feet.

NOTE—VACUUM PUMPS ORDERED FOR NFPA-99 APPLICATIONS MEET OR EXCEED THE CURRENT NFPA-99 SPECIFICATIONS (2002 EDITION) UNLESS OTHERWISE NOTED. THE CUSTOMER/INSTALLER HAS THE RESPONSIBILITY FOR PROVIDING THE VACUUM FINAL EXHAUST DISCHARGE IN ACCORDANCE WITH THE NFPA-99 SECTION 5.1.3.6.2 (2002 EDITION). THE EXHAUST PIPING MUST BE SIZED EQUAL TO OR LARGER THAN THE PUMP DISCHARGE CONNECTION PIPE SIZE. SYSTEM ALARMS OTHER THAN LAG UNIT RUN ARE NOT PROVIDED IN THIS SCOPE OF SUPPLY.